Firelands Wind, LLC Case No. 18-1607-EL-BGN

Application Part 16 of 17

Part 16 includes:

• Exhibit Z Ecological Assessment (Part 7 of 8)

Date Filed: January 31, 2019

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Attorneys for Firelands Wind, LLC

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an Individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
Ва	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	A.
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO)
~!	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b YES	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	YES Go to Question 9d	NO Go to Question 10
	wetlands, or those dominated by submersed aquatic vegetation.	Vers	- No
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland	NO Go to Question 9e
		Go to Question 10	
9е	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	6
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	020 /2000	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	YES Wetland should be	NO Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	evaluated for possible Category 3 status	Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha sglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmit Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumi, Carex pellita Gentiana andrewsis Helianihus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	A	19620001	Rater(s):	ELM	Date: 9/20/18
2	2	Metric 1. Wet	land Area (size)		
max 6 pts	subtotal	10 to <25 acres 3 to <10 acres 0.3 to <3 acres 0,1 to <0,3 acres <0.1 acres (0.0	2ha) (6 pts) (10.1 to <20.2ha) (5 pts) (4 to <10.1ha) (4 pts) 1.2 to <4ha) (3 pts) (0.12 to <1.2ha) (2pts) s (0.04 to <0.12ha) (1 pt) tha) (0 pts)		
14	110	Metric 2. Upla	and buffers and	surrounding	g land use.
max 14 pts	subtotal	WIDE, Buffers MEDIUM. Buffers NARROW. Buffers VERY NARRON 2b. Intensity of surroundie VERY LOW. 2r LOW. Old field MODERATELY	ffer width. Select only one a average 50m (164ft) or more ers average 25m to <50m (82 fers average 10m to <25m (V. Buffers average <10m (<ne control="" control<="" of="" td="" the=""><td>around wetland perime 2 to <164ft) around wetl 32ft to <82ft) around we 32ft) around wetland we 32ft) around wetland avera irie, savannah, wildlife ng second growth fores pasture, park, conserva</td><td>eter (7) land perimeter (4) etland perimeter (1) etland perimeter (1) ge. larea, etc. (7) st. (5) tion tillage, new fallow field. (3)</td></ne>	around wetland perime 2 to <164ft) around wetl 32ft to <82ft) around we 32ft) around wetland we 32ft) around wetland avera irie, savannah, wildlife ng second growth fores pasture, park, conserva	eter (7) land perimeter (4) etland perimeter (1) etland perimeter (1) ge. larea, etc. (7) st. (5) tion tillage, new fallow field. (3)
11	20	Metric 3. Hyd	rology.		
max 30 pts.	subtotal	3c. Maximum water depth >0,7 (27.6in) (3 0.4 to 0,7m (15. <0.4m (<15.7in)	water (5) iter (3) iitert surface water (3) be water (lake or stream) (5) ii. Select only one and assign 7 to 27.6in) (2)	3d. Dur n score.	nnectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex Part of riparian or upland corridor (1) ation inundation/saturation. Score one or dbl ch Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) ad average.
		None or none a Recovered (7) Recovering (3) Recent or no re	oparent (12) Check all distu ditch tile	rbances observed	point source (nonstormwater) filling/grading road bed/RR track dredging other
10	or	Metric 4. Hab	itat Alteration a	nd Developr	nent.
max 20 pts.	subtotal	None or none a Recovered (3) Recovering (2)		and average.	
		Excellent (7) Very good (6) Good (5) Moderately good Fair (3) Poor to fair (2) Poor (1)	Select only one and assign		
	55	None or none all Recovered (6) Recovering (3) Recent or no rec	covery (1) Check all disturble mowing grazing clearcutting selective	ng cutting ebris removal	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

last revised 1 February 2001 jjm

Site:	Rate	r(s):	Date:
-	15 i first page		
0 5	Metric 5. Special Wetlan	nds.	
nax 10 pts. su	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate Category 1 Wetland. See Questior	restricted hydronings) (10) eatened or end r fowl habitat o r 1 Qualitative I	ology (5) langered species (10) r usage (10) Rating (-10)
			terspersion, microtopography.
ix 20 pts. sur	6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.		Community Cover Scale
	Aquatic bed Emergent Shrub	1	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Den water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a smal part and is of high quality
	6b. horizontal (plan view) Interspersion. Select only one.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	High (5)	Narrative D	escription of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflat and	d Open Water Class Quality
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	2 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in)Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
	2 Amphibian breeding pools		raphy Cover Scale
		0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
Rating	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	9	A COLUMN CONTRACTOR
	TOTAL SCORE	64	Category based on score breakpoints 2 a 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	.00	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score, If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	KATIE SIMON	
Date:	12/10/18	
Affiliation:	THE MANNIKI SMITH GROPING	
Address: (800	INDIAN WOOD CIRCLE MAUNCE, OH 43537	
Phone Number:	419-891-2722 ext 2046	
e-mail address:	KSIMAN @ Manik Swith group com	
Name of Wetland	1: W2M-025	
Vegetation Communit(ies	s): PFO	
HGM Class(es):		
Lat/Long or UTM Coordinat	te 41.1752, -82.7786	
USGS Quad Name	FLAT ROCK	
County	HURON	
Township	T3N F24W	
0 - 11 1 0 - 1 11		
Section and Subsection		
	11410mo12 65 63	
Hydrologic Unit Code	14100012 65 63	
Hydrologic Unit Code Site Visit	9/18/18	
Hydrologic Unit Code Site Visit National Wetland Inventory	9/18/18 Map	
Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Ma Soil Survey	9/18/18 Map	

Name of Wetland:	W2M=0	725	
Wetland Size (acres, hectares	s):	2 200 0	
		3 - 762 ac. ace waters, vegetation zones, etc.	
The part of the party of the	and the second	7,7,7,7,8,7,9,10 3 ,112,113,113,114,113,114	
	See Figur	11	
	Je 1 1900	e 7	
Comments, Narrative Discuss	ion, Justification of Categor	y Changes:	
inal score :	1.01	Catego	rv: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V.	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	~	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	-	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
За	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

OL	Mature forested wetlands. Is the wetland a forested wetland with	YES	I/NO \
8b	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
	the state of the s	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO) Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES YES	NO NO
30	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9d
	and the second s	Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
	the second section of the property and the contract of	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
\$	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
55.1	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erle, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating
	Montgomery, Van Wert etc.).	Complete Quantitative	

Table 1.	Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix nyricoides Salix serissima Solidago ohioensis Trofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucranatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensi. Calamagrostis stricte Carex atherode. Carex buxbaumi Carex pellite Gentiana andrewsi Helianthus grosseserratus Liatris spicate Lysimachia quadriflora Lythrum alatun Pyenanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinate Solidago riddellin

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	13	921 0001	Rater(s):	ELM	Date: 9/20//8
3	3	Metric 1. We	tland Area (size)).	
max 6 pts.	subtotal	10 to <25 acre 3 to <10 acres 0.3 to <3 acres	0.2ha) (6 pts) s (10.1 to <20.2ha) (5 pts) s (4 to <10.1ha) (4 pts) (1.2 to <4ha) (3 pts) s (0.12 to <1.2ha) (2pts) es (0.04 to <0.12ha) (1 pt)		
14	17		and buffers and	surrounding	g land use.
max 14 pts.		WIDE. Buffers MEDIUM. Buf NARROW. Bu VERY NARRO 2b. Intensity of surround VERY LOW. 2 LOW. Old fiel MODERATELY	uffer width. Select only one as average 50m (164ft) or more fers average 25m to <50m (83ffers average 10m to <25m (87 Buffers average 10m (87 Buffers average <10m (87 Buff	e around wetland perim 2 to <164ft) around wet (32ft to <82ft) around wet 32ft) around wetland per double check and avera iirie, savannah, wildlife ing second growth fores pasture, park, conserva	eter (7) Iland perimeter (4) retland perimeter (1) erimeter (0) age. area, etc. (7) st. (5) ation tillage, new fallow field. (3)
26	43	Metric 3. Hyd			
max 30 pts.		3c. Maximum water dep >0.7 (27.6in) (3 0.4 to 0.7m (15 <0.4m (<15.7ir	dwater (5) vater (3)) mittent surface water (3) ace water (lake or stream) (5) th. Select only one and assig 3) 5.7 to 27.6in) (2)	3d. Dur n score.	nnectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) ration inundation/saturation. Score one or dbl chec Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) nd average.
		None or none at Recovered (7) Recovering (3) Recent or no re	ditch	rbances observed	point source (nonstormwater) filling/grading road bed/RR track dredging other
10	57	Metric 4. Hal	oitat Alteration a	nd Develop	ment.
max 20 pts.		None or none at Recovered (3) Recovering (2) Recent or no reference (4) Recent or no reference (5) Recent (7) Very good (6) Good (5) Moderately good Fair (3) Poor to fair (2) Poor (1)	ecovery (1) Select only one and assign (4) core one or double check and	score	shrub/sapling removal
	5) ibtotal this pag 1 February	Recovering (3) Recent or no re	ecovery (1) grazing clearcutt selective	e cutting ebris removal	herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

Site:	Rate	r(s):	Date:
Saubtota	I first page		
0 5	Metric 5. Special Wetlan	nds.	
max 10 pts. sui	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thr	restricted hydr nings) (10) eatened or end r fowl habitat o	ology (5) dangered species (10) or usage (10)
76			terspersion, microtopography.
max 20 pts. sub	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed Emergent Shrub	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Z Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
	6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one. High (5)	Narrative C	Description of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c, Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflatan	d Open Water Class Guality
	6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
	Standing dead >25cm (10in) dbh Amphibian breeding pools	Microtopoo	raphy Cover Scale
	2 Amphibian processing pools	0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
77.7		3	Present in moderate or greater amounts

64

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
, , , , , , , , , , , , , , , , , , , ,	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	26	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	Ó	
	Metric 6. Plant communities, interspersion, microtopography		W
	TOTAL SCORE	64	Category based on score breakpoints 2 a 3

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	177	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	0	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	8	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not exategorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	Category 2	Category A

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

KATIE SIMON	
1 1	
ME MANNIK - SMITH BROUP INC	
INDIAN WOOD CIRCLE MAUNTER, OH 4353	7
(W2M - 626	
PFO	
de map, address, north arrow, landmarks, distances, roads, etc.	
Sae Figure 4	
Jae Figure 1	
41.1729, -82.7799	
41.1729, -82.7799 FLAT ROCK	
41.1729, -82.7799 FLAT ROCK HURGN	
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41.1729, -82.7799 FLAT ROCK HURGIN T3N R24W 04100012 0503 9/19/18	
41.1729, -82.7799 FLAT ROCK HURGIN T3N R24W 04100012 0503 9/19/18	
	de map, address, north arrow, landmarks, distances, roads, etc.

ame of Wetland:	W2M-026
/etland Size (acres, hectares):	
ketch: Include north arrow, relatio	onship with other surface waters, vegetation zones, etc.
	See Figure 4
	See Figure 9
nments, Narrative Discussion, Ju	ustification of Category Changes:

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	10
1	Critical Habitat. Is the welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Ge to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
Z	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the welland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	~	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	4	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Ob	Mature forested wetlands. Is the wetland a forested wetland with	LYES	I/NO.
8b	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	110
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 90
		Go to Question 10	NO
9¢	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 96
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	100
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	(NO) Go to Question 1
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
ythrum salicaria dyriophyllum spicatum lajas minor rhalaris arundinacea Phragmites australis Potamogeton crispus lanunculus ficaria Phamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumin Carex pellita Carex sartwelli Gentiana andrewsit Helianthus grosseserratus Liatris spicata Lystmachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	A21902	200		Rater(s):	ELM		Date:	9/20/18
2	2 Me	tric 1.	Wetland A	rea (size).				
max 6 pts.	subtotal Selec	>50 ac 25 to < 10 to < 3 to <1 0.3 to 0.1 to	lass and assign sco res (>20.2ha) (6 pts 50 acres (10.1 to <2 25 acres (4 to <10.1 0 acres (1.2 to <4ha 3 acres (0.12 to <1 (0.3 acres (0.04 to < cres (0.04ha) (0 pts)) 20.2ha) (5 pts) ha) (4 pts) i) (3 pts) 2ha) (2pts) 50.12ha) (1 pt)				
14	Me Me	A 1			surround	ing land use.		
max 14 pts.	subtotal 2a. C	WIDE. MEDIL NARR VERY Itensity of s VERY LOW. MODE	Buffers average 50 M. Buffers average DW. Buffers averag NARROW. Buffers urrounding land use LOW. 2nd growth o Old field (>10 years	m (164ft) or more at 25m to <50m (82 to 10m to <25m (32 average <10m (<32 select one or do rolder forest, prairie), shrub land, young sidential, fenced pa	round wetland po o <164ft) around Ift to <82ft) around Ift) around wetlan uble check and a e, savannah, wilc g second growth sture, park, cons	wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) overage. dlife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)	
21	37 Me	THE RESERVE AND ADDRESS OF THE PERSON OF THE	Hydrology	Charles of the Control of the Contro	erring) ((minist			
max 30 pts.	3c. M	High p Other s Precipi Season Perenr laximum wa >0.7 (2	/ater. Score all that If groundwater (5) proundwater (3) tation (1) tation (1) ial/intermittent surfa ial surface water (la ter depth. Select or 7.6in) (3) 0.7m (15.7 to 27.6in) (<15.7in) (1) to natural hydrologi	ce water (3) ke or stream) (5) nly one and assign (2)	3d. score.	Part of wetland/u Part of riparian or Duration inundation/sat Semi- to permane Regularly inunda Seasonally inunda Seasonally satura	ain (1) flake and oth pland (e.g. f r upland con uration: Soc ently inunda ted/saturate fated (2)	ore one or dbl chec ted/saturated (4)
		Recove Recove	r none apparent (12 ered (7) ering (3) or no recovery (1)) Check all disturb ditch tile dike weir stormwate		point source (nor filling/grading road bed/RR trac dredging other_	7	
14	5 Me	tric 4.	Habitat Al	teration ar	nd Develo	pment.		
max 20 pts.		None of Recove Recove	turbance. Score on r none apparent (4) ered (3) ering (2) or no recovery (1)	e or double check a	and average.			
	4b. F	abitat deve Excelle Very ge Good (opment. Select only nt (7) ood (6) 5) dely good (4) fair (2)	/ one and assign so	core,			
Ì	4c. H	Abitat altera None of Recover	tion. Score one or o r none apparent (9)	Check all disturb mowing grazing clearcutting selective c	ances observed g utting ris removal	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed remo	oval
	btotal this page 1 February 200	iim		Tiome belief	711 (*7	11,000,000,000,000	XT .	

Site:	Rate	r(s):	Date:
subtate 0 5	I first page	nds.	
	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal the Significant migratory songbird/wate Category 1 Wetland. See Question	-restricted hydr enings) (10) reatened or end er fowl habitat o n 1 Qualitative I	ology (5) dangered species (10) r usage (10) Rating (-10)
	Plant Communities.		terspersion, microtopography.
A-104-11-10-11-11-11-11-11-11-11-11-11-11-11-	Score all present using 0 to 3 scale.	vegetation	Community Cover Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed Emergent Shrub	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Z Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
	6b. horizontal (plan view) Interspersion. Select only one.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	High (5)	Narrative D	Description of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of Invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflet	d Once Water Class Ovelley
	6d, Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)
	Z Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Z Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
	Standing dead >25cm (10in) dbh / Amphibian breeding pools	Microtopog	raphy Cover Scale
		0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
1 .		3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
raung	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	10	
	TOTAL SCORE	61	Category based on score breakpoints Z & 3

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	4.73	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	8	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	M)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(0)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	(2)	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

TEV TO THE TOTAL PROPERTY OF THE TOTAL PROPE		
Name:	KATIE SIMON	
Date:	12/10/18	
Affiliation:	THE MANNIK + SMITH GROUP INC	
Address:	1800 INDIAN WOOD CIRCLE MAUMEE, OH 435	37
Phone Number:	419-891-2222 est 2846	
e-mail address:	KSIMON @ Mamiksnithgrap com	
Name of Wetl		
Vegetation Commun		
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coo	91 1766, -82.7956 PLAT ROCK	
USGS Quad Name		
County	HURAN T3N RZYW	
Township	T3N RZYW	
Section and Subsection	on	
Hydrologic Unit Code	04/00012 05 03	
Site Visit	9/20/18	
National Wetland Inve		
Ohio Wetland Invento	ory Map	
Soil Survey		
Delineation report/ma		

Wetland Size (acres, hectares):	J2M - 028 17・72し & with other surface waters, vegetation zones, etc.
Sketch: Include north arrow, relationship	with other surface waters, vegetation zones, etc.
	Las Figure 4
	See Figure 4
	9
omments, Narrative Discussion, Justifica	ation of Category Changes:
	1070 11 1000000
inal score : Mo	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	12.12
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO) Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Welland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
а	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	NO
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	×
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES.	NO
20	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 90
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 96
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NQ
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	type of wetland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex, flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimumi	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamogrostis stricta Carex atherodes Carex buxbaumii Carex sertwellii Gentiana andrewsii Helianthus grosseserratus Liatrīs spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

W2M-028

Site:	A	259,20001	Rater(s):	ELM	Date: 9/20/19
11	11	Metric 1. Wetla	nd Area (size).		/ /
max 6 pts.	subtotal	Select one size class and as: >50 acres (>20.2h) 25 to <50 acres (1) 10 to <25 acres (4) 3 to <10 acres (1.2) 0.3 to <3 acres (0.	sign score. a) (6 pts) 0.1 to <20.2ha) (5 pts) to <10.1ha) (4 pts) to <4ha) (3 pts) 12 to <1.2ha) (2pts) 0.04 to <0.12ha) (1 pt)		
1	6	Metric 2. Uplan		surrounding l	land use.
max 14 pts.	subtotal	MEDIUM. Buffers NARROW. Buffers VERY NARROW. 2b. Intensity of surrounding I VERY LOW. 2nd g LOW. Old field (>1	rage 50m (164ft) or more a average 25m to <50m (82 f average 10m to <25m (33 Buffers average <10m (<33 and use, Select one or do prowth or older forest, prairi 0 years), shrub land, young	around wetland perimeter to <164ft) around wetland of <2ft) around wetland of the around wetland period wetland period end average. e, savannah, wildlife are g second growth forest. (asture, park, conservation	r (7) d perimeter (4) und perimeter (1) neter (0) a, etc. (7) (5) n tillage, new fallow field. (3)
21	27	Metric 3. Hydro		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
max 30 pts.	subtotal	Perennial surface v	er (5) (3) ent surface water (3) vater (lake or stream) (5) Select only one and assign 0 27.6in) (2)	3d. Duration	ectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) on inundation/saturation. Score one or dbl chect Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) average.
		None or none appa Recovered (7) Recovering (3) Recent or no recov	ditch		point source (nonstormwater) filling/grading road bed/RR track dredging other
	38	Metric 4. Habita	at Alteration ar	nd Developm	ent.
	subtotal	4a. Substrate disturbance. S None or none appa Recovered (3) Recovering (2) Recent or no recov 4b. Habitat development. Se Excellent (7) Very good (6) Good (5) Moderately good (4 Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score	rent (4) ery (1) elect only one and assign so	core.	
	38 otal this pa	None or none appa Recovered (6) Recovering (3) Recent or no recov	rent (9) Check all disturt mowing grazing ery (1) clearcuttin selective of	g guttling oris removal	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

Site:	Rate	r(s):	Date:			
0	58					
	I first page					
	Metric 5. Special Wetla	nds.				
nax 10 pts. sú	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate Category 1 Wetland. See Questior	restricted hydr enings) (10) reatened or end er fowl habitat o	ology (5) dangered species (10) r usage (10)			
~	W	iities, in	terspersion, microtopography.			
ax 20 pts. sub	6a. Wetland Vegetation Communities.		Community Cover Scale			
	Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub	1	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality			
	Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality			
	6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality			
	Select only one. High (5)	Narrative Description of Vegetation Quality				
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species			
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp			
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1) Nearly absent <5% cover (0)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp			
	Absent (1)	Mudflat and Open Water Class Quality				
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)			
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)			
	O Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)			
	Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools	Microtopos	High 4ha (9.88 acres) or more			
	TO Touristingful preeding books	0	raphy Cover Scale Absent			
		Ĭ	Present very small amounts or if more common of marginal quality			
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality			
116		3	Present in moderate or greater amounts and of highest quality			

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (10)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
raung	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	21	
	Metric 4. Habitat		
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	46	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	6	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	100 A	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	0	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not eategorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

		al Category	
Choose one	Category 1	Category 2	Category 3
		-41090.74	outegory o
		1	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Data	KATIE SIMON	
Date:	12/10/18	
Affiliation:		
Address: /800 //	IDIAN WOOD CIRCLE MAUMEE, OH YSS	37
Disama Mussalsan	9-891-2222 ext 2046	
a wall addraga;	KSIMON @ Mamiksmith gop can	
Name of Wetland:	(N2M-031	
Vegetation Communit(ies):	PFO	
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coordinate		
	41,1718, -82,8178	
USGS Quad Name	41.17/8, -82.8178 FLATRAK	
USGS Quad Name	41.17/8, -82.8178 FLATRAK	
USGS Quad Name County Township	41,1718, -82,8178	
USGS Quad Name County Township Section and Subsection	41,1718, -82,8178 FLATRAK HURON TBN RZYW	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	41.17/8, -82.8178 FLATRAK	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	41,1718, -82,8178 FLATRAK HURON TBN RZYW	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map	41,1718, -82,8178 FLATRAK HURON TBN RZYW	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map Ohio Wetland Inventory Map	41,1718, -82,8178 FLATRAK HURON TBN RZYW	

Name of Wetland:	W2M-031	
Wetland Size (acres, hectares):		7 627 1
	onship with other surface waters, veget	7.522 ac. ation zones, etc.
	See Figure 4	
omments, Narrative Discussion, J	ustification of Category Changes:	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	L	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	i	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	v	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	~	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note; as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
а	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

		Tues	(100)
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	100
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	(NO)
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	So to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	Go to Question 9c
	A STATE OF THE STA	Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	YES Go to Question 9d	NO Go to Question 10
1	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland	NO Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES.	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative	Complete Quantitative Rating

Table 1.	Characteristic	plant s	pecies.
----------	----------------	---------	---------

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Vajas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohtoensis Tofieldia glutinosa Triglochin maritimum Driglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricma Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis. Calamagrostis stricto. Carex atherodes. Carex buxbaumi. Carex pellito. Carex sartwelli. Gentiana andrewsis. Helianthus grosseserratus. Liatris spicata. Lystmachia quadriflora. Lythrum alatum Pycnanthemum virginianum Silphium terebinthiaceum. Soghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

W2M-031

Metric 1. Wetland Area (size). Select the size dats and assign score 50 acres (1-20.2hm (6 ptb) 25 to -50 acres (1-20.2hm (6 ptb) 10 to -25 acres (1-20.2hm (6 ptb) 10 to -25 acres (1-20.2hm (6 ptb) 10 to -32 acres (1-20.	Site:	1392001	Rater(s):	EM	Date: 9/20/18
250 acres (20.2ha) (6 pts) 25 to 450 acres (10 to 450 acres (4 to 450 hair) (4 pts) 10 to 425 acres (4 to 450 hair) (4 pts) 3 to 43 acres (4 to 450 hair) (2 to 43 pts) 10 to 43 acres (4 to 450 hair) (2 pts) 10 to 43 acres (4 to 450 hair) (2 pts) 10 to 43 acres (4 to 450 hair) (2 pts) 10 to 43 acres (4 to 450 hair) (2 pts) 10 to 43 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 45 acres (4 to 450 hair) (2 pts) 10 to 450 hair)	6	Metric 1. Wetla	ınd Area (size).		
Metric 2. Upland buffers and surrounding land use. 2a. Calculate average buffer width. Select only one and assign score. Do not double check WIDE. Buffers average from (164ft) or more around welland perimeter (7) MEDIUM. Buffers average from (164ft) or more around welland perimeter (1) MARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers of the Suffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account welland perimeter (1) NARROW. Buffers average from (52ft) account well account well account well account f	max 6 pts. su	>50 acres (>20.2b 25 to <50 acres (* 10 to <25 acres (* 3 to <10 acres (1 0.3 to <3 acres (0 0.1 to <0.3 acres	na) (6 pts) 0.1 to <20.2ha) (5 pts) to <10.1ha) (4 pts) to <4ha) (3 pts) 12 to <1.2ha) (2pts) (0.04 to <0.12ha) (1 pt)		
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (4) MARROW. Buffers average 20m to <50m (82 to <164ft) around wetland perimeter (1) MARROW. Buffers average 10m to <25m (82 to <82ft) around wetland perimeter (1) MARROW. Buffers average 50m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland perimeter (1) MARROW. Buffers average 10m (164ft) around wetland average. Marrow. Buffers average 10m (164ft) around wetland perimeter (1) Marrow. Buffers around wetland perimeter (1) Buffers around wetland perimeter (1) Mar	Q			surrounding land	l use.
Metric 3. Hydrology. 3a. Sources of Water. Score all that apply. 3b. Connectivity. Score all that apply. 100 year floodplain (1) Part of riparian or upland corridor (1) Seasonal/Intermitten surface water (3) Pereninia surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. 3c. Maximum water depth. Select only one and assign score. 3c. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovering (3) Recent or no recovery (1) Whetric 4. Habitat Alteration and Development. 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (3) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Recovered (3) Recovering (4) Recovering (4) Recovering (4) R	max 14 pts st	WIDE. Buffers av MEDIUM. Buffers NARROW. Buffers VERY NARROW. 2b. Intensity of surrounding VERY LOW. 2nd LOW. Old field (> MODERATELY H	erage 50m (164ft) or more as average 25m to <50m (82 to saverage 10m to <25m (32 Buffers average <10m (<32 land use. Select one or dougrowth or older forest, prairie 10 years), shrub land, young IGH. Residential, fenced par	round wetland perimeter (7) 5 < 164ft) around wetland perin ft to < 82ft) around wetland per ft) around wetland perimeter (0 uble check and average. e, savannah, wildlife area, etc. second growth forest. (5) sture, park, conservation tillage.	neter (4) imeter (1))) (7) e, new fallow field. (3)
max 30 pts. subtoined 3a. Sources of Water. Score all that apply. High pH groundwater (3) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (4) Part of wetland/upland (e.g. forest), complex (1) Part of wetland/upland (e.g. forest) Part of wetland/upland (e.g. forest) Part of wetland/upland (e.g. forest) Part of wetland/upland (e.g. forest	71 :	Matria 2 Hydr		renala	
Recovering (3) Recent or no recovery (1) Metric 4. Habitat Alteration and Development. A		Jubiotal 3a. Sources of Water. Score High pH groundwate Other groundwate Precipitation (1) Seasonal/Intermit Perennial surface 3c. Maximum water depth. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 co.4m (<15.7in) (7)	ater (5) r (3) rent surface water (3) water (lake or stream) (5) Select only one and assign s to 27.6in) (2)	3d. Duration inur- score. Semi- Regula Seasoi Seasoi	ar floodplain (1) en stream/lake and other human use (1) wetland/upland (e.g. forest), complex (1) riparian or upland corridor (1) dation/saturation. Score one or dbl check to permanently inundated/saturated (4) rrly inundated/saturated (3) nally inundated (2) nally saturated in upper 30cm (12in) (1)
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovered (6) Recovering (3) Recent or no recovery (1)		Recovered (7) Recovering (3)	very (1) ditch tile dike weir	point s filling/g road be dredgir	rading ed/RR track
None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Redefining Selective cutting Redefining	17 0	Metric 4. Habit	at Alteration an	d Development.	
	max 20 pts. su	4a. Substrate disturbance. None or none app Recovered (3) Recovering (2) Recent or no reco 4b. Habitat development. S Excellent (7) Very good (6) Good (5) Moderately good (Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score Recovered (6) Recovering (3)	very (1) e one or double check and avert (9) Check all disturb mowing grazing very (1)	verage. ances observed shrub/s herbacks sedime	eous/aquatic bed removal entation
woody debris removal farming toxic pollutants nutrient enrichment last revised 1 February 2001 j/m	Anna has to a Control of the		woody deb	ris removal farming	

Site:	Rate	r(s):	Date:
Subtoti	Metric 5. Special Wetla	nds.	
max 10 pls. st	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thi Significant migratory songbird/wate Category 1 Wetland. See Question	-restricted hydr enings) (10) reatened or end er fowl habitat o n 1 Qualitative I	ology (5) langered species (10) r usage (10) Rating (-10)
14 61			terspersion, microtopography.
max 20 pts. su	6a. Wetland Vegetation Communities.		Community Cover Scale
	Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub	1	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	2_ Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
	6b. horizontal (plan view) Interspersion. Select only one.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	High (5)	Narrative C	escription of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflatan	I Ones Water Class Condition
	6d. Microtopography.	0	Depen Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
	 Standing dead >25cm (10in) dbh Amphibian breeding pools 	Microtopoo	raphy Cover Scale
	TATA NAME AND ASSESSED BY BEAUTY	0	Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
		3	Present in moderate or greater amounts

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	6	
raing	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	No.
	Metric 6. Plant communities, interspersion, microtopography	14	
	TOTAL SCORE	61	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	0	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	(NO)	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score / fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Fina	Final Category		
Choose one Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Katie L. Simon	
Date: 17/7/18	
Affiliation: Mannik & Smith Grove	
Phone Number: According Wood Circle	
419-891-2222	
e-mail address: KSimon @ manniksmithgroup. com	
Name of Wetland: WZM-033	
Vegetation Communit(ies):	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See attached Wetland location map Figure 4	
E- 4	
rigure 1	
CONTRACTOR STATE OF THE PARTY O	
Lat/Long or UTM Coordinate 4/1775, - 82,827/465	
USGS Quad Name	
County	
Township T3N R29W	
Section and Subsection	
Hydrologic Unit Code 04/000120503	
Site Visit	
Site Visit	
National Wetland Inventory Map	
National Wetland Inventory Map Ohio Wetland Inventory Map Soil Survey	
National Wetland Inventory Map Ohio Wetland Inventory Map	

Name of Wetland: W2M-033	
Wetland Size (acres, hectares):	718AC
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	1 1 1 1 1 1 1 1 1
EEE FIGURE 4	
	•
	·
Comments, Narrative Discussion, Justification of Category Changes:	
None	
inal score : 77 6 Category	• •

WZM-033

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	/	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	/	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	/	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	/	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	/	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	/	

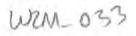
End of Scoring Boundary Determination. Begin Narrative Rating on next page.

WZM-073

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b



8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17,7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
	C.C. Committee Andrews Land St. Co. L. B.	Go to Question 9a	^
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	100
9b	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
30	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9a
1		Go to Question 10	J-B
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	2		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A38	7000	Rater(s): LLS	ELM	Date: 9/21/18
1 1	Metric 1. Wetland A	Area (size).		
max 6 pts. subtot	Select one size class and assign scc >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <10 to <25 acres (4 to <10.)	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)		
14	Metric 2. Upland bu		unding land u	se.
max 14 pts. subtot	WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years	Im (164ft) or more around wet 25m to <50m (82 to <164ft) a te 10m to <25m (32ft to <82ft) average <10m (<32ft) around Select one or double check or older forest, prairie, savanna), shrub land, young second g sidential, fenced pasture, park	and perimeter (7) around wetland perimeter a around wetland perimet wetland perimeter (0) and average, in, wildlife area, etc. (7) rowth forest. (5) c conservation tillage, ne	r (4) er (1)
18 22	Metric 3. Hydrology		migration decision (17)	
nax 30 pts. subtota	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (Ia 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrolog	ce water (3) ke or stream) (5) nly one and assign score.	Part of wetl Part of ripal 3d, Duration inundatic Semi- to pe Regularly ir Seasonally Seasonally	
	None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)		erved	
C 235	Metric 4. Habitat Al	teration and Dev	elopment.	
nax 20 pts. subtote	None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	one and assign score.	9.	
	4c. Habitat alteration. Score one or o	ouble check and average. Check all disturbances obse	erved	
23.5	Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/saplin herbaceous sedimentation dredging	/aquatic bed removal on
subtotal this	ary 2001 jjm	LOVIC Politicality	nument enn	Griment

	17~76				VIC	T1 AA	TB-4	9/10
Site: /	158100	<u> </u>		Rater(s):	KIS,	tl"	Date:	1/21/18
0	275 btotal first p	Me	tric 5. Special V					
max 10 pts.	subtotal	Check	all that apply and score as in Bog (10)	idicated.				
			Fen (10) Old growth forest (10) Mature forested wetland (Lake Erie coastal/tributan Lake Erie coastal/tributan Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/t Significant migratory song Category 1 Wetland. See	y wetland-unres y wetland-restric (Oak Openings) federal threatend gbird/water fowl e Question 1 Qu	eted hydrolo (10) ed or endan habitat or u alitative Rat	gy (5) gered species (10) sage (10) ting (-10)		
0	27.5	Met	tric 6. Plant cor	nmunitie	s, inte	rspersion, microto	pogra	phy.
max 20 pts.	subtotal	ີ6a. W	etland Vegetation Communiti	es. <u>V</u> e	getation C	ommunity Cover Scale		
		Score	all present using 0 to 3 scale.	·	0	Absent or comprises <0.1ha (0.24		
		_	Aquatic bed		1	Present and either comprises small vegetation and is of moderate of		
		<u> </u>	Emergent			significant part but is of low qua		прпъез а
		-	Shrub Forest	-	2	Present and either comprises sign		of wetland's
		-	Mudflats		-	vegetation and is of moderate of		
		-	Open water			part and is of high quality		•
			Other	-	3	Present and comprises significan	t part, or mo	e, of wetland's
		6b. ho	prizontal (plan view) Interspers	sion.		vegetation and is of high quality		
		Select	only one.					
			High (5)	Na	rrative Des	scription of Vegetation Quality		
			Moderately high(4)		low	Low spp diversity and/or predomi		inative or
			Moderate (3)			disturbance tolerant native spec		!
			Moderately low (2)		mod	Native spp are dominant compon		
		L	Low (1)			although nonnative and/or distu		
		60 Cc	None (0) overage of invasive plants. R	ofer		moderately high, but generally w		
			le 1 ORAM long form for list.			threatened or endangered spp	vio prodonoc	· Or raid
			uct points for coverage		high	A predominance of native species	. with nonna	tive spp
			Extensive >75% cover (-5	5)	5	and/or disturbance tolerant nativ		
		-	Moderate 25-75% cover (•		absent, and high spp diversity a		
			Sparse 5-25% cover (-1)	•		the presence of rare, threatened	d, or endang	ered spp
			Nearly absent <5% cover					
			Absent (1)	Mu	udflat and (Open Water Class Quality	••••	
			crotopography.		0	Absent <0.1ha (0.247 acres)		
			all present using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2.47 ac		
		_ (Vegetated hummucks/tus		2	Moderate 1 to <4ha (2.47 to 9.88	acres)	
			Coarse woody debris >15		3	High 4ha (9.88 acres) or more		
		_(Standing dead >25cm (10		aratanaa	phy Cover Scale		
			Amphibian breeding pools		0	Absent		
					1	Present very small amounts or if r	nore commo	n
					·	of marginal quality		
					2	Present in moderate amounts, bu	t not of highe	est
						quality or in small amounts of hi		
					3	Present in moderate or greater ar	nounts	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use)	
	Metric 3. Hydrology	18	
	Metric 4. Habitat	5.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	27.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO)	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Ketie L. Simon	
Date: 12/7/18	
Affiliation: Mannik & Smith Grap	
Address: 1800 Indian Wood Circle	
Phone Number:	
419 - 891 - 2222 e-mail address:	
Ks.man @ manniksmith group com	
Name of Wetland: W2M-034	
Vegetation Communit(ies): PFO / PEM	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See attached location map, Fig	1000 4
see appeared total maps, my	VYC !
Lat/Long or UTM Coordinate	
USGS Quad Name 41.13791147, -82.766415	7
County	
Township TZN RZ4W	
Section and Subsection	
Hydrologic Unit Code	
04 000 70502 Site Visit 9 / - 1 / 2	
7/21/18 National Wetland Inventory Map	_
Ohio Wetland Inventory Map	
Soil Survey	
Delinastian vanastiman A A A	
Attacky o	

N ENU-EL				
Name of Wetland:	2M-034			
Wetland Size (acres, hecta				
Sketch: Include north arro	w, relationship with other sur	face waters, vegetation	zones, etc.	
See	attached	location	map, Fo	gue 4
Comments Narrative Disco	ussion, Justification of Catego	nru Changos:		
Comments, Narrative Disch	assion, dustinoution of outegr	ory changes.		
Final score :	54.5		Category:	2

WZM-034

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	/	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	1	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	J	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	1	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	1	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	5	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

W7M-034

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of	YES	NO
	a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	Wetland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed	YES	(NO)
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	NO
	, and a second of the second o	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES	MO
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	NO
	vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or	Wetland is a Category 1 wetland	Go to Question 6
	2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 6	
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES	(NO)
	particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the	Wetland is a Category 3 wetland	Go to Question 7
	cover of invasive species (see Table 1) is <25%?	Go to Question 7	
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	(NO)
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of	Wetland is a Category 3 wetland	Go to Question 8a
	invasive species listed in Table 1 is <25%?	Go to Question 8a	
За	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	(NO)
	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence	Wetland is a Category 3 wetland.	Go to Question 8b
	of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

WZM-034

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES	(NO)
9b	Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	Go to Question 10
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9d
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be	NO. Go to Question 10
		evaluated for possible Category 3 status Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
,, ,	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	A383	2000		Rater(s): KLS,	ELM	Date: 9/21	/18
4	4	Met	ric 1. Wetland A	ea (size).			
max 6 pts.	subtotal	Select	one size class and assign score >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20 10 to <25 acres (4 to <10.1h 3 to <10 acres (1.2 to <4ha) 0.3 to <3 acres (0.12 to <1.2 0.1 to <0.3 acres (0.04 to <0.4) <0.1 acres (0.04ha) (0 pts)	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)			
17	16	Met	ric 2. Upland but	fers and surro	unding I	and use.	
max 14 pts.	subtotal		culate average buffer width. S WIDE. Buffers average 50m MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers average very very sold buffers average very LOW. 2nd growth or LOW. Old field (>10 years), MODERATELY HIGH. Resi	(164ft) or more around we 5m to <50m (82 to <164ft) 10m to <25m (32ft to <82) verage <10m (<32ft) aroun Select one or double che- blder forest, prairie, savant shrub land, young second dential, fenced pasture, pa	etland perimeter around wetland ft) around wetland wetland perimete and average and, wildlife area growth forest. (£	(7) perimeter (4) id perimeter (1) eter (0) i, etc. (7) i) tillage, new fallow field. (3)	
20	36	Met	HIGH. Urban, industrial, operic 3. Hydrology.		nining, construct	on. (1)	
max 30 pts.	subtotal	3a. So	urces of Water. Score all that a High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface		X 1	tivity. Score all that apply. 00 year floodplain (1) etween stream/lake and other human art of wetland/upland (e.g. forest), con art of riparian or upland corridor (1)	
		\Rightarrow	Perennial surface water (lake kimum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (0.4 to 0.7m (15.7 to 27.6in) (1) difications to natural hydrologic	one and assign score.	X R S S	n inundation/saturation. Score one or emi- to permanently inundated/saturat egularly inundated/saturated (3) easonally inundated (2) easonally saturated in upper 30cm (12	ted (4)
		7	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)		served programment fill fill for discontinuous fill fill for discontinuous fill fill for discontinuous fill fill fill for discontinuous fill fill fill fill fill fill fill fil	pint source (nonstormwater) ling/grading lad bed/RR track redging ther	
75	435	Met	ric 4. Habitat Alt	Thoras Control (N.C.)			
max 20 pts.	subtotal	4a. Sub	estrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) itat development. Select only of Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) itat alteration. Score one or do	or double check and avera			
su	43.5	7	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances ob mowing grazing clearcutting selective cutting woody debris removes toxic pollutants	sh he se dr al fa	urub/sapling removal erbaceous/aquatic bed removal dimentation edging rming utrient enrichment	

54.5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (10)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	7.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	11	
	TOTAL SCORE	945	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	and the same	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

hoose one	Category 1	/ Category 2	Category 3
e one	Category	- Category 2	Outogory o

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

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Address: 1800 MOIAN WOOD CIRCLE, MANNEE, OH 43537	
Phone Number: 49-891-2222 EXT. 2046	
e-mail address: KSIMON@MANNIKSMTHAROUP.COM	
Name of Wetland: W2M-036 + W2M-039	
Vegetation Communit(ies):	
HGM Class(es): RIVERINE—MAINSTEM	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	

THE PROPERTY OF THE PROPERTY O	
Lat/Long or UTM Coordinate 41.138338227, -82.78017128	
USGS Quad Name	FLAT
County	HURON
Township	TRN RZ4W
Section and Subsection	
Hydrologic Unit Code	04100017_
Site Visit	9127118
National Wetland Inventory Map	F14.3
Ohio Wetland Inventory Map	1.1
Soil Survey	F16.2
Delineation report/map	F16.4

Name of Wetland: 1010 AA-021 0 11 100 AA = 200	
Wetland Size (acres, hectares):	IT1 80 - 5
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	176.8AC0
SEE FIGURE 4	
	4
	,
	ĺ
	•
Comments, Narrative Discussion, Justification of Category Changes:	
W2M-036 +W2M-039 ARE SCORED TOGETHER BECAUSE THEY ARE CONTI	C170/72
TO A STREAM.	,
SHERMAN-NORWICH ROAD SEPARATES W2M-036 + W2M-039	
W2M-036 EXTENDS SOUTH OFF-SITE	.
W2M-039 EXTENDS EAST OFF-SITE.	
Final score : Category:	

W2M-034 +W2M-039

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		·
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES NO
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain	YES NO
	an individual of, or documented occurrences of federal or state-listed	
	threatened or endangered plant or animal species?	Wetland is a Category Go to Question 3 wetland.
3	Decumented Web Continued by the continued by	Go to Question 3
,	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES
		Wetland is a Category Go to Question 4 3 wetland
		Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland	YES (NO)
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	1 Matter d in a Cotton of 1
	wateriow, recording songular, or shorebild concentration aleas?	Wetland is a Category Go to Question 5
		Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES (NO)
	in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 wetland
	an acidic pond created or excavated on mined lands that has little or	
	no vegetation?	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES (NO)
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland
	cover of invasive species (see Table 1) is <25%?	2-4-2
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7
	is saturated during most of the year, primarily by a discharge of free	
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category Go to Question 8
	and with one or more plant species listed in Table 1 and the cover of	3 wetland
	invasive species listed in Table 1 is <25%?	Go to Overtion 8n
a	"Old Growth Forest." Is the wetland a forested wetland and is the	Go to Question 8a / NO
	forest characterized by, but not limited to, the following characteristics:	(
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category Go-to Question 8
	projected maximum attainable age for a species); little or no evidence	3 wetland.
	of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of	Co to Ouselies 8h
	canopy trees interspersed with canopy gaps; and significant numbers	Go to Question 8b
	of standing dead snags and downed logs?	

W2M-034 +W2M-039

		<i>/</i>	<u> </u>
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
-	dance grotes than toom (1771) abit	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Welland should be evaluated for possible Category 3 status	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10 YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Go to Question su	Go to Queenon 75
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
9e	Does the wetland have a predominance of non-native or disturbance	Go to Question 10 YES	NO
90	tolerant native plant species within its vegetation communities?		
		Wetland should be evaluated for possible	Go to Question 10
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the welland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	NO
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category . 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	evaluated for possible Category 3 status	Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	- 1	ranig
•	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species

Invasive/exotic spp	fen specles	bog species	Oak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Bonado Masini
	Solidago ohioensis	yw		•
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A3820001, W2M-036 Rater(s): K,SIMON	Date: 9/27/18
+W2M-039	1 '
φ Metric 1. Wetland Area (size).	
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding land use.	
Timax 14 pts. Subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	ow field. (3)
27,5 39,5 Metric 3. Hydrology.	
Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up Part of riparian or Duration Inundation/sature Semi- to permane Regularly inundate Seasonally Inundate Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check. untly inundated/saturated (4) ed/saturated (3)
3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	·
Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotel 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2)	
Poor (1) 4c. Habitat alteration. Score one or double check and average.	
None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Sublotal this page Restriction Recent or no recovery (1) Recent or no recovery (1) Recent	c bed removal

Site: A3820001, W2M-0340 Rate	r(s): K.Sl	MON	Date: 9 271 X
58.5 subtotal first page			7-7-5
Metric 5. Special Wetlar	ıds.		
max 10 pls. sublotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper	restricted hydro nings) (10)	ology (5)	
Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	r fowl habitat or	usage (10)	
14 72.5 Metric 6. Plant commun			pography.
max 20 pts. subtotal 6a. Welland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises < 0.1ha (0.24	171 acres) contlouous area
Aquatic bed	1	Present and either comprises small	
2 Emergent		vegetation and is of moderate q	· · · · ·
Shrub		significant part but is of low qua	
7 Forest		Present and either comprises sign	
Mudflats		vegetation and is of moderate q	
\ Open water		part and is of high quality	daily or comprises a small
Other	3	Present and comprises significant	part or more of wotland's
6b. horizontal (plan view) Interspersion.	J	-	•
Select only one.		vegelation and is of high quality	· · · · · · · · · · · · · · · · · · ·
High (5)	Nametica D		
F		escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predomin	
Moderate (3)		disturbance tolerant native spec	
Moderately low (2)	mod	Native spp are dominant compone	• .
Low (1)		although nonnative and/or distur	bance tolerant native spp
None (0)		can also be present, and specie	
 Coverage of invasive plants. Refer 		moderately high, but generally w	//o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp	
or deduct points for coverage	high	A predominance of native species	, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant nativ	e spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity a	nd often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened	
Nearly absent <5% cover (0)		<u> </u>	
Absent (1)	Mudflat and	Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acr	res)
Vegetaled hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	<u> </u>
Standing dead >25cm (10in) dbh		, , , , , , , , , , , , , , , , , , , ,	
Amphibian breeding pools	Microtopoa	aphy Cover Scale	
, , , , , , , , , , , , , , , , ,	0	Absent	
	1	Present very small amounts or if m	ione common
	•	of marginal quality	
		Present in moderate amounts, but	not of highest
	4	quality or in small amounts of hig	
		Present in moderate or greater am	
70 6	v	and of highest quality	ounto
		. SIM OF HUMICOL QUAILV	

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert sco re	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
,	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YESK NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
,	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	6	
ridang	Metric 2. Buffers and surrounding land use	10	
	Metric 3. Hydrology	27.5	
. ·	Metric 4. Habitat	[9]	
	Metric 5. Special Wetland Communities	D	
ĺ	Metric 6. Plant communities, interspersion, microtopography	14	
	TOTAL SCORE	72.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

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Wetland Categorization Worksheet

Choices	Circle one	A-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
Narrative Rating Nos. 2, 3,	Wetland is		category of the wetland using the narrative criteria in OAC
4, 6, 7, 8a, 9d, 10	categorized as a Category 3 wetland	1	Rule 3745-1-54(C) and biological and/or functional
4, 0, 7, 0a, 9u, 10	Category 5 Welland		assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any	YES	NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:			Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be		the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		welland. Detailed biological and/or functional assessments
Did you garage IDC all As	3 status		may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	(NO)	Is quantitative rating score <i>greater</i> than the Category 2
Narrative Rating No. 5	Wetland is		scoring threshold (including any gray zone)? If yes,
realitative (tating 140. 5	categorized as a		reevaluate the category of the wetland using the narrative
	Getegory 1 welland		criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has
*	oanchory I welland		been under-categorized by the ORAM
Does the quantitative score	YES)	NO -	If the score of the wetland is located within the scoring
fall within the scoring range	\/		range for a particular category, the wetland should be
of a Category 1, 2, or 3	Welland is	l	assigned to that category. In all instances however, the
wetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	category based on	L	quantitative score.
<u></u>	the scoring range		
Does the quantitative score	YES	NO)	Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for	l		of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc., and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or assigned to a		54(C).
	category based on	1	
	detalled		
	assessments and		,
	the narrative		
	criteria /		
Does the wetland otherwise	YES	NO)	A wetland may be undercategorized using this method, but
exhibit moderate OR superior	<i>\</i>	/	still exhibit one or more superior functions, e.g. a wetland's
nydrologic OR habitat, OR	Wetland was \	Wetland is	blotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
he wetland was not	by this method. A	category as	functions because of its type, landscape position, size, loca
categorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background		corrected. A written justification with supporting reasons or
case of superior functions) by his method?	Information Form'		Information for this determination should be provided.
ino moniou i			
	<u> </u>		
			/
		Final Cate	gon,
Choose o	ne Category		
	ne Category	r Ga	tegory 2 \ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON	
Date:	
Affiliation: MSA	
Address: 1800 MOIAN MOOD CIRCLE, MAUNTE, 1	04 43537
Phone Number: 419-891-2222 EXT, 2046	
e-mail address: KSIMON@MANNIKSMITHGROUP. CO	$\overline{\mathbf{m}}$
Name of Wetland: W2M - OU-	- • •
Vegetation Communit(les):	
HGM Class(es): RIVERINE-HEADWATER	- 1
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	<u> </u>
SEE FLAVRE Y	a sale
	ı
	THE WINDS NO. OF THE WINDS PARTY OF THE PART
Lat/Long or UTM Coordinate 41, 14767206, -82,797816	558
USGS Quad Name	FLAT
County	HURON
Township	T3NR24W
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	
National Wetland Inventory Map	F16.3
Ohio Wetland Inventory Map	11
Soil Survey	F16.2
Delineation report/map	FIG. 4

Name of Wetland: W2M-O42	
Wetland Size (acres, hectares):	14.54AC
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	(9.0 m)
SEE FIGURE 4	
, - ,	
·	•
	·
•	
	•
·	
Comments, Narrative Discussion, Justification of Category Changes:	
NONE	
Final score : Catego	Orv:

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps In properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the welland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		6
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	in all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	(NO)
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible	
	threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	$\uparrow \bigcirc$
?	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed	YES	NO
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in	YES	NO)
	Natural Heritage Database as a high quality wetland?	1	
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	K \
1	Significant Breeding or Concentration Area. Does the wetland	YES	NO }
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	NO)
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 wetland	
	an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 6	
;	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES /	NO)
	significant Inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30%	\ W-11 - 41 - 6 /	, , , , , , , , , , , , , , , , , , ,
	cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Welland is a Category 3 welland	Go to Question 7
		Go to Question 7	
-	Fens. Is the welland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	NO)
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of	Wetland is a Category 3 wetland	Go to Question 8
	invasive species listed in Table 1 is <25%?	Go to Question 8a	~ \
а	"Old Growth Forest." Is the wetland a forested wetland and is the	YES /	NO
	forest characterized by, but not limited to, the following characteristics:	())
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	Wetland is a Category 3 wetland.	Go to Question 8
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

lable 1.	Characteristic	plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
hragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
otamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	~ .	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus	Annual Control	Lysimachia quadriflora
-1 0	Parnassia glauca	Schechzeria palustris	•	Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
•	Salix serissima	Xyris difformis		
	Solidago ohioensis	-		
	Tofieldia glutinosa	And the second second		
	Triglochin maritimum			
	Triglochin palustre	•		

End of Narrative Rating. Begin Quantitative Rating on next page.

deciduous treas with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh? ALAKE Eric coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Eric that is accessible to fish? By Dest he wetlands frydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wotland is partially hydrologically restricted from Lake Eric due to takeward or landward dikes or other hydrological controls? Are Lake Eric water levels the wetland's primary hydrological influence, i.e. the wetland is partially hydrologically unrestricted (in bakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with take and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, in the wetlands by submersed aquatic vegetation. Ped Does the wetland have a predominance of nather species can also be present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant n				\sim
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landward dikes or other hydrological controls? evaluated for possible Category 3 status		prevent erosion and the loss of aquatic plants, i.e. the wetland is		1
Pc		partially hydrologically restricted from Lake Erie due to lakeward or		Go to Question 9c
Sec		landward dikes or other hydrological controls?		
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"estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation. Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? NO Wetland should be evaluated for possible Category 3 status Go to Question 10 YES NO Wetland is a Category 3 wetland is a Category 3 wetland. Wetland is a Category 3 wetland. Wetland is a Category 3 wetland. The province of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Countles), Sandusky Plains (Wayandot, Crawford, and Marion Countles), Sandusky Plains (Wayandot, Crawford, and Marion Countles), Cauges, Wood Countles, Northwest Ohio (e.g. Erie, Huron, Lucas, Wood Countles), and portions of western Ohio Countles (e.g. Darke, Mercer, Miami,		herder alterations) or the wetland can be observed as an	Co to Overtion Od	0 - 4 - 0 40
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Wetlands, or those dominated by submersed aquatic vegetation.		include sandbar deposition wetlands, estuarine wetlands, river mouth	1	
Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present? Does the wetland have a predominance of non-native or disturbance tolerant native species can also be present? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities? NO Wetland should be evaluated for possible Category 3 status Go to Question 10 YES NO Wetland should be evaluated for possible Category 3 status Go to Question 10 YES NO Wetland is a Category 3 status Go to Question 10 YES NO Wetland is a Category 3 status Go to Question 10 YES NO Wetland is a Category 3 status Go to Question 10 YES NO Wetland is a Category 3 wetland. YES NO Wetland should be evaluated for possible Category 3 wetland. Go to Question 11 YES NO Wetland should be evaluated is a Category 3 wetland. See to Question 10 YES NO Wetland is a Category 3 wetland. YES NO Wetland should be evaluated in a Category 3 wetland. See to Question 11 Wetland is a Category 3 wetland. YES NO Wetland should be evaluated in a Category 3 wetland. See to Question 11 Wetland is a Category 3 wetland. See to Question 10 YES Wetland is a Category 3 wetland. See to Question 10 YES NO Wetland should be evaluated for possible Category 3 wetland. See to Question 11 Wetland should be evaluated for possible Category 3 wetland. See to Question 11 Wetland should be evaluated for possible Category 3 wetland. See to Question 10 Complete Quantitative Category 3 status NO Wetland should be evaluated for possible Category 3 wetland.		wetlands, or those dominated by submersed aquatic vegetation.	1	
native species can also be present? Metland is a Category 3 wetland	9d	Does the wetland have a predominance of native species within its	YES	NO
9e Does the wetland have a predominance of non-nalive or disturbance tolerant native plant species within its vegetation communities? 10 Lake Plain Sand Prairies (Oak Openings) is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,				
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Welland should be evaluated for possible Category 3 status Go to Question 10 Lake Plain Sand Prairies (Oak Openings) Is the welland located in Lucas, Fulton, Henry, or Wood Countles and can the welland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami, Wetland should be evaluated for possible Category 3 status Go to Question 10 YES Wetland is a Category 3 wetland. YES NO NO Outestion 11 YES NO NO Counties) (So to Question 11 Wetland should be evaluated for possible Category 3 status	9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Countles and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madlson and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		toterant native plant species within its vegetation communities?	Melland should be	Co to Ougstion 10
Category 3 status Go to Question 10 Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,				Go to Question to
10 Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		·		
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Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,	10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in		NO
characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		Lucas, Fulton, Henry, or Wood Counties and can the wetland be	(((()
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Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality. 11 Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		Dresent). The Ohio Department of Natural Resources Division of	Go to Question 11	
type of welland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		Natural Areas and Preserves can provide assistance in confirming this	!	
dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		type of welland and its quality.	l (Υ /
were formerly located in the Darby Plains (Madlson and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami, Wetland should be evaluated for possible Category 3 status Category 3 status Rating	11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO /
Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami, Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), Category 3 status Category 3 status Rating		were formerly located in the Darty Plains (Madless and Using	14/	
Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		Counties), Sandusky Plains (Wyandot Crawford and Marion		
and portions of western Ohio Counties (e.g. Darke, Mercer, Mlami,		Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties).		
		and partiage of unctorn Obje Counting (a.g. Dade Maria Age	category o otologo	· ····································
o // /	- 1	and politions of western Onio Counties (e.g. Darke, Mercer, Miami,		
Rating		Montgomery, Van Wert etc.).	Complete Quantitative	

Site: A3820001, W2M-042 Rater(s): K,SIMON	Date: 9127/18					
3 3 Metric 1. Wetland Area (size).						
max 6 pts. subtotal Select one size class and assign score.						
>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts)						
10 to <25 acres (4 to <10.1ha) (4 pts)						
3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts)						
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)						
<0.1 acres (0.04ha) (0 pts)						
Metric 2. Upland buffers and surrounding land us	ie.					
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check						
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)					
NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter						
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average.						
VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)						
LOW. Old field (>10 years), shrub land, young second growth forest. (5)	. f=U= S=i-I - (0)					
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	ranow neid. (3)					
Metric 3. Hydrology.						
max 30 pts. subtotal 3a. Sources of Water. Score all that apply. 3b. Connectivity. Score	e all that apply.					
High pH groundwater (5) 100 year floo	dplain (1)					
Dort of world	am/lake and other human use (1) nd/upland (e.g. forest), complex (1)					
	an or upland corridor (1)					
Perennial surface water (lake or stream) (5) 3d. Duration inundation	/saturation. Score one or dbl check.					
	nanently inundated/saturated (4) ndated/saturated (3)					
>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Regularly inu Seasonally s						
(15.7III) (1)	aturated in upper 30cm (12in) (1)					
3e. Modifications to natural hydrologic regime. Score one or double check and average.						
None or none apparent (12) Check all disturbances observed Recovered (7) ditch point source	(nonstormwater)					
Recovering (3)						
Recent or no recovery (1) dikeroad bed/RR	track					
weir dredging stormwater input other						
Metric 4. Habitat Alteration and Development.						
max 20 pts. sublotal 4a. Substrate disturbance. Score one or double check and average.						
None or none apparent (4) Recovered (3)						
4 Recovering (2)						
Recent or no recovery (1)						
4b. Habitat development. Select only one and assign score. Excellent (7)						
Very good (6)						
Good (5)	·					
Moderately good (4) Fair (3)						
Poor to fair (2)						
Poor (1) 4c. Habitat alteration. Score one or double check and average.						
None or none apparent (9) Check all disturbances observed						
Recovered (6) mowing shrub/sapling						
Recovering (3) grazing herbaceous/ac	quatic bed removal					
Recent or no recovery (1) clearcutting sedimentation selective cutting dredging	ľ					
woody debris removal X farming						
toxic pollutants nutrient enrich	ment					
subtotal this page last revised 1 February 2001 jim Better						
nuclionistic in obtaining from the control of the c						

Site: A3820001, W2M-042 Rate	r(s): K.S	IMON	Date: 9/27/18
subtotal first page			7 7 -
$0 \psi \psi $ Metric 5. Special Wetlar	ıds.		
max 10 pls. subtotal Check all that apply and score as indicated.			
Bog (10) Fen (10)			
Old growth forest (10)			
Mature forested wetland (5)			
Lake Erie coastal/tributary wetland-	unrestricted hy	drology (10)	
——————————————————————————————————————	restricted hydro	ology (5)	
Lake Plain Sand Prairies (Oak Oper	nings) (10)		
Relict Wet Prairies (10) Known occurrence state/federal thre	estaned or and	angered appeales (40)	•
Significant migratory songbird/water	fowl habitat or	usage (10)	
Category 1 Wetland. See Question	1 Qualitative F	Rating (-10)	
8 52 Metric 6. Plant commun	ities, int	erspersion, microto	pography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24)	71 acres) configuous area
Aquatic bed	1	Present and either comprises sma	
2 Emergent		vegetation and is of moderate qu	
Shrub Forest		significant part but is of low quali	
Mudflats	2	Present and either comprises signi	
Open water		vegetation and is of moderate que part and is of high quality	ality or comprises a small
Other	3	Present and comprises significant	part, or more, of welland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	, -,
Select only one.			
High (5) Moderately high(4)		escription of Vegetation Quality	
Moderate (3)	low	Low spp diversity and/or predomination disturbance tolerant native species	
Moderately low (2)	mod	Native spp are dominant componer	
Low (1)		although nonnative and/or disturt	
None (0)		can also be present, and species	
6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally w/	o presence of rare
or deduct points for coverage	high	threatened or endangered spp A predominance of native species,	with poppative one
Extensive >75% cover (-5)	Ingii	and/or disturbance tolerant native	
Moderate 25-75% cover (-3)		absent, and high spp diversity an	
Sparse 5-25% cover (-1)		the presence of rare, threatened,	or endangered spp
Nearly absent <5% cover (0) Absent (1)		0	
6d. Microtopography.	o Nucliat and	Open Water Class Quality Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)	<u></u>
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 a	
Coarse woody debris >15cm (6ln)	3	High 4ha (9.88 acres) or more	<u> </u>
Standing dead >25cm (10in) dbh			
Amphibian breeding pools	Microtopogr 0	aphy Cover Scale Absent	
	1	Present very small amounts or if mo	ne common
		of marginal quality	saulinon
·	2	Present in moderate amounts, but r	
		quality or in small amounts of high	
	3	Present in moderate or greater amo	unts

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

W2M-042 circle answer or Result insert score If yes, Category 3. NO Narrative Rating Question 1 Critical Habitat YES YES NO If yes, Category 3. Question 2. Threatened or Endangered Species YES If yes, Category 3. Question 3. High Quality Natural Wetland Question 4. Significant bird habitat YES ŅΟ If yes, Category 3. YES If yes, Category 1. Question 5. Category 1 Wetlands QQ YES If yes, Category 3. NQ Question 6. Bogs Question 7. Fens YES NO If yes, Category 3. If yes, Category 3. Question 8a. Old Growth Forest YES NO YES NQ If yes, evaluate for Question 8b. Mature Forested Wetland Category 3; may also be 1 or 2. If yes, evaluate for Question 9b. Lake Erie Wetlands -YES NO Category 3; may also be Restricted 1 or 2. If yes, Category 3 Question 9d. Lake Erie Wetlands -YES NO Unrestricted with native plants YEŞ ΝÒ If yes, evaluate for Question 9e. Lake Erie Wetlands -Unrestricted with invasive plants Category 3; may also be 1 or 2. NO YES. If yes, Category 3 Question 10. Oak Openings NÔ YES If yes, evaluate for Question 11. Relict Wet Prairies Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

W2M-042

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is	NO	is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Namative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Category 3 wetland		Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 slatus	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	YES	NO }	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2
Narrative Rating No. 5	Wetland is categorized as a Category 1 wetland		scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Welland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetfand is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the welland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
	<u> </u>		
Choose o	ne Category	Final Cate	egory Category 3
2,10030 0	- January		Category 2

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON.	
Date: 9/26/18	
Affiliation:	
Address: 1800 INDIAN WOOD CIRCLE, MAUMEE, OH 4	13537
Phone Number: 419-891-2222 EXT, 2046	
e-mail address: KSIMON@MANNIKSMITHGROUP, COM	
Name of Wetland: W2M- OHL	
Vegetation Communit(ies): /2/(0)/iii	· <u>·</u>
HGM Class(es): DEPRESSION	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
•	
Lat/Long or UTM Coordinate	
41,13505193,-82,78963499	
County	FLAT
	PLAT
	HURON
Township	KOCIC_
Township Section and Subsection Hydrologic Unit Code	HURON TINR24W
Township Section and Subsection	HURON
Township Section and Subsection Hydrologic Unit Code	HURON TINR24W
Township Section and Subsection Hydrologic Unit Code Site Visit	HURON TINR24W
Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map Chic Wetland Inventory Map	HURON TIN RZYW 04100012 9/26/18 F1G. 3

Name of Wetland: W2M-O44	
Wetland Size (acres, hectares):	0.689AC
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
SEE FIGURE 4	
•	,
	•
•	
·	
Comments, Narrative Discussion, Justification of Category Changes:	·
NONE	
	•
	-
Final score : Categor	v

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		·
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		V
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
ſ		1
	Critical Habitat. Is the welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?	YES NO Go to Question 2
	Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	evaluated for possible Category 3 status
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed	YES NO
	threatened or endangered plant or animal species?	Wetland is a Calegory Go to Question 3 wetland.
		Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES NO
		Wetland is a Category Go to Question 4 3 wetland
		Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland	YES (NO)
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category Go to Question 5 3 wetland
		Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES (NO)
	vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria,</i> or <i>Phragmites australis,</i> or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category Go to Question 6
	no vegetation?	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES (NO)
	particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category Go to Question 7 3 wetland
		Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturaled during most of the year, primarily by a discharge of free	YES (NO
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	Wetland is a Category : Go to Question 8a 3 wetland
	·	Go to Question 8a
	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics:	YES NO
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	Wetland is a Calegory 3 wetland. Go to Question 8t
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b

Table 1	Characteristic	plant enocice
Table 1.	Characteristic	Diant Species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flova	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellit
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
5	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	:	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		_
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum)) 	•
	Triglochin palustre	•		

End of Narrative Rating. Begin Quantitative Rating on next page.

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally	Welland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status,	
		Category 5 status,	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	(NO)
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is	'29	""
	partially hydrologically restricted from Lake Erle due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
9c		Go to Question 10	
90	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.	Velo	110
эu	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	2010 4400401100
9e	Does the wetland have a predominance of non-native or disturbance	Go to Question 10	NO
-	tolerant native plant species within its vegetation communities?	TES	I NO
		Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	r \
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	[\	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the	o welland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality.	<i>ک</i> یم	ſ \
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO)
	dominated by some or all of the species in Table 1. Extensive prairies	\	· " /
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miaml.	Category 3 status	Rating
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Site: A3820001 M2M-044 Rater(s): K.SIMON	Date: 9/2/0/18
	1 -1.
Metric 1. Wetland Area (size).	÷ :
max 8 pts. subtotal Select one size class and assign score.	÷
>50 acres (>20.2ha) (6 pts)	
25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts)	
3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts)	
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	•
< 0.1 acres (0.04ha) (0 pts)	A
2 4 Metric 2. Upland buffers and surrounding lan	la use.
max 14 pis. subiotal 2a. Calculate average buffer width. Select only one and assign score. Do not doubte	e check.
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter.	imeter (4)
NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland po	erimeter (1)
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter 2b. Intensity of surrounding land use. Select one or double check and average.	(0)
VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc LOW. Old field (>10 years), shrub land, young second growth forest. (5)	2. (7)
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillar HIGH. Urban, industrial, open pasture, row cropping, mining, construction.	ge, new fallow field. (3)
Metric 3. Hydrology.	(I)
2 25 metric of Trydrology.	
	y, Score all that apply.
Other groundwater (3) Between	ear floodplain (1) een stream/lake and other human use (1)
	of wetland/upland (e.g. forest), complex (1) of riparian or upland comidor (1)
Perennial surface water (lake or stream) (5) 3d. Duration Inu	ndation/saturation. Score one or dbl check.
>0.7 (27.6in) (3)	to permanently inundated/saturated (4) larly inundated/saturated (3)
	onally inundated (2) onally saturated in upper 30cm (12in) (1)
3e. Modifications to natural hydrologic regime. Score one or double check and average	
None or none apparent (12) Check all disturbances observed Recovered (7) ditch	source (nonstormwater)
7 Recovering (3) tile filling/	grading
Recent or no recovery (1) dike road by weir dredgi	ped/RR track ing
stormwater input other_	
	•
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.	
None or none apparent (4)	
Recovered (3) Recovering (2)	•
Recent or no recovery (1) 4b. Habitat development. Select only one and assign score.	
Excellent (7)	
Very good (6) Good (5)	
Moderately good (4)	
l Fair (3) Poor to fair (2)	
Poor (1) 4c. Habitat alteration, Score one or double check and average.	
None or none apparent (9) Check all disturbances observed	
Z Recovered (6) mowing shrub/s	sapling removal eous/aquatic bed removal
Recent or no recovery (1) clearculling sedime	ntation
selective cutting dredgin woody debris removal 🔀 farming	
subtotal this page	t enrichment
last revised 1 February 2001 jjm	

Site:A382000 W2M-044 Rater	r(s): K,S	IMON Date: 9/26/18
subtotal first page 2.2 Metric 5. Special Wetlar	nde	
0 33	ias.	
max 10 pts. subtotal Check all that apply and score as indicated.		
Bog (10)		
Fen (10) Old growth forest (10)		r.
Mature forested wetland (5)		
Lake Erie coastal/tributary wetland-		
C	•	ology (5)
Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10)	riirigs) (10)	
Known occurrence state/federal three	eatened or end	angered species (10)
Significant migratory songbird/water		
Category 1 Wetland. See Question	-	- · ·
	ities, int	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale
Score all present using 0 to 3 scale. Aquatic bed	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Emergent	•	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
Shrub		significant part but is of low quality
Forest	2	Present and either comprises significant part of wetland's
Mudflats Open water		vegetation and is of moderate quality or comprises a small
Other	3	part and is of high quality Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.	•	vegetation and is of high quality
Select only one.		<u> </u>
High (5)		escription of Vegetation Quality
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
LLOW(1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)	_	and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, threatened, or endangered spp
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/lussucks Coarse woody debris >15cm (6in)	3	Moderate 1 to <4ha (2.47 to 9.88 acres) High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh		Thigh 4ha (9.00 acres) of filore
1 Amphibian breeding pools	Microtopog	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

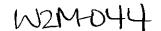
ORAM Summary Worksheet

W2M-044

		circle	
,		answer or	
•		insert	Result
	,	scare	_
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3, may also be 1 or 2.
	Question 9b. Lake Érie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-3	<u> </u>
·	TOTAL SCORE	20	Category based on score breakpoints / OR 2 (GR

 ${\bf Complete\ Wetland\ Categorization\ Worksheet}.$

Wetland Categorization Worksheet



Choices	Circle one	0	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
Narrative Rating Nos. 2, 3,	categorized as a		category of the wetland using the narrative criteria in OAC
4, 6, 7, 8a, 9d, 10	Category 3 wetland		Rule 3745-1-54(C) and blological and/or functional
τ, ο, <i>τ</i> , οα, ου, το	Category 5 Wetland	\wedge	assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any	YES	NO	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:			Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be		the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	3 status YES	(NO)	may also be used to determine the wetland's category.
Did you allower Tes to	IEO	KINO Y	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is		reevaluate the category of the wetland using the narrative
Talland Fatting 110. 0	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Calegory 1 wetland		functional assessments to determine if the wetland has
	gv,j i modulid	(,)	been under-categorized by the ORAM
Does the quantitative score	YES	(NO	If the score of the wetland is located within the scoring
all within the scoring range	r I		range for a particular category, the wetland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
wetland?	assigned to the	}	narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	category based on		quantitative score.
	the scoring range		
Does the quantitative score /{	YES	NO	Rater has the option of assigning the wetland to the higher
Category 1 or 2 or Category	Wetland is		of the two categories or to assign a category based on the
2 or 3 wetlands?	assigned to the		results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a
or o weathings.	higher of the two		consideration of the namative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		· ((o))
	category based on		•
	detailed		
	assessments and		
	the narrative		
Name the social and all and	criteria (/	,,, <u>,</u>	
Does the wetland otherwise exhibit moderate OR superior	YES \	NO /	A wetland may be undercategorized using this method, but
ydrologic OR habitat, OR	Wetland was	Wetland is	still exhibit one or more superior functions, e.g. a wetland's
ecreational functions AND	undercategorized	assigned to	biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic
	by this method. A	category as	functions because of its type, landscape position, size, loca
he wetland was <i>not</i>			- runcuona pecause di ila type, idituscape pusilidii, size, luca
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
he wetland was <i>not</i> ategorized as a Category 2 wetland (In the case of noderate functions) or a			or regional significance, etc. In this circumstance, the паглаtive criteria in OAC Rule 3745-1-54(С)(2) and (3) are
ategorized as a Category 2 velland (in the case of	written justification for recategorization	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be
ategorized as a Category 2 wetland (in the case of noderate functions) or a	written justification for recategorization should be provided	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be
ategorized as a Category 2 welland (in the case of noderate functions) or a category 3 wetland (in the	written justification for recategorization should be provided on Background	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or
ategorized as a Category 2 welland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by	written justification for recategorization should be provided on Background	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or
ategorized as a Category 2 welland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by	written justification for recategorization should be provided on Background	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or
ategorized as a Category 2 welland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by	written justification for recategorization should be provided on Background	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or
ategorized as a Category 2 welland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by	written justification for recategorization should be provided on Background	determined by the ORAM.	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
ategorized as a Category 2 welland (in the case of noderate functions) or a Category 3 wetland (in the ase of superior functions) by	written justification for recategorization should be provided on Background Information Form	determined by the ORAM.	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
ategorized as a Category 2 vetland (in the case of noderate functions) or a category 3 wetland (in the ase of superior functions) by nis method?	written justification for recategorization should be provided on Background Information Form	determined by the ORAM.	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SIMON	
Date: 9/28/18	
Affiliation:	
Address: 1800 INDIAN WOOD CIRCLE, MANNEE, OH	42537
Phone Number: 419-891-2222 EXT. 2046	francis (mass)
e-mail address: KSIMON@MANNKSMTTHGROUP,COM	<u></u> -
Name of Wetland: W2M-047	
Vegetation Communit(ies): / / / /	
(I (A) (IV)	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
Lat/Long or UTM Coordinate 41.15395582, -82.795254	U I
USGS Quad Name	FLAT
County	HURON
Township	13N R24W
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	9/28/18
National Wetland Inventory Map	F1613
Ohio Wetland Inventory Map	11
Soil Survey	FIG. 2
Delineation report/map	E16.4

Name of Wetland:		
Wetland Size (acres, hectares):		10.61
Sketch: Include north arrow, relationship with other surface waters, veg	votation rouse ata	9.51AC
SEE FIGURE 4	geration zones, etc.	
<u>.</u>		,
	•	
Comments, Narrative Discussion, Justification of Category Changes:		
Final score :	Category:	

W2M-047

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	1	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

3

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
_	<u>1 1 1 1 1 1 1 1 1 1 </u>	<u> </u>
	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES (NO)
	been designated by the U.S. Fish and Wildlife Service as "critical	l \ \
	habitat" for any threatened or endangered plant or animal species?	Wetland should be Go to Question
	Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible
	threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
	Threatened or Endangered Species. Is the wetland known to contain	YES NO
	an individual of, or documented occurrences of federal or state-listed	
	threatened or endangered plant or animal species?	Wetland Is a Category Go to Question
		3 wetland.
		o welland,
		Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in	YES (NO)
	Natural Heritage Database as a high quality wetland?	(
		Wetland is a Category Go to Question
		3 wetland
•		Go to Question 4
	Significant Breeding or Concentration Area. Does the welland	YES [NO)
	contain documented regionally significant breeding or nonbreeding	
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category Go to Question
		3 wetland
		0 - t - 0
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	Go to Question 5
	in size and hydrologically isolated and either 1) comprised of	
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category Go to Question
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 wetland
	2) an acidic pond created or excavated on mined lands that has little or	1 Wedning
	no vegetation?	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES (NO)
	significant inflows or outflows, 2) supports acidophilic mosses.	
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Welland is a Category Go to Question
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland
	cover of Invasive species (see Table 1) is <25%?	
		Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES (NO)
	is saturated during most of the year, primarily by a discharge of free	
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category Go to Question
	and with one or more plant species listed in Table 1 and the cover of	3 wetland
	invasive species listed in Table 1 is <25%?	
	"Old Orando Ferrat II In the wallender Co. 1	Go to Question 8a /
	"Old Growth Forest." Is the wetland a forested wetland and is the	YES (NO)
	forest characterized by, but not limited to, the following characteristics:	Well-udi O-A
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence	Wetland is a Category Go to Question
	of human-caused understory disturbance during the past 80 to 100	3 welland.
		Ca to Ougation Ob
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
90	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communitles?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohlo Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantilative Rating

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellin
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	~ 1	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyris difformis		
	Solidago ohioensis	, <u></u>		•
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre	•		

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A3820001 W2M-047 Rater(s): K1S1MON	Date: 9/28/18
Metric 1. Wetland Area (size).	į (
max 6 pts. subtotal Select one size class and assign score.	
>50 acres (>20.2ha) (6 pts)	
25 to <50 acres (10.1 to <20.2ha) (5 pts)	
10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts)	
0.3 to <3 acres (0.12 to <1.2ha) (2pls)	
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding land use.	
15 X Metric 2. Opiana paricis and surrounding land door	
max 14 pts. sublolat 2a. Calculate average buffer width, Select only one and assign score. Do not double check.	-
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)	
MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)	
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)	
2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)	
LOW. Old field (>10 years), shrub land, young second growth forest. (5)	
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo	w field. (3)
HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	
Metric 3. Hydrology.	
max 30 pts. subtotal 3a. Sources of Water. Score all that apply. 3b. Connectivity. Score all t	hat anniv
High pH groundwater (5) 100 year floodplai	n (1)
	ake and other human use (1) pland (e.g. forest), complex (1)
	upland corridor (1)
Perennial surface water (lake or stream) (5) 3d. <u>Duration inundation/satu</u>	ration. Score one or dbl check.
3c. Maximum water depth. Select only one and assign score. Semi- to permane 2.0.7 (27.6in) (3)	ntly inundated/saturated (4) ed/saturated (3)
7 X 0.4 to 0.7m (15.7 to 27.6in) (2)	ited (2)
	ted in upper 30cm (12in) (1)
3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Check all disturbances observed	
Recovered (7) ditch point source (nons	tormwater)
Recovering (3) tile filling/grading Recent or no recovery (1) dike road bed/RR track	
Recent or no recovery (1)	
stormwater input other	<u> </u>
12 20 Metric 4. Habitat Alteration and Development.	
139 Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.	
None or none apparent (4)	
Recovered (3) Recovering (2)	
Recent or no recovery (1)	
4b. Habitat development. Select only one and assign score. Excellent (7)	
Very good (6)	
Good (5) Moderately good (4)	
Fair (3)	
Poor to fair (2)	
Poor (1) 4c. Habitat alteralion. Score one or double check and average.	
None or none apparent (9) Check all disturbances observed	
Recovered (6) mowing shrub/sapling remo	
Recovering (3) grazing herbaceous/aquatic	; ped removal
selective cutting dredging	ľ
woody debris removal farming farming toxic pollutants	
subtotal this page toxic pollutants nutrient enrichment	
last revised 1 February 2001 jjm	

Site: A3820001, W2M-047 Rate	r(s): <u>᠘</u> S	IMON Date: 9/28/18
subtotal first page		, , ,
Metric 5. Special Wetlar	nds.	
max 10 pts. subtotal Check all that apply and score as indicated.		
Bog (10)		
Fen (10) Old growth forest (10)		
Malure forested wetland (5)		
Lake Erie coastal/(ributary wetland-	unrestricted hy	drology (10)
Lake Erie coastal/tributary wetland-	restricted hydro	plogy (5)
Lake Plain Sand Prairies (Oak Ope	nings) (10)	
Relict Wet Prairies (10)		
Known occurrence state/federal thre	eatened or end r fowl habitat o	angered species (10)
Category 1 Wetland. See Question	1 Qualitative F	Rating (-10)
		erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
Emergent		vegetation and is of moderate quality, or comprises a
Shrub Forest	2	significant part but is of low quality
Mudflats	Z	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
Select only one. High (5)	Normthy D	coordinates of Managarian Oscalifica
Moderately high(4)	low	escription of Vegetation Quality Low spp diversity and/or predominance of nonnative or
Moderate (3)	,,,,,	disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although normative and/or disturbance tolerant native spp
None (0) 6c. Coverage of Invasive plants. Refer		can also be present, and species diversity moderate to
to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)	J	and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0) Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh Amphibian breeding pools	Microtopog	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
		of marginal quality
	2	Present in moderate amounts, but not of highest
·	3	quality or in small amounts of highest quality
.11	ð	Present in moderate or greater amounts

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

1112M-0 circle answer or Result insert score Narrative Rating Question 1 Critical Habitat YES MO If yes, Category 3. YES NO If yes, Category 3. Question 2. Threatened or Endangered Species ΝO If yes, Category 3. Question 3. High Quality Natural Wetland YES NO If yes, Category 3. Question 4. Significant bird habitat YES YES NO If yes, Category 1. Question 5. Category 1 Wetlands Question 6. Bogs YES NO If yes, Category 3. YES If yes, Category 3. Question 7. Fens NO YES ØИ If yes, Category 3. Question 8a. Old Growth Forest Question 8b. Mature Forested Wetland YES ОИ If yes, evaluate for Category 3; may also be 1 or 2. NO YES If yes, evaluate for Question 9b. Lake Erie Wetlands -Category 3; may also be Restricted 1 or 2. Question 9d. Lake Erie Wetlands -If yes, Category 3 YES NO Unrestricted with native plants ΝO If yes, evaluate for Question 9e. Lake Erie Wetlands -YES Category 3; may also be Unrestricted with invasive plants 1 or 2. Question 10. Oak Openings YES ďИ If yes, Category 3 YES If yes, evaluate for Question 11. Relict Wet Prairies Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

W2M-047

Choices	Circle one	\sim	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3,	YES Wetland is categorized as a	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland		assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score all within the scoring range of a Category 1, 2, or 3 wetland?	YES Welland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
oces the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND ne wetland was not ategorized as a Category 2 wetland (in the case of noderate functions) or a category 3 wetland (in the ase of superior functions) by his method?	YES Wetland was undercategorized by this method. A wrillen justification for recategorization should be provided on Background Information Form	Wettand is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
			
Choose on	ne Category 1	Final Cate	gory Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON	
Date: 9128118	
Affiliation: MSG	
Address: 1800 INDIAN WOOD CIRCLE, MANNEE,	OH 43537
Phone Number: 419-891-2222 EXT. 2046	<u></u>
e-mail address: SIMON@MANNIKEM THAROUP, CON	1
Name of Wetland: 1/2M-048	
Vegetation Communit(ies):	
HGM Class(es): DEPRESSION	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FLAURE 4	ĺ
	·
	ĺ
Lat/Long or UTM Coordinate	
Lat/Long or UTM Coordinate 41,155 67309, -82,79083	STI FLAT
County	ROCK
Township	HURON T3NR24W
	T3NR24W
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	9128/18
National Wetland Inventory Map	F14.3
Ohio Wetland Inventory Map	11
Soil Survey	Fig. 2
Delineation report/map	FIG. 4

Name of Wetland: W2M-O48	
Wetland Size (acres, hectares):	7.418 AC
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	THISKS
SEE FIGURE 4	,
,	
•	•
Comments, Narrative Discussion, Justification of Category Changes:	
NONE	
•	
	-
	;
Final score : Category	r. 7

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	1	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single welland.		
Step 3	Defineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	·	
Step 5	in all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

W2M-048

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
1	<u> </u>	4 1
	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	YES Wetland should be evaluated for possible Category 3 status
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category Go to Question 3 wetland.
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Go to Question 3 YES NO
		Wetland is a Category Go to Question 4 3 wetland
	Otrackia	Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES NO Wetland is a Category Go to Question 5 3 watland
		Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES NO Wetland is a Calegory Go to Question 6 1 wetland Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES NO
	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category Go-to Question 7 3 wetland
		Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES NO Wetland is a Category Go to Question 8: 3 wetland Go to Question 8a
	"Old Growth Forest." Is the wetland a forested wetland and is the	YES (NO)
	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of	Wetland is a Category 3 wetland. Go to Question 8b
	canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	OO to Question op

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			V /
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO .
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the welland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Go to duestion an	GO (O Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.	<u> </u>	
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
	Hative species can also be present	3 wetland	Go to ducation so
		Go to Question 10	NO —
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	toreign harve plant species vitain its vegetation communities:	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	A
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES //	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	[(_ /
	characterized by the following description: the wetland has a sandy	Wetland is a Category ` 3 wetland.	Ge to Question 11
	substrate with interspersed organic matter, a water table often within seyeral inches of the surface, and often with a dominance of the	o welland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of	,	
	Natural Areas and Preserves can provide assistance in confirming this	ĺ į	<u> </u>
11	type of wetland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community	YES /	NO)
••	dominated by some or all of the species in Table 1. Extensive prairies		
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Category 3 status	Rating
,	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species

Invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2 1	Helianthus grosseserratus
lypha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicato
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	-		•
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

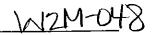
Site: A3820001 W2M-048 Rater(s): < SIMON Date: 9/28/18
Metric 1. Wetland Area (size).
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)
Metric 2. Upland buffers and surrounding land use.
max 14 pts. sublotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)
Metric 3. Hydrology.
3a. Sources of Water. Score all that apply. High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)

Site: A3820001, W214-048 Rate	r(s): /< _ι S	1MON Date: 9/28//8
43 subtotal first page		,
0 43 Metric 5. Special Wetlar	nds.	
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10)		
Fen (10)		
Old growth forest (10)		
Mature forested wetland (5)		
Lake Erie coastal/tributary wetland-	unrestricted hy	drology (10)
Lake the coastantibulary welland-	restricted hydro	ology (5)
Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10)	nings) (10)	
Known occurrence state/federal three	eatened or end:	angered species (10)
Significant migratory songbird/water		
Category 1 Wetland. See Question		
II 54 Metric 6. Plant commun	ities, int	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
Emergent Shrub		vegetation and is of moderate quality, or comprises a significant part but is of low quality
5 2 Shrub Forest		Present and either comprises significant part of wetland's
Mudflats	_	vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) interspersion.		vegetation and is of high quality
Select only one. High (5)	Nacrativo D	escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)	.5.1	disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants, Refer to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1)	_	the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)	BB381-4 1	0 144 0 0 0
Absent (1) 6d. Microtopography.	Muariat and	Open Water Class Quality Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh	Ha	
Amphibian breeding pools		raphy Cover Scale
		Absent Present very small amounts or if more common
	'	of marginal quality
•		Present in moderate amounts, but not of highest
		quality or in small amounts of highest quality
77	3	Present in moderate or greater amounts

54

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland Categorization Worksheet



Choices	Circle one	R	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES	(NO)	Is quantilative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
or the following questions.	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a]	Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland	l	assessments to determine if the wetland has been over-
4, 0, 7, 0a, 9u, 10	Category 5 Welland		categorized by the ORAM
Did you answer "Yes" to any	YES	NO J	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:			Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be		the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for]	either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
	3 status	1//\ \\	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	(NO	Is quantitative rating score greater than the Category 2
			scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is		reevaluate the category of the wetland using the narrative
•	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 welland		functional assessments to determine If the wetland has
			been under-categorized by the ORAM
Does the quantitative score	YES	NO	If the score of the wetland is located within the scoring
fall within the scoring range	ソ ・ノ	1	range for a particular category, the welland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
wetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	category based on		quantitative score.
	the scoring range	4	<u> </u>
Does the quantitative score	YES	NO)	Rater has the option of assigning the welland to the higher
fall with the "gray zone" for	1 .	V /	of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is	results of a nonrapid wetland assessment method, e	
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
•	assigned to a		
	category based on		•
	detailed	ļ	
	assessments and		
•	the narrative		
	criteria		
Does the wetland otherwise	YES	(NO	A wetland may be undercategorized using this method, but
exhibit moderate OR superior			still exhibit one or more superior functions, e.g. a wetland's
nydrologic OR habitat, OR	Wetland was	Wetland is	biotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
ne wetland was <i>not</i>	by this method. A	category as	functions because of its type, landscape position, size, local
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (In the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 welland (in the	on Background	1	corrected. A written justification with supporting reasons or
• • • • • • • • • • • • • • • • • • • •	Information Form	1	information for this determination should be provided.
	1		1 and the second
ase of superior functions) by his method?		Final Cate	gory
	one Category	Final Cate	gory ategory 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

ORAM Summary Worksheet

W2M-048

		circle	-
		answer or	
		insert	Result
=		score	<u></u>
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
ı	Question 9d, Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
į	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	D	
	Metric 6. Plant communities, interspersion, microtopography		
,	TOTAL SCORE	54	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Background Information

Name: KATTE SIMON	
Date: 9/28/18	
Affiliation: MSG	
Address: 1800 INDIAN WOOD CIRCLE, MAUMEE, DH	43537
Phone Number: 419-891-2222 EXT. 2046	
e-mail address: KSIMON@MANNIKSMITHGROUP, CO	200
Name of Wetland: W2M-000	
Vegetation Communit(ies): (1)(a)(i X)	
HGM Class(es): RIVERINE — CHANNEL	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
•	
	i
Lat/Long or UTM Coordinate	
Lat/Long or UTM Coordinate 41.12791633, -82.77199 USGS Quad Name	DATROK
	FLRI RUN
County	HURON
Township .	T2N R24W
Section and Subsection	
lydrologic Unit Code	04100012
Site Visit	9/28/18
National Wetland Inventory Map	F14.3
Dhìo Welland Inventory Map	11
Soil Survey	F14.2
Delineation report/map	Ti, 4

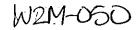
Name of Wetland:	
Wetland Size (acres, hectares):	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	5.20BAC
SEE FIGURE 4	
1 more 1	
·	•.
· ·	
Comments, Narrative Discussion, Justification of Category Changes:	
WELLAND EXTENDS WEST OFF-SITE	
·	
	·
Final score : Category	r: 2 _
Final score : 57 Category	r: 2_

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
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Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.



Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered hased on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	h
İ	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NO
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	
	has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
	Threatened or Endangered Species. Is the wetland known to contain	YES	NO)
	an individual of, or documented occurrences of federal or state-listed		
	threatened or endangered plant or animal species?	Wetland is a Category	Go to Question 3
		3 wetland.	_
		Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in	YES	NO /
	Natural Heritage Database as a high quality wetland?	[]	
		Welland is a Category 3 wetland	Go to Question 4
		3 wedand	
		Go to Question 4	~
	Significant Breeding or Concentration Area. Does the wetland	YES	NO /
	contain documented regionally significant breeding or nonbreeding]	
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 welland	_
		Go to Question 5	$\langle \cdot \rangle$
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES	NO
	in size and hydrologically isolated and either 1) comprised of		\bigcup
	vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	Wetland is a Category 1 wetland	Go to Question 6
	an acidic pond created or excavated on mined lands that has little or	i welland	
	no vegetation?	Go to Question 6	,)
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO /
	significant inflows or outflows, 2) supports acidophilic mosses,	j.	
	particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the	Wetland is a Category	Go to Question 7
	cover of invasive species (see Table 1) is <25%?	3 wetland	
	· ·	Go to Question 7	` `
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	NO /
	is saturated during most of the year, primarily by a discharge of free		
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	3 wetland	
		Go to Question 8a	·)
	"Old Growth Forest." Is the wetland a forested wetland and is the	YES V	NO /
	forest characterized by, but not limited to, the following characteristics:		ごノ
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8t
	projected maximum attainable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of	Co to Overtion 0h	
	canopy trees interspersed with canopy gaps; and significant numbers	Go to Question 8b	
	of standing dead snags and downed logs?		

	,	
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally	YES NO Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status.
		Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Welland should be evaluated for possible Category 3 stalus
		Go to Question 10
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES NO
•	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	Go to Question 9d Go to Question 10
	wetlands, or those dominated by submersed aquatic vegetation.	
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES NO
	native species can also be present?	Welland is a Category Go to Question 9e 3 wetland
		Go to Question 10 NO
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES NO
	, and a second s	Wetland should be Go to Question 10
		evaluated for possible Category 3 status
		Calegory 3 status
		Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES (NO /
	characterized by the following description: the wetland has a sandy	Welland is a Category 00 to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.
	several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11
	present). The Ohio Department of Natural Resources Division of	OU to daconom !!
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	<i>((((((((((</i>
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES NO
	dominated by some or all of the species in Table 1. Extensive prairies	Molland should be
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be Complete evaluated for possible Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status Rating
,	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Quantitative
	Montgomery, Van Wert etc.).	Rating
_	· · · · · · · · · · · · · · · · · · ·	

Table 1. Characteristic plant species.

invasive/exotic spp	fen specles	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumi
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	E 44 F 1 - 1	Helianthus grosseserratus
lypha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicate
Typha xglauca	Lobelia kalmii 🗍	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyris difformis	·	551112651122011
	Solidago ohioensis	, 2		-
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A 382,000 W2M-050 Rater(s): K, S, MON	Date: 9 28/18
山 山 Metric 1. Wetland Area (size).	• •
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
5 Metric 2. Upland buffers and surrounding land	l use.
Triex 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double of WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (82 to <164ft) around wetland perimeter (93 to <164ft) around wetland perimeter (164 to <164ft) around wetland perimeter (165 to <164ft) around wet	neter (4) imeter (1) i) (7) c, new fallow field. (3)
28 37 Metric 3. Hydrology.	
High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. X > 0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) 100 yea Betwee Part of Part of Session Regular Season	Score all that apply. ar floodplain (1) in stream/lake and other human use (1) wetland/upland (e.g. forest), complex (1) riparian or upland corridor (1) dation/saturation. Score one or dbl check. o permanently inundated/saturated (4) rity inundated/saturated (3) ally inundated (2) ally saturated in upper 30cm (12in) (1)
None or none apparent (12) Check all disturbances observed Recovered (7) ditch point so Recovering (3) tile filling/gr	urce (nonstormwater) ading d/RR track
Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	
4c. Habitat alteration. Score one or double check and average.	
Recovered (6) Recovering (3) Recent or no recovery (1) Recovered (6) Recovered (6) Recovered (6) Recovering (3) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1)	ll l
Idoutevioed it editidity 2001 jjiil	

Site: A3820001, W2M-050 Rate	r(s): K.SI	MON Date: 9/28/18
subtotal first page Metric 5. Special Wetland	nds.	
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or enda r fowl habitat or	logy (5) angered species (10) usage (10)
3 57 Metric 6. Plant commun	ities, int	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
, 2 Emergent		vegetation and is of moderate quality, or comprises a
/ Shrub		significant part but is of low quality
T Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.	ŭ	vegetation and is of high quality
Select only one.		
High (5)	Marrativo Do	escription of Vegetation Quality
Moderately high(4)		
— · · · · · ·	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)		disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list, Add		threatened or endangered spp
or deduct points for coverage	hìgh	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1)	_	the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh		
Amphibian breeding pools	Microtopogr	aphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
		of marginal quality
•	2	Present in moderate amounts, but not of highest
		quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
		1

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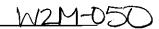
End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

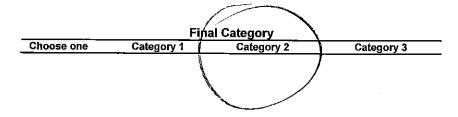
circle answer or Result insert scere Question 1 Critical Habitat YES (NO If yes, Category 3. Narrative Rating YES If yes, Category 3. Question 2. Threatened or Endangered NO. Species YES NO If yes, Category 3. Question 3. High Quality Natural Wetland YES NO If yes, Category 3. Question 4. Significant bird habitat NO YES If yes, Category 1. Question 5. Category 1 Wetlands YES NO If yes, Category 3. Question 6. Bogs If yes, Category 3. Question 7. Fens YES ON YES If yes, Category 3. Question 8a. Old Growth Forest NO YES NO If yes, evaluate for Question 8b. Mature Forested Wetland Category 3; may also be 1 or 2. NO YES If yes, evaluate for Question 9b. Lake Erie Wetlands -Category 3; may also be Restricted 1 or 2. if yes, Category 3 YES NO Question 9d. Lake Erie Wetlands -Unrestricted with native plants Question 9e. Lake Erie Wetlands -YES NO If yes, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. NO If yes, Category 3 Question 10. Oak Openings YES If yes, evaluate for Question 11. Relict Wet Prairies YES! ŊØ Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet



Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Welland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and blological and/or functional assessments to determine if the wetland has been over-
Did you answer "Yes" to any of the following questions:	YES	NO	categorized by the ORAM Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If
Narrative Raling Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category 3 status	~	the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	(NO	is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is categorized as a Calegory 1 wetland		reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetfand is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all Instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, blological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Calegory 2 wetland (in the case of moderate functions) or a Calegory 3 wetland (in the case of superior functions) by this method?	Welland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SIMON	
Date: 9/28/18	
Affiliation: MS C	
Address: 1800 INDIAN WOOD CIRCLE, MAUMEE	NH 42527
Phone Number	100 7000F
e-mail address: 419-891-2222 EXT, 2046	
KSIMONOMANNIKSM (HGROUP, CO)	<u>Y)</u>
Name of Wetland: W2M-052 Vegetation Communit(ies): / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /	
HGM Class(es): RIVERINE	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE Flaure 4	
·	
Lat/Long or UTM Coordinate 41, 12387051 -82, 7629	705
USGS Quad Name	CENTERTON
County	HURDN
Township	TZN RZYW
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	9/28 //8
National Wetland Inventory Map	F16.3
Ohio Wetland Inventory Map	11
Soil Survey	Tirs

Delineation report/map

Name of Wetland: [\lambda 12 M-050]	
Wetland Size (acres, hectares):	3,08AC OM
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
SEE FIGURE 4	
•	
	·
Comments, Narrative Discussion, Justification of Category Changes:	
WETLAND EXTENDS NORTHWEST + SOU	MART
	1000
OFF-SITE,	
	İ
,	

Category:

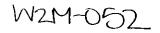
Final score :

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.



Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Obio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

¥	Question	Circle one	
	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	(ÑO
	been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	Welland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed	YES	NO
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
	<u> </u>	Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES (NO)
		Wetland is a Category 3 welland	Go to Question 4
		Go to Question 4	
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES	NO)
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	NO
	vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria,</i> or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or	Welland is a Category 1 welland	Go to Question 6
	no vegetation?	Go to Question 6 /	
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses.	YES	NO
	particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
		Go to Question 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	NO)
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of	Wetland is a Category 3 wetland	Ge to Question 8
	invasive species listed in Table 1 is <25%?	Go to Question 8a	
	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics:	YES	NO
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence	Wetland is a Category 3 welland.	Go to Question 8
	of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

8b	Mature forested wetlands. Is the welland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of		
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	
	· ·	Category 3 status.	
	<u> </u>	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
•	an elevation less than 575 feet on the USGS map, adjacent to this	0 1 0 11511 05	On the Owner tion 10
- 01-	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b YES	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	TES	INO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wefland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	Co to quousur so
	ianawara amoo or outer nyaroregious controllor	Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Go to Question au	GO to Question to
	include sandbar deposition wetlands, estuarine wetlands, river mouth	16	[
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		1
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	147-41	Go to Question 10
		Wetland should be evaluated for possible	Go to Question to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	Moderation Colores	Go to Question 11
	characterized by the following description: the wetland has a sandy substrate with interspersed organic malter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the	o wenand.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		_
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohlo Countles (e.g. Darke, Mercer, Miami,	3,	
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	<u></u>

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	~ 1	Helianthus grosseserratus
ypha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
ypha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	2		•
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A382000 W2M-(V32 Rater(s): K. S. M.O.N.	Date: 9/28[[8_
Metric 1. Wetland Area (size).	•
max 6 pts. subtotal Select one size class and assign score.	
>50 acres (>20.2ha) (6 pts)	
25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts)	
(3 pts) 3 to <10 acres (1.2 to <4ha)	
0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	
C.1 to <0.5 actes (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding land us	se.
4 +	
max 14 pts. sublotal 2a, Calculate average buffer width, Select only one and assign score. Do not double check	
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (7)	(4)
NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter	r (1)
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)	
2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)	•
LOW. Old field (>10 years), shrub land, young second growth forest. (5)	5.11.60
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	/ Tailow field. (3)
Motrio 2 Hudrology	
2105 335 Metric 3. Hydrology.	
max 30 pts. subtolal 3a. Sources of Water. Score all that apply. 3b. Connectivity. Score	e all that apply.
High pH groundwater (5)	
/ Day of walls	eam/lake and other human use (1) nd/upland (e.g. forest), complex (1)
Seasonal/Intermittent surface water (3)	an or upland corridor (1)
	n/saturation. Score one or dbl check. mariently inundated/saturated (4)
>0.7 (27.6in) (3) 2 F X Regularly inu	ındated/saturated (3)
0.4 to 0.7m (15.7 to 27.6in) (2)	
 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. 	aturated in upper 30cm (12in) (1)
None or none apparent (12) Check all disturbances observed	
	(nonstormwater)
Recovering (3) tille filling/grading Recent or no recovery (1) dike road bed/RR	
weir dredging	
stormwater inpul other	
16 49,5 Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average.	
None or none apparent (4)	
Recovered (3) Recovering (2)	
Recent or no recovery (1)	
4b. Habitat development. Select only one and assign score. Excellent (7)	
Very good (6)	
Good (5) Moderately good (4)	
Fair (3)	
Poor to fair (2)	
Poor (1) 4c. Habitat alteration. Score one or double check and average.	
None or none apparent (9) Check all disturbances observed	
Recovered (6) mowing shrub/sapling	
Recovering (3) grazing herbaceous/ac Recent or no recovery (1) clearcutting sedimentation	guatic bed removal
selective cutting dredging	#
woody debris removal farming	ment .
toxic pollutantsnutrient enrich	
last revised 1 February 2001 jjm	

Site: A3820001 W2M-052 Rater	r(s): زد،2	(MON) Date: 9/28/18
subtotal first page Metric 5. Special Wetlar	nde	
0 H4.5 metric of opecial Wellar	ius.	
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5)		
Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre	restricted hydro nings) (10)	ology (5)
Significant migratory songbird/water	fowl habitat or	usage (10)
Category 1 Wetland. See Question		
3 525 metric o. Frant commun	iues, iii	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Sco <u>re all</u> present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
Emergent Shrub		vegetation and is of moderate quality, or comprises a
Forest	2	significant part but is of low quality Present and either comprises significant part of wetland's
Mudflats	_	vegelation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizonlal (plan view) Interspersion.		vegetation and is of high quality
Select only one.		
High (5)	Narrative D	escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)	 .	disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1) None (0)		although nonnative and/or disturbance tolerant native spp
6c. Coverage of invasive plants. Refer		can also be present, and species diversity moderate to
to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	hìgh	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)	9	and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
— Z Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
Amphibian breeding pools	Microtopog	raphy Cover Scale
L	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
50 E		and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

1/12M-05 circle answer or Result insert SCORE Narrative Rating Question 1 Critical Habitat ΝO If yes, Category 3. YES If yes, Category 3. Question 2. Threatened or Endangered ŃΟ Species Question 3. High Quality Natural Wetland YES NO If yes, Category 3. Question 4. Significant bird habitat YEŞ ŃΟ If yes, Category 3. YES NO Question 5. Category 1 Wetlands If yes, Category 1. <mark>(ио</mark> Question 6. Bogs YES If yes, Category 3. YES ŊΟ If yes, Category 3. Question 7. Fens YES Question 8a. Old Growth Forest If yes, Category 3. Question 8b. Mature Forested Wetland YES NO If yes, evaluate for Category 3; may also be 1 or 2. YEŞ NO If yes, evaluate for Question 9b. Lake Erie Wetlands -Restricted Category 3; may also be 1 or 2. If yes, Category 3 Question 9d. Lake Erie Wetlands -YES: Unrestricted with native plants Question 9e. Lake Erie Wetlands -YES NO If yes, evaluate for Category 3; may also be Unrestricted with invasive plants 1 or 2. Question 10. Oak Openings YES NO If yes, Category 3 If yes, evaluate for YES NO Question 11. Relict Wet Prairies Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

W2M-052

Wetland Categorization Worksheet

Choices	Circle one	\sim	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Category 3 wetland		Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland should be	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b, 9b, 9e, 11	evaluated for possible Category 3 status		either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is categorized as a Category 1 wetland		reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score // fall within the scoring range // of a Category 1, 2, or 3	YES Wetland s	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the
wetland?	assigned to the appropriate	ĺ	narrative criteria described in OAC Rule 3745-1-54(С) can be used to clarify or change a categorization based on a
	category based on the scoring range		quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-
·	categories or assigned to a category based on detailed		54(C).
	assessments and the naπative criteria		
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR	YES / Wetland was	NO Wetland is	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities,
recreational functions AND the welland was not categorized as a Category 2 welland (in the case of	undercategorized by this method. A written justification for recategorization	assigned to category as determined by the	but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	should be provided on Background Information Form	ORAM.	controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
Choose or	ne Category	Final Cate	gory Category 3
Choose of	- Category	· I ca	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

<u> </u>	
Name: KATIESIMON	
Date: 9/28/18	
Affiliation: MSG	
Address: 1800 INDIAN WOOD CIRCLE, MAUMEE, DH 435	537
Phone Number: 419-891-2222 EXT. 2046	_,
e-mail address: KSIMON@MANNIKSMITHGROUP.COM	
Name of Wetland: W2M-056	
Vegetation Communit(les):	
HGM Class(es): PIVERINE	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	

Lat/Long or UTM Coordinate 41. /1442967, -82. 77/1626	52
USGS Quad Name	
County	CENTERTON HURON T2N R24W
Township	T2N R24W
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	9/28/18
National Welland Inventory Map	F14.3
Ohio Wetland Inventory Map	11
Soil Survey	Fig. 2
Delineation report/map	F14, 2 F14, 4

Category:

Final score : /

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring houndary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		V
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
ı	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	(NO)
	been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	Welland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Óhio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Calegory	NO Go to Question 3
		3 wetland. Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	NO NO
		Wetland is a Category 3 wetland	Go to Question
		Go to Question 4	
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES	NO)
	waterfowl, neotropical songbird, or shorebird concentration areas?	Welland is a Category 3 wetland	Go to Question 5
		Go to Question 5	F
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES	NO
	in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category 1 wetland	Go-to Question 6
	no vegetation?	Go to Question 6	
_	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO)
	significant Inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 welland	Go to Question 7
		Go to Question 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	NO
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	Wetland is a Category 3 wetland	Go to Question 8
_	"Old Growth Forest." Is the wetland a forested wetland and is the	Go to Question 8a	110
ı	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a	YES Vetland is a Category	NO Go to Question 8
	projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	3 welland.	SS to Question of
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status.	er.
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this		
9b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1 1 5	INO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	1
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Oo to Question su	CO to addeduction to
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.	YES	NO
90	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	TES	INO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the welland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	CO to addedion to
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the	J Welland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	4	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Wetland should be	Complete
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
-	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Quantiletina	
i	Montgomery, Van Wert etc.).	Complete Quantilative Rating	

Table 1. Characteristic plant species

Iπνasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum yiridicarinatum	Eriophorum virginicum	~ 1	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina	•	Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum yirginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica	·	Solidago riddellii
	Salix serissima	Xyris difformis		· ·
	Solidago ohioensis			-
	Tofleldia glutinosa			
	Triglochin maritimum			
_	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A 2 8 2 5 5 5 1 , W 2 M - V 5 W Rater(s): 12, S (M) N	Date: % 28 8
	l i
2 2 Metric 1. Wetland Area (size).	
[5] 5 5 110 1	
max 6 pts. subtotal Select one size class and assign score.	
>50 acres (>20.2ha) (6 pts)	
25 to <50 acres (10.1 to <20.2ha) (5 pts)	
10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts)	
3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts)	
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	
<0.1 acres (0.04ha) (0 pts)	
Q	use.
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double ch	neck.
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)	tor (4)
MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perime NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perime	
VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)	
2b. Intensity of surrounding land use. Select one or double check and average.	
VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7 LOW. Old field (>10 years), shrub land, young second growth forest. (5)	")
MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage,	new fallow fleld. (3)
HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	
Metric 3. Hydrology.	
30 141 monto o 11, monto gi	
max 30 pts. subtotal 3a. Sources of Water. Score all that apply. 3b. Connectivity. S	Score all that apply.
High pH groundwater (5)	floodplain (1)
- TVI - 1 " 10 ' '	stream/lake and other human use (1)
	etland/upland (e.g. forest), complex (1) parian or upland corridor (1)
Perennial surface water (lake or stream) (5) 3d. Duration inunda	ation/saturation. Score one or dbl check.
3c. Maximum water depth. Select only one and assign score.	permanently inundated/saturated (4)
>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)	/ Inundated/saturated (3) Ily inundated (2)
3 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonal (<0.4m (<15.7in) (1)	lly saturated in upper 30cm (12in) (1)
3e. Modifications to natural hydrologic regime. Score one or double check and average.	
None or none apparent (12) Check all disturbances observed	
Recovered (7) ditch point sou	rce (nonstormwater)
Recovering (3) tile filling/grad	<u> </u>
Recent of no recovery (1) weir I dredging	RIV Hack
stormwater input other	
A Land Matric 4 Habitat Alteration and Davalanment	
Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotat 4a Substrate disturbance. Score one or double check and average	
max 20 pts. subtotal 4a, Substrate disturbance. Score one or double check and average. None or none apparent (4)	
Recovered (3)	
Recovering (2)	
Recent or no recovery (1)	
4b. Habitat development. Select only one and assign score. Excellent (7)	
Very good (6)	
Good (5)	•
Moderately good (4)	
Fair (3) Poor to fair (2)	
Poor (1)	
4c. Habitat alteration. Score one or double check and average.	
None or none apparent (9) Check all disturbances observed	
	ling removal
Recovering (3) grazing herbaceou grazing sedimenta	rs/aquatic bed removal
selective cutting dredging	
万 円	
subtotal this page toxic pollutantsnutrient en	irichment
last revised 1 February 2001 jjm	
mocromous a object year year	

Site: A3820001, W2M-050 Rate	r(s): K, <u>S</u>	IMON Date: 9 28 / 18
subtotal first page		V
Metric 5. Special Wetlar	nds.	
max 10 pts. · subtotal Check all that apply and score as indicated. Bog (10)		
Fen (10)	•	
Old growth forest (10)		
Mature forested welland (5)		
Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland-	•	- · ·
Lake Plain Sand Prairies (Oak Oper		liogy (a)
Relict Wet Prairies (10)	90) (10)	
Known occurrence state/federal three		
Significant migratory songbird/water		
Category 1 Wetland, See Question	-	
	ities, int	erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale
Score all present using 0 to 3 scale. Aquatic bed		Absent or comprises <0.1ha (0.2471 acres) contiguous area
2 Emergent	ı	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
Shrub		significant part but is of low quality
Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of welland's
Select only one.		vegetation and is of high quality
High (5)	Narrative De	escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)		disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1) None (0)		although nonnative and/or disturbance tolerant native spp
6c. Coverage of invasive plants. Refer		can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderale 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		ine presence of fare, threatened, of endangered spp
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microlopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6ln) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
Amphibian breeding pools	Microtopoar	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common of marginal quality
·	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
1		I and of high out moult.

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

			W2M-051
		circle answer or insert	Result
	· · · · · · · · · · · · · · · · · · ·	score	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
·	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
. •	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	30	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	67	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

WZM-056

Wetland Categorization Worksheet

of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10 Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11 Did you answer "Yes" to Narrative Rating No. 5 We have a series of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland is ategorized as a category 3 wetland ES Vetland should be valuated for ossible Category status ES Vetland is ategorized as a ategorized as a ategorized as a stategory 1 wetland ES Vetland is ategorized as a ategorized as a ategorized as a ategorized as a ategorized as a ategorized as a stategory based on the scoring range	NO NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category. Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
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Did you answer "Yes" to Narrative Rating No. 5 Does the quantitative score all within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? We have the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland is alegorized as a alegory 1 wetland ES Vetland is ssigned to the peropriate alegory based on		Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Narrative Rating No. 5 Does the quantitative score all within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? We within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland is alegorized as a ategory 1 wetland ES Vetland is ssigned to the poropriate ategory based on		scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Category 1 or 2 or Category which category 1 or 2 or Category 2 or 3 wetlands?	ategorized as a ategory 1 wetland ES /etlane is ssigned to the ppropriate ategory based on	NO	reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Category 1 or 2 or Category which category 1 or 2 or Category 2 or 3 wetlands?	ategorized as a ategory 1 wetland ES /etlane is ssigned to the ppropriate ategory based on	NO	criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	etegory 1 wetland ES /etlane is ssigned to the ppropriate ategory based on	NO	functional assessments to determine if the wetland has been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	/etlane is stigned to the ppropriate ategory based on	NO	been under-categorized by the ORAM If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score for Category 1 or 2 or Category 2 or 3 wetlands? Wetland? Wetland? Wetland? Wetland? VE or 3 wetlands?	/etlane is ssigned to the opropriate ategory based on	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
fall within the scoring range of a Category 1, 2, or 3 wetland? Does the quantitative score for Category 1 or 2 or Category 2 or 3 wetlands? Wetland? Wetland? Wetland? Wetland? VE or 3 wetlands?	/etlane is ssigned to the opropriate ategory based on	NO	range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
of a Category 1, 2, or 3 wetland? Does the quantitative score for Category 1 or 2 or Category 2 or 3 wetlands? Was appeared the Category 2 or 3 wetlands? Was appeared to a specific category 2 or 3 wetlands?	ssigned to the opropriate ategory based on		assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
wetland? as ap ca the cap cap cap cap cap cap cap cap cap cap	ssigned to the opropriate ategory based on		narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a						
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Was as his ca	ppropriate ategory based on		be used to clarify or change a categorization based on a						
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Was as as ca	ategory based on								
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Was as as ca			L guantitativo cooro						
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? Was as as ca	o oconing range		quantitative score.						
all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands? high category 2 or 3 wetlands?	ES 🛴	NO)	Rater has the option of assigning the wetland to the higher						
Category 1 or 2 or Category 2 or 3 wetlands? high	, ,	1 " <i>)</i>	of the two categories or to assign a category based on the						
hiç ca as ca	etland is	\setminus	results of a nonrapid wetland assessment method, e.g.						
ca as ca	ssigned to the	•	functional assessment, biological assessment, etc, and a						
as ca	gher of the two		consideration of the narrative criteria in OAC rule 3745-1-						
ca	ategories or		54(C).						
	ssigned to a								
	ategory based on	j							
I.	etailed	1							
l l	sessments and								
l l	e narrative								
	iteria //	110							
l l	ES \[NO)	A wetland may be undercategorized using this method, but						
exhibit moderate OR superior nydrologic OR habitat, OR We	etland was	Welland is	still exhibit one or more superior functions, e.g. a wetland's						
·	dercategorized	assigned to	blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic						
	this method. A	calegory as	functions because of its type, landscape position, size, loca						
	itten justification	determined	or regional significance, etc. In this circumstance, the						
	r recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are						
	ould be provided	ORAM.	controlling, and the under-categorization should be						
	Background		corrected. A written justification with supporting reasons or						
	formation Form		information for this determination should be provided.						
his method?									
, <u>,</u>									
	Final Category								
Choose one			ategory 2 Category 3						
	Category	1 <u>Ca</u>	, , , , , , , , , , , , , , , , , , , ,						

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Katie L. Simon
Date: 12/7/18
Affiliation: Mannik & Smith Grap
Address: 1800 Indian Wood Circle
Phone Number: 419-891-2222
e-mail address: Ksimon @ mannilesmith grap.com
Name of Wetland: 1/2/1/2/1/2/1/2/1/2/1/2/1/2/1/2/1/2/1/2
Vegetation Communit(ies):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
Soo attached Man
see a mereg joint,
See attached Mgp. Figure 4
Lat/Long or UTM Coordinate
USGS Quad Name
County
Tourship
TZN EZ4W) Section and Subsection
Hydrologic Unit Code
041006120465 Site Visit 16/0/18
National Wetland Inventory Map
Ohio Wetland Inventory Map
Soil Survey
Delineation report/map Atta chock

Wetland Size (acres, hectares): 2.218 Sketch: Include north arrow, relationship with other surface waters, ve	antelles anno etc
sketch: include north arrow, relationship with other surface waters, ve	getation zones, etc.
0 1	
Constacted	NAP
delantice	1
See attached Fig. 4	
Fig. 4	
J	
Comments, Narrative Discussion, Justification of Category Changes:	
ommente, italiano bioducción, odounouton of outogory changes.	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	/	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NO
	been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland.	Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in	Go to Question 3	100
	Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	19
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category	(NO) Go to Question 5
		3 wetland Go to Question 5	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
а	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

86	Mature forested wetlands. Is the wetland a forested wetland with	(YES)	NO
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	13
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These	YES Go to Question 9d	NO Go to Question 10
9d	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation. Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland	NO Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO.
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES /	NÖ
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex sterilis Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis. Calamogrostis stricto Carex atherode. Carex buxbaumi Carex pellito Carex sartwelli Gentiana andrewsi. Helianthus grosseserratus Liatris spicato Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellin

End of Narrative Rating. Begin Quantitative Rating on next page.

W2M-057 ORAM v. 5.0 Field Form Quantitative Rating Date: Rater(s): Metric 1. Wetland Area (size). subtotal Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts) Metric 2. Upland buffers and surrounding land use. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. 26 3b. Connectivity. Score all that apply. max 30 pts subtotal 3a. Sources of Water. Score all that apply. 100 year floodplain (1) High pH groundwater (5) Other groundwater (3) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Precipitation (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) 3d. Duration inundation/saturation. Score one or dbl check. Perennial surface water (lake or stream) (5) Semi- to permanently inundated/saturated (4) Maximum water depth. Select only one and assign score. Regularly inundated/saturated (3) >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) <0.4m (<15.7in) (1)</p> 3e. Modifications to natural hydrologic regime. Score one or double check and average None or none apparent (12) Check all disturbances observed point source (nonstormwater) Recovered (7) ditch Recovering (3) tile filling/grading road bed/RR track Recent or no recovery (1) dike dredging weir stormwater input Metric 4. Habitat Alteration and Development. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3)

Poor (1)
4c. Habitat alteration. Score one or double check and average.

None or none apparent (9)
Recovered (6)
Recovering (3)

Poor to fair (2)

Recovering (3)
Recent or no recovery (1)

Check all disturbances observed
mowing
grazing
clearcutting
selective cutting
woody debris removal

toxic pollutants

shrub/sapling removal
herbaceous/aquatic bed removal
sedimentation
dredging
farming

nutrient enrichment

subtotal this page

last revised 1 February 2001 jjm

Site: /	43820	201	, W	2M-057	Rate	r(s):	KL	2	Date: 16/8/18
51	44 ubtotal first p	7	etric !	5. Specia	ıl Wetlaı	nde			
5	49	IVIC	Juino (. opecie	u vveliai	ius.			
max 10 pts,	subtotal	Chec	Bog Fen Old Matu Lake Lake Relid Knoo	growth forest (10 ure forested wetle Erie coastal/tribe Erie coastal/tribe Plain Sand Pract Wet Prairies (1 wn occurrence sl	o)) and (5) outary wetland- outary wetland- iries (Oak Ope 10) tate/federal thr	restricte nings) (1 eatened	d hydro (0) or enda	logy (5)	
		-		ificant migratory					
-	w	Me		gory 1 Wetland. Plant c				ating (-10) erspersion, microto _l	pography
max 20 pts.	Subtotal	1.34							oog.up.i.y.
max 20 pts.	additional			egetation Comment using 0 to 3 s		Vege	tation 0	Community Cover Scale	d\\tau
		E	Aqua	atic bed rgent	cale.		1	Absent or comprises <0.1ha (0.247 Present and either comprises small vegetation and is of moderate qui significant part but is of low qualit	l part of wetland's ality, or comprises a
			7 Fore Mudi				2	Present and either comprises signification and is of moderate quality	ficant part of wetland's
				(plan view) Inters	spersion.		3	Present and comprises significant properties vegetation and is of high quality	art, or more, of wetland's
		Select	t only one			Maria		malus dan SE Galanda Carbon Ca	
				(5) erately high(4) erate (3)			low	Low spp diversity and/or predomina disturbance tolerant native specie	
		6c. Co	Low None		s. Refer list. Add	,	nod	Native spp are dominant componer although nonnative and/or disturb can also be present, and species moderately high, but generally w/o threatened or endangered spp	ance tolerant native spp diversity moderate to
			luct points Exter Mode	s for coverage nsive >75% cove erate 25-75% cov se 5-25% cover (r (-5) /er (-3) (-1)	-	nigh	A predominance of native species, and/or disturbance tolerant native absent, and high spp diversity and the presence of rare, threatened,	spp absent or virtually doften, but not always,
		1		y absent <5% co	over (0)	80			
		6d. Mi	licrotopog	nt (1) raphy.		wudt	0	Open Water Class Quality Absent <0.1ha (0.247 acres)	
				nt using 0 to 3 so	ale.		1	Low 0.1 to <1ha (0.247 acres)	s)
			Vege	tated hummucks	/tussucks		2	Moderate 1 to <4ha (2.47 to 9.88 a	
				se woody debris ding dead >25cm			3	High 4ha (9.88 acres) or more	
				nibian breeding p		Micro	topogr	aphy Cover Scale	
		-	= 1				0	Absent	
							1	Present very small amounts or if mo of marginal quality	
							2	Present in moderate amounts, but n quality or in small amounts of high	est quality
							3	Present in moderate or greater amo	unts

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	S	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	56	Category based on score breakpoints

 $Complete\ Wetland\ Categorization\ Worksheet.$

Wetland Categorization Worksheet

Choices	Circle one	0	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO .	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not exategorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	
Choose one	Category 1	(Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Katie L. Simon
Date: 17/2 187
Affiliation:
Mannik & Smith Evoys
Address: 1800 Indian Mand Civile
Phone Number: 419 - 891 - 7722
e-mail address:
Name of Wetland: 10) 200 000
VU 2/VI – U3 8
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
See attached Figure 4
allow the forest
Lat/Long or UTM Coordinate 41.11327006, -82.74586667
USGS Quad Name
County
Township TZN RZ4W
Section and Subsection
Hydrologic Unit Code Change 176405
Hydrologic Unit Code 041000176405 Site Visit 161646
National Wetland Inventory Map
Ohio Wetland Inventory Map
Soil Survey
Delineation report/map

Name of Wetland: W7.	M-058				
Wetland Size (acres, hecta	res): 17.72				
Sketch: Include north arrov	w, relationship with	h other surface wate	ers, vegetati	on zones, etc.	
	See	Fyure	4	attache	d
mments, Narrative Discu	galon lugification	of Colonia Char			
minents, Narrauve Discu	ssion, Justinication	n of Category Chan	ges:		
inal score : 60)			Category:	ZOI 3 GRAY ZON

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
-	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
Ва	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

			\bigcirc
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO) Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensi. Calamagrostis strictic Carex atherode. Carex buxbaumi Carex pellitic Gentiana andrewsi. Helianthus grosseserratus Liatris spicate Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Check all disturbances observed

woody debris removal

shrub/sapling removal

nutrient enrichment

sedimentation

dredging

farming

herbaceous/aquatic bed removal

mowing

grazing

clearcutting selective cutting

toxic pollutants

None or none apparent (9)

Recent or no recovery (1)

Recovered (6)

Recovering (3)

last revised 1 February 2001 jjm

Site: A3	870c	001, WZM-058	Rater(s):	KL	S Date: 10/8/
subto	52 tal first p	age Metric 5. Special	Wetlands		
0	> 6				
max 10 pts, s	ubtotal	Check all that apply and score as Bog (10) Fen (10) Old growth forest (10) Mature forested wetlan Lake Erie coastal/tribut Lake Erie coastal/tribut Lake Plain Sand Prairie Relict Wet Prairies (10) Known occurrence statt Significant migratory so Category 1 Wetland. S	d (5) ary wetland-unres ary wetland-restric es (Oak Openings) e/federal threatenc engbird/water fowl	oted hydro (10) ed or end habitat o	dangered species (10) or usage (10)
8/1	20	Metric 6. Plant co	mmunitie	s, in	terspersion, microtopography.
	ubtotal				[사람이 기를 다 나는 사람이 기를 가게 되었다.
nax 20 pts. at	Cibrotai	6a. Wetland Vegetation Commun Score all present using 0 to 3 sca			Community Cover Scale
		Aquatic bed Emergent Shrub	е	1	Absent or comprises <0.1ha (0.2471 acres) contiguous are Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
		Forest Mudflats Open water		2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a sm part and is of high quality
		6b. horizontal (plan view) Interspe	ersion.	3	Present and comprises significant part, or more, of wetland vegetation and is of high quality
		Select only one. High (5)	Na	rrative C	Description of Vegetation Quality
		Moderately high(4) Moderate (3)		low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
		Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. to Table 1 ORAM long form for list	Refer . Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native sp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
		or deduct points for coverage Extensive >75% cover (-1) Moderate 25-75% cover (-1) Sparse 5-25% cover (-1)	-5) (-3)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
		Nearly absent <5% coverage Absent (1)		dflat and	d Open Water Class Quality
		6d. Microtopography.	WIG	0	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale	9.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tu		2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		Coarse woody debris >1	5cm (6in)	3	High 4ha (9.88 acres) or more
		Standing dead >25cm (1 Amphibian breeding poo		rotopog	graphy Cover Scale
				0	Absent
				1	Present very small amounts or if more common of marginal quality
				2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
12				3	Present in moderate or greater amounts and of highest quality

60

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES MO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (10)	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
ŭ	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	25	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	60	Category based on score breakpoints 2/3

GRAY AREA

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO)	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior nydrologic OR habitat, OR recreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	THE RESERVE AND ADDRESS OF THE PARTY OF THE
Choose one	Category 1	/ Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Katie L. Simon
Date: 12/7/19
Affiliation: Mannik & Smith Group
Address: 1800 Mina Marco Cook
Phone Number: 419 - 891 - 2227
e-mail address: KSimon @ manniksmith group com
Name of Wetland: WM -060
Vegetation Communit(ies):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
See attached Figure 4
Lat/Long or UTM Coordinate 41.11655369, -82.7392802
USGS Quad Name
County
TOWNSHIP TZN RZ4W
Section and Subsection
Hydrologic Unit Code 041000120405
Site Visit 10/8/18
National Wetland Inventory Map
Ohio Wetland Inventory Map
Soil Survey
Delineation report/map

sound office (mores) moore	M-060	A976544		- 1
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mmonte Marrathyo Diegu	ecian luctificat	ion of Category Changes:		
Jillillenis, Narradive Discu	ssion, Justinicati	ion of Category Changes:		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	/	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	(NO) Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Go to Question 4 YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES) Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
а	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

			0
8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	/NO/
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		outogory o otaliae.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	l NO
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	YES Go to Question 9d	NO Go to Question 10
0-1	wetlands, or those dominated by submersed aquatic vegetation.	YES	NO
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible	NO Go to Question 10
		Category 3 status	
		Go to Question 10	(NO)
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	(NO)
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Go to Question 11	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO/)
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stericta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var, capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxyeoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamogrostis stricto Carex atherodes Carex buxbaumi Carex pellito Carex sartwelli. Gentiana andrewsis Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginiamum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

last revised 1 February 2001 jjm

Site: #3870	001, WZM-060	Rater(s):	Date: 10/8/1
2A subtotal first p	Metric 5. Special V	Vetlands.	
nax 10 pts. subtotal	Check all that apply and score as in Bog (10) Fen (10) Old growth forest (10) Mature forested wetland Lake Erie coastal/tributar Lake Erie coastal/tributar Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/it Significant migratory song Category 1 Wetland. See	(5) y wetland-unrestricted hy y wetland-restricted hydr (Oak Openings) (10) federal threatened or end gbird/water fowl habitat of a Question 1 Qualitative	dangered species (10)
-5 9 ax 20 pts. subtotal	6a. Wetland Vegetation Communiti		생기하고 생각이 보다 그리고 그리고 그리고 그리고 그리고 그리고 그리고 그리고 그리고 그리고
THE STATE OF THE S	Score all present using 0 to 3 scale.		Community Cover Scale Absent or comprises <0.1ha (0.2471 acres) contiguous are:
	Aquatic bed Emergent Shrub	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
	Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a sma part and is of high quality
	Other 6b. horizontal (plan view) Interspers Select only one.	sion.	Present and comprises significant part, or more, of wetland vegetation and is of high quality
	High (5)	Narrative D	Description of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Reto Table 1 ORAM long form for list.		Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-1) Sparse 5-25% cover (-1)	3)	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover Absent (1)		d Open Water Class Quality
	6d. Microtopography.	0	Den Water Class Quality Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tuss		Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15c		High 4ha (9.88 acres) or more
	Standing dead >25cm (10i Amphibian breeding pools		ranhy Couer Seels
	Comprision preeding pools	Microtopog	raphy Cover Scale Absent
		1	Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
9		3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle	
		answer or	D 14
		insert	Result
		score	T
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES MO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
Ü	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-5	
	TOTAL SCORE	19	Category based on score breakpoints

 $Complete\ Wetland\ Categorization\ Worksheet.$

Wetland Categorization Worksheet

Choices	Circle one	0	Evaluation of Categorization Result of ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.	
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM	
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.	
Does the quantitative score fall with the <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).	
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.	

Change		al Category	A 1
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kate La Simon
Date: 12/2/10
Affiliation: Mannik & Smith, Group
Address: 1500 Judian Mand Cicyle
Phone Number:
e-mail address: 1.6
Name of Wetland: 11 224 0/1
Vegetation Communit(ies):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
See a Hacked Figure 4
Jove
Lat/Long or UTM Coordinate 41.111.194, -82.74052639
USGS Quad Name
County
Township TZN R24W
Section and Subsection
Hydrologic Unit Code 04 000 1204-05
Site Visit 10/8/18
National Wetland Inventory Map
Ohio Wetland Inventory Map
Soil Survey
Delineation report/map

and Size (acres, hectares): (a) (047 7) (b) Include north arrow, relationship with other surface waters, vegetation zones, or surface waters, vegetation zones,	
See attached Fiz	etc.
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Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	6
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Go to Question 4 YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Welland is a Category 1 wetland Go to Question 6	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES ((Ng)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater than 450m (17.7m) don.	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES (NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	Go to Question 9d	Go to Question 10
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
		Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES YES	NO /
=	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	•	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Category 3 status	Rating
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Pajas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamogrostis stricta Carex atherodes Carex buxbaumin Carex pellita Carex sartwellii Gentiana andrewsis Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: ₽	387	0001, WZM-061 Rater(s): ELS	Date: 10 /2 /18
0	0	Metric 1. Wetland Area (size).	·
max 6 pts.	subtotal	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
2	2	Metric 2. Upland buffers and surrounding land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
20	77	Metric 3. Hydrology.	
max 30 pts.	subtotal	Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up	n (1) ake and other human use (1) ake and other human use (1) aland (e.g. forest), complex (1) upland corridor (1) iration. Score one or dbl check. ntly inundated/saturated (4) ed/saturated (3) ated (2) ted in upper 30cm (12in) (1)
		weir dredging stormwater input other	
9	31	Metric 4. Habitat Alteration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average.	
_ sut	3 l	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1)	ic bed removal

last revised 1 February 2001 jjm

Site: #3870001, W2M-06/ Rate	r(s):	S Date: 10/8/19
subtotal first page 6 3/ Metric 5. Special Wetlan	nds.	
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thrus Significant migratory songbird/wate Category 1 Wetland. See Question	restricted hydronings) (10) eatened or end r fowl habitat o	ology (5) langered species (10) r usage (10)
2 0	nues, m	terspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.		Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed Emergent Shrub	J.	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
Forest Mudflats Open water	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
Select only one.	Managha P	100 miles 100 mi
High (5) Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0) Absent (1)	Mudflet	d Onen Water Class Ovella.
6d. Microtopography.	0	d Open Water Class Quality Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh Amphibian breeding pools	Microtoneo	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
25	3	Present in moderate or greater amounts and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NØ	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NØ	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	\circ	
· ·	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE	-3	Category based on score
		28	breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	0	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	No.	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KA 7	IE SIMON	
Date: /2/10/18		
Affiliation:	+ SMITH GROUP INC	
	N (NOW CIRCLE MANNES, OH 43587	
Phone Number:	11-2222 ext 2046	
o mail addroce:	N@ Muiksmith grup. com	
Name of Wetland:	W2M-063	
Vegetation Communit(ies):	PEM/PSS/PFO	
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coordinate	UI 1004 -62 2717	
USGS Quad Name	41.1094, -82.7767 CENTERTON	
County	Huran	
Township	TZN RZYW	
Section and Subsection		
Hydrologic Unit Code	04/000 12 05 01	
Site Visit	10/2/18	
National Wetland Inventory Map	110	T
Ohio Wetland Inventory Map		
Soil Survey		
Delineation report/map		

Name of Wetland:	W2m-063		
Wetland Size (acres, hectares);	9.395 20	
Sketch: Include north arrow,	relationship with other surface wa	ters, vegetation zones, etc.	
	See F		
	(7	11	
	1011	gove 4	
	O & 7		
Commente Narrative Discuss	ion, Justification of Category Cha	ngae.	
Johnnents, Narrauve Discuss	ion, sustincation of Category Cha	iges.	
inal score :	70	Category	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	L	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one		
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Go to Question 4 YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6	
5	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7	
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a	
Ва	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Questlon 8b	NO Go to Question 8b	

		- Aller	V. 180
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9c
		Go to Question 10	NO
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO. Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Table 1.	Characteristic	plant s	pecies.
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invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ramunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex sterilis Carex sterilis Carex stericta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Trofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumin Carex pellita Carex sartwellit Gentiana andrewsis Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

W2M-063

Site:	A	19/2000	Rater(s):	KUS	Date: /0/8//	18
2	0	Metric 1. We	tland Area (size)			
2	2		12021200 202 200 3 000 00			
max 6 pts.	subtotal	Select one size class ar	nd assign score.			
			20.2ha) (6 pts)			
			es (10.1 to <20.2ha) (5 pts) es (4 to <10.1ha) (4 pts)			
			s (1.2 to <4ha) (3 pts)			
		0.3 to <3 acre	es (0.12 to <1.2ha) (2pts)			
			res (0.04 to <0.12ha) (1 pt)			
		<0.1 acres (0			an land use	
D	11	Metric 2. Up	land buffers and	surroundi	ng land use.	
0	1//				ALLED ON CELEN	
max 14 pts.	subtotal	2a. Calculate average	ouffer width. Select only one a s average 50m (164ft) or more	nd assign score. Do	not double check.	
		MEDIUM BU	iffers average 25m to <50m (82	to <164ft) around v	vetland perimeter (4)	
		NARROW. B	uffers average 10m to <25m (32ft to <82ft) around	wetland perimeter (1)	
		VERY NARR	OW. Buffers average <10m (<	32ft) around wetland	perimeter (0)	
		2b. Intensity of surroun	ding land use. Select one or o 2nd growth or older forest, pra	rie savannah wildli	fe area, etc. (7)	
		LOW. Old fie	ld (>10 years), shrub land, you	ng second growth fo	rest. (5)	
		MODERATEI	Y HIGH. Residential, fenced p	asture, park, conse	rvation tillage, new fallow field. (3)	
	_	The state of the s	, industrial, open pasture, row	cropping, mining, co	nstruction. (1)	
00	Un	Metric 3. Hy	drology.			
1	70					
max 30 pts.	subtotal	3a. Sources of Water.		3b. (Connectivity. Score all that apply.	
		High pH grou			100 year floodplain (1) Between stream/lake and other human	use (1)
		Other ground Precipitation		-	Part of wetland/upland (e.g. forest), cor	
		Seasonal/Inte	rmittent surface water (3)		Part of riparian or upland corridor (1)	
		Perennial sur	face water (lake or stream) (5)		Duration inundation/saturation. Score one or Semi- to permanently inundated/satura	dbl chec
		3c, Maximum water de >0.7 (27.6in)	oth. Select only one and assign	i score.	Regularly inundated/saturated (3)	red (+)
			5.7 to 27.6in) (2)		Seasonally inundated (2)	
		<0.4m (<15.7	in) (1)	CONTRACTOR CASTA	Seasonally saturated in upper 30cm (1:	2in) (1)
			ural hydrologic regime. Score		and average.	
				rbances observed	point source (nonstormwater)	
		Recovered (7		1.75.5	filling/grading	
		Recent or no			road bed/RR track	
			weir	an w laune se	dredging	
			stormwa	ter input	other	
10	MA	Metric 4. Ha	bitat Alteration a	nd Develor	oment.	
10	59			The same of the same of		
max 20 pls.	subtotal	4a. Substrate disturbar	ice. Score one or double check	and average.		
		None or none				
		Recovered (3				
		Recent or no	recovery (1)			
		4b. Habitat developme	nt. Select only one and assign	score.		
		Excellent (7)				
		Very good (6) Good (5)				
		Moderately g	ood (4)			
		Fair (3)				
		Poor to fair (2 Poor (1))			
			Score one or double check and	average.		
		(1997)		rbances observed		
		Recovered (6) mowing		shrub/sapling removal	
		Recovering (loo	herbaceous/aquatic bed removal sedimentation	
		Recent or no	recovery (1) clearcutt selective		dredging	
	11			ebris removal	farming	
	20		toxic poli	utants	nutrient enrichment	
	ubtotal this p	MATERIAL SERVICES OF THE SECOND	11 - 1140 311			
last revised	d 1 Febru	ary 2001 jjm				

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Site:	Rate	r(s):	Date:
5	first page		
+ 1	Metric 5. Special Wetla	nds.	
	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate	restricted hydr mings) (10) eatened or end	dangered species (10)
	Category 1 Wetland. See Question	1 Qualitative	Rating (-10)
9 7	2	ities, in	terspersion, microtopography.
ax 20 pts sub	6a. Wetland Vegetation Communities.		Community Cover Scale
	Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub	1	Absent or comprises <0.1ha (0.2471 acres) contiguous area Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
	Forest Mudflats Open water	2	significant part but is of low quality Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a smal part and is of high quality
	Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Select only one. High (5)	Narrativo I	Description of Vegetation Quality
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
	Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add	mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
	or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)	high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
	Nearly absent <5% cover (0) Absent (1)	Mudflat and	d Open Water Class Quality
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
	Amphibian breeding pools		raphy Cover Scale
		1	Absent Present very small amounts or if more common of marginal quality
		2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
40		3	Present in moderate or greater amounts

13

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3,
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
rating	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	29	
	Metric 4. Habitat	19	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	9	
	TOTAL SCORE	73	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score,
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria		Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	KATIE SIMON	
Date: 12/10	1.0	
Affiliation:	MANNIK+ SMITH GROUP INC	
Address: /800 /	INDIAN WOOD CIRCLE MALMEE, OH 43537	
Phone Number	9-891-2222 ext 2046	
e-mail address:	KSIMON @ Moniksmithgrap an	
Name of Wetland:	W2M-064	
Vegetation Communit(ies):	PFO	
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coordinate	41.1097, -82.7746	
USGS Quad Name	CENTERTON	
County	HURON	
Township	T2N R24W	
Section and Subsection		
Hydrologic Unit Code	AUI 00012 05 01	
Hydrologic Unit Code Site Visit	04100012 05 01	
ykii Zini ili 149	10/2/18	
Site Visit	10/2/18	
Site Visit National Wetland Inventory Ma	10/2/18	

Name of Wetland:	W2M-	064			
Wetland Size (acres, hectares):	1 = 1.35%		0.456 20		
Sketch: Include north arrow, relati	onship with ot	ner surface w	aters, vegetation z	ones, etc.	
		7	e Y		
	Die	17 gur	e 9		
mments, Narrative Discussion, J	ustification of	Category Cha	nges:		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, rallroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note; as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Ge to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Go to Question 4 YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO) Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17,7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	(NO)
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9c
		Go to Question 10	NO
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Countles and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	~ ,	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora

Lythrum alatum

Spartina pectinata Solidago riddellii

Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans

Schechzeria palustris

Vaccinium corymbosum Vaccinium oxycoccos

Woodwardia virginica

Sphagnum spp. Vaccinium macrocarpon

Xyris difformis

Table 1. Characteristic plant species.

Parnassia glauca

Salix serissima

Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre

Potentilla fruticosa Rhamnus alnifolia

Rhynchospora capillacea Salix candida Salix myricoides

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: /\3\2	0001 W2M-UDY R	ater(s): ∠ <u>SI MON</u>	Date: ∬	718118
7 7	Metric 1. Wetland Are	a (size).		191
max 6 pts. subtota	0-14	, ,		
max 6 pts. subtota	Select one size class and assign score. >50 acres (>20.2ha) (6 pts)			
	25 to <50 acres (10.1 to <20.2) 10 to <25 acres (4 to <10.1ha)	(4 pts)		
2	3 to <10 acres (1.2 to <4ha) (3 0.3 to <3 acres (0.12 to <1.2ha			
	0.1 to <0.3 acres (0.04 to <0.13 <0.1 acres (0.04ha) (0 pts)	2ha) (1 pl)		
8 10	Metric 2. Upland buffe	ers and surroundi	ng land use.	
max 14 pts. subtola	On Coloulate average buffer width Colo	ol only one and posign scote. D	o pol doublo chock	
max 14 pts. Subjects		(64ft) or more around wetland pe	rimeter (7)	
	NARROW. Buffers average 10	n to <50m (82 to <164ft) around im to <25m (32ft to <82ft) aroun	d wetland perimeter (1)	
	 VERY NARROW. Buffers aver Inlensity of surrounding land use. S 	age <10m (<32ft) around wetland elect one or double check and av		
	VERY LOW. 2nd growth or old	ler forest, prairie, savannah, wildl rub land, young second growth fo		
		ntial, fenced pasture, park, conse	ervation tillage, new fallow field. (3)	
17 27	Metric 3. Hydrology.	pasture, tow cropping, mining, co	risituction. (1)	
max 30 pts. subtotal		ly. 3b.	Connectivity. Score all that apply.	
	High pH groundwater (5) Other groundwater (3)	.A.	100 year floodplain (1) Between stream/lake and othe	r human use (1)
	Precipitation (1) Seasonal/Intermittent surface v	vater (3)	Part of wetland/upland (e.g. for Part of riparian or upland corrid	
	Perennial surface water (lake o	r stream) (5) 3d.	Duration inundation/saturation. Score Semi- to permanently inundate	e one or dbl check.
	3c. Maximum water depth. Select only o	The and assign score.	Regularly inundated/saturated	
	0.4 to 0.7m (15.7 to 27.6in) (2) <0.4m (<15.7in) (1)	4	Seasonally inundated (2) Seasonally saturated in upper	30cm (12in) (1)
	3e. Modifications to natural hydrologic re None or none apparent (12)	gime. Score one or double chec heck all disturbances observed	k and average.	_
1	Recovered (7)	ditch	point source (nonstormwater)	
	Recovering (3) Recent or no recovery (1)	tile dike	filling/grading road bed/RR track	
	[-	weir stormwater input	dredging other	i
1114	Metric 4. Habitat Alter		nment	
13 40			pinona	
max 20 pts, subtotal	4a. Substrate disturbance. Score one or X None or none apparent (4)	double check and average.		
	Recovered (3) Recovering (2)			
	Recent or no recovery (1)	and anaign soom		
	4b. Habitat development. Select only one Excellent (7)	e and assign score.		
	Very good (6) Good (5)			
ر	Moderately good (4) Fair (3)			
	Poor to fair (2) Poor (1)			
	4c. Habitat alteration. Score one or doub			
	None or none apparent (9) Recovered (6)	heck all disturbances observed mowing	shrub/sapling removal	
	Recovering (3) Recent or no recovery (1)	grazing clearcutting	herbaceous/aquatic bed removing sedimentation	al
1109	TRECENT OF NO TECOVERY (1)	selective cutting	dredging	
40	<u> </u>	woody debris removal toxic pollutants	farming nutrient enrichment	
subbolat this բ last revised 1 Febru	· <u>L</u>			
	- ~			

			• g		
Site: ∱	3821	000	1 W2M-00H R	ater(s): ∠ˌ≲∬	10N Date: 1018118
si	40 Iblotal first p	ח	otrio E - Crooial Wo	410	
\mathcal{O}	14D	141	etric 5. Special We	uanos.	
max 10 pts.	sublotal	5	ck all that apply and score as indica Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary we Lake Erie coastal/tributary we Lake Plain Sand Prairies (Oal Relict Wet Prairies (10) Known occurrence state/feder Significant migratory songbird Category 1 Wetland. See Que	land-unrestricted hyd land-restricted hydrol (Openings) (10) al threatened or enda water fowl habitat or o estion 1 Qualitative Ra	ngered species (10) usage (10) aling (-10)
3	43	M	etric 6. Plant comm	unities, inte	erspersion, microtopography.
max 20 pts.	subtotal	_6a.	Wetland Vegetation Communities.	Vegetation (Community Cover Scale
		Sco	re all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
			Aquatic bed	1	Present and either comprises small part of wetland's
			Emergent		vegetation and is of moderate quality, or comprises a
		ı	Shrub		significant part but is of low quality
			Forest	2	Present and either comprises significant part of wetland's
	,		Mudflats		vegelation and is of moderate quality or comprises a small
			Open water		part and is of high quality
			Other	3	Present and comprises significant part, or more, of wetland's
		6b.	horizontal (plan view) Interspersion.		vegetation and is of high quality
			ct only one.	· · · · · · · · · · · · · · · ·	<u> </u>
			High (5)	Narrative De	scription of Vegetation Quality
			Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		_	Moderate (3)		disturbance tolerant native species
	ĺ	C	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
	`		Low (1)		although nonnative and/or disturbance tolerant native spp
			X None (0)		can also be present, and species diversity moderate to
		6c.	Coverage of Invasive plants. Refer		moderately high, but generally w/o presence of rare
		to Ta	able 1 ORAM long form for list. Add		Ihreatened or endangered spp
		or de	educt points for coverage	high	A predominance of native species, with nonnative spp
			Extensive >75% cover (-5)	~	and/or disturbance tolerant native spp absent or virtually
			Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
		,	Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
		I	Nearly absent <5% cover (0)		<u> </u>
			X Absent (1)	Mudflat and	Open Water Class Quality
		6d.	Microtopography.	0	Absent <0.1ha (0.247 acres)
		Scor	e all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
			Vegetated hummucks/tussuck	s 2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		1	Coarse woody debris >15cm (3 (Sin)	High 4ha (9.88 acres) or more
			Standing dead >25cm (10in) d	bh	
			Amphibian breeding pools	<u>Microtopogr</u>	aphy Cover Scale
				0	Absent
				1	Present very small amounts or if more common of marginal quality
				2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
				3	Present in moderate or greater amounts
110					and of highest quality

43

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3,
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
raung	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	13	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	43	Category based on score breakpoints Med - 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	^	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not extegorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

A	Fin	al Category	
Choose one	Category 1	/ Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Date:	KATIE SIMON	
	12/10/18	
Affiliation:	E MANNIK - SMITH GROUP INC	
Address: 800 (N)	DIAN WED CIRCLE MAUNEE, OH 4353	37)
Phone Number	891-2222 ext 2046	
a mail address:	SIMON @ Manik saith group can	
Name of Wetland:	111201-066	
Vegetation Communit(ies):	PEAT RS-PFO	
HGM Class(es):	1000 13221	
	See Figure 4	
Lat/Long or UTM Coordinate	41.1063 -82.7800	
Lat/Long or UTM Coordinate USGS Quad Name	41.1068, -82.7800 CENTERTON	
The remain the first broken as a second	41.1068, -82.7800 CENTERTON HURON	
USGS Quad Name	CENTER TON HURON	
USGS Quad Name County		
USGS Quad Name County Township	CENTERTON HURON T2N R24W	
USGS Quad Name County Township Section and Subsection	CENTER TON HURON	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	(ENTERTON HURON T2N R24W 04(00012 05 01	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	(ENTERTON HURON T2N R24W 04(00012 05 01	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map	(ENTERTON HURON T2N R24W 04(00012 05 01	

Name of Wetland:	W2M-066	
Wetland Size (acres, hectares	: 34.880	26:
Sketch: Include north arrow, r	elationship with other surface waters, vegetation zo	ones, etc.
	See Figure 4	
	Sea traure 4	
	see I Just 1	
Comments, Narrative Discussion	n, Justification of Category Changes:	
inal score :	(0 B)	Category: 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	/	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	/	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, rallroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	TOTAL CONTRACTOR
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
la .	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

		LVEC	1/NO)
3b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	0
Эа	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9d
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
ec.	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aguatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
96	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO) Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Table 1. Characteristic plant specie	able 1.	stic plant species.
--------------------------------------	---------	---------------------

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Trofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis. Calamagrostis strictic Carex atherodes. Carex buxbaumi Carex pellitic Gentiana andrewsis. Helianthus grosseserratus Liatris spicata. Lysimachia quadriflora Lythrum alatum Pycnanthemum wirginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A382000 L. W2N1-0	Rater(s): K.SIMON	Date: (0) 8 19
,	tland Area (size).	
max 6 pts. sublotal Select one size class and >50 acres (>20).2ha) (6 pls)	·
10 to <25 acres 3 to <10 acres	s (10.1 lo <20.2ha) (5 pts) s (4 to <10.1ha) (4 pts) (1.2 to <4ha) (3 pts)	
	: (0.12 to <1.2ha) (2pts) es (0.04 to <0.12ha) (1 pt) !4ha) (0 pts)	
8 13 Metric 2. Upl	and buffers and surroundi	ng land use.
WIDE. Buffers MEDIUM. Buff NARROW. Bu VERY NARRO	uffer width. Select only one and assign score. Do average 50m (164ft) or more around wetland pe- fers average 25m to <50m (82 to <164ft) around v ffers average 10m to <25m (32ft to <82ft) around W. Buffers average <10m (<32ft) around wetland ing land use. Select one or double check and av	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0)
VERY LOW. 2 LOW. Old field MODERATELY	ing land use. Select one of double check and aw nd growth or older forest, prairie, savannah, wildl I (>10 years), shrub land, young second growth fu / HIGH. Residential, fenced pasture, park, conse industrial, open pasture, row cropping, mining, co	life area, etc. (7) orest. (5) ervation tillage, new fallow field. (3)
27 40 Metric 3. Hyd	rology.	
3c. Maximum water dept 3c. 0.7 (27.6in) (3 2 0.4 to 0.7m (15 <0.4m (<15.7in	dwater (5) ater (3)) nittent surface water (3) ce water (lake or stream) (5) h. Select only one and assign score. i) 7 to 27.6in) (2)	Connectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) Duration inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally salurated in upper 30cm (12in) (1) k and average.
None or none a Recovered (7) Recovering (3) Recent or no re	covery (1) Check all disturbances observed ditch tile dike weir stormwater input	point source (nonstormwaler) filling/grading road bed/RR track dredging other
Metric 4. Hab	oitat Alteration and Develo	pment.
None or none a Recovered (3) Recovering (2) Recent or no re 4b. Habitat development. Excellent (7) Very good (6) Good (5)	covery (1) Select only one and assign score.	
Fair (3) Poor to fair (2) Poor (1)	d (4) core one or double check and average.	
None or none a Recovered (6) Recovering (3) Recent or no re	pparent (9) Check all disturbances observed mowing grazing	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging
subtotal this page	woody debris removal toxic pollutants	farming nutrient enrichment
last revised 1 February 2001 jjm		

Site: A382000 W2M - Olds Rater	(s): KSI1	MON Date: 10 8 18
subtotal first page Metric 5. Special Wetlan max 10 pis. subtotal Check all that apply and score as indicated	ds.	, ,
Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-re Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal Ihree Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro ings) (10) atened or enda fowl habitat or 1 Qualitative R	logy (5) Ingered species (10) usage (10) ating (-10)
13 Metric 6. Plant communi	ities, int	erspersion, microtopography.
max 20 pts. sublotal 6a. Wetland Vegetation Communities.	Vegetation 6	Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
2 Emergent		vegetation and is of moderate quality, or comprises a
2 Shrub		significant part but is of low quality
3 Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.	Ÿ	vegetation and is of high quality
Select only one.		vegetation and is of riight quality
High (5)	Normative De	and the of Ventallan Overly
		escription of Vegetation Quality
Moderately high(4) Moderate (3)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)		disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		•
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
/ Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh		
Amphibian breeding pools	Microtopogr	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
		of marginal quality
	2	Present in moderate amounts, but not of highest
		quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
		and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES MO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	5	
reading	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	27	
	Metric 4. Habitat	15	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	/3	
	TOTAL SCORE	68	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	®	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	KO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Fin	al Category	1
Choose one	Category 1	Category 1 Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	ATIE SIMON	
Date: /2	110/18	
Affiliation: THE	MANNIK + SMITH BROYD INC	
Address: 1800 /	MIDIAN LIOND CIRCLE MALMEE Off 43.	537
Dhone Number	391-2222 ext 2016	
THE THE STATE OF T	ION@ MAMIK SNOTH group com	
Name of Wetland:	W2M-069	
Vegetation Communit(les):	PS IPFO	
HGM Class(es):	1 2 11	
	See Figure 4	
Lat/Long or UTM Coordinate	41.1116, -82.8061	
USGS Quad Name	CENTERTON	
County	HURAN	
Township	TZN RZYW	
Section and Subsection		
Hydrologic Unit Code	04108012 05 01	
Site Visit	10/4/09	
National Wetland Inventory Map	TO LINE	
Ohio Wetland Inventory Map		
Soil Survey		

Name of Wetland:	W2M-069		
Wetland Size (acres, hectares):	00011	12.722 20	
Sketch: Include north arrow, relatio	nship with other surface waters	s, vegetation zones, etc.	
	See Figure	11	
) on Figure	9	
	0		
omments, Narrative Discussion, Ju-	stification of Category Changes	3;	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	/	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	L	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	/	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Welland is a Category 3 welland	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 5 YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
1	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

3b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	So to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9c
	A set laboration to the second the supplication primary by drategical influence	Go to Question 10 YES	NO.
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Table 1.	Characteristic	plant s	pecies.
----------	----------------	---------	---------

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Sythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Sypha angustifolia Sypha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex sterilis Carex sterilis Carex stericta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Trofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaceinium macrocarpon Vaceinium corymbosum Vaceinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricte Carex atherode. Carex buxbaumi Carex pellite Gentiana andrewsis Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A382.00	101,W2M-0109	Rater(s): LSIMON	<u> </u>	Date: (0) 8/18
u u M	letric 1. Wetland A	rea (size).		
max 6 pts. subtotal Se	loot one size alone and engine and	7 0		
max 6 pts. subtotal Se	lect one size class and assign sco >50 acres (>20.2ha) (6 pts			
	25 to <50 acres (10.1 to <2	0.2ha) (5 pls)		
4	10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha			
1	0.3 to <3 acres (0.12 to <1	2ha) (2pts)		
	0.1 lo <0.3 acres (0.04 to <	0.12ha) (1 pl)		
	<0.1 acres (0.04ha) (0 pls)	<i>cc</i>	I	
4	-	ffers and surround	_	
max 14 pls. subtotal 2a.	, Calculate average buffer width.	Select only one and assign score. 〔 m (164fi) or more around wetland p	Jo not double check. erimeler (7)	
1		25m to <50m (82 to <164ft) around		
{		e 10m to <25m (32ft to <82ft) arour		
. 2h		average <10m (<32ft) around wetlar . Select one or double check and a		
20.		r older forest, prairie, savannah, wik		
1		, shrub land, young second growth		
l		sidential, fenced pasture, park, cons		w field. (3)
2127 M	etric 3. Hydrology	oen pasture, row cropping, mining, c	construction. (1)	
max 30 pts. subtotal 3a.	Courses of Motor Coors all that	opphy 3h	Connectivity. Score all t	that anniv
max 30 pts. subtotal 3a.	Sources of Water. Score all that High pH groundwater (5)	арріў. 30.	100 year floodplai	
10	Other groundwater (3)	. 3		ake and other human use (1)
\wp	Precipitation (1)	_ ,		oland (e.g. forest), complex (1) upland corridor (1)
	Seasonal/Intermittent surfa X Perennial surface water (la			ration. Score one or dbl check.
Зс.	Maximum water depth. Select or	nly one and assign score.	Semi- to permane	ently inundated/saturated (4)
· _	>0.7 (27.6in) (3)	3	Regularly inundat	
2	0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1)	(2)	Seasonally inunda	ated (2) Ited in upper 30cm (12in) (1)
3e.		c <u>regime. Score one or double che</u>		
	None or none apparent (12	Check all disturbances observed		
7	Recovered (7)	ditch	point source (non:	stormwater)
+	Recovering (3) Recent or no recovery (1)	tile dike	filling/grading road bed/RR track	
		weir	dredging	`
		stormwater input	other	
125 405 M	letric 4. Habitat Al	teration and Develo	pment.	
max 20 pts. subtotal 4a	Substrate disturbance. Score on	o or double check and average		
man 20 pto. Gablotta 4a.	None or none apparent (4)	e of adable officer and average.		
11	Recovered (3)			
4	Recovering (2) Recent or no recovery (1)			
1 4b.	Habitat development. Select only	one and assign score.		
	Excellent (7)			
	Very good (6) X Good (5)			
5	Good (5) Moderately good (4)			
- .	Fair (3)			
	Poor lo fair (2)			
An	Poor (1) Habitat alteration. Score one or o	louble check and average		
46.	None or none apparent (9)	Check all disturbances observed	<u> </u>	7
止气	Recovered (6)	mowing	shrub/sapling rem	oval
TiJ	Recovering (3)	grazing	herbaceous/aquat	
1	Recent or no recovery (1)	clearcutting	sedimentation	
112 5		selective cutting woody debris removal	dredging farming	
[// 0,⊃		toxic pollutants	nutrient enrichmer	nl ∦
sublotal this page				
last revised 1 February 20	01 jjm			

r		- 1			
Site:A	<u>382000</u>	01 M2M-QB Rate	r(s): K.S.	<u>moN</u>	Date: 10/8/18
0	40,5 N	letric 5. Special Wetla	nds.		į i
max 10 pts.		and all that and a source to the stand			
ilida to pie.	D Cu	eck all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested welland (5) Lake Erie coastal/tributary wetland. Lake Plain Sand Prairies (Oak Oper Relict Wel Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Calegory 1 Wetland. See Question	-restricted hydro enings) (10) reatened or enda er fowl habitat or	logy (5) angered species (10) usage (10)	
111	51,5 M	etric 6. Plant commun	ities, int	erspersion, microto	opography.
max 20 pts.	subtotel 6a.	Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
	Sco	ore all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
	5	Aquatic bed I Emergent Shrub	1	Present and either comprises sm vegetation and is of moderate of significant part but is of low qua	quality, or comprises a ality
		2 Forest	2	Present and either comprises sig	
		Mudflats Open water		vegetation and is of moderate of part and is of high quality	juality or comprises a small
	6b.	Otherhorizontal (plan view) Interspersion.	3	Present and comprises significan vegetation and is of high quality	
	Sel	ect only one.			
		High (5) Moderately high(4)		escription of Vegetation Quality	
		Moderate (3)	low	Low spp diversity and/or predomit disturbance tolerant native spec	
	7	Moderately low (2)	mod	Native spp are dominant compon	
	2	Low (1)		although nonnative and/or distu	
		None (0)		can also be present, and specie	•
		Coverage of invasive plants. Refer able 1 ORAM long form for list. Add		moderately high, but generally threatened or endangered spp	N/o presence of rare
		educt points for coverage	high	A predominance of native species	s with noonalive snn
		Extensive >75% cover (-5)	****	and/or disturbance tolerant nation	
	j	Moderate 25-75% cover (-3)		absent, and high spp diversity a	
	-1	Sparse 5-25% cover (-1)		the presence of rare, threatener	d, or endangered spp
		Nearly absent <5% cover (0) Absent (1)	Mudflat and	Open Water Class Quality	
	6d.	Microtopography.	0	Absent <0.1ha (0.247 acres)	
	Sco	re all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	cres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	acres)
	\subseteq	Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		1 Standing dead >25cm (10in) dbh 2 Amphibian breeding pools	Microtopog	raphy Cover Scale	
			0	Absent	<u> </u>
			1	Present very small amounts or if re of marginal quality	nore common
			2	Present in moderate amounts, bu quality or in small amounts of hi	
	•		3	Present in moderate or greater ar and of highest quality	nounts
(and an ingrious quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES MO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5, Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
Kaung	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	/3.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	11	
	TOTAL SCORE	51.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	8	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO.	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not exategorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

OL		al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	KATIE SIMON	
Date:	12/10/18	
Affiliation:	THE MANNIE - SMITH GROUP INC	
Address:	1900 INDIAN WELL apple MALINEE, OH 4353	7
Phone Number:	419-891-2222 PX 2046	
e-mail address:	KSIMON @ Manik smith grap com	
Name of Wetland:		
Vegetation Communit(les):		
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coordinate	- ba ou a	
USGS Quad Name	41.1121, 828168	
County	(ENTERTON) HURON	
Township	T2N R24W	
Section and Subsection		
Hydrologic Unit Code	04100012 05 02	
Site Visit	10/4/18	
The second secon	1×1111V	
National Wetland Inventory N	Мар	
National Wetland Inventory Map Ohio Wetland Inventory Map		

Name of Wetland:	W2M-072
Wetland Size (acres, hectares):	0-021 20
Sketch: Include north arrow, relations	hip with other surface waters, vegetation zones, etc.
	See Figure 4
	T 4
	See Tigure 1
	O
	the state of the s
omments, Narrative Discussion, Just	ification of Category Changes:

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	1	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	1	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	V	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	1	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Godo Question 4
1	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Welland is a Category 1 welland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canoples; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
80	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
Ш		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	NO
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
10	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 10
	- Profile To The Company of the Comp	Go to Question 10	- A
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO)
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Vajas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var, glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumin Carex pellita Carex sartwellit Gentiana andrewsii Helianthus grosserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A38200	001 W2M-072	Rater(s): <u>{\S\MON</u>	<u> </u>	Date: [<u>[]</u>
Max 6 pts subtotal	Metric 1. Wetland A			, , ,
0	>50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to <) 20.2ha) (5 pts) ha) (4 pts) ı) (3 pts) .2ha) (2pts) :0.12ha) (1 pt)		
8 8	Metric 2. Upland bu		ing land use.	·
max 14 pts. subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensily of surrounding land use VERY LOW. 2nd growth o LOW. Old field (>10 years) MODERATELY HIGH. Res	m (164ft) or more around wetland p 25m to <50m (82 to <164ft) around e 10m to <25m (32ft to <82ft) aroun average <10m (<32ft) around wetlan	erimeter (7) I wetland perimeter (4) nd wetland perimeter (1) nd perimeter (0) average. dilife area, etc. (7) forest. (5) servation tillage, new fallo	w field. (3)
12 20	Métric 3. Hydrology	. :		
max 30 pts. subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (lal 3c. Maximum water depth. Select or >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrological	ce water (3) ke or stream) (5) nly one and assign score.	Part of wetland/up Part of riparian or Duration inundation/satu Semi- to permane Regularly inundat X Seasonally inundat Seasonally satura	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ed/saturated (3)
•	None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stormwater input	point source (none filling/grading road bed/RR tract dredging other	
1116 3450	Metric 4. Habitat Al	teration and Develo	pment.	
max 20 pts. subtotal	4a. Substrate disturbance. Score on None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	one and assign score.		
	4c. Habitat alteration. Score one or c	Check all disturbances observed		
subtotal this pa		mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling rem herbaceous/aquat sedimentation dredging farming nutrient enrichmer	iic bed removal

Site: A3820001, W2M-072 Rater	(s): <u> </u> <u> </u> <u> </u> <u> </u>	MDN Date: 10/10/13
subtotal first page Metric 5. Special Wetlan	ds.	
rnax 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro ings) (10) atened or enda fowl habitat or	logy (5) angered species (10) usage (10)
2 38 Metric 6. Plant communi	ties, int	erspersion, microtopography.
max 20 pts. subtoial 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
Emergent		vegetation and is of moderate quality, or comprises a
Shrub		significant part but is of low quality
() Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
Select only one.		
High (5)	Narrative De	escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
. Moderate (3)		disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)	J	and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		The process of the pr
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh	-	<u></u>
Amphibian breeding pools	Microtopogi	raphy Cover Scale
<u> </u>	0	Absent
·	1	Present very small amounts or if more common of marginal quality
	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
2 ×0		and of highest quality

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

A 44 m.A		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d, Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
rading	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	16	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	38	Category based on score breakpoints Mad 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	321	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	O C	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(0)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	00	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not categorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communitles may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	KATIE SIMON	
Date:	19. 110/18	
Affiliation:	THE MANNIK - SOUTH GROP INC	
Address:		7
Phone Number:	419-891 2222 ext 2016	
e-mail address:	KSINON @ Maniksnithanp.com	
Name of Wetland:		
Vegetation Communit(ies):		
HGM Class(es):	10111 112	
	See Figure 4	
Lat/Long or UTM Coordinate	111 10110 -04 8301	
USGS Quad Name	91-1092, 82,0701	
County	(ENTERTON	
Township	TIN RISE	
Section and Subsection	IZN RIDE	
Hydrologic Unit Code	04160012 05 02	
Site Visit		
	10/5/19	
National Wetland Inventory	10/5/19	
National Wetland Inventory Map	Map	
	Map	

Name of Wetland:	WZM-075	
Wetland Size (acres, hectares):		
Wetland Size (acres, hectares): Sketch: Include north arrow, relat	See Figure 4	
Comments, Narrative Discussion,	Justification of Category Changes:	
Final score : 2	Category: 7	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	1	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	/	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	~	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
7	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

3b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	A
а	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
b	Does the wetland's hydrology result from measures designed to	YES	NO
7	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
С	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	6
0	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Go to Question 11	7
1	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	/N9
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Solidago ohioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex risperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxyeoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis. Calamogrostis stricto. Carex atherodes. Carex buxbaumi. Carex pelliti. Gentiana andrewsis. Helianthus grosseserratus. Liatris spicata. Lystmachia quadriflora. Lythrum alatum. Pycnanthemum virginianum. Sorghastrum nutans. Spartina pectinata. Solidago riddellii

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: 4382000 W2M-075	Rater(s): K.SIMON	Date: 10/10/18		
Metric 1. Wetland	Area (size).	·		
max 6 pts. subtotal Select one size class and assign so				
25 to <50 acres (10.1 to <				
3 to <10 acres (4 to <10.		·		
0.3 to <3 acres (0.12 to <	.2ha) (2pts)			
0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pts				
	iffers and surround	ing land use.		
15 10 1				
	Select only one and assign score. Dom (164ft) or more around wetland pe			
MEDIUM. Buffers average	e 25m to <50m (82 to <164ft) around			
NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)				
2b. Intensity of surrounding land use. Select one or double check and average.				
	or older forest, prairie, savannah, wild s), shrub land, young second growth t			
	esidential, fenced pasture, park, cons			
	pen pasture, row cropping, mining, c	onstruction. (1)		
Metric 3. Hydrology				
max 30 pts. subtotal 3a, Sources of Water. Score all that High pH groundwater (5)	t apply. 3b.	Connectivity. Score all that apply. 100 year floodplain (1)		
Other groundwater (3)		Between stream/lake and other human use (1)		
Precipitation (1) Seasonal/Intermittent surf	2.5	Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1)		
Perennial surface water (kg		Duration inundation/saturation. Score one or dbl check.		
3c. Maximum water depth. Select o	_	Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3)		
0.4 to 0.7m (15.7 to 27.6in)) (2)	Seasonally inundated (2)		
\ \ \ \ \ \ \ <0.4m (<15.7in) (1)	ic regime. Score one or double chec	Seasonally saturated in upper 30cm (12in) (1)		
None or none apparent (1)		sit and avorago.		
↑ Recovered (7)	ditch	point source (nonstormwater)		
X Recovering (3) Recent or no recovery (1)	tile dike	filling/grading road bed/RR track		
	weir	dredging		
	stormwater input	other		
9 33 Metric 4. Habitat A	teration and Develo	pment.		
max 20 pts. sublotal 4a. Substrate disturbance. Score of				
None or none apparent (4)	·	·		
Recovering (2)				
Recent or no recovery (1) 4b. Habitat development. Select on	v one and assign score.			
Excellent (7)	, one and assign see.			
Very good (6) Good (5)				
Moderately good (4)	•			
Fair (3) Poor to fair (2)				
Poor (1)				
4c. Habitat alteration. Score one or				
None or none apparent (9) Recovered (6)	Check all disturbances observed mowing	shrub/sapling removal		
Recovering (3)	grazing	herbaceous/aquatic bed removal		
Recent or no recovery (1)	clearcutting selective cutting	sedimentation dredging		
33	woody debris removal	farming		
sublotel this page	toxic pollutants	nutrient enrichment		
last revised 1 February 2001 jjm.	<u> </u>			

Site: A32 0001, W M-075 Rater	(s): K. <u>S</u> Ir	NON LINON	Date: 10/10/18
subtotal first page Metric 5. Special Wetlan	ıds.		
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricled hydro nings) (10) eatened or enda fowl habitat or 1 Qualitative R	angered species (10) usage (10) ating (-10)	
34 Metric 6. Plant commun	ities, int	erspersion, microto	pography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0 .	Absent or comprises <0.1ha (0.24	
Aquatic bed I Emergent	1	Present and either comprises small	
Shrub		vegetation and is of moderate q	
γ Forest	2	significant part but is of low qua	
/ Mudflats	-	Present and either comprises sign vegetation and is of moderate q	
Open water		· -	oality or comprises a small
Other	3	part and is of high quality	
6b. horizontal (plan view) Interspersion.	3	Present and comprises significant	
		vegetation and is of high quality	
Select only one.	Nassattus D		
High (5)		escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predomir	
Moderate (3)		disturbance tolerant native spec	
Moderately low (2)	mod	Native spp are dominant compone	
Low (1)		although nonnative and/or distu	• • • • • • • • • • • • • • • • • • • •
None (0)		can also be present, and specie	
6c. Coverage of invasive plants. Refer		moderately high, but generally v	Wo presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp	
or deduct points for coverage	high	A predominance of native species	
Extensive >75% cover (-5)		and/or disturbance tolerant nativ	
Moderate 25-75% cover (-3)		absent, and high spp diversity a	•
Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, threatened	i, or endangered spp
Treatily appear to the cover (b)	Sandtot 1	0	
Absent (1)		Open Water Class Quality	<u> </u>
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	acres)
Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more	
Amphibian breeding pools	Microtonos	raphy Cover Scale	
Tankunan preeding hoois	0	Absent	
	1	Present very small amounts or if n	nore common
	'	of marginal quality	note common
			not of bioboot
	2	Present in moderate amounts, but quality or in small amounts of high	
·	ა	Present in moderate or greater an	iouri(S
1011		and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6, Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
ramg	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	Ó	
	Metric 6. Plant communities, interspersion, microtopography		
	TOTAL SCORE	34	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	100	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NS	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	8 0	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	0	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	(NO)	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not eategorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one	Category 1	al Category	2.1
Ollogge Olle	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

N		
Name:	KATIE SIMON	
Date:	12/10/18	
Affiliation:		
Address:	DIAN WOOD CIRCLE MAUNEE, OH 439	37
Phone Number	119-991-2272 ext 2046	
e-mail address:	KSIMON @ MANIKSMITH group com	
Name of Wetland:	(J)2M-677	
Vegetation Communit(les):	PEM, PSS, PFO	
HGM Class(es):		
	See Figure 4	
Lat/Long or UTM Coordinate	111 100 -02 6441-	
USGS Quad Name	41.1052, -82.8445	
County	CENTERTON	
Township	SONECA TIN RITE	
Section and Subsection	I W KITC	
Hydrologic Unit Code	B4100012 0502	
Site Visit	10/9/18	
National Wetland Inventory Ma		
Ohio Wetland Inventory Map		
Soil Survey		
Delineation report/map		

Name of Wetland:	W2M-071
Wetland Size (acres, hectares):	14.593 20
Sketch: Include north arrow, relatio	nship with other surface waters, vegetation zones, etc.
	See Figure 4
	see The second
	O .
omments, Narrative Discussion, Ju-	stification of Category Changes:
inal score : Man	Category: Mal 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	~	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	/	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	~	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Goo Question 3
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Welland is a Category 3 wetland Go to Question 7	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	19
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
Sa	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 90
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
44	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 1
9d	Does the wetland have a predominance of native species within its	YES	NO
77	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 1
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO\
.0	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 1
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha angustifolia Typha xglauca	Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmit Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchospora capillacea Salix myricoides Salix sertssima Solidago ohioensis Tofieldia glutinosa Triglochin marttimum Triglochin nalustre	Calla palustris Carex atlantica var, capillacea Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum Vaccinium oxycoccos Woodwardia virginica Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumin Carex pellita Carex sartwellit Genttana andrewsti Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lythrum alatum Pycnanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina pectinata Solidago riddellit

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: 438200	01.W2M-07-7	Rater(s): 🛴 🖺 MON		Date: VO 🤻	<u> </u>
1 4 N	letric 1. Wetland A	rea (size).		<u>-</u>	
max 6 pls. subtotal Se	>50 acres (>20.2ha) (6 pts) >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1. 0.1 to <0.3 acres (0.04 to <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) ha) (4 pts)) (3 pts) 2ha) (2pts)			
59	letric 2. Upland bu	ffers and surround	ing land use.	·	
l	WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers a Intensity of surrounding land use. X VERY LOW. 2nd growth of LOW. Old field (>10 years) MODERATELY HIGH. Res	Select only one and assign score. In (164ft) or more around wetland point (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around (164ft) around wetlar (164ft) around wetlar (164ft) around (164ft)	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. dlife area, etc. (7) forest. (5) ervation tillage, new fallor	w field. (3)	
19 28 M	letric 3. Hydrology	•			
\ 0 3c.	Perennial surface water (lak Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1) Modifications to natural hydrologic	ce water (3) te or stream) (5) dy one and assign score. (2) 3d. (2) 3d. (2)	Part of wetland/up Part of riparian or Duration inundation/satur Semi- to permaner Regularly inundate Seasonally inunda	n (1) ake and other human land (e.g. forest), co upland corridor (1) ration. Score one or ntly inundated/satura ed/saturated (3)	mplex (1) dbl check ated (4)
任	None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	Check all disturbances observed ditch tile dike weir stommwater input	point source (nons filling/grading road bed/RR track dredging other		
11.5 39.5 M	letric 4. Habitat Alt	eration and Develo	pment.		
.4 4b.	Recent or no recovery (1) Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	one and assign score.			
4c.	Habitat alteration. Score one or d	Check all disturbances observed			
39,5 subtotal this page	Recovered (6) Recovering (3) Recent or no recovery (1)	mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling remonders and sedimentation dredging farming nutrient enrichments	c bed removal	
last revised 1 February 20	ווון ויטי				

	-	4	
Site: W2M-077, A3820001 Rate	r(s): الدى ا	Nom.	Date: 10 8 18
39.5 subtotal first page			
0 39.5 Metric 5. Special Wetlan	nds.		÷
max 10 pts. sublolal Check all that apply and score as indicated. Bog (10)			
Fen (10)			
Old growth forest (10) Mature forested wetland (5)			
Lake Erie coastal/tributary wetland-			
Lake Erie coastal/tributary wetland-		ogy (5)	
Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10)	enings) (10)		
Known occurrence state/federal thr			
Significant migratory songbird/wate Category 1 Wetland. See Question			
4 43.5 Metric 6. Plant commun			opography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
Aquatic bed Emergent	1	Present and either comprises sn	•
Shrub	•	vegetation and is of moderate significant part but is of low qua	•
Forest	2	Present and either comprises sig	
Mudflats		vegetation and is of moderate	
Open water		part and is of high quality	
Other	3	Present and comprises significar	
6b. horizontal (plan view) Interspersion. Select only one.		vegetation and is of high qualit	у
High (5)	Narrative De	escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predom	inance of nonnative or
Moderate (3)		disturbance tolerant native spe	
Moderately low (2)	mod	Native spp are dominant compor	<u> </u>
Low (1)		although nonnative and/or distu	
None (0) 6c. Coverage of invasive plants. Refer		can also be present, and speci moderately high, but generally	
to Table 1 ORAM long form for list. Add		threatened or endangered spp	Wo presence of fale ,
or deduct points for coverage	high	A predominance of native specie	s, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant nat	
★ Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity	
Sparse 5-25% cover (-1) Nearly absent <5% cover (0)	 -	the presence of rare, threatene	a, or endangered spp
Absent (1)	Mudflat and	Open Water Class Quality	•
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	B acres)
Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more	
Amphibian breeding pools	Microtopogr	aphy Cover Scale	
	0	Absent	
•	1	Present very small amounts or if	more common
		of marginal quality Present in moderate amounts, but	It not of highest
	2	quality or in small amounts of h	
	3	Present in moderate or greater a	
112 -		and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
rading	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	Ч	Land of the same o
	TOTAL SCORE	435	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Welland is categorized as a Category 1 welland	(€)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	()	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g., functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not rategorized as a Category 2 wetland (in the case of noderate functions) or a category 3 wetland (in the ase of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Welland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

	Catogory 4	Catagoni 2	0-4
Choose one	Category 1	Category 2	Category 3
		- /	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

-	
Name: KATTLE SIMON	
Date: 10/9/18	
Affiliation: MSG	
Address: 1800 INDIAN CIRCLE, MAUMEE, OH 43502	77
Phone Number: 419-891-2222	
e-mail address: KSIMON@MANNIKSMTHGROUP, COM	
Name of Wetland: Way Man	
Vegetation Communit(ies):	
HGM Class(es): DEPRESSION	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
	;
Lat/Long or UTM Coordinate 4, 106323 - 82.809292	
USGS Quad Name	CENTERTON
County	HURON TZN RZYW
Township Section and Subsection	T2N R24W
Hydrologic Unit Code	
Site Visit	04/00012
National Wetland Inventory Map	10/9/18
Ohio Wetland Inventory Map	F14, 3
Soil Survey	11
Delineation report/map	F16.2

Name of Wetland: W2M-D80		
Wetland Size (acres, hectares):		3.58
Sketch: Include north arrow, relationship with other surface waters, vegetation zo	nes, etc.	
SEE FIGURE 4.		
·		
		,
•		•
Comments, Narrative Discussion, Justification of Category Changes:		
MONE		
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Final score :	Category:	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should he used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps In properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is histed in the appropriate State of Ohio database.

			1
#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Questlon 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the welland a peat-accumulating wetland that 1) has no significant Inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 welland Go to Question 7	NO Go to Question 7
<u>?</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
Ba	"Old Growth Forest." Is the welland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Ge to Question 8b

W2M-08	Q
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			Γ) —
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	1.50	
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the welland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	3 wetland.	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
ĺ	dominated by some or all of the species in Table 1. Extensive prairies	l	
ļ	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Category 3 status	Rating
.	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumit
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicato
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianun
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutan
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
•	Salix myricoides	Woodwardia virginica		Solidago riddelli.
	Salix serissima	Xyris difformis		
	Solidago ohioensis	- "		-
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	17XC/	$XOOI W2IVI-OYOO Rater(s): K_S MOIV$	Date: 10/9 / [\ \ \
3	3 subtotal	Metric 1. Wetland Area (size).	
max 6 pts.	3	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
7	/D	Metric 2. Upland buffers and surrounding land use.	
max 14 pts		2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
12	. 22	Metric 3. Hydrology.	
max 30 pts.	subtotal	Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up Part of vetland/up Part of	in (1) ake and other human use (1) ake and other human use (1) aland (e.g. forest), complex (1) upland corridor (1) iration. Score one or dbl check intly inundated/saturated (4) ed/saturated (3) ated (2) ted in upper 30cm (12in) (1) stormwater)
18	40	Metric 4. Habitat Alteration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5)	
	Ş	Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average.	·
s	시 니 J ubtotal this par	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (7) Recovering (8) Recovering (8) Recovering (9) Recovering (9) Recovering (1) Rec	ic bed removal

last revised 1 February 2001 jjm

Site: ₽	3821	1000	, W2M-080	Rater(s): K.S	IMON	Date: 10/9/18
	Γ	٦	•				
i	40						
St	ıbtolal first p	_i age					
0	40	Met	ric 5. Special W	/etland	ds.	`	
max 10 pls.	subtotal	Che <u>ck a</u>	ll that apply and score as ind	licated.			
			Bog (10)				
		-	Fen (10) Old growth forest (10)				
			Mature forested wetland (5	5)			
		· · <u> </u>	Lake Erie coastal/tributary				
	C), <u> </u>	Lake Erie coastal/tributary Lake Plain Sand Prairies (logy (5)	•
		.	Relict Wet Prairies (10)	Oak Openii	igs) (10)		
			Known occurrence state/fe	deral threa	tened or enda	angered species (10)	
			Significant migratory songt				·
-	(0	┐╻╻┖ ╵	Category 1 Wetland. See				
12	48	Weti	ic 6. Plant com	imunit	lies, int	erspersion, mic	rotopography.
max 20 pls	subtotal] 60 Wot	land Vacatation Communitie	_	V4-4!	C	
max 20 pia	Suprotei		land Vegetation Communitie I present using 0 to 3 scale.	5.	vegetation 0	Community Cover Scale Absent or comprises <0.1h	a (0.2471 acres) contiguous area
			Aquatic bed		1	Present and either compris	
			Emergent			1	erate quality, or comprises a
eri Verge		2 2	Shrub Forest		2	significant part but is of lo	
	<u> </u>) 	Mudflats		4		es significant part of wetland's erate quality or comprises a small
			Open water			part and is of high quality	
			Other	_	3		nificant part, or more, of wetland's
		Select or	zontal (plan view) Interspersi nly one	on.		vegetation and is of high	quality
			High (5)		Narrative De	escription of Vegetation Qu	ality
			Moderately high(4)		low	Low spp diversity and/or pr	edominance of nonnative or
	.0	,	Moderate (3)		mod	disturbance tolerant nativ	
	•	-	Moderately low (2) Low (1)		mod	Native spp are dominant co	r disturbance tolerant native spp
		X	None (0)				species diversity moderate to
			erage of invasive plants. Ref				erally w/o presence of rare
			1 ORAM long form for list. A t points for coverage	\aa	high	threatened or endangered A predominance of native s	
			Extensive >75% cover (-5)			· ·	nt native spp absent or virtually:
		i 🗀	Moderate 25-75% cover (-3	3)		absent, and high spp dive	ersity and often, but not always,
		۱ 📙	Sparse 5-25% cover (-1) Nearly absent <5% cover (n).		the presence of rare, thre	atened, or endangered spp
			Absent (1)	U)	Mudflat and	Open Water Class Quality	
			otopography.		0	Absent <0.1ha (0.247 acre	s)
		Score all	present using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2	
		1 7	Vegetated hummucks/tussi Coarse woody debris >15ci		3	Moderate 1 to <4ha (2.47 t High 4ha (9.88 acres) or me	
	,	+ -	Standing dead >25cm (10ir			Trigit +ila (5.00 acres) or ili	oie .
		2	Amphibian breeding pools		Microtopoga	raphy Cover Scale	<u> </u>
					1	Absent Present your small amounts	or if more commen
			·		'	Present very small amounts of marginal quality	s or a more common
					2	Present in moderate amount quality or in small amount	
					3	Present in moderate or great	
412						and of highest quality	
70							

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

circle answer or Result insert score If yes, Category 3. YES MO Narrative Rating Question 1 Critical Habitat YES NO If yes, Category 3. Question 2. Threatened or Endangered Species Question 3. High Quality Natural Wetland YES NO If yes, Category 3. NO YES If yes, Category 3. Question 4. Significant bird habitat YES NO If yes, Category 1. Question 5. Category 1 Wetlands NO Question 6. Bogs YES If yes, Category 3. YES ON. If yes, Category 3. Question 7. Fens NO Question 8a. Old Growth Forest YES If yes, Category 3. YES Question 8b. Mature Forested Wetland NO If yes, evaluate for Category 3; may also be 1 or 2. NO YES If yes, evaluate for Question 9b. Lake Erie Wetlands -Category 3; may also be Restricted 1 or 2. YES NO If yes, Category 3 Question 9d. Lake Erie Wetlands --Unrestricted with native plants Question 9e. Lake Erie Wetlands -YES NO If ves, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. NO If yes, Category 3 YES Question 10. Oak Openings Question 11. Relict Wet Prairies YES NO If yes, evaluate for Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score

Complete Wetland Categorization Worksheet.

breakpoints

Wetland Categorization Worksheet



Cholces	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
or the following queettorie.	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		
4, 6, 7, 8a, 9d, 10	Category 3 wetland		Rule 3745-1-54(C) and blological and/or functional
4, 0, 7, 8a, 9u, 10	Category 3 wetland	h-	assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any	YÉS	NO \	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	120	(''')	Rule 3745-1-54(C) and 2) the quantitative rating score. If
or the following questions.	Wetland should be	\mathcal{N}	the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for	-	
9b, 9e, 11	possible Category		either of these, it should be categorized as a Category 3
3D, 3C, 11	3 status		wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	YES	NO	may also be used to determine the wetland's category.
Did you diswell les to	1123		Is quantitative rating score <i>greater</i> than the Category 2
Narrative Rating No. 5	Wetland is	$\mathcal{N} = \mathcal{N}$	scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative
raditative reating 140. 5	categorized as a		
		1	criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 welland	ì	functional assessments to determine if the wetland has
Does the quantitative seers	YES	NO-	been under-categorized by the ORAM
Does the quantitative score \figsilon fall within the scoring range	150	NO	If the score of the wetland is located within the scoring
of a Category 1, 2, or 3	Welland is		range for a particular category, the wetland should be
wetland?			assigned to that category. In all instances however, the
weuandr	assigned to the	1	narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a calegorization based on a
	category based on		quantitative score.
Does the quantitative score	the scoring range a	NO)	Deter has the artist of accions the wallend to the bishes
all with the "gray zone" for	''=> \	(ON)	Rater has the option of assigning the wetland to the higher
Category 1 or 2 or Category	Wetland is	\smile	of the two categories or to assign a category based on the
2 or 3 wetlands?			results of a nonrapid wetland assessment method, e.g.
2 Of 5 Wellands?	assigned to the higher of the two		functional assessment, biological assessment, etc, and a
	categories or		consideration of the narrative criteria in OAC rule 3745-1-
	assigned to a		54(C).
			•
	category based on detailed		
	assessments and	ĺ	
	the narrative		
Does the wetland otherwise	criteria YES	NO	A
exhibit moderate OR superior	1 53	V _{MO} 1	A wetland may be undercategorized using this method, but
ydrologic OR habitat, OR	Wetland was	Wetland is	still exhibit one or more superior functions, e.g. a wetland's
ecreational functions AND			blotic communities may be degraded by human activities,
ne wetland was not	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
	by this method. A	category as	functions because of its type, landscape position, size, loca
alegorized as a Calegory 2	written justification	determined	or regional significance, etc. In this circumstance, the
etland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background		corrected. A written justification with supporting reasons or
ase of superior functions) by his method?	Information Form	}	information for this determination should be provided.
ns method?			
	<u> </u>		
	_	Final Cate	Norv
Choose o	ne Category	Final Cate	gory tegory 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON
Date: 10/11/18
Affiliation: MSG
Address: 1800 INDIAN WOOD CIRCLE, MAUNIEE, DH 43537
Phone Number: 419-891-2222 EXT. 2046
e-mail address: KSIMON@MANNIKSMITHGROUP.COM
Name of Wetland: W2M-081
Vegetation Communit(ies): (1)(a)(Vi1)
HGM Class(es): HEADWATER RIVERINE
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.
SEE FLAURE 4

Lat/Long or UTM Coordinate 41.1033/02, -82.807328	3.00
USGS Quad Name	CENTERION
County	HURON
Township	T2N R24W
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	10/11/18
National Wetland Inventory Map	F14.3
Ohio Wetland Inventory Map	11
Soil Survey	F16.2
Delineation report/map	F14.2

Name of Wetland: W2M-081	· · · · · ·
Wetland Size (acres, hectares):	85
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
SEE FLAURE Y,	<u>.</u>
·	
·	
	·
Comments, Narrative Discussion, Justification of Category Changes:	· · · · · · · · · · · · · · · · · · ·
Final score : Category:	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		:
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

¥	Question	Circle one	T
I	<u></u>		
	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical"	YES Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	evaluated for possible Category 3 status	So to quodicino
	had critical habitat designated (50 CFR 17.95(a)) and the plping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category	Go to Question 3
		3 wetland. Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES	100
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	(NO)
	vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria,</i> or <i>Phragmites australis,</i> or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category 1 wetland	Go to Question 6
	no vegetation?	Go to Question 6	
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES	(NO)
	particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
		Go to Question 7	1
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES	NO
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	Wetland is a Category 3 wetland	Go to Question 8
	10170	Go to Question 8a	\sim
	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a	YES	NÒ Sura li a su
	projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	Wetland is a Category 3 wetland.	Go to Question 8
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	'

			1
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Welland should be evaluated for possible	Go to Question 9a
	···	Category 3 status.	
	<u></u>	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
,	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	Total Annual operation and the second	Welland should be	Go to Question 10
		evaluated for possible Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the welland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	several Inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
i	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	,	<u> </u>
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES (NO)
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
•	and portions of westem Ohlo Counties (e.g. Darke, Mercer, Miaml, Montgomery, Van Wert etc.).	Complete Quantitative	
	9 ,	Rating	<u> </u>

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie specles
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	~ .	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		· ·
	Solidago ohioensis	-		-
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: W2M-081	Rater(s): K. SIMON	Date: 10 / 11 / 18
3 3 Metric 1. Wetland A		, ,
max 6 pts. subtotal Select one size class and assign scor	e.	
>50 acres (>20.2ha) (6 pls) 25 to <50 acres (10.1 to <2		
10 to <25 acres (4 to <10.1)	na) (4 pts)	
3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1.		
0.1 to <0.3 acres (0.04 to <		
<0.1 acres (0.04ha) (0 pts)	ffere and correcteding land upo	, ·
	ffers and surrounding land use	•
	Select only one and assign score. Do not double check. In (164ft) or more around wetland perimeter (7)	
	25m to <50m (82 to <164ft) around wetland perimeter (4) 10m to <25m (32ft to <82ft) around wetland perimeter (1	
	verage <10m (<32ft) around wetland perimeter (0)	,
	Select one or double check and average.	
/ 	older forest, prairie, savannah, wildlife area, etc. (7) shrub land, young second growth forest. (5)	-
	idential, fenced pasture, park, conservation tillage, new fal en pasture, row cropping, mining, construction. (1)	low field. (3)
Metric 3. Hydrology		
max 30 pts. subtotal 3a. Sources of Water. Score all that a	apply. 3b, Connectivity. Score al	il that apply
High pH groundwater (5)	100 year floodpl	lain (1)
Other groundwater (3) Precipitation (1)		n/lake and other human use (1) upland (e.g. forest), complex (1)
Seasonal/Intermittent surfac	e water (3) L Part of riparian o	or upland corridor (1)
Perennial surface water (lak 3c. Maximum water depth. Select on		turation. Score one or dbl check. nently inundated/saturated (4)
X >0.7 (27.6in) (3)	Regularly inunda	ated/saturated (3)
3 0.4 to 0.7m (15.7 to 27.6in) (<0.4m (<15.7in) (1)	(2) Seasonally inun-	dated (2) rated in upper 30cm (12in) (1)
3e. Modifications to natural hydrologic	regime. Score one or double check and average.	ated arapportoon (,= ,, , (, ,
	Check all disturbances observed	
/ Recovered (7) Recovering (3)	ditch point source (no tile filling/grading	nstormwater)
Recent or no recovery (1)	dike road bed/RR tra	ck
	weir dredging stormwater input other other	
Metric 4. Habitat Alte	eration and Development.	
max 20 pts. sublolal 4a. Substrate disturbance. Score one None or none apparent (4)	or double check and average.	
// Recovered (3)		
Recovering (2) Recent or no recovery (1)		
4b. <u>Habit</u> at development. Select only o	one and assign score.	
Excellent (7) Very good (6)		
Good (5)		
Moderately good (4)	•	
Fair (3) Poor to fair (2)		
Poor (1)	while about and support	
4c. Habitat alteration. Score one or do		
None or none apparent (9) Recovered (6)	Check all disturbances observed shrub/sapling ren	noval
Recovering (3)	grazing herbaceous/aqua	
Recent or no recovery (1)	clearcutting sedimentation Sedimentation dredging	
50	woody debris removal farming	
subtotal this page	toxic pollutants nutrient enrichme	nt
last revised 1 February 2001 jjm		

Site: A382,000 W2M-081 Rate	r(s): と。区	MON Date: 10/11//3
50		
sublotal first page		
0 50 Metric 5. Special Wetla	nds.	
max 10 pts. subtotal Check all that apply and score as indicated.		
Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland Lake Plain Sand Prairies (Oak Ope Relict Wet Prairies (10) Known occurrence state/federal thr Significant migratory songbird/wate Category 1 Wetland. See Question	-restricted hydro enings) (10) eatened or enda er fowl habitat or n 1 Qualitative R	angered species (10) usage (10) ating (-10)
	ities, int	erspersion, microtopography.
max 20 pts. sublolal 6a. Wetland Vegetation Communities.		Community Cover Scale
Score all present using 0 to 3 scale. Aquatic bed	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
/ Emergent	1	Present and either comprises small part of welland's
Shrub		vegetation and is of moderate quality, or comprises a significant part but is of low quality
5 3 Forest	2	Present and either comprises significant part of wetland's
Mudflats		vegetation and is of moderate quality or comprises a small
Open water		part and is of high quality
Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significant part, or more, of wetland's
Select only one.	P	vegetation and is of high quality
High (5)	Narrative De	escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3) Moderately low (2)		disturbance tolerant native species
moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1) None (0)		although nonnative and/or disturbance tolerant native spp
6c. Coverage of invasive plants. Refer		can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity and often, but not always,
Nearly absent <5% cover (0)		the presence of rare, threatened, or endangered spp
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
Amphibian breeding pools	Microtopoar	aphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
,		of marginal quality
	2	Present in moderate amounts, but not of highest
	3	quality or in small amounts of highest quality Present in moderate or greater amounts
	Ū	and of blob act and the

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

W2M-081 circle answer or Result insert score If yes, Category 3. (NO) Narrative Rating Question 1 Critical Habitat YES No YES If yes, Category 3. Question 2. Threatened or Endangered Species Question 3. High Quality Natural Wetland YES NO If yes, Category 3. No. YES If yes, Category 3. Question 4. Significant bird habitat YES If yes, Category 1. Question 5. Category 1 Wetlands NO YES ₩O, If yes, Category 3. Question 6. Bogs YES If yes, Category 3. Question 7. Fens 'NO Question 8a. Old Growth Forest YES NO If yes, Category 3. Question 8b. Mature Forested Wetland YES NO If yes, evaluate for Category 3; may also be <u>1 or 2.</u> NO If yes, evaluate for YES Question 9b. Lake Erie Wetlands -Category 3; may also be Restricted 1 or 2. YES NO If yes, Category 3 Question 9d. Lake Erie Wetlands -Unrestricted with native plants NO Question 9e. Lake Erie Wetlands -YES If yes, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. YES NO If yes, Category 3 Question 10. Oak Openings If yes, evaluate for Question 11. Relict Wet Prairies YES NO Category 3; may also be 1 or 2. Quantitative Metric 1. Size 2 Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography. TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Did you answer "Yes" to any			Evaluation of Categorization Result of ORAM
of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcalegorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11 Did you answer "Yes" to	YES Wetland should be evaluated for possible Category 3 status YES	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Narrative Rating No. 5	Wetland is categorized as a Category 1 wetland		Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score (fall within the scoring range of a Category 1, 2, or 3 welland?	YES Wetland Is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is localed within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the welland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not categorized as a Category 2 vetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Welland Is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
		F	
		Final ¢ ate	aorv \

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SIMON	
Date: 10/10/18	
Affiliation: MSG	
Address: 1800 INDIAN WOOD CIRCLE, MAUNTE	E, OH 435357
Phone Number: 419-891-2222	
e-mail address: KSIMON@MANNIKSMTHGROUP, COT	N
Name of Wetland: W2M - DDH	<u>:</u>
Vegetation Communit(ies): PFO	
HGM Class(es): DEPRESSIONAL	·-
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4.	
Lat/Long or UTM Coordinate 41.101025, -82.80888	1,300 Pegis 10 San Maria Commission National Pro- American
JSGS Quad Name	CENTERION
County	HURON
Township	HURON TZN RZYW
Section and Subsection	
lydrologic Unit Code	04100012
ile Visit	10/10/18
lational Wetland Inventory Map	F4.3
Ohio Wetland Inventory Map	11
foil Survey	F16.2
elineation report/map	F16.4

Name of Wetland: W2M-D&+	
Wetland Size (acres, hectares):	0,262
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	G.
SEE FIGURE 4	
•	,
	•
•	
•	•
Comments Name that Discuss to the contract of	
Comments, Narrative Discussion, Justification of Category Changes:	
10000	
Final score: 410 Cate	egory: 7

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		,
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	in all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

¥	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of	YES	(NO)
	a United States Geological Survey 7.5 minute Quadrangle that has		
	been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?	Wetland should be	Go to Question 2
	Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible Category 3 status	
	threatened species which can be found in Ohio, the Indiana Bat has	Category 5 status	
	had critical habitat designated (50 CFR 17.95(a)) and the piping ployer	Go to Question 2	i
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		
	Threatened or Endangered Species. Is the wetland known to contain	YES	(NO)
	an individual of, or documented occurrences of federal or state-listed		
	threatened or endangered plant or animal species?	Wetland is a Category	Go to Question 3
		3 wetland.	
		Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in	YES	NO
	Natural Heritage Database as a high quality wetland?	'="	()
		Welland is a Category	Go to Question 4
		3 wetland	
		0-4-0	
	Significant Breeding or Concentration Area. Does the wetland	Go to Question 4 YES	NO \
	contain documented regionally significant breeding or nonbreeding	I LES	(100
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 wetland]
			_
	Cot	Go to Question 5	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES	(NO)
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 welland	Go to Question o
	an acidic pond created or excavated on mined lands that has little or	1 WCDDING	
	no vegetation?	Go to Question 6	
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO)
	significant inflows or outflows, 2) supports acidophilic mosses,		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	3 wetland	
	deter of invaline species (see Table 1) is 125%;	Go to Question 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	NO
	is saturated during most of the year, primarily by a discharge of free	\ <u></u>	
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Welland is a Category	Go to Question 8
	and with one or more plant species listed in Table 1 and the cover of	3 wetland	
	invasive species listed in Table 1 is <25%?	Co to Ougoti 0-	$\widehat{\sim}$
1	"Old Growth Forest." Is the wetland a forested wetland and is the	Go to Question 8a /	NO
•	forest characterized by, but not limited to, the following characteristics:	150	NO)
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
		3 wetland.	Co to didoption of
	projected maximum attainable age for a species); little or no evidence	o welland.	
	projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	o welland.	
	projected maximum attainable age for a species); little or no evidence	Go to Question 8b	

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
ya	an elevation less than 575 feet on the USGS map, adjacent to this	1 163	
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Welland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	1.
	The Section 1		
		Go to Question 10	NO NO
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Go to Question ou	Go to Question to
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.		·
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	(NO)
36	tolerant native plant species within its vegetation communities?	1 120	
	tolorant haute plant species within the registation continues.	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
			1
		Go to Question 10	NO
10	Lake Plain Sand Pratries (Oak Openings) Is the welland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	Co to dacotton 17
	several inches of the surface, and often with a dominance of the	0 170001101	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Wetland should be	Complete
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Catogory o diatao	
,	Montgomery, Van Wert etc.).	Complete Quantitative	
	g/1 - w	Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	E F	Helianthus grosseserratus
l'ypha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum	-	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos	•	Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	, 2		•
	Tofieldia glutinosa			
	Triglochin maritimum			•
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

SITE: ASK ZOUU I, IN ZIVI	-084 Rater(s): K-21	MOM	Date: (O) (O) (S)
Metric 1. We	etland Area (size).		,
25 to <50 ac 10 to <25 ac 3 to <10 acre 0.3 to <3 acr 0.1 to <0.3 acre	and assign score. 20.2ha) (6 pts) res (10.1 to <20.2ha) (5 pts) res (4 to <10.1ha) (4 pts) res (1.2 to <4ha) (3 pts) res (0.12 to <1.2ha) (2pts) res (0.04 to <0.12ha) (1 pt) 0.04ha) (0 pts)		
7 8 Metric 2. Up	land buffers and surr	ounding land use	•
WIDE. Buffe MEDIUM. B NARROW. I VERY NARE 2b. Intensity of surrour VERY LOW. LOW. Old fit MODERATE	buffer width. Select only one and assigners average 50m (164ft) or more around wuffers average 25m to <50m (82 to <164 Buffers average 10m to <25m (32ft to <6 COW. Buffers average <10m (<32ft) arounding land use. Select one or double chen 2nd growth or older forest, prairie, savaeld (>10 years), shrub land, young secon LY HIGH. Residential, fenced pasture, por industrial, open pasture, row cropping,	vetland perimeter (7) it) around wetland perimeter (4) 2ft) around wetland perimeter (1) nd wetland perimeter (0) eck and average. nnah, wildlife area, etc. (7) d growth forest. (5) ark, conservation tillage, new fal	
18 26 Metric 3. Hy	drology.		•
7 Perennial sur 3c. Maximum water de >0.7 (27.6in) 0.4 to 0.7m (<0.4m (<15.7	Indwater (5) Iwater (3) (1) Permittent surface water (3) Iface water (lake or stream) (5) Iface water only one and assign score. (3) 15.7 to 27.6in) (2)	Part of wetland/ Part of riparian of semi- to perman of seasonally inund Seasonally satu	lain (1) n/lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) uturation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3)
None or none Recovered (7 Recovering (2 Recent or no	ditch tile	point source (no filling/grading road bed/RR tra dredging other_	·
18 44 Metric 4. Ha	bitat Alteration and D	evelopment.	
None or none Recovered (3 Recovering (3 Recent or no) recovery (1) nt. Select only one and assign score. pood (4)	rage.	
	Score one or double check and average. apparent (9) Check all disturbances of	hserved	
Recovered (6 Recovering (3 Recent or no subtotal this page last revised 1 February 2001 jjm) mowing grazing	shrub/sapling reinter herbaceous/aquing sedimentation dredging	atic bed removal

Site:₽	382	gc	\overline{D}	W2M-094 Rater	s): 4_,{	11101 Date: 10 10 1	5
si	ublotal first p	age		,			
0	44	T	etr	ic 5. Special Wetland	ds.		
max 10 pts.	subtotal	Che	ck al	I that apply and score as indicated.			
				Bog (10)			
				Fen (10)	•		
				Old growth forest (10)			
			<u> </u>	Mature forested wetland (5) Lake Erie coastal/tributary wetland-ur	araatsiataal buul	100 (40)	
				Lake Erie coastal/tributary wetland-re			
	\mathcal{O}			Lake Plain Sand Prairies (Oak Openi		ogy (o)	
				Relict Wet Prairies (10)		•	
				Known occurrence state/federal threa	itened or enda	ngered species (10)	
				Significant migratory songbird/water f			
		1	_ 4	Category 1 Wetland. See Question 1		· ,	
2	Hp				ties, inte	erspersion, microtopography.	
max 20 pts.	sublolal			and Vegetation Communities.	Vegetation C	Community Cover Scale	
		Sco	re all	present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area	_
			7	Aquatic bed Emergent	1	Present and either comprises small part of wetland's	
			\vdash	Shrub		vegetation and is of moderate quality, or comprises a significant part but is of low quality	
	Ĉ	\		Forest		Present and either comprises significant part of wetland's	_
	()		Mudflats		vegetation and is of moderate quality or comprises a small	
				Open water		part and is of high quality	
		CI-	بيا	Other	3	Present and comprises significant part, or more, of wetland's	Τ
				ontal (plan view) Interspersion. ly one.		vegetation and is of high quality	_
		Jeie		High (5)	Narrative De	scription of Vegetation Quality	
				Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or	_
				Moderate (3)		disturbance tolerant native species	
	(O		Moderately low (2)	mod	Native spp are dominant component of the vegetation,	_
		•	$\overline{}$	Low (1)		although nonnative and/or disturbance tolerant native spp	
•		60		None (0) rage of invasive plants. Refer		can also be present, and species diversity moderate to	
				ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp	
				points for coverage	high	A predominance of native species, with nonnative spp	_
				Extensive >75% cover (-5)	ū	and/or disturbance tolerant native spp absent or virtually	
				Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,	
		١		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp	
		1	\forall	Nearly absent <5% cover (0) Absent (1)	Mudflot and	Open Mater Class Quality	
		6d.	لبكي Micro	topography.	0	Open Water Class Quality Absent <0.1ha (0.247 acres)	
				present using 0 to 3 scale.	$\frac{}{}$	Low 0.1 to <1ha (0.247 to 2.47 acres)	
		[Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)	
		ιI		Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
	-	\	\dashv	Standing dead >25cm (10in) dbh	Nat		
		١ ا		Amphibian breeding pools		aphy Cover Scale	
	-					Absent Present very small amounts or if more common	
					•	of marginal quality	
					2	Present in moderate amounts, but not of highest	
						quality or in small amounts of highest quality	
					3	Present in moderate or greater amounts	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

W2M-084 circle answer or Result insert scere If yes, Category 3. NO Narrative Rating Question 1 Critical Habitat YES NO If yes, Category 3. Question 2. Threatened or Endangered YES (NO) Question 3. High Quality Natural Wetland If yes, Category 3. (No Question 4. Significant bird habitat YES If yes, Category 3. YES NO Question 5. Category 1 Wetlands If yes, Category 1. Question 6. Bogs YES NO If yes, Category 3. If yes, Category 3. Question 7. Fens YES Question 8a. Old Growth Forest YES NO If yes, Category 3. If yes, evaluate for Question 8b. Mature Forested Wetland YES NO Category 3; may also be 1 or 2. If yes, evaluate for YE\$ NO Question 9b. Lake Erie Wetlands -Category 3; may also be Restricted 1 or 2. YES NO If yes, Category 3 Question 9d. Lake Erie Wetlands -Unrestricted with native plants Question 9e. Lake Erie Wetlands -YES NO If yes, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. NO Question 10. Oak Openings YEŞ If yes, Category 3 Question 11. Relict Wet Prairies YES NO If yes, evaluate for Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology 18 Metric 4. Habitat Metric 5. Special Wetland Communities Metric 6. Plant communities, interspersion, microtopography TOTAL SCORE Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

W2M-084

Did you answer "Yes" to any of the following questions:	YES	NO	Is quantitative rating score less than the Category 2 scoring
	Wetland is		threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10 	categorized as a Category 3 welland		Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	YES	NO)	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2
Narrative Rating No. 5	Wetland is categorized as a Category 1 wetland		scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score (fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland Is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR ecreational functions AND he wetland was not alegorized as a Category 2 wetland (in the case of noderate functions) or a Category 3 wetland (in the case of superior functions) by his method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A welland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
		Final Cate	gory
			ua \

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON
Date: 10/10/18
Affiliation: MS
Address: 1800 INDIAN WOOD CIRCLE, MANIMEE, OH 43537
Phone Number: 419-891-2222 EXT. 2046
e-mail address: VSIMON@ MANNIK SMTHAROUP, COM
Name of Wetland: W2M-086
Vegetation Communit(ies): (1)(a)
HGM Class(es): RIVERINE -HEADWATER
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
SEE PLAURE 4

Lat/Long or UTM Coordinate 41.106	769, -82.794486
USGS Quad Name	769,-82,794486 CONTERTON
County	HURON TINR24W
Township	TZNR24W
Section and Subsection	-
Hydrologic Unit Code	04100012
Site Visit	10/10/18
National Wetland Inventory Map	10/10/18 F16.3
Ohio Wetland Inventory Map	lt
Soil Survey	F16.2
Delineation report/map	F16.4

Name of Wetland: W2M-0810	<u> </u>
Wetland Size (acres, hectares):	0.271
Sketch: Include north arrow, relationship with other surface waters, vegetation zo	nes, etc.
SEE FIGURE 4	· .
	,
Comments, Narrative Discussion, Justification of Category Changes:	
NONE	
Final score : 37	Category: MOD, 2
$O_{I_{i_{i_{i_{i_{i_{i_{i_{i_{i_{i_{i_{i_{i_$	MOD, Z

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of lhe wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, conliguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	T
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland	NO Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrotogically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 5 YES Welland is a Category 1 welland Go to Question 6	NO Go to Question 6
	Bogs. is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 82
a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8t

W2M-086

			n/ /
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
	<u> </u>	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth	Go to Question 9d	Go to Question 10
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
9e	Does the wetland have a predominance of non-native or disturbance	Go to Question 10 YES	NO NO
-	tolerant native plant species within its vegetation communities?	1	
		Wetland should be	Go to Question 10
		evaluated for possible Category 3 status	
40	Lake Blake Cond Bushler (Cale Consulares) to the conford to acted to	Go to Question 10	100
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES \	NO
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	6	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies	Markend objected has	Campleta
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
, ,	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Osmalata Overstilativa	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species

Invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	£	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kal mii ^	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	, <u></u>		-
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: W214-086, A3820001 Rater(s): K, SIMON	Date: (0/10/18)
Metric 1. Wetland Area (size).	
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding land use.	
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo	ow field. (3)
13 19 Metric 3. Hydrology.	
Precipilation (1) Seasonal/Intermittent surface water (3) Part of wetland/up Part of riparian or Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up Part of wetland/up Part of wetland/up Part of vetland/up Part of wetland/up Part of vetland/up Part of wetland/up Part of vetland/up Part	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check. ently inundated/saturated (4) ed/saturated (3)
None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Reco	
Metric 4. Habitat Alteration and Development.	
rnex 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	
4c. Habitat alteration. Score one or double check and average.	
None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Subtotal this page Check all disturbances observed mowing shrub/sapling remo herbaceous/aquatic sedimentation dredging farming farming nutrient enrichment last revised 1 February 2001 jm	c bed removal

Site: A3820001, W2M-080 Rater	(s): K, <u>S</u> 1	MON Date:10/10/18
subtotal first page O 36 Metric 5. Special Wetlan	ıds.	
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-t Lake Erie coastal/tributary wetland-r Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question Metric 6. Plant communications	restricted hydronings) (10) eatened or endate fow! habitat or 1 Qualitative R	angered species (10) usage (10)
The state of the s		Community Cover Scale
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed Emergent	1	Present and either comprises small part of wetland's
Shrub		vegetation and is of moderate quality, or comprises a
Formet		significant part but is of low quality
○	Z	Present and either comprises significant part of wetland's
Open water		vegetation and is of moderate quality or comprises a small
Other		part and is of high quality
<u> </u>	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
Select only one.		
High (5)		escription of Vegetation Quality
Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
Moderate (3)		disturbance tolerant native species
Moderately low (2) Low (1)	mod	Native spp are dominant component of the vegetation,
		although nonnative and/or disturbance tolerant native spp
None (0)		can also be present, and species diversity moderate to
6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversily and often, but not always,
Sparse 5-25% cover (-1)	_	the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		
Absent (1)		Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh Amphlbian breeding pools	M#10	rowhy Cayer Carle
		aphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
		of marginal quality
	2	Present in moderate amounts, but not of highest
		quality or in small amounts of highest quality
	3	Present in moderate or greater amounts

37

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

			WZM-DELO
		circle	
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size		
,	Metric 2. Buffers and surrounding land use	5	
*	Metric 3. Hydrology	13	
	Metric 4. Habitat	VF	
Ì	Metric 5. Special Wetland Communities	0	
Ì	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	37	Category based on score breakpoints MOD, 2—

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	<u> </u>	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is	(NO)	Is quantilative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Category 3 wetland		Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b,	YES Wetland should be evaluated for	NO .	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category 3 status		wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, blological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Welland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communitles may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.
Choose o	ne Category	Final Cate	gory tegory 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATLE SIMON	
Date: [0/11/18	
Affiliation:	
Address: 1800 INDIAN WOOD CIRCLE, MAUNIER, OH	42627
Phone Number: 419-891-2222 EXT. 2046	(303)
e-mail address: KS 1MOV @ MANNIKSM THGROUP. CC	Pry I
Vegetation Communit(ies):	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
3-0 (10/0100 4)	
·	
Lat/Long or UTM Coordinate 41, 098009, -82.822258	是 的是,
USGS Quad Name	CENTERION
County	HURON
Township	HURON TZNRZYW
Section and Subsection	
Hydrologic Unit Code	04100012
Site Visit	10/11/18
National Wetland Inventory Map	F14.3
Ohio Wetland Inventory Map	11
Soil Survey	F16. 2
Delineation report/map	JF16.4

Name of Wetland: W2M-087	
Wetland Size (acres, hectares):	6.10
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	1010
SEE FIGURE 4	
·	
Comments, Narrative Discussion, Justification of Category Changes:	
The state of the s	
Final score : 48 5 Category:	7

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		Sue Control
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	1.0	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	0:-1	T
		Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohlo, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 welland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland Is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Ouestlon 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of	1	
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status.	
	·	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this		10.10
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	INO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	. Co to discussion so
	Tanana and di dalah nyarat gasa sahilata	Category 3 status	Ì
	·		
		Go to Question 10	<u> </u>
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	ΝO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	GO (O QUESIION 90	GO to Question 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant	l a.	0.4.0
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		3 wettand	
	· ·	Go to Question 10	
9e	Does the welland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	147-0	On to Ourseller 40
		Wetland should be evaluated for possible	Go to Question 10
	· ·	Category 3 status	
		Catogory Collinar	
		Go to Question 10	<u></u>
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	Mattendia - Ostanosi	Go to Question 11
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the	5 Welland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES (NO)
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
i	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	. 37	•
·	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	Oak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumit
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsi
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2 1	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicate
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianun
•	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceun
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutan
	Salix candida	Vaccinium oxycoccos		Spartina pectinate
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyrls difformis		ů
	Solidago ohioensis			•
	Tofleldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site:	382001	01, W21	1-087	Rater(s): KSIM	DV	Date: 10/11/18
3	3	letric 1.	Wetland A	Area (size).		
max 6 pts.	subtotal Se	>50 acr 25 to <5 10 to <2 3 to <10 0.3 to <	ass and assign scies (>20.2ha) (6 pt 60 acres (10.1 to < 55 acres (4 to <10.1 acres (1.2 to <4h 63 acres (0.12 to <10.3 acres (0.04 to 10.3 s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) I.2ha) (2pts) <0.12ha) (1 pt)			
17	M GI	letric 2.	Upland bu	ມffers and surroເ	ınding land u	ise.
max 14 pts.	4	WIDE. MEDIUM NARRO VERY N Intensity of su VERY L MODER	Buffers average 56 M. Buffers average W. Buffers average ARROW. Buffers Frounding land use OW. 2nd growth of Did field (>10 years ATELY HIGH. Re	Select only one and assign som (164ft) or more around wette 25m to <50m (82 to <164ft) are 10m to <25m (32ft to <82ft) average <10m (<32ft) around a Select one or double check or older forest, prairie, savanna s), shrub land, young second greatening, fenced pasture, park pen pasture, row cropping, mir	and perimeter (7) round wetland perimeter around wetland perimet wetland perimeter (0) and average. h, wildlife area, etc. (7) rowth forest. (5) , conservation tillage, ne	r (4) ter (1)
15	25 M		Hydrology		<u>.</u>	
max 30 pts.	subtotal 3a.	High pH Other gr Prècipita Seasona Perennia Maximum wate >0.7 (27 0.4 to 0. <0.4m (<0.4m al/Intermittent surfa al surface water (la er depth. Select o .6in) (3) 7m (15.7 to 27.6in :15.7in) (1) o natural hydrolog none apparent (12 ed (7)	ace water (3) ake or stream) (5) nly one and assign score.) (2) ic <u>regime. Score one or doubl</u>	Between st Part of weth Part of ripa 3d. Duration inundation Semi- to per Regularly in Seasonally Seasonally se check and average.	oodplain (1) tream/lake and other human use (1) land/upland (e.g. forest), complex (1) rian or upland corridor (1) on/saturation. Score one or dbl check ermanently inundated/saturated (4) nundated/saturated (3) inundated (2) saturated in upper 30cm (12in) (1) e (nonstormwater) ng	
12.5	276 M	letric 4.	Habitat Al	stormwater input	dredging other	
max 20 pts.	21,0	•		ne or double check and average		
·	46.	None or Recovery Recovery Recent of Habitat develor Excellen Very goo Good (5) Moderate Fair (3) Poor to f Poor (1)	none apparent (4) ed (3) ng (2) or no recovery (1) pment. Select onl t (7) d (6) ely good (4) air (2)			
S	4,5 37,5]	Recovered Recovered		Check all disturbances observed in the control of t	shrub/saplir herbaceous sedimentati dredging	s/aquatic bed removal ion

last revised 1 February 2001 jjm

Site: A32000 W2M-087 Rater	(s):K.SIN	NON	Date:\0/\\\\
37.5 subtotal first page 0 37.5 Metric 5. Special Wetlar	nds.		
max 10 pts. sublotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	restricted hydro nings) (10) eatened or enda fowl habitat or 1 Qualitative R	logy (5) angered species (10) usage (10) ating (-10)	
11 48.5 Metric 6. Plant commun			opograph <u>y</u> .
max 20 pts. sublotal 6a. Wetland Vegetation Communities.		Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
Aquatic bed	1	Present and either comprises sm	=
2 Emergent		vegetation and is of moderate of	
Shrub		significant part but is of low qua	
Forest	2	Present and either comprises sig	
Mudflats		vegetation and is of moderate of	quality or comprises a small
Open water		part and is of high quality	
Other	3	Present and comprises significan	t part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
Select only one.			-=
High (5)	Narrative De	escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predomi	nancorof populativo or
Moderate (3)	IOW		
 		disturbance tolerant native spec	
Moderately low (2)	mod	Native spp are dominant compon	
Low (1)		although nonnative and/or distu	
None (0)		can also be present, and specie	
6c. Coverage of invasive plants. Refer		moderately high, but generally t	w/o presence of rare
to Table 1 ORAM long form for list. Add		threatened or endangered spp	·
or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant nati	ve spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity a	ind often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened	d, or endangered spp
Nearly absent <5% cover (0)			'
Absent (1)	Mudflat and	Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	.
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	cres)
2 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
Coama woody debrie >15 cm (6in)	3	High 4ha (9.88 acres) or more	
Standing dead >25cm (10in) dbh		, 5	,
2 Amphibian breeding pools	Microtoponi	raphy Cover Scale	
	0	Absent	
	1	Present very small amounts or if r	more common
	•	of marginal quality	note continue
	2	Present in moderate amounts, bu	t not of highest
	~	quality or in small amounts of hi	
•			
	3	Present in moderate or greater ar	nounts
1 1 m m m m m m m m m m m m m m m m m m		. Aug or miner analy	

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

	. ·	circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES (NO	If yes, Category 3.
-	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12,5	
	Metric 5. Special Wetland Communities	D	
	Metric 6. Plant communities, interspersion, microtopography	ΙĬ	
,	TOTAL SCORE	48.5	Category based on score breakpoints

 ${\bf Complete\ Wetland\ Categorization\ Worksheet}.$

WZM-087

Wetland Categorization Worksheet

Cholces	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any	YES	(NO)	Is quantitative rating score less than the Category 2 scoring
of the following questions:			threshold (excluding gray zone)? If yes, reevaluate the
	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland		assessments to determine if the wetland has been over-
1, 0, 7, 00, 00, 10	Category o victiona	<i>*</i>	categorized by the ORAM
Did you answer "Yes" to any	YES (NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	1	1/	Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be		the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
	3 status (# \	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	NO)	Is quantitative rating score greater than the Category 2
			scoring threshold (Including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is		reevaluate the category of the wetland using the narrative
_	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland	1	functional assessments to determine if the wetland has
			been under-categorized by the ORAM
Does the quantitative score	YES	NO	If the score of the wetland is located within the scoring
fall within the scoring range			range for a particular category, the welland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
wetland?	assigned to the	í	narrative criteria described in OAC Rule 3745-1-54(C) can
•	appropriate		be used to clarify or change a categorization based on a
	category based on		quantitative score.
	the scoring range //	<u> </u>	<u> </u>
Does the quantitative score	YES (NO /	Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for	\ \		of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc., and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	category based on		
	detailed	J	
	assessments and	i	
	the narrative		
Does the wetland otherwise	criteria YES	NO \	A walland may be understoned and the state of the
exhibit moderate OR superior	120	(''')	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's
hydrologic OR habitat, OR	Wetland was	Wetland is	
recreational functions AND	undercategorized	assigned to	biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic
he wetland was not	by this method. A	category as	functions because of its type, landscape position, size, loca
categorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (in the case of	for recategorization.	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background	O CONT.	corrected. A written justification with supporting reasons or
case of superior functions) by	Information Form	1	information for this determination should be provided.
his method?	omiadoli i olili	1	information for this determination should be provided.
<u></u> l			
		ĺ	
		Final Cate	egory \
		I IIIUI DUIC	
Choose on	ne Category		
Choose on	e Category		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIESIMON	-
Date: /0/10/18	
Affiliation: MSG	
Address: 1800 NOIAN WOOD CIRCLE, MANNEE, OH	43537
Phone Number: 419-891 -2222 EXT, 2046	
e-mail address: KSIMONE MANNIKSMTHAROUP. COM	
Name of Wetland: w2m-089	
Vegetation Communit(les):	······································
HGM Class(es): RIVERINE - MAINSTEM	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
	i
Lat/Long or UTM Coordinate	
Lat/Long or UTM Coordinate 41.107069, -82.787002	
USGS Quad Name	
County	
Township	TZN RZYW
Section and Subsection	
dydrologic Unit Code	04100012
Site Visit	
lational Wetland Inventory Map	F14.3
Ohio Wetland Inventory Map	1
oil Survey	F16.2
elineation report/map	

Name of Wetland: 1.12 M - 100		
Wetland Size (acres, hectares):	3.405	
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	es, etc.	
SEE FIGURE 4		
·		
· · · · · · · · · · · · · · · · · · ·		
Comments, Narrative Discussion, Justification of Category Changes: WETVAND EXTENDS OFF-SITE	. ,	
		-
Final score :	Category:	

W2M-089

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

W2M-089

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Quadian	Totals and
#	Question	Circle one
I	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical"	YES NO Wetland should be Go to Question 2
	habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible
	threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed	YES NO
	threatened or endangered plant or animal species?	Wetland is a Category Go to Question 3 wetland.
		Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES
		Wetland is a Category Go to Question 4 3 wetland
		Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland
		Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES (NO)
	vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category Go to Question 6 1 wetland
	no vegetation?	Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES NO
	particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7
		Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free	YES (NO
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of	Wetland is a Category Go to Question 8
	invasive species listed in Table 1 is <25%?	3 wetland
1	"Old Growth Forest." Is the wetland a forested wetland and is the	Go to Question 8a / NO NO
	forest characterized by, but not limited to, the following characteristics:	
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence	Wetland is a CategoryGo fo Question 8l 3 welland.
	of hurnan-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of	Go to Question 8b
	canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	

Table 4	Character	iotio plo	at ananiaa
Table 1.	Character	isuc biai	nt species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
ypha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
ypha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
6.0	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	· ·		·
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

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			\sim
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(/NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	(, 22	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the welland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	(NO)
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland Is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	МО
	The second secon	Wetland should be	Go to Question 10
		evaluated for possible Category 3 status	
		Category 5 status	
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	Go to Question 10	110
10	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	NO)
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	3 wetland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.	(<u> </u>
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies	YES	NO
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Category 3 status	Raling
,	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Site: 4387 1	$0001 \sqrt{210-0251}$ Rater(s	i):KiSIMON	Date: / 0/ / 0/ / 8
33	letric 1. Wetland Area (si	ze).	1 1
max 6 pts. subtotal S	elect one size class and assign score.		
mena krai adatata G	>50 acres (>20.2ha) (6 pts)		
	25 to <50 acres (10.1 to <20.2ha) (5 pt	s)	
	10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts)		
	0.3 to <3 acres (0.12 to <1.2ha) (2pts)		
	0.1 to <0.3 acres (0.04 to <0.12ha) (1 p	t)	
	letric 2. Upland buffers a	nd currounding land	usa
7 7	•	. -	-
max 14 pts. subtotal 2	. Calculate average buffer width. Select only of WIDE. Buffers average 50m (164ft) or		BCK.
~	MEDIUM. Buffers average 25m to <50	m (82 to <164ft) around wetland perimel	
\mathcal{C}		25m (32ft to <82ft) around wetland perime	eter (1)
21	VERY NARROW. Buffers average <10. Intensity of surrounding land use. Select one		
	VERY LOW. 2nd growth or older forest	t, prairie, savannah, wildlife area, etc. (7)	+
4	LOW. Old field (>10 years), shrub land	, young second growth forest. (5) ced pasture, park, conservation tillage, n	new fallow field (3)
} 	HIGH. Urban, industrial, open pasture,		iew ranow neid. (o)
28 35 1	etric 3. Hydrology.		
max 30 ρts. subtotal 3ε	Sources of Water. Score all that apply.	3b. Connectivity. So	
	High pH groundwater (5) Other groundwater (3)		floodplain (1) stream/lake and other human use (1)
1	Precipitation (1)	Part of we	etland/upland (e.g. forest), complex (1)
6	Seasonal/Intermittent surface water (3)	· ·	arian or upland corridor (1) tion/saturation. Score one or dbl check.
30	Perennial surface water (lake or stream Maximum water depth. Select only one and a		permanently inundated/saturated (4)
	>0.7 (27.6in) (3)	/ Regularly	inundated/saturated (3)
. 3	0.4 to 0.7m (15.7 to 27.6in) (2)		y inundated (2) y saturated in upper 30cm (12in) (1)
_	<0.4m (<15.7in) (1) Modifications to natural hydrologic regime. So		y saturated in upper 300m (12m) (1)
	None or none apparent (12) Check all	- · · · · · · · · · · · · · · · · · · ·	
17	Recovered (7)	point source	ce (nonstormwater)
12	Recovering (3)	filling/grad	- .
	Recent or no recovery (1) dike	road bed/F	TR tiack
•	n ——	nwater input other	
18 53 N	etric 4. Habitat Alteration	and Development.	
max 20 pts. subtotal 4a	Substrate disturbance. Score one or double c	heck and average	
	None or none apparent (4)	Took and avoidge.	
ı L	Recovered (3)	•	
7	Recovering (2) Recent or no recovery (1)		:
4b.	Habitat development. Select only one and ass	ign score.	
	Excellent (7)		
	Very good (6) Good (5)		
ド	Moderately good (4)		•
	Fair (3)	•	
	Poor to fair (2) Poor (1)	•	•
4c.	Habitat alteration. Score one or double check	and average.	
~		isturbances observed	1
q	Recovered (6) mowi		
•	Recovering (3) grazii Recent or no recovery (1) cleard	ng nerbaceous culling sedimentali	s/aquatic bed removal
7		live cutting dredging	
195	wood	y debris removal farming	ishman!
subtotat this page	∥ LI toxic :	pollutantsnutrient enr	ichinent (
last revised 1 February 20	91 jjm		

Site: 43820001, W2M-089 Rate	(s):K.51	MDN Date: /2/7//8
sublotal first page		, · ·
Metric 5. Special Wetlar	nds.	4.
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10)		
Fen (10)		-
Old growth forest (10)		
Mature forested wetland (5)		
Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland-		
Lake Plain Sand Prairies (Oak Oper		ology (a)
Relict Wet Prairies (10)	9-7 (1-5)	
Known occurrence state/federal three		
Significant migratory songbird/water		
Category 1 Wetland. See Question Metric 6. Plant commun		erspersion, microtopography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities,	Voqetatlar	Community Course Couls
Score all present using 0 to 3 scale.	vegetation 0	Community Cover Scale Absent or comprises <0.1ha (0.2471 acres) contiguous area
Aquatic bed	1	Present and either comprises small part of wetland's
2 Emergent		vegetation and is of moderate quality, or comprises a
2 Shrub		significant part but is of low quality
T 3 Forest Mudflats	2	Present and either comprises significant part of wetland's
Open water		vegetation and is of moderate quality or comprises a small part and is of high quality
Olher	3	Present and comprises significant part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
Select only one.	N	
High (5) Moderately high(4)	low	escription of Vegetation Quality
Moderate (3)	1044	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
Moderately low (2)	mod	Native spp are dominant component of the vegetation,
Low (1)		although nonnative and/or disturbance tolerant native spp
None (0) 6c. Coverage of invasive plants. Refer		can also be present, and species diversity moderate to
to Table 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
or deduct points for coverage	high	A predominance of native species, with nonnative spp
Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp
Nearly absent <5% cover (0)		The presence of rate, threatened, or endangered spp
Absent (1)	Mudflat and	Open Water Class Quality
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
Vegelated hummucks/tussucks Coarse woody debris >15cm (6in)	2	Moderate 1 to <4ha (2.47 to 9.88 acres) High 4ha (9.88 acres) or more
Standing dead >25cm (10in) dbh	 _	Thigh this (9.00 acres) or more
Amphibian breeding pools	Microtopog	raphy Cover Scale
	0	Absent
	1	Present very small amounts or if more common
	2	of marginal quality Present in moderate amounts, but not of highest
•	-	quality or in small amounts of highest quality
	3	Present in moderate or greater amounts
[[0]]		and of highest quality
ן ישן		

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

			INZM-089
		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3:
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	.3	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	28	
·	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	O	
	Metric 6. Plant communities, interspersion, microtopography	8	
,	TOTAL SCORE	61	Category based on score breakpoints 2 OK 3

Complete Wetland Categorization Worksheet.



Cholces	Circle one	A	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the worked using the pagative criteria in OAC.
Varrative Rating Nos. 2, 3,			category of the wetland using the narrative criteria in OAC
4, 6, 7, 8a, 9d, 10	categorized as a		Rule 3745-1-54(C) and biological and/or functional
i, o, 7, 8a, 9u, 10	Category 3 wetland		assessments to determine if the wetland has been over-
211 62 63	VEO -	4	categorized by the ORAM
Old you answer "Yes" to any	YES	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	l		Rule 3745-1-54(C) and 2) the quantitative rating score. If
describe to de la con-	Wetland should be	ļ	the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Category 3
3b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
 	3 status	<u>/ </u>	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	(NO)	Is quantitative rating score greater than the Category 2
		\ /	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is		reevaluate the category of the wetland using the narrative
	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
		<u>// ` \ </u>	been under-categorized by the ORAM
Does the quantitative score	YES	NO /	If the score of the wetland is located within the scoring
all within the scoring range		トノー	range for a particular category, the welland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
vetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
_	-category based on		quantitative score.
	the scoring range	<u> </u>	
oes the quantitative score	YES \	NO .	Rater has the option of assigning the wetland to the higher
all with the " gr ay $zone$ " for $ ackslash$) <u> </u>		of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	category based on		·
	detailed		
	assessments and	ļ	
	the narrative		
	criteria_	<i>Y</i> 1	
loes the wetland otherwise	YES	NO \	A wetland may be undercategorized using this method, but
xhibit moderate OR superior	,	\	still exhibit one or more superior functions, e.g. a wetland's
ydrologic OR habitat, OR	Wetland was	Wetland is	blotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
ne wetland was <i>not</i>	by this method. A	category as	functions because of its type, landscape position, size, loca
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
etland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
ategory 3 wetland (in the	on Background	1	corrected. A written justification with supporting reasons or
ase of superior functions) by	Information Form	1	information for this determination should be provided.
nis method?		1	·
		1	
	-		
		Final Cate	gory
	no Cotomoni	4 Co	tegory 2 Category 3
` Choose or	ne Category	I G	itegory 2 Category 3 t
Choose or	ne Category	I Ga	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SMON	
Date: 10/12/18	
Affiliation: MS/S	
Address: (Q) TINION I WIND CIRCLE MANAGETS (NH 42527
Phone Number: 400 TANDIAN WOOD CIRCLE, MAUNEE, C	MI TESEDI
Phone Number: 4/9-89/-2222 EXT. 2046 e-mail address:	
ICSIMON	
Name of Wetland: W2M-091	<u>.</u>
Vegetation Communit(les): PF6	
HGM Class(es): RIVERINE - MANNSTEM	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	
	}
Lat/Long or UTM Coordinate 41,05288346, -82,82448	104
USGS Quad Name	CENTERTON
County	HURON
Township	TIN R24U
Section and Subsection	
-lydrologic Unit Code	04100012
Site Visit	10/12/18
National Wetland Inventory Map	F14.3
Dhio Wetland Inventory Map	11
Soil Survey	F16. Z
)alineation report/man	719.

Name of Wetland: W2M-O9 1		
Wetland Size (acres, hectares):		0.7-21
Sketch: Include north arrow, relationship with other surface waters, veget	ation zones, etc.	01.2
SEE Flaure 4		
seer have T		•
•		•
·		•
	•	
•		
	•	
		•
Companie Navethy Discussion Links		- •
Comments, Narrative Discussion, Justification of Category Changes:		
NONE		
		•
	1	
Final score :	Cotonomi	
mai scole.	Category:	:

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps In properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	V	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	V	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	in all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wellands that could be scored separately.	1	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

W2M-091

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
4	_	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical"	YES NO Welland should be Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status
	threatened species which can be found in Ohio, the Indiana Bat has	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed	YES NO
	threatened or endangered plant or animal species?	Wetland is a Calegory Go to Question 3 wetland.
3	Dogumented High Quality Westernel Letter of the Land	Go to Question 3
•	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES NO
		Wetland is a Category Go to Question 4 3 wetland
		Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland	YES \ NO)
	contain documented regionally significant breeding or nonbreeding	
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland
		Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES NO
	in size and hydrologically isolated and either 1) comprised of	. \
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category \ Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 wetland
	2) an acidic pond created or excavated on mined lands that has little or	
;	no vegetation?	Go to Question 6
'	Bogs. Is the wetland a peat-accurnulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses,	YES (NO)
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Motion d in a Cotomon
	cover, 4) at least one species from Table 1 is present, and 5) the	Wetland is a Category Go to Question 7
	cover of invasive species (see Table 1) is <25%?	5 Welland
	(000 1200 1) 10 1200	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES NO
	is saturated during most of the year, primarily by a discharge of free	\ \ \ '`` \
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category Go to Question 8
	and with one or more plant species listed in Table 1 and the cover of	3 wetland
	invasive species listed in Table 1 is <25%?	
	NOLLO CONTRACTOR OF THE CONTRA	Go to Question 8a
а	"Old Growth Forest." Is the wetland a forested wetland and is the	YES \ NO)
	forest characterized by, but not limited to, the following characteristics:	
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category Go-to-Question 8
	projected maximum attainable age for a species); little or no evidence	3 wetland.
	of human-caused understory disturbance during the past 80 to 100	On the Connection of
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b

			1
8b	Mature forested wetlands. Is the welland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status. Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	N⊘ Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the welland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9đ	Does the welland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
96	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Monlgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species

Invasive/exotic spp	feл species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echînata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	£	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris	•	Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	~ ~		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			•

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A 387,000/ W2M-09/ Rater(s): K.S/MO/	Date: 10/12/18
2 2 Metric 1. Wetland Area (size).	, ,
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding	g land use.
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do WIDE. Buffers average 50m (164ft) or more around wetland perion MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perion NARROW. Buffers average 10m to <25m (32ft to <82ft) around vetland perion VERY NARROW. Buffers average <10m (<32ft) around wetland perion VERY LOW. Suffers average <10m (<32ft) around wetland perion VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife LOW. Old field (>10 years), shrub land, young second growth fore MODERATELY HIGH. Residential, fenced pasture, park, conserved this perion will be perion to the perion of the perion o	neter (7) bitand perimeter (4) wetland perimeter (1) perimeter (0) rage. e area, etc. (7) pst. (5) ation tillage, new fallow field. (3)
Metric 3. Hydrology.	
High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3)	nnectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wettand/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) Iration inundation/saturation. Score one or dbl check. Semi- to permanenlly inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) Ind average.
None or none apparent (12) Check all disturbances observed Recovered (7) ditch Recovering (3) tile Recent or no recovery (1) dike Weir stormwater input	point source (nonstormwater) filling/grading road bed/RR track dredging other
Metric 4. Habitat Alteration and Develop	ment.
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2)	
Poor (1) 4c. Habitat alteration. Score one or double check and average.	
None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Subtotal this page last revised 1 February 2001 jim	shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging farming nutrient enrichment

Site: #3820001	W2M-091 Rat	er(s): <i>K, S</i>	IMON	Date: [0/12/18
30 subtotal first page	- E. Constal Wast			
0 30	c 5. Special Wetla	anas.		
	hat apply and score as indicated Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetlan Lake Erie coastal/tributary wetlan Lake Plain Sand Prairies (Oak Openited Wet Prairies (10) Known occurrence state/federal to Significant migratory songblrd/wa Category 1 Wetland. See Questi	nd-unrestricted hyd nd-restricted hydrol penings) (10) hreatened or enda ter fowl habitat or on 1 Qualitative Ra	ogy (5) ngered species (10) usage (10) ating (-10)	
		nities, inte	erspersion, microto	opography.
	d Vegetation Communities.		Community Cover Scale	
	resent using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
	Aquatic bed Emergent	1	Present and either comprises sm	
[Shrub		vegetation and is of moderate of significant part but is of low qua	
	orest	2	Present and either comprises sig	
У Г м	1udflats	_	vegetation and is of moderate of	
<i>←</i>	pen water		part and is of high quality	lating of somplises a single
o	Other	3	Present and comprises significan	t part, or more, of welland's
6b, horizon	ital (plan view) Interspersion.	_	vegetation and is of high quality	
Sele <u>ct only</u>				
	igh (5)		scription of Vegetation Quality	
	loderately high(4)	low	Low spp diversity and/or predomi	
	loderate (3)		disturbance tolerant native spec	
	loderately low (2) ow (1)	mod	Native spp are dominant compon	
<u> </u>	one (0)		although nonnative and/or distu	• •
	ge of invasive plants. Refer		can also be present, and specie moderately high, but generally was a second control of the cont	-
	DRAM long form for list. Add		threatened or endangered spp	Wo presence of lare
	oints for coverage	high	A predominance of native species	s with nonnative snn
· · · · · · · · · · · · · · · · · · ·	xtensive >75% cover (-5)	9	and/or disturbance tolerant nation	
\sim \propto M	oderate 25-75% cover (-3)		absent, and high spp diversity a	
< □ si	parse 5-25% cover (-1)		the presence of rare, threatened	
<u> </u>	early absent <5% cover (0)			· · · · · · · · · · · · · · · · · · ·
	bsent (1)	Mudflat and	Open Water Class Quality	
6d. Microto		0	Absent <0.1ha (0.247 acres)	
	esent using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)
	egetaled hummucks/lussucks	2	Moderate 1 to <4ha (2.47 to 9.88	acres)
	oarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
	tanding dead >25cm (10in) dbh mphibian breeding pools	###====		
Ar	npriman preeding pools		aphy Cover Scale	
		<u> </u>	Absent	more common
		1	Present very small amounts or if r of marginal quality	nore common
	•	2	Present in moderate amounts, but	not of highest
			quality or in small amounts of high	
		3	Present in moderate or greater an	
4-7		-	and of bigboot quality	==

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

1/12M-091 circle answer or insert Result score YES MO If yes, Category 3. Question 1 Critical Habitat Narrative Rating МO If yes, Category 3. Question 2. Threatened or Endangered YES Species Question 3. High Quality Natural Wetland YES No If yes, Category 3. Question 4. Significant bird habitat ΝÓ If yes, Category 3. YES /NO Question 5. Category 1 Wetlands YES If yes, Category 1. Question 6. Bogs YES NO If yes, Category 3. If yes, Category 3. Question 7. Fens YES (NO YES NO If yes, Category 3. Question 8a. Old Growth Forest YES If yes, evaluate for Question 8b. Mature Forested Wetland NO Category 3; may also be 1 or 2. NO If yes, evaluate for Question 9b. Lake Erie Wetlands -YES Restricted Category 3; may also be 1 or 2. Question 9d. Lake Erie Wetlands -YE\$ NO If yes, Category 3 Unrestricted with native plants Question 9e. Lake Erie Wetlands -YES NO If yes, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. YES NO If yes, Category 3 Question 10. Oak Openings Question 11. Relict Wet Prairies If yes, evaluate for YES Category 3; may also be 1 or 2. Quantitative Metric 1. Size Rating Metric 2. Buffers and surrounding land use Metric 3. Hydrology Metric 4. Habitat

Complete Wetland Categorization Worksheet.

Category based on score

breakpoints

Metric 5. Special Wetland Communities

microtopography
TOTAL SCORE

Metric 6. Plant communities, interspersion,

Wetland Categorization Worksheet

W2M-091

Choices	Circle one	\bigwedge	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	ľ	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
Name to But at a G	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a	1	Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland		assessments to determine if the wetland has been over-
Did you on your West to see	VEO	(- 011	categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC
or the following questions.	Wetland should be		Rule 3745-1-54(C) and 2) the quantitative rating score. If
Narrative Rating Nos. 1, 8b,	evaluated for		the wetland is determined to be a Category 3 wetland using
9b, 9e, 11	possible Category	1_	elther of these, it should be categorized as a Category 3 welland. Detailed biological and/or functional assessments
	3 status		may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	NO \	Is quantitative rating score <i>greater</i> than the Category 2
.,	1 1	(1)	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is	\	reevaluate the category of the wetland using the narrative
	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
			been under-categorized by the ORAM
Does the quantitative score	YES	NO /	If the score of the wetland is located within the scoring
fall within the scoring range	1,,, ,,		range for a particular category, the wetland should be
of a Category 1, 2, or 3 wetland?	Wetland is	1	assigned to that category. In all instances however, the
welland ?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	eppropriate		be used to clarify or change a categorization based on a
	category based on the scoring range	ł	quantitative score.
Does the quantitative score	YES \	NO	Rater has the option of assigning the wetland to the higher
all with the "gray zone" for	("	of the two categories or to assign a category based on the
Category 1 or 2 or Category	Welland is		results of a nonrapid wetland assessment method, e.g.
or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc., and a
	higher of the two	i	consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	category based on	1	
	detailed		
	assessments and the narrative	$\langle \rangle$	
	criteria	<i>/</i>	
Does the wetland otherwise	YES	NO \	A wetland may be undercategorized using this method, but
xhibit <i>moderate OR superio</i>		()	still exhibit one or more superior functions, e.g. a wetland's
ydrologic OR habitat, OR	Wetland was	Wetland is	biotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
he wetland was <i>not</i>	by this method. A	category as	
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
alegory 3 wetland (in the	on Background	i	corrected. A written justification with supporting reasons or
ase of superior functions) by	Information Form		information for this determination should be provided.
nis method?	1		
	<u> </u>	<u> </u>	
		Final Cate	egory
Choose	one Category	1 C	category 2 Category 3
		1	<u> </u>

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

		_
Name: LATTE SIMON		
Date: 1/12/18		
Affiliation:		
Address: 1800 INDIAN WOOD CIRCLE, MANNEE, OH 4.	7537	
Phone Number: 419-89/-2222 EXT. 2046	<u> </u>	1
e-mail address: KSINON@MANNIKSMITHGROUP.COM		_
Name of Wetland: W2M-095		
Vegetation Communit(les):		_
HGM Class(es): RIVERINE -HEADWATER		-
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.		1
SEE FIGURE 4		
]
		1
-		
		:
	AND THE PROPERTY OF THE PERSON NAMED IN COLUMN 1	
Lat/Long or UTM Coordinate 41,2756428, -82,73226	258	
USGS Quad Name KIMBALL		
County	HURDN	
Township	T4N R2	3W
Section and Subsection]
Hydrologic Unit Code	04100012	į L
Site Visit	11/2/18	
National Welland Inventory Map	F19.3	
Ohio Welland Inventory Map	11	
Soil Survey	F19.2	
Delineation report/map	FIG 4	

Name of Wetland: W2M-095		
Wetland Size (acres, hectares):		0.65AC
Sketch: Include north arrow, relationship with other surface waters, vegetations	on zones, etc.	UIGOAC
SEE FIGURE 4		·
	·	•
•		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score :	Category:	•

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	/	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

3

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	College Herbitat In the configuration for the second	<u> </u>	<u> </u>
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	NO Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland	NO Go to Question 5
<u> </u>	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	Go to Question 5	110
	in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or	YES Wetland is a Category 1 wetland	Go to Question 6
	no vegetation?	Go to Question 6	
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
i	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO) Go to Question 82
a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

			<u>~</u>
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO Go to Question 9a
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	GO to Question ad
	diameters greater than 45cm (17.7m) dbm?	Category 3 status.	
		outegory o cranas	
	<u> </u>	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the welland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this	On to Overtion Oh	Co to Ougetion 10
9b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	Go to Question 10
ab	prevent erosion and the loss of aquatic plants, i.e. the wetland is	I ES	
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Ì	
	Include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the welland have a predominance of native species within its	YES	NÖ
au	vegetation communities, although non-native or disturbance tolerant	120	,,,
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	tolerant hauve plant species within its vegetation communities:	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
	Lucas, Fulton, Henry, or Wood Countles and can the wetland be		
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	3 wetland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of	00 to addonon 11	
	Natural Areas and Preserves can provide assistance in confirming this		
_	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Welland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
, i	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	guerous parason is	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	-	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		bondago riqueim
	Solidago ohioensis	219712 4197077713		-
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: 4382000 W2M-095 Rat	er(s): K.SIMON		Date:///2//8
2 Metric 1. Wetland Area	(size).		
max 6 pts. subtotal Select one size class and assign score.			•
>50 acres (>20.2ha) (6 pts)	/E nto\		
25 to <50 acres (10.1 to <20.2ha) 10 to <25 acres (4 to <10.1ha) (4			
3 to <10 acres (1.2 to <4ha) (3 pts			
0.1 to <0.3 acres (0.04 to <0.12ha		-	
< 0.1 acres (0.04ha) (0 pts)	a and aumeund	ing land use	
ラ 子 Metric 2. Upland buffer	s and Surround	ing ianu use.	
max 14 pts. subtotal 2a. Calculate average buffer width. Select WIDE. Buffers average 50m (164			
MEDIUM. Buffers average 25m to	<50m (82 to <164ft) around	wetland perimeter (4)	
NARROW. Buffers average 10m VERY NARROW. Buffers average			
2b. Intensity of surrounding land use. Sele	ct one or double check and a	/erage.	
VERY LOW. 2nd growth or older LOW. Old field (>10 years), shrub			
MODERATELY HIGH. Residentia HIGH. Urban, industrial, open pas			v field. (3)
14 2 Metric 3. Hydrology.			
max 30 pts. subtotal 3a. Sources of Water. Score all that apply.	3b.	Connectivity. Score all th	
High pH groundwater (5) Other groundwater (3)		100 year floodplair	n (1) ke and other human use (1)
Y Precipitation (1)	2	Part of wetland/upi	and (e.g. forest), complex (1)
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			ation. Score one or dol check.
3c. Maximum water depth. Select only one	and assign score.	Semi- to permaner Regularly inundate	ntly inundated/saturated (4)
3 × >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)	3	Seasonally inundat	led (2)
	e. Score one or double check		ed in upper 30cm (12in) (1)
None or none apparent (12) Chec			
Recovered (7) Recovering (3)	ditch tile	point source (nonst filling/grading	ormwater)
Recent or no recovery (1)	dike	road bed/RR track	
	weir stormwater input	dredging other	
Metric 4. Habitat Alterat			
105 31.5 Metric 4. Habitat Altera	ion and Develo	pili c iit.	
max 20 pts. sublotal 4a. Substrate disturbance. Score one or dou	ble check and average.		
Recovered (3)			
Recovering (2) Recent or no recovery (1)			
4b. Habitat development. Select only one an	d assign score.		
Excellent (7) Very good (6)		•	
Good (5)			
Moderately good (4) Fair (3)			÷
Poor to fair (2)			
4c. Habitat alteration. Score one or double c	neck and average.		
	all disturbances observed	shrub/sapling remov	val
Recovering (3)	mowing grazing	herbaceous/aquatic	
Recent or no recovery (1)	clearculting selective cutting	sedimentation dredging	
[215]	voody debris removal	farming	
subtotal this page	oxic pollutants	nutrient enrichment	· •
last revised 1 February 2001 jjm			

Site: A3820001, W2M-095 Rater	(s):K.S/	MOVI	Date: 11/2	118
315 subtotal first page			1	7
Metric 5. Special Wetlan	ds.			
max 10 pts. subtotal Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-Lake Erie coastal/tributary wetland-Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro nings) (10) atened or enda fowt habitat or	angered species (10) usage (10)		
2 33.5 Metric 6. Plant communi	ities, int	erspersion, microto	pography.	
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale		
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	471 acres) contiguous	агеа
Aquatic bed	1	Present and either comprises sm	all part of wetland's	
Emergent Emergent		vegetation and is of moderate of	juality, or comprises a	i
2 Shrub		significant part but is of low qua		
Forest	2	Present and either comprises sign	niffcant part of wetland	d's
Mudflats		vegetation and is of moderate q	uality or comprises a	small
Open water		part and is of high quality		
Other	3	Present and comprises significant	part, or more, of wet	and's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	,	
Select only one.				
High (5)	Narrative De	escription of Vegetation Quality		
Moderately high(4)	low	Low spp diversity and/or predomin	nance of nonnative or	
Moderate (3)		disturbance tolerant native spec		
Moderately low (2)	mod	Native spp are dominant component		
\		although nonnative and/or distu		spp
None (0)		can also be present, and specie		
6c. Coverage of invasive plants. Refer		moderately high, but generally v		
to Table 1 ORAM long form for list. Add		threatened or endangered spp	•	
or deduct points for coverage	high	A predominance of native species	, with nonnative spp	
Extensive >75% cover (-5)		and/or disturbance tolerant nativ		ally
Moderate 25-75% cover (-3)		absent, and high spp diversity a	• •	•
\ Sparse 5-25% cover (-1)		the presence of rare, threatened		•
Nearly absent <5% cover (0)		<u> </u>		
Absent (1)	Mudflat and	Open Water Class Quality		
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)		
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 ac	res)	
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88		
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more		
Standing dead >25cm (10in) dbh				
Amphibian breeding pools	Microtopogr	aphy Cover Scale		
	0	Absent		
	1	Present very small amounts or if n of marginal quality	nore common	
•	2	Present in moderate amounts, but quality or in small amounts of high		
	3	Present in moderate or greater am		
225		and of highest quality		

33,5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 10. Oak Openings	YES (NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
ridang	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	10.5	
į	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2_	
	TOTAL SCORE	33.5	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

W2M-095

Wetland Categorization Worksheet

Choices	Circle one	_	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES	NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	Wetland is categorized as a Category 3 wetland		category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-
		0	categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES	(N)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If
Narrative Rating Nos. 1, 8b, 9b, 9e, 11	Wetland should be evaluated for possible Category		the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	3 status YES	(NO)	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2
Narrative Rating No. 5	Wetland is		scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative
	categorized as a Category 1 wetland		criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the welland has
Does the quantitative score	YES	NO \	been under-categorized by the ORAM If the score of the wetland is located within the scoring
all within the scoring range of a Category 1, 2, or 3	Wetland is		range for a particular category, the wetland should be assigned to that category. In all instances however, the
wetland?	assigned to the appropriate		narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a
	category based on the scoring range		quantitative score.
Does the quantitative score all with the "gray zone" for	YES YES	NO	Rater has the option of assigning the wetland to the higher
Category 1 or 2 or Category	Wetland is		of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g.
? or 3 wetlands?	assigned to the higher of the two		functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-
	calegories or		54(C).
	assigned to a category based on		
	detailed assessments and		·
	the narrative		
Does the wetland otherwise	criteria YES /	NO	A wetland may be undercategorized using this method, but
xhibit moderate OR superior	1	l }	still exhibit one or more superior functions, e.g. a wetland's
ydrologic OR habitat, OR ecreational functions AND	Wetland was \ undercategorized	Wetland is assigned to	biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic
ne wetland was <i>not</i> ategorized as a Category 2	by this method. A willen justification	category as determined	functions because of its type, landscape position, size, loca
retland (in the case of	for recategorization	by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
ategory 3 wetland (in the ase of superior functions) by	ол Background Information Form		corrected. A written justification with supporting reasons or information for this determination should be provided.
nis method?			
		-	
	,	Final Cate	gory
Choose or	ne Category		tegory 2 Category 3
•		\	1

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SIMON	
Date: 11/10/18	
Affiliation: MSG	-
Address: 1800 INDIAN WOOD CIRCLE, MANUMEE, O	H 43537
Phone Number: 419-891-2222 EXT. 2046	
e-mail address: KSI MONO MANNIKSMITHGROUP.COM	
Name of Wetland: W2M-D96	
Vegetation Communit(les): (2)(a)(ii)	
HGM Class(es): DEPRESSION	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FLAURE 4	*
	123.7 · 1.2.7 · 1.3.1
Lat/Long or UTM Coordinate 41.07505284 -82.81989∞	ρ
USGS Quad Name	CENTERTON
County	HURON
Township	T2N R24W
Section and Subsection	
Hydrologic Unit Code	04100012_
Site VIsit	11101118
National Wetland Inventory Map	F19.3
Ohio Wetland Inventory Map	11
Soil Survey	FIG. 2
Delineation report/map	E/G 4

Name of Wetland: W2M-O9W	
Wetland Size (acres, hectares):	0.076x
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	<u>IU,U ΓΨ Α</u>
FIGURE 4	
	•
Comments, Narrative Discussion, Justification of Category Changes:	
Final score: 42,5 Category	y: MOD. 2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	Too
1	Critical Habitat. Is the wetland in a township, section, or subsection of	YES	110
	a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	NO Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible	OU to Question 2
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status	
	threatened species which can be found in Ohlo, the Indiana Bat has		
	had critical habital designated (50 CFR 17.95(a)) and the piping plover has had critical habital proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed	YES	NO
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	NO
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
	Significant Breeding or Concentration Area. Does the wetland	YES	NO)
	contain documented regionally significant breeding or nonbreeding		
•	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
	<u> </u>	Go to Question 5	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of	YES (NO)
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	1 wetland	Go to Question o
	2) an acidic pond created or excavated on mined lands that has little or	- Wellerie	1
	_ no vegetation?	Go to Question 6	
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	(NO)
	significant inflows or outflows, 2) supports acidophilic mosses,		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	3 wetland	
	Sover or invasive species (see Table 1) IS <25%?	Co to Ougotion 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7	NO)
	is saturated during most of the year, primarily by a discharge of free	100	$K^NO \mathcal{I}$
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 wetland	GO TO QUESTION OF
	invasive species listed in Table 1 is <25%?	- Hount	
		Go to Question 8a	
1	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO)
٠,	forest characterized by, but not limited to, the following characteristics:	\	、ノ
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
	projected maximum attainable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of		
	r vegra an all-2004) SILLICHIER 200 MURIDIAVARA RADANIAE, pagraactions of 1	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers	Co to Question ob	

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
•	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	-	Sorghastrum nutan
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica	t.	Solidago riddellii
	Salix serissima	Xyris difformis		1
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 stalus.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	_
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant	344-11	0 - 1 - 0 1 0 -
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	tolerant harve plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	oo io quodion no
		Category 3 status	1
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	l	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several lacks of the surface, and often with a desirence of the	Wetland is a Category 3 wetland,	Go to Question 11
	several Inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	١	
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO)
	dominated by some or all of the species in Table 1. Extensive prairies	1	
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), Gandusky Flams (wyandol, Clawfold, and Marion Counties), northwest Ohio (e.g. Erle, Huron, Lucas, Wood Counties),	Category 3 status	Rating
,	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	,	
•	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Metric 1. Wetland Area (size). Solved one size data and assign score. 250 acres (1-0/2-0/3-16 (6 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <10 acres (4 pb) 10 to <25 acres (4 to <10.1 his (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to <10 acres (4 pb) 10 to	Site: A38200	DOI, W2M-09W Rater(s): K,SIMON	Date: 11/10/18
Select one size data and assign score. 50 acres (2-20 Zha) (6 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (0.4 to 4-0 than) (1 pts) 10 to 425 acres (0.4 to 4-0 than) (1 pts) 10 to 4-10 acr			1
Select one size data and assign score. 50 acres (2-20 Zha) (6 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (4 to 4-10 tha) (4 pts) 10 to 425 acres (0.4 to 4-0 than) (1 pts) 10 to 425 acres (0.4 to 4-0 than) (1 pts) 10 to 4-10 acr		letric 1. Wetland Area (size).	
So acces (2-02.7%) (6 pts) 25 to -50 acces (10 to -50.7%) (6 pts) 10 to -50 acces (4 to -10.1%) (4 pts) 3 to -10 acces (2 to -40.2%) (2 pts) 0.5 to -50 acces (4 to -10.1%) (4 pts) 3 to -10 acces (6 12 to -40.1%) (2 pts) 0.5 to -50 acces (6			
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S to -10 acres (1.2 to -4/th) (2 piles)			
Metric 2. Upland buffers and surrounding land use. Metric 2. Upland buffers and surrounding land use.	\leftarrow	3 to <10 acres (1.2 to <4ha) (3 pts)	
Metric 2. Upland buffers and surrounding land use. 2a. Citatistic surrough buffer width. Select only one and assign score. Do not double check. WIDE. Buffers wereage buffer width. Select only one and assign score. Do not double check. WIDE. Buffers wereage only (1940) or more would welland primited (1) WIDE. Buffers wereage on the cost of the cost	O .		
Metric 2. Upland buffers and surrounding land use. 2a. Calculate average buffer width. Select only one and assign acore. Do not doubte check. WIDE: Buffers average 26 not (164ft) or more around wetland perimeter (?) WIDE: Buffers average 26 not (500; 002 to 164ft) around vetland perimeter (?) WERY NARROW. Buffers average 2 not (500; 002 to 164ft) around vetland perimeter (!) VERY NARROW. Buffers average 10m (500) around vetland perimeter (!) VERY NARROW. Buffers average 10m (500) around vetland perimeter (!) VERY LOW. 2nd growth or older forest, praise, savannah, widelfile area, etc. (?) Low. Old field (-10 years), shrub land, young second growth forest. (!) MODERATELY HIGH. Readenflal, fenced pasture, park, conservation lilege, new fallow field. (2) Wetric 3. Hydrology. 3a. Sources of Water. Score all that apply. Wetric 4. Hydrology. 3b. Cannectivity. Score all that apply. 1c) per floodblain (!) Seasonal/informittent surface water (3) Persenial surface water (3) Perseni			
22. Calculate average buffer width. Select only one and assign score. Do not double check. MIDE. Buffers average 50m (164ft) or more around wetland perimeter (1)	N N	letric 2. Upland buffers and surrounding land use.	
MIDDLE Buffers average Son (164ft) or more around vettand perimeter (7) MARROW, Buffers average 2 fm to <50m (82 to <164ft) around welland perimeter (4) NARROW, Buffers average 10m to <50m (82 to <164ft) around welland perimeter (7) VEYR VARROW, Buffers average (70m (162ft) around welland perimeter (7) 2b. Intensity of surrounding land use. Select one or double check and average. VEYR VLOW. 7 and growth or older forest, prairie, savarnanh, wildlife area, etc. (7) LOW, Old field (-10 years), shrub land, young second growth forest. (6) MODERATELY HIGH. Residential, fenced pasture, park, conserved millage, new fallow field. (3) HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. Metric 3. Hydrology. John groundwelter (3) Penchalisturial surface water (84e or stream) (5) Penchalisturial (8c. forest), complex (1) Part of welland/apland (eg., forest), complex (1) Part of welland/apland (eg., forest), complex (1) Part of welland/apland (eg., forest), complex (1) Part of welland/apland corridor (1) Research (15.7 in) (3) A to 4 to 7m (15.7 to 27.6 in) (2) A to 4 to 7m (15.7 to 27.6 in) (2) A to 4 to 7m (15.7 to 27.6 in) (2) A to 6 to 7m (15.7 to 27.6 in) (2) A to 7 (27.6 in) (3) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (3) None or none apparent (4) Recovering (3) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (8) Recovering (9) Recov		······································	
MEDIUM. Buffers average 25m to <50m (82 to <164f) around welland perimeter (4) NARROW. Buffers average 10m to <25m (23th c <25th) around welland perimeter (7) VERY NARROW. Buffers average (10m (<25th) around welland perimeter (9) 2b. Indensity of surrounding land use. Sector one of obtoble check and average. I COW. Off leta (6 to 10 years), shrull band, young sector of growth forest, past, conservation tilings, new fallow field. (3) MODERATELY HiGH. Residential, fenced pasture, past, conservation tilings, new fallow field. (3) Moderate (7) Metric 3. Hydrology. 3a. Sources of Water. Score all that apply. High pH groundwater (3) Personalis surface water (lake or stream) (5) Sasaonal/Intermittent surface water (8) Personalis surface water (lake or stream) (5) Part of figarian or upland corridor (1) Part of figarian or upland corridor (1) Sensit to permanently fund adel disturbance. Score one or double check and average. None or none supparent (12) Recording (7) Record or none supparent (4) Record or none supparent (4) Record or none covery (1) Metric 4. Habitat Alteration and Development. 13.5	max 14 pls. sublotal 2a	. Calculate average buffer width. Select only one and assign score. Do not double check.	+
NARROW, Buffers average 10m to <25m (32ft to <42h) around welland perimeter (1)			
VERY NARROW. Buffers average <10m (<3zit) around wetland perineter (0) Description of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairle, savannah, widlife area, etc. (7) LOW. Old field (>10 years), shrubbland, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation illiage, new fallow field. (3) HiGH. Urban, inclustrial, open pasture, row cropping, mining, construction. (1) Wetric 3. Hydrology. 3a. Sources of Water. Score all that apply. High pit groundwater (6) Other groundwater (6) Other groundwater (6) Precipitation (1) Seasonal/International Control of the Precipitation (1) Seasonal/International Control of the Precipitation (1) Seasonal/International Control of the Precipitation (1) Seasonal/International Control of the Precipitation (1) Seasonally inundated (2) Seasonally saturated (3) Seasonally saturated (4) Seasonally saturated (3) Seasonally saturated (4) Required (4) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (5) Recovering (6) Recovering (7) Recovering (7) Recovering (8) Recovering (9)	ユ		
Control of the cont	ŧ		
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30.4 m (<15.7m) (1) Seasonally saturated in upper 30cm (12in) (1)	_		
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Weir Stormwater input Other Other	• 1	Recent or no recovery (1) dike road bed/RR track	
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subtotal this page subtotal this page subtotal this page selective cutting woody debris removal farming nutrient enrichment	4,5	Recovering (3) grazing herbaceous/aquatic	bed removal
woody debris removal farming loxic pollulants nutrient enrichment	<u> </u>		
subtotal this page	140.4	woody debris removal farming	
· • • • • • • • • • • • • • • • • • • •	authoral thin no so	loxic pollulantsnutrient enrichment	ľ
		Mijm english sering	

Site: P	138200	OI WZM-096 Rate	r(s): K、5	1MON Date: 1/10/18
<u>s</u>	ubtotal first page		_	
0	40.5	letric 5. Special Wetlar	nds.	
max 10 pts.	subtotal C	eck all that apply and score as indicated.		
	D	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland- Lake Erie coastal/tributary wetland- Lake Plain Sand Prairies (Oak Oper	restricted hydro nings) (10) eatened or end	ology (5) angered species (10)
		Significant migratory songbird/water Category 1 Wetland. See Question	r fowl habitat or	usage (10)
0	42.5 N			erspersion, microtopography.
max 20 pts.		Wetland Vegetation Communities.	Vegetation	Community Cover Scale
	Sco	ore all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed Emergent	1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a
	\sim	Shrub		significant part but is of low quality
	D	Mudflats	2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small
		Open water Other	- 3	part and is of high quality
	6b.	horizontal (plan view) Interspersion.	_	Present and comprises significant part, or more, of wetland's vegetation and is of high quality
	Sel	ect only one. High (5)	N4 D	
		Moderately high(4)	low	escription of Vegetation Quality Low spp diversity and/or predominance of nonnative or
		Moderate (3)	1044	disturbance tolerant native species
	D	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
		Low (1)		although nonnative and/or disturbance tolerant native spp
	6c	None (0) Coverage of invasive plants. Refer		can also be present, and species diversity moderate to
	to T	able 1 ORAM long form for list. Add		moderately high, but generally w/o presence of rare threatened or endangered spp
		educt points for coverage	hlgh	A predominance of native species, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
	7	Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)		absent, and high spp diversity and often, but not always,
	\mathcal{O}	Nearly absent <5% cover (0)		the presence of rare, threatened, or endangered spp
		Absent (1)	Mudflat and	Open Water Class Quality
		Microtopography.	0	Absent <0.1ha (0.247 acres)
	Sco	re all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks Coarse woody debris >15cm (6in)	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	7	Standing dead >25cm (10in) dbh		High 4ha (9.88 acres) or more
	4	2 Amphibian breeding pools	Microtopog	raphy Cover Scale
			0	Absent
			1	Present very small amounts or if more common of marginal quality
		·	2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
1			3	Present in moderate or greater amounts
いつ 仁				and of highest quality

42.5

End of Quantitative Rating. Complete Categorization Worksheets.

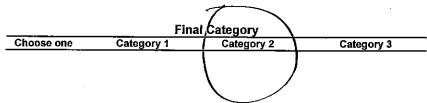
ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
<i>↓</i>	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES/ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
•	Question 8a. Old Growth Forest	YES (NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
·	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	110	
	Metric 4. Habitat	13.5	
	Metric 5. Special Wetland Communities	D	
	Metric 6. Plant communities, interspersion, microtopography	0	
, <u>_</u>	TOTAL SCORE	42,5	Category based on score breakpoints MOD. 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	\mathcal{X}	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES	NO	Is quantilative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland		assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Welland should be	-	the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category	17 \	wetland. Detailed biological and/or functional assessments
<u> </u>	3 status	<u> </u>	may also be used to determine the wetland's category.
Oid you answer "Yes" to	YES (NO)	Is quantitative rating score greater than the Category 2
Usanatha Batta Na E	\ · · · · · · · · · · · · · · · ·	\	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is	i	reevaluate the category of the wetland using the narrative
	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
Does the quantitative score	YES \	NO	been under-categorized by the ORAM If the score of the wetland is located within the scoring
all within the scoring range	'LO }	100	range for a particular category, the wetland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
vetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	category based on		quantitative score.
	the scoring range	ľ' \	• *************************************
Does the quantitative score	YES	NO)	Rater has the option of assigning the wetland to the higher
all with the "gray zone" for		N /	of the two categories or to assign a category based on the
Calegory 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	calegories or		54(C).
	assigned to a		
	category based on detailed		
	assessments and		
	the narrative	_	
	criteria	r ` \	
oes the wetland otherwise	YES	NO)	A wetland may be undercategorized using this method, but
xhibit moderate OR superior		()	still exhibit one or more superior functions, e.g. a wetland's
ydrologic OR habitat, ÓR	Wetland was	Wetland is	biotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
ne wetland was <i>not</i>	by this method. A	category as	functions because of its type, landscape position, size, loca
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
etland (In the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM,	controlling, and the under-categorization should be
ategory 3 wetland (in the	on Background]	corrected. A written justification with supporting reasons or
ase of superior functions) by his method?	Information Form		information for this determination should be provided.
iis memour			



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATTE SIMON
Date: 11/7/18
Affiliation: MSG
Address: 800 INDIAN WOOD CIRCLE, MANUMEE, OH 43537
Phone Number: 419-891-2222 EXT. 2046
e-mail address: KSIMON@MANNIKSMMHGROUP, COM
Name of Wetland: W2M-102
Vegetation Communit(ies):
HGM Class(es): RIVERINE - HEADWATER
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
SEE FIGURE 4

Lat/Long or UTM Coordinate	41.05667069, -82.826	1357
USGS Quad Name		CENTERION
County		HURON
Township		TIN RZHW
Section and Subsection		
Hydrologic Unit Code		04100011
Site Visit		1177118
National Wetland Inventory Map		F14.3
Ohio Wetland Inventory Map		(1)
Soil Survey		F16, 2
Delineation report/map		F16.2 F16.4

Name of Wetland:	2M-102	·	<u> </u>			
Wetland Size (acres, hectar	res):			1~ 8	11 000	
Sketch: Include north arroy	v, relationship with other	surface waters, ve	getation zones, etc.		i wac	STIZ-UO
FIGURE 4		·			-	
		,				
Comments, Narrative Discus	ssion. Justification of Ca	tegory Changes:			,	,
WETLAND			OFF-SIT	E		
					·	
Final score :			Categ	ory:	•	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not a	pplicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		:	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.			
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.			
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.			
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		\	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, configuous to streams, lakes or rivers, or for dual classifications.			

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

5

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered hased on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NO
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status	
	had critical habitat designated (50 CFR 17,95(a)) and the plping plover	Go to Question 2	
	has had critical habitat proposed (65 FR 41812 July 6, 2000).	/	
2	Threatened or Endangered Species. Is the wetland known to contain	YES	NO)
	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Mottend in a Catagoni	Tata Ouncilon 2
	uncatoried of cridatigered plant of animial species?	Wetland is a Category 3 wetland.	Go to Question 3
		C Wellaria,	l _
ļ		Go to Question 3	$K \setminus$
	Documented High Quality Wetland. Is the wetland on record in	YES (NO)
	Natural Heritage Database as a high quality wetland?	Wetland is a Category	Go to Question 4
		3 wetland	GO (O QUESCIOI) 4
,	Significant Paradian or Constant	Go to Question 4	
•	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES (NO /
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 wetland	Co to Quodion o
		/	
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	Go to Question 5	1,,,,
	in size and hydrologically isolated and either 1) comprised of	YES \	NO
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis or	1 welland	
	an acidic pond created or excavated on mined lands that has little or no vegetation?	0.1.0 # 0	
	Bogs. Is the welland a peat-accumulating wetland that 1) has no	Go to Question 6	NO /
	significant inflows or outflows, 2) supports acidophilic mosses,	150	
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Welland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is <25%?	Co to Ousellan 7	
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7	NO)
	is saturated during most of the year, primarily by a discharge of free	\ \	NO
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	3 wetland	
	Invasive species listed in Table 1 is <25%7	Go to Question 8a	- \
1	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO /
	forest characterized by, but not limited to, the following characteristics:	\	· · · /
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	-Go to Question 8t
	projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	3 wetland.	
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers	Co to direation on	
	of standing dead snags and downed logs?		

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
	·	Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this	Go to Question 9b	Go to Question 10
9b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	YES	NO
อม	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
	!	Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
• •	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
Ju	vegetation communities, although non-native or disturbance tolerant	1.25	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?		
		Welland should be	Go to Question 10
		evaluated for possible Category 3 status	
		Calegory o status	
	_	Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES (NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	Co to Question 11
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	i
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
••	dominated by some or all of the species in Table 1. Extensive prairies	\	\
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
ĺ	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Category 3 status	Rating
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	England barmen in	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		Bollatego Hatterill
	Solidago ohioensis			-
	Tofieldia glutinosa			
	Triglochin maritimum		v .	
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A3820001, W2M-102 Rater(s): KSIMON	Date: \\ \ 7 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
3 3 Metric 1. Wetland Area (size).	, .
max 6 pts. subtotal Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts)	
0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding	land use.
2a. Calculate average buffer width, Select only one and assign score. Do not WIDE. Buffers average 50m (164ft) or more around wetland perime MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland per VERY NARROW. Buffers average <10m (<32ft) around wetland per VERY NARROW. Buffers average <10m (or control of the cont	ter (7) and perimeter (4) tland perimeter (1) imeter (0) je. rea, etc. (7) . (5) on tillage, new fallow field. (3)
18 29 Metric 3. Hydrology.	
High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3d. Dural	nectivity. Score all that apply. 100 year floodplain (1) Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1) Part of riparian or upland corridor (1) floon Inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated In upper 30cm (12in) (1) average.
None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1)	point source (nonstormwater) filling/grading road bed/RR track dredging other
9 38 Metric 4. Habitat Alteration and Developm	ent.
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5)	
Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	
Recovering (3) Recent or no recovery (1) grazing clearcutting	shrub/sapling removal herbaceous/aquatic bed removal sedimentalion
selective culting woody debris removal	dredging farming nutrient enrichment
	N

Metric 5. Special Wetlands. Check all that apply and score as indicated. Bog (10) Fin (10) Old growth forest (10) Mature forested wetland (6) Lake Eric coastal/ributary wetland-mesticided hydrology (10) Lake Plain Sand Phatfes (Oak Openings) (10) Relict Wet Prairies (11) Relict Wet Prairies (1	Site: A3820001, W2M-W2 Rater	(s): K.SI	MON Date: 12/10/18
Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check all that apply and score as indicated. Bog (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Lake Eric coastal/inbulary welland-senticed hydrology (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Check Eric coastal/inbulary welland-senticed hydrology (10) Check Eric Coastal/inbulary welland-senticed hydrology (10) Check Eric Frairies (10) Metric 6. Plant communities, interspersion, microtopography. So, welland Vegetation Communities, interspersion, microtopography. So, well and Vegetation Communities, interspersion, microtopography. So, welland Vegetation Communities, interspersion, microtopography welland-senting (10) Sa, Welland Vegetation Community Cover Scale Extension Prise And comprises s	subtotal first page		
Bog (10) Fenr (10) Old growth forest (10) Mature forested wolland (6) Lake Erle coastal/inbutary welland-mestricted hydrology (10) Lake Pials Sand Prairies (Oak Openings) (10) Reliet Wel Prairies (10) Reliet Wel Prairies (10) Reliet Wel Prairies (10) Reliet Well	0 00	nds.	
Vegetation Community Cover Scale Score all present using 0 to 3 scale. Aquatic bed 2 Emergent Shrub 5 Shrub 5 Shrub 5 Shrub 5 Shrub 5 Shrub 5 Shrub 6 Sh. hortzontal (plan view) Interspersion. Select only one. High (6) Moderately ligh(4) Moderately ligh(4) Moderately low (2) Low (1) None (0) 6c. Coverage of frivastve plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage Extensive >75% cover (-5) Sparse 5-25% cover (-1) Nearly absent <-5% cover (0) Absent (1) Moderatel vising of the vegetation and is of high quality or comprises a small part and is of high quality 10w 10w spo diversity and/or predominance of nonnative or disturbance tolerant native specan also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or andangered species, with nonnative spo and/or disturbance tolerant native spp and/or disturbance toler	Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-t Lake Erie coastal/tributary wetland-r Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal thre Significant migratory songbird/water	restricted hydro nings) (10) eatened or enda fowl habitat or	ingered species (10) usage (10)
Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub			
Aquatic bed Emergent Shrub Z Forest Mudflats Open water Other . vaciana vegetanon communities.	Vegetation (Community Cover Scale	
Emergent Shrub S			Absent or comprises <0.1ha (0.2471 acres) contiguous area
Shrub Forest Mudflats Open water Other Other Select only one. High (5) Moderately high(4) Moderately low (2) Low (1) Extensive >75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-1) Absent (7) Score all present using 0 to 3 scale. Vegetated hummucks/tussucks Coarse woody debris >15cm (6ln) Slanding dead >25cm (10ln) dbh Amphibian breeding pools Microtopography Shrub Sparse 5-25% cover (10ln) dbh Amphibian breeding pools Shrub Present and either comprises significant part of wetland's wegetation's moderate quality or comprises a small part and is of high quality Present and comprises significant part of wetland's wegetation's moderate or high quality 1 Present and either comprises significant part of wetland's wegetation and is of high quality Present and either comprises significant part of wetland's wegetation and is of high quality 1 Present and either comprises significant part of wetland's wegetation and is of high quality 2 Present and either comprises significant part of wetland's wegetation and is of high quality 3 Present and comprises significant part of wetland's wegetation's moderate significant part of wetland's wegetation and is of high quality 1 Present and comprises significant part of wetland's wegetation and is of high quality 3 Present and comprises significant part of wetland's wegetation and is of high quality 1 Narrative Description of Vegetation Quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation quality or comprises a small part and is of high quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Description of Vegetation and is of high quality 1 Narrative Des	 - '	1	
Forest Mudflats Open water Other 6b. hortzontal (plan view) Interspersion. Select only one. High (5) Moderate (3) Moderate (4) Moderate (3) Moderate (3) Moderate (3) Moderate (3) Moderate (4) Moderate (3) Moderate (4) Moderate (4) Moderate (4) Moderate (4) Moderate (5) Moderate (5) Moderate (7) Moderate (7) Moderate (8) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Moderate (9) Appear (1) Moderate (9) Appear (1) Moderate (9) Moderate (9) Appear (1) Moderate (9) Moderate (9) Appear (1) Moderate (9) Moderate (9) Appear (1) Moderate (9) Moderate (9) Appear (1) Appear (vegetation and is of moderate quality, or comprises a
Mudflats Open water Other		significant part but is of low quality	
Open water Other Other Other Select only one. High (6) Moderately high(4) Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage Extensive >75% cover (-3) Sparse 5-25% cover (-1) Nearly absent <5% cover (-1) Nearly absent <5% cover (-1) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale. Vegetated humnucks/fussucks Coverse woody debris: 15cm (6in) Standing dead >25cm (10in) dbh Amphiblan breeding pools Other Other 3 Present and comprises significant part, or more, of wetland's vegetation and is of high quality 1 Dw Low spp diversity and/or predominance of nonnative or disturbance tolerant native species Moderate 10 Low (1) Low spp diversity and/or predominance of nonnative or disturbance tolerant native species Moderately high, but generally w/o presence of rare threatened or endangered spp A predominance of native species, with nonnative spp and/or disturbance tolerant native spp assent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp Mudflat and Open Water Class Quality 0 Absent (1) Standing dead >25cm (10in) dbh Amphiblan breeding pools Microtopography Cover Scale 0 Absent 1 Present in moderate amounts of highest quality or in small amounts of highest quality		2	Present and either comprises significant part of wetland's
Open water Other	Mudflats		vegetation and is of moderate quality or comprises a small
Other 6b. hortzontal (plan view) Interspersion. Select only one. High (5) Moderately high(4) Moderately high(4) Moderately low (2) Low (1) None (0) 6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage Extensive >75% cover (-3) Sparse 5-25% cover (-1) Nearly absent <5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale. Vegetation in the vegetation Quality Iow Spp diversity and/or predominance of nonnative or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally wo presence of rare threatened or endangered spp A predominance of native species, with nonnative spp can also be present, and species diversity moderate to moderately high, but generally wo presence of rare threatened or endangered spp A predominance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally wo presence of rare threatened or endangered spp A predominance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance of rare threatened or endangered spp A predominance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance t	Open water		
Select only one. High (5)	Other	3	
Select only one. High (5) Moderately high(4) Moderately (3) Moderately low (2) Low (1) None (0) 6c. Coverage of Invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-5) Moderate 25-75% cover (-1) Nearly absent <5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale. Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools Marrative Description of Vegetation Quality Iow Low spp diversity and/or predominance of nonnative or disturbance tolerant native spp especies diversily moderate to moderately high, but generally w/o presence of rare threatened or endangered spp A predominance of native species mod Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp especies diversily moderate to moderately high, but generally w/o presence of rare threatened or endangered spp A predominance of native species mod Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp especies diversily moderate to moderately high, but generally w/o presence of rare threatened or endangered spp A predominance of native species diversily moderate to moderately high, but generally w/o presence of rare threatened or endangered spp A predominance of native species, with nonnative spp and/or disturbance tolerant native spp	6b. horizontal (plan view) Interspersion.		
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Slanding dead >25cm (10in) dbh Amphibian breeding pools Microtopography Cover Scale 0			
Amphibian breeding pools Microtopography Cover Scale O Absent 1 Present very small amounts or if more common of marginal quality 2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality		3	High 4ha (9.88 acres) or more
Absent Present very small amounts or if more common of marginal quality Present in moderate amounts, but not of highest quality or in small amounts of highest quality			
1 Present very small amounts or if more common of marginal quality 2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality	Amphibian breeding pools		
of marginal quality 2 Present in moderate amounts, but not of highest quality or in small amounts of highest quality			
Present in moderate amounts, but not of highest quality or in small amounts of highest quality		1	
quality or in small amounts of highest quality		<u> </u>	
		2	
Present in moderate or greater amounts			
		3	Present in moderate or greater amounts

45

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

	,		W2M-102
		circle	1
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
. •	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
* *	Question 7. Fens	YES	If yes, Category 3.
,	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
. ;	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES WO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	<u>\$</u>	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
<u>, </u>	TOTAL SCORE	45	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

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W2M-102

Wetland Categorization Worksheet

Choices	Circle one	<u>~</u>	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES ((NO)	Is quantitative rating score less than the Category 2 scorin threshold (excluding gray zone)? If yes, reevaluate the
	Wetland is		category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland		assessments to determine if the wetland has been over-
., ., .,,,	/	\frown	categorized by the ORAM
Did you answer "Yes" to any	YES	NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	1		Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be	\smile	the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b.	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessment
	3 status	<u> ነ</u>	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	NO /	Is quantitative rating score <i>greater</i> than the Category 2
	1	" /	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is	\	reevaluate the category of the wetland using the narrative
	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
\sim	Younger N. Welland	ļ	been under-categorized by the ORAM
Does the quantitative score	YES)	NO	If the score of the wetland is located within the scoring
all within the scoring range			range for a particular category, the wetland should be
of a Category 1, 2, or 3	Welland is		assigned to that category. In all instances however, the
wetland?	assigned to the	ľ	narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate	١ ـ	be used to clarify or change a categorization based on a
	category based on		quantitative score.
	the scoring range /	1 ∕∕	4237/1/10/10/00/01
Does the quantitative score	YES \	NO /	Rater has the option of assigning the wetland to the higher
all with the "gray zone" for	\		of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two	ļ	consideration of the naπative criteria in OAC rule 3745-1-
	categories or	1	54(C).
	assigned to a		
	category based on		
	detailed		
	assessments and	A-	
· .	the narrative /		
	criteria	<u>(</u>	
Does the wetland otherwise	YES	(NO	A wetland may be undercategorized using this method, but
exhibit moderate OR superior	Ţ		still exhibit one or more superior functions, e.g. a wetland's
ydrologic OR habitat, OR	Wetland was	Wetland is	biotic communities may be degraded by human activities,
ecreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
he wetland was <i>not</i>	by this method. A	category as	functions because of its type, landscape position, size, local
ategorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (in the case of	for recategorization	by the	narrative criteria In OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background		corrected. A written justification with supporting reasons or
ase of superior functions) by	Information Form		information for this determination should be provided.
his method?		,	
l		<i>/</i>	
-· <u>, -</u> !			
		\mathcal{L}	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
		Final Cate	
Ohaaa	ne Category	4	ategory 2 / Category 3
Choose or	ie Galegory	1 \ \ \ \ \ \	ategory 2 / Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON	
Date: 11/12/18	
Affiliation: MSG	
Address: 1800 INDIAN WOOD CIRCLE, MANNE	E. DH 43537
Phone Number: 419-891-2222 EXT, 2046	2100, 1300
e-mail address: KSIMON@MANNIKSMITHGROUP, CON	
Name of Wetland: W2M-10B	<u> </u>
Vegetation Communit(ies):	
HGM Class(es):	
DEPRESSION	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE FIGURE 4	*
Lat/Long or UTM Coordinate	
41.000 +09128 - 82.828908	18
USGS Quad Name	CENTERTON
County	HURON
Township	TINR24W
Section and Subsection	
Hydrologic Unit Code	04100011
Site Visit	1117-119
National Welland Inventory Map	F14.3
Ohio Wetland Inventory Map	11
Soil Survey	FIG. 2
Delineation report/map	
	F14.4

Name of Wetland: W2M-103	·
Wetland Size (acres, hectares):	0,779AC
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
FIGURE 4	
	•
	•
	•
mments, Narrative Discussion, Justification of Category Changes:	
MONE	
	-
nal score : Category:	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
4		4/1
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohlo, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2
2	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Calegory 3 wetland. Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES NO Wetland is a Category 3 wetland Go to Question 4
ļ	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category Go to Question 5 Go to Question 5
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES NO Wetland is a Category Go to Question 6 1 wetland Go to Question 6
	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category Go to Question 7 3 wetland Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES NO Wetland is a Category Go to Question 8a Go to Question 8a
a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES NO Wetland is a Category Go to Question 8b 3 wetland. Go to Question 8b

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellin
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicato
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatun
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myrtcoides	Woodwardia yirginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofteldia glutinosa			
	Triglochin maritimum			
· ·	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

WZM-103

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	WO /
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible	Go to Question 9c
	intervaled almost of other hydrological controls:	Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		and the Queen training
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	wetlands, or those dominated by submersed aquatic vegetation.		
ซน	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	0010 00000
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	[فد میشد
		Wetland should be evaluated for possible	Go to Question 10
		Category 3 status	Į.
		,	~
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	(NO)
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	3 wetland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of	,-	
	Natural Areas and Preserves can provide assistance in confirming this	·	\land
11	type of wetland and its quality. Relict Wet Prairies. Is the wetland a relict wet prairie community	VEO	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
''	dominated by some or all of the species in Table 1. Extensive prairies	YES ((NO)
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Ougalitetis-	
	worligomery, vari vveit etc.).	Complete Quantitative Rating	
		Twing	

Site: A3820001, W2M-103 Rater(s): K.SIMO	Date: [1/12/18
Motion 1 Motional Area (pize)	l · ·
2 Metric 1. Wetland Area (size).	
max 6 pls. subtotal Select one size class and assign score.	
>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts)	
10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts)	
2.0.3 to <3 acres (0.12 to <1.2ha) (2pts)	
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	
Metric 2. Upland buffers and surround	ling land use.
max 14 pls. subtotal 2a. Calculate average buffer width. Select only one and assign score.	
WIDE. Buffers average 50m (164ft) or more around wetland MEDIUM. Buffers average 25m to <50m (82 to <164ft) around	
NARROW. Buffers average 10m to <25m (32ft to <82ft) arou	und wetland perimeter (1)
VERY NARROW. Buffers average <10m (<32ft) around wetla 2b, Intensity of surrounding land use. Select one or double check and	average.
VERY LOW. 2nd growth or older forest, prairie, savannah, wi LOW. Old field (>10 years), shrub land, young second growth	
MODERATELY HIGH. Residential, fenced pasture, park, con	servation tillage, new fallow field. (3)
HIGH. Urban, industrial, open pasture, row cropping, mining, Metric 3. Hydrology.	construction. (1)
10 120	. Connectivity. Score all that apply.
High pH groundwater (5)	100 year floodplain (1)
Other groundwater (3) Precipitation (1)	Between stream/lake and other human use (1) Part of wetland/upland (e.g. forest), complex (1)
Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3d.	Part of riparian or upland corridor (1) Duration inundation/saturation. Score one or dbl check.
3c. Maximum water depth. Select only one and assign score.	Semi- to permanently inundated/saturated (4)
>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2)	Regularly inundated/saturated (3) Seasonally inundated (2)
 <a >	

	_	<u> </u>	
Site: A3820001, W2M-10,3 Rater	(s): K∑	IMON	Date: \\ \2 \?
37 subtotal first page Metric 5. Special Wetlan	ds.		
Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested welland (5) Lake Erie coastal/tributary wetland-u Lake Plain Sand Prairies (Oak Open Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydro ings) (10) atened or enda fowl habitat or 1 Qualitative R	angered species (10) usage (10) ating (-10)	
イ ## Metric 6. Plant communi	ities, int	erspersion, microto	pography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	471 acres) contiguous area
Aquatic bed Emergent Shrub	1	Present and either comprises sm vegetation and is of moderate of significant part but is of low qua	all part of wetland's quality, or comprises a
Forest Mudflats Open water	2	Present and either comprises sign vegetation and is of moderate of part and is of high quality	
Other	3	Present and comprises significan	t part, or more, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
Select only one.			
High (5)		escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predomle	
Moderate (3) Moderately low (2)	mad	disturbance tolerant native spec	
Low (1)	mod	Native spp are dominant compone although nonnative and/or distu	
None (0)		can also be present, and specie	
6c. Coverage of invasive plants. Refer		moderately high, but generally w	
to Table 1 ORAM long form for list. Add		threatened or endangered spp	no prosonos or rare
or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
Extensive >75% cover (-5)	•	and/or disturbance tolerant nativ	
∧ Moderate 25-75% cover (-3)		absent, and high spp diversity a	nd often, but not always,
Sparse 5-25% cover (-1)		the presence of rare, threatened	i, or endangered spp
Nearly absent <5% cover (0)		-	
Absent (1)		Open Water Class Quality	
6d. Microtopography. Score all present using 0 to 3 scale.	0	Absent <0.1ha (0.247 acres)	
Vegetated hummucks/tussucks	1 2	Low 0.1 to <1ha (0.247 to 2.47 ac	
Coarse woody debris >15cm (6ln)	3	Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)
Standing dead >25cm (10in) dbh		Trigit 4tia (5:00 acres) of filore	
7 Amphibian breeding pools	Microtoponi	aphy Cover Scale	
,	0	Absent	
	1	Present very small amounts or if n	nore common
		of marginal quality	
	2	Present in moderate amounts, but	
		quality or in small amounts of hig	
	3	Present in moderate or greater am	
.111		and of highest quality	

44

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle	
	•		
		answer or	Danulé
		insert	Result
		sco#e	<u> </u>
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES MO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
•	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
•	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
rading	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	18	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	44	Category based on score breakpoints
		i l	MOD. 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Cholces	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES (NO	Is quantitalive rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
Narrative Dating No. 2-2	Wetland is	1	category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Calegory 3 wetland	ł	Rule 3745-1-54(C) and biological and/or functional
4, 0, 7, 6a, 9u, 10	Category 5 welland		assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any	YES	NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:		\setminus	Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Wetland should be		the wetland is determined to be a Calegory 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for	J	elther of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
	_3 status	4	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	NO)	Is quantitative rating score greater than the Category 2
Name Con David No. 6	34141 14	レノ	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is		reevaluate the category of the wetland using the narrative
	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
Doop the guardistics	VEO	l NO	been under-categorized by the ORAM
Does the quantitative score \ \ \ fall within the scoring range \ \	YES)	NO	If the score of the wetland is located within the scoring
of a Category 1, 2, or 3	Wetland is		range for a particular category, the wetland should be
wetland?	assigned to the		assigned to that category. In all instances however, the
Wellands	assigned to the	l	narrative criteria described in OAC Rule 3745-1-54(C) can
	calegory based on /		be used to clarify or change a categorization based on a quantitative score.
	the scoring range	f ' \	quantitative score.
Does the quantitative score	YES V	NO)	Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for	/		of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is		results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a	1	
	category based on		· ·
	detailed	l	
	assessments and		
	the narrative	` \	
Does the wetland otherwise	criteria (110	A surface de la contraction de
exhibit moderate OR superior	1E9 :/	NO /	A wetland may be undercategorized using this method, but
nydrologic OR habitat, OR	Wetland was	Wetland is	still exhibit one or more superior functions, e.g. a wetland's
recreational functions AND	undercategorized	assigned to	blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic
he wetland was not	by this method. A	category as	functions because of its type, landscape position, size, loca
categorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
vetland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
noderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (In the	on Background	2.2	corrected. A written justification with supporting reasons or
ase of superior functions) by	Information Form		information for this determination should be provided.
his method?			
		. /(
		Final Cate	gory)
Choose on	e Category		tegory 2 / Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: KATIE SIMON	
Date: 11/7/18	
Affiliation: M.S.G.	
Address: 1800 INDIAN WOOD CIR	CLE, MANIMEE OH 42
Phone Number: 419-891-2222 EXT	
e-mall address: KSIMON@MANNIKSMITHGI	
Name of Wetland: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ROOP, COIV I
Vegetation Communit(les):	
(1)(a)	
HGM Class(es): RIVERINE — HEATWATER Location of Wetland: include map, address, north arrow, landmarks, dista	,
	nces, roads, etc.
SEE FIGURE 4	
•	
Lat/Long or UTM Coordinate 41,0566240	21, -82,83107284
USGS Quad Name	CENTERTON
County	HURON
Township	HURON TIN RZYW
Section and Subsection	
Hydrologic Unit Code	04/00011
Site Visit	/117-117
National Wetland Inventory Map	11/7/18 F16,3
Ohio Wetland Inventory Map	11
Soil Survey	

Delineation report/map

Name of Wetland: Name of Wetland:			7
WZY-104			
Wetland Size (acres, hectares):		12,48AC 0	STECH
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.			
FIGURE 4			
		•	
		•	
	-		
Comments New York Div.			
Comments, Narrative Discussion, Justification of Category Changes:			•
WETLAND EXTENDS NORTH OFF-SITE,			
		-	
			!
		-	
Final score : Categ	orv:	MOD. 2	
		1-100,	

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done? not applicable	
Step 1	Identify the wetland area of interest. This may be the sile of a proposed impact, a reference site, conservation site, etc.	V	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wellands or parts of a single wetland.		
Step 3	Defineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		1
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	V	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one
1	<u> </u>	
	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical"	YES
	habitat" for any threatened or endangered plant or animal species?	Wetland should be Go to Question 2
	Note: as of January 1, 2001, of the federally listed endangered or	evaluated for possible Category 3 status
	threatened species which can be found in Ohio, the Indiana Bat has	Category 3 status
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2
	has had critical habitat proposed (65 FR 41812 July 6, 2000).	So to daosilon 2
	Threatened or Endangered Species. Is the wetland known to contain	YES (NO
	an individual of, or documented occurrences of federal or state-listed	
	threatened or endangered plant or animal species?	Wetland is a Category Go to Question 3
	1	3 wetland.
	Decree 6 differ A. B. W. W. d. C. C.	Go to Question 3
	Documented High Quality Wetland. Is the wetland on record in	YES \ \NO
	Natural Heritage Database as a high quality wetland?	Motiond is a Cotogonia Co-to-Co
		Wetland is a Category Go to Question 4 3 wetland
		o welland
		Go to Question 4
	Significant Breeding or Concentration Area. Does the wetland	YES (NO
	contain documented regionally significant breeding or nonbreeding	
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category Go to Question 5
		3 wetland
	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	Go to Question 5 (NO NO
	in size and hydrologically isolated and either 1) comprised of	YES \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category Go to Question 6
	by Phalaris arundinacea, Lythrum salicana, or Phragmites australis, or	1 wetland
	2) an acidic pond created or excavated on mined lands that has little or	
	no vegetation?	Go to Question 6
	Bogs. Is the wetland a peat-accumulating welland that 1) has no	YES NO
	significant inflows or outflows, 2) supports acidophilic mosses,	l ' \
	particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the	Wetland is a Category Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	3 wetland
	Cover of invasive species (see Table 1) is \$25%?	Go to Question 7
	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES NO
	is saturated during most of the year, primarily by a discharge of free	
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category Go to Question 8
	and with one or more plant species listed in Table 1 and the cover of	3 welland
	invasive species listed in Table 1 is <25%?	
		Go to Question 8a
	"Old Growth Forest." Is the wetland a forested wetland and is the	YES NO
	forest characterized by, but not limited to, the following characteristics:	
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category Go to Question 8
	projected maximum atlainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100	3 wetland.
	years; an all-aged structure and multilayered canopies; aggregations of	Co to Ougation 9h
	canopy trees interspersed with canopy gaps; and significant numbers	Go to Question 8b
	I CHOON TOPS INTERPRETED WITH CONCRY CORE CONTINUES FOR SECTIONS	

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO Constitution On
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	2
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
		Wetland should be evaluated for possible Category 3 status	Go to Question 10
		1	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	Go to Question 10 YES	NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies	YES	NO
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohlo (e.g. Erie, Huron, Lucas, Wood Counties),	evaluated for possible Category 3 status	Quantitative Raling
,	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairle species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var, capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwelli
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum	2 ?	Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum	•	Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			•
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: A3220	0001 W219-16H Rater(s): KSIMON	Date: <i> / </i>
		/ <i>i</i>
33	Metric 1. Wetland Area (size).	
max 6 pts. subtotal	Sele <u>ct on</u> e size class and assign score.	
	>50 acres (>20.2ha) (6 pts)	
	25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts)	
2	3 to <10 acres (1.2 to <4ha) (3 pts)	
<u>ب</u>	0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	
	<0.1 (0 < 0.3 acres (0.04 to < 0.12 ha) (1 pt)	
	Metric 2. Upland buffers and surrounding land use.	
8 11		_
max 14 pts. subtotal 2	2a. Calculate average buffer width. Select only one and assign score. Do not double check.	
	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)	
4	NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)	
l l	VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)	
2	2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)	
· 1	LOW. Old field (>10 years), shrub land, young second growth forest. (5)	
7	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallo HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
		
15 20	Metric 3. Hydrology.	
max 30 pts. subtotal 3	a. Sources of Water. Score all that apply. 3b. Connectivity. Score all the score all	that apply.
	High pH groundwater (5)	in (1)
		ake and other human use (1) pland (e.g. forest), complex (1)
Ц		upland corridor (1)
	Perennial surface water (lake or stream) (5) 3d. <u>Duration inundation/satu</u>	ration. Score one or dbl check.
30	c. Maximum water depth. Select only one and assign score. Semi- to permane >0.7 (27.6in) (3)	ently inundated/saturated (4) ed/saturated (3)
. 2	0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inunda	ated (2)
2-		ited in upper 30cm (12in) (1)
	e. Modifications to natural hydrologic <u>regime</u> . Score one or double check and average. None or none apparent (12) Check all disturbances observed	
5	Recovered (7) ditch point source (nons	stormwater)
. J	Recovering (3)	<u>. </u>
	Recent or no recovery (1) dike road bed/RR track	·
	stormwater input other	
	Metric 4. Habitat Alteration and Development.	
9 35 "	Metric 4. Habitat Afteration and Development.	
max 20 pts. subtotal 4a	a. Substrate disturbance. Score one or double check and average.	
. 4	None or none apparent (4)	
4	Recovered (3) Recovering (2)	
	Recent or no recovery (1)	
4 b	h. Habitat development. Select only one and assign score.	
	Excellent (7) Very good (6)	
14	Good (5)	
-1	Moderately good (4) Fair (3)	
	Poor to fair (2)	
	Poor (1)	
4 c.	Habitat alteration. Score one or double check and average.	 7
1	None or none apparent (9) Check all disturbances observed Recovered (6) mowing shrub/sapling remo	_{ival}
\	Recovering (3) grazing herbaceous/aquation	
·	Recent or no recovery (1) clearcutting sedimentation	
125	selective cutting dredging woody debris removal farming	
	loxic pollutants nutrient enrichment	
subtotal this page	204 1111	
last revised 1 February 20	יוטנ ושני ווישני יועד ווישני יועד ווישני יועד ווישני יועד ווישני יועד ווישני יועד ווישני יועד ווישני יועד ווישני	

[C:41/2000 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<u> </u>		
Site: A3820001, W2M-104 Rater	(s): K.S	IMON Date:	17/18
subtotal first page			t to
Netric 5. Special Wetlar	ias.		
max 10 pts. subtotal Check all that apply and score as indicated.			
Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erle coastal/tributary wetland-t	unrestricted hydrocatricted byde	drology (10)	
Lake Plain Sand Prairies (Oak Oper		logy (a)	
Relict Wet Prairies (10)	migo, (10)		
Known occurrence state/federal three	atened or enda	angered species (10)	
Significant migratory songbird/water			
Category 1 Wetland. See Question	-		
4 39 Metric 6. Plant commun	ities, int	erspersion, microtopogra	phy.
max 20 pls. sublolal 6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) co	
Aquatic bed	1	Present and either comprises small part of we	
Emergent Shrub		vegetation and is of moderate quality, or con	nprises a
7 Forest	2	significant part but is of low quality Present and either comprises significant part of	£ u mila malla
Mudflats	L	vegetation and is of moderate quality or com	
Open water		part and is of high quality	prioco a ornan
Other	3	Present and comprises significant part, or more	e, of wetland's
6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	
Select only one.	N45 B		
High (5) Moderately high(4)	low	escription of Vegetation Quality	notivo or
Moderate (3)	IUW	Low spp diversity and/or predominance of non disturbance tolerant native species	nauve oi
Moderately low (2)	mod	Native spp are dominant component of the veg	etation,
_ [_ [E0W (1)		although nonnative and/or disturbance tolera	int native spp
None (0)		can also be present, and species diversity m	
6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list, Add		moderately high, but generally w/o presence	of rare
or deduct points for coverage	hlgh	A predominance of native species, with nonnat	tive enn
Extensive >75% cover (-5)	mgn	and/or disturbance tolerant native spp absen	
Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but	_
Sparse 5-25% cover (-1)		the presence of rare, threatened, or endange	red spp
Nearly absent <5% cover (0)	68JS1_4J	0	
Absent (1) 6d. Microtopography.	Mudflat and	Open Water Class Quality Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)	
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)	
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
Standing dead >25cm (10in) dbh			
Amphibian breeding pools		raphy Cover Scale	
	<u>0</u> 1	Absent Present very small amounts or if more commor	
	•	of marginal quality	•
•	2	Present in moderate amounts, but not of highes	s t
		quality or in small amounts of highest quality	
	3	Present in moderate or greater amounts	



End of Quantitative Rating. Complete Categorization Worksheets.

and of highest quality

ORAM Summary Worksheet

•		circle answer or	· · · ·
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
•	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
·	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
J	Metric 2. Buffers and surrounding land use	15	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	Q	
	Metric 6. Plant communities, interspersion, microtopography	4	
,	TOTAL SCORE	39	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

7

Wetland Categorization Worksheet

Cholces	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES (NO	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the
3 (Wetland is	category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a	Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland	assessments to determine if the wetland has been over-
		categorized by the ORAM
Did you answer "Yes" to any	YES (NO	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	l	Rule 3745-1-54(C) and 2) the quantitative rating score. If
Name that the Name of the	Wetland should be	the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos. 1, 8b,	evaluated for	either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category 3 status	wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	YES NO	may also be used to determine the wetland's category. Is quantitative rating score <i>greater</i> than the Category 2
Did you allower fee to	1 163	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Welland is	reevaluate the category of the wetland using the narrative
realitative reality rec. 5	categorized as a	criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland	functional assessments to determine if the wetland has
1	1	been under-categorized by the ORAM
Does the quantitative score	YES NO	If the score of the wetland is located within the scoring
fall within the scoring range		range for a particular category, the wetland should be
of a Category 1, 2, or 3	Wetland is	assigned to that category. In all instances however, the
welland?	assigned to the	narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate	be used to clarify or change a categorization based on a
}	category based on	quantitative score.
Dogo the grantitative core	the scoring range / NO	Data by the self-reference to the self-reference to the blokes
Does the quantitative score fall with the "gray zone" for	YES NO	Rater has the option of assigning the wetland to the higher
Category 1 or 2 or Category	Wetland is	of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the	functional assessment, biological assessment, etc, and a
3. 3. 110,12,7201	higher of the two	consideration of the narrative criteria in OAC rule 3745-1-
	categories or	54(C).
	assigned to a	
	category based on	· ·
	detailed	
	assessments and	
	the narrative	
	criteria /	<u> </u>
Does the wetland otherwise	YES (NO)	A wetland may be undercategorized using this method, but
exhibit <i>moderate OR superior</i> nydrologic OR habitat, OR	Wetland was Wetland is	still exhibit one or more superior functions, e.g. a wetland's
recreational functions AND	undercategorized assigned to	biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic
he wetland was not	by this method. A category as	
categorized as a Category 2	written justification determined	
wetland (in the case of	for recategorization by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) or a	should be provided ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background	corrected. A written justification with supporting reasons or
case of superior functions) by	Information Form	information for this determination should be provided.
his method?		
		· \
	ſ	
	Final Cat	egory
Choose or		egory Category 3
Choose or		

End of Ohio Rapid Assessment Method for Wetlands.

APPENDIX E STREAM ASSESSMENT FORMS



Charl OHE I a HAET

OhieEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI	Score:	47,5

	u.	14 222 / 1222			
Stream & Location	on: <u>SM</u>	ER-0001-	- /	<i>RM</i> :	Date: 09/1//8
last of		Sco	rers Full Name & Aff	iliation:	D) SAF
River Code:		TORET #:	Lat./ Long.: (NAD 83 - decimal °)	/8	Office verified location
	estimate % or note eve	rv type present	ORI	Check ONE (Or 2 & a	overage) QUALITY
BEST TYPE BLDR /SLABS COBBLE [9] GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BE	[10]	OTHER TYPES P HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] ARTIFICIAL [0] (Score natural submore [2] sludge from pless [0]	☐ LIMES II ☐ TILLS [1 ☐ WETLAI ☐ HARDP/ ☐ SANDS	ONE [1] J SILT NDS [0] AN [0] FONE [0] FONE [0] URINE [0]	□ HEAVY [-2] □ MODERATE [-1] □ NORMAL [0] □ FREE [1] □ EXTENSIVE [-2] □ MODERATE [-1] □ NORMAL [0] □ NONE [1]
quality; 3-Highest quality; 3-Highest quadiameter log that is sUNDERCUT BOVERHANGIN	quality; 2-Mod ality in moderate or gre table, well developed i ANKS [1] G VEGETATION [1] N SLOW WATER) [1]	erate amounts, but not e eater amounts (e.g., ver rootwad in deep / fast w		fast water, large functional pools.	AMOUNT Theck ONE (Or 2 & average) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20
SINUOSITY HIGH [4] MODERATE [3]	RPHOLOGY Chect DEVELOPMENT Cood [5] FAIR [3] POOR [1]	ONE in each category CHANNELIZA NONE [6] RECOVERED [4] RECOVERING [3]	ATION STAB ☐ HIGH ☑ MODE ☐ LOW	[3] ERATE [2]	Channel Maximum 20
4] BANK EROSIC River right looking dow EROSION NONE / LITTLE MODERATE [2] HEAVY / SEVEN	rnstream RIPAF RIPAF WIDE > [3]	Som [4]	in each category for EACH FLOOD PLAIN FOREST, SWAMP [3] SHRUB OR OLD FIELD RESIDENTIAL, PARK, N FENCED PASTURE [1] OPEN PASTURE, ROW	I QUALITY	Caverage) DINSERVATION TILLAGE [1] RBAN OR INDUSTRIAL [0] NING / CONSTRUCTION [0] DIVERSITY OF THE PROPERTY O
5] POOL / GLIDE MAXIMUM DEF Check ONE (ONL > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] < 0.2m [0] Comments	PTH CHAN Y!) Check ON POOL WIDTH POOL WIDTH	UN QUALITY INEL WIDTH E (Or 2 & average) 1 > RIFFLE WIDTH [2] 1 = RIFFLE WIDTH [1] 1 < RIFFLE WIDTH [0]	☐ FAST [1] ☐	t apply SLOW [1] INTERSTITIAL [-1] INTERMITTENT [-2] EDDIES [1]	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool / Current Maximum 12
of riffle-oblig RIFFLE DEPT □ BEST AREAS > 10 □ BEST AREAS 5-10 □ BEST AREAS < 50	ate species: H RUN D cm [2] ☐ MAXIMUN cm [1] ☑ MAXIMUN	Check Ol EPTH RIFFL I > 50cm [2]	be large enough to s NE (<i>Or 2 & average</i>). LE / RUN SUBSTRAT E (e.g., Cobble, Boulder) STABLE (e.g., Large Gravel, Sa BLE (e.g., Fine Gravel, Sa	E RIFFLE / RUN [2] MO el) [1] □ LO	EMBEDDEDNESS NE [2]
6] GRADIENT ()	REA MO	RY LOW - LOW [2-4] DERATE [6-10] H - VERY HIGH [10-6]	%POOL:	%GLIDE:	Gradient Maximum

A] SAMPLED REACH

Check of OHE a HIHE!

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 76.5



Stream & Location:	SM1-001-	2	RM:	Date:
		Scorers Full Name & Affi	iliation: AEP	JAF
River Code:	STORET #:	Lat./ Long.: (NAD 83 - decimal °)	<u></u> /8	Office verified ☐ location ☐
DECT TYPES	or note every type present RIFFLE OTHER TYP HARDPAN DETRITUS MUCK [2] SILT [2] ARTIFICIAL (Score nature)	ORIGINAL ORI	DNE [1] I SILT IDS [0] IN [0] ONE [0] ONE [0] URINE [0]	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
quality: 3-Highest quality in mod	ality; 2-Moderate amounts, bu erate or greater amounts (e.g developed rootyyad in deep / f POOLS > TION [1]' ROOTWA	t not of highest quality or in small j., very large boulders in deep or ast water, or deep, well-defined, 70cm [2] OXBOWS, BA DS [1] AQUATIC MA	amounts of highest fast water, large functional pools. CKWATERS [1] NCROPHYTES [1] S	AMOUNT ack ONE (Or 2 & average) XTENSIVE >75% [11] ODERATE 25-75% [7] PARSE 5-<25% [3] EARLY ABSENT <5% [1] Cover Maximum 20
3] CHANNEL MORPHOLO SINUOSITY DEVELO HIGH [4]	PMENT CHANNE LENT [7] NONE [6] [5] RECOVERE [1] RECENT OR	LIZATION STABI	3] RATE [2]	Channel Maximum 20
☐☐ MODERATE [2] ☐☐☐ HEAVY / SEVERE [1] ☐☐	RIPARIAN ZONE Check RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] VERY NARROW < 5m [1] NONE [0]	FLOOD PLAIN FOREST, SWAMP [3] SHRUB OR OLD FIELD RESIDENTIAL, PARK, NE	QUALITY	SERVATION TILLAGE [1] AN OR INDUSTRIAL [0] NG / CONSTRUCTION [0] dominant land use(s)
☐ 0.7-<1m [4]	FFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average DOL WIDTH > RIFFLE WIDTH DOL WIDTH = RIFFLE WIDTH DOL WIDTH < RIFFLE WIDTH	[2] ☐ TORRENTIAL [-1] ☑ S [1] ☐ VERY FAST [1] ☐ IN [0] ☐ FAST [1] ☐ IN	apply LOW [1] NTERSTITIAL [-1] NTERMITTENT [-2] DDIES [1]	ecreation Potential Primary Contact econdary Contact cle one and comment on back) Pool / Current Maximum 12
of riffle-obligate spec RIFFLE DEPTH ☐ BESTAREAS > 10cm [2]	ies: Che RUN DEPTH R MAXIMUM > 50cm [2] ST MAXIMUM < 50cm [1] M	ust be large enough to sick ONE (Or 2 & average). IFFLE / RUN SUBSTRATE FABLE (e.g., Cobble, Boulder) [OD. STABLE (e.g., Large Grave NSTABLE (e.g., Fine Gravel, Sar	E RIFFLE / RUN E 2]	MBEDDEDNESS
6] GRADIENT (8 4 ft/m DRAINAGE AREA (7.19 miz	MODERATE [6-10]	<i>h</i>	Ø %GLIDE: (ØŪ)%RIFFLE:	Gradient 6 Maximum 10

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

AJ SAMPLED REACH

week of OHE o FAME (

ChieEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:	5
QHEI Score: 📗 🕄	5

	11. 000	<u> </u>	10101 011000	DV-	Deta: M	11 12
Stream & Location:	SM - 00'h			<i>RM</i> :	Date://9	1775
	OTODET #		me & Affiliation:_	/8	ATT	Office verified
River Code:	STORET #:	Lat./ L (NAD 83 - de	ecimal °)			location 🗀
BEST TYPES BEST TYPES BLDR /SLABS [10] COBBLE [8] GRAVEL [7] SAND [6]	DETRITUS MUCK [2]	PES POOL RIFFLE [4] [5] [4] [4] [5] [6] [7] [7] [8] [9] [9] [1] [1] [1] [1] [1] [1	Check COORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] RIP/RAP [0] LACUSTURINE [0] SHALE [-1] COAL FINES [-2]	SILT OF DECOMES S	erage) QUALITY QUALITY HEAVY [-2] MODERATE [NORMAL [0] FREE [1] EXTENSIVE [MODERATE [NORMAL [0] NORMAL [0]	75
- guality: 3 Highest guality	EGETATION [1] ROOTV	e.g., very large boulder. / fast water, or deep, w > 70cm [2] O //ADS [1] A	s in deep or fast water	, large Ch pools. [] RS [1] [] TES [1] []	AMOUNT neck ONE (Or 2 & EXTENSIVE >75' MODERATE 25-7 SPARSE 5-<25% NEARLY ABSEN Maxi	average) % [11] '5% [7] [3] T <5% [1] over
SINUOSITY DEN HIGH [4] DEN HIGH [4] DEN EXCELLENT [7] NONE [6] GOOD [5] RECOVER FAIR [3] RECOVER	ELIZATION RED [4]	STABILITY HIGH [3] MODERATE [2] LOW [1]			annel S	
River right looking downstre EROSION NONE / LITTLE [3] MODERATE [2]	AND RIPARIAN ZONE Che RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] TO VERY NARROW < 5m NONE [0]	FLOC R FOREST, SV FOREST, SV SHRUB OR RESIDENTIA FENCED PA	OD PLAIN QUALI NAMP [3] OLD FIELD [2] AL, PARK, NEW FIELD	TY CO CO UR	NSERVATION TI BAN OR INDUS NING / CONSTRU redominant land un n riparian. Rip	TRIAL [0] ICTION [0] ISE(S) ISE(S)
Comments		, I h de	n. 2		Maxi	mum 10
MAXIMUM DEPTH Check ONE (ONLY!) □ > 1m [6] □ 0.7-<1m [4] □ 0.4-<0.7m [2] □ 0.2-<0.4m [1] □ < 0.2m [0] Comments	Check ONE (Or 2 & avera POOL WIDTH > RIFFLE WID POOL WIDTH = RIFFLE WID POOL WIDTH < RIFFLE WID	CURING CURING CHAIL CONTROL CHAIL CH	☐ INTERMIT [E [1] ☐ EDDIES [1] for reach - pools and ri	TIAL [-1] TENT [-2] I ffles.	Cu Maxi	ntact ontact
Indicate for fund of riffle-obligate RIFFLE DEPTH BEST AREAS > 10cm BEST AREAS 5-10cm BEST AREAS < 5cm [metric=	RUN DEPTH 2]	Check ONE (Or 2 & ave RIFFLE / RUN SU STABLE (e.g., Cobbl	erage). JBSTRATE RIF e, Boulder) [2] Large Gravel) [1]	FLE / RUN NON LOV MOD	EMBEDDEDN IE [2] V [1] DERATE [0] FINGIVE [-1]	RESS RESS RESS RESS RESS RESS RESS RESS
6] GRADIENT (6.65) DRAINAGE ARE	X	6	%POOL: %RUN:	%GLIDE:(%RIFFLE:(100	imum 10

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet QHEI Score: 33

				6
Stream & Location:	SIM-004-		<i>RM</i> : _	Date: 9 11 18
		Scorers Full Name		Office verified
River Code:	<i>STORET #</i> :	Lat./ Long (NAD 83 - decima		location
DECT TVDEC	L RIFFLE OTHER TYF HARDPAN DETRITUS MUCK [2] SILT [2] ARTIFICIA (Score natu	PES POOL RIFFLE [4]	Check ONE (Or 2 ORIGIN MESTONE [1] LLS [1] ETLANDS [0] ARDPAN [0] ANDSTONE [0] ACUSTURINE [0] HALE [-1] OAL FINES [-2]	& average) QUALITY HEAVY [-2] MODERATE [-1] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
2] INSTREAM COVER In quality; 3-Highest quality in mo diameter log that is stable, well UNDERCUT BANKS [1] OVERHANGING VEGET SHALLOWS (IN SLOWN ROOTMATS [1] Comments	Jality; 2-Moderate amounts, 6. I developed rootwad in deep / POOLS > TATION [1] ROOTW	g., very large boulders in c fast water, or deep, well-d 70cm [2] OXBO ADS [1] AQUA	leep or fast water, large	AMOUNT Check ONE (Or 2 & average) EXTENSIVE > 75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT < 5% [1] Cover Maximum 20
DOMESTIC DESCRIPTION OF THE PROPERTY OF THE PR	OPMENT CHANNE ELLENT [7] NONE [6] O [5] RECOVERI [3] RECOVERI	ELIZATION S ED [4] W	STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
4] BANK EROSION AND River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1] Comments	RIPARIAN ZONE Check RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] VERY NARROW < 5m [1] NONE [0]	FLOOD F R FOREST, SWAM SHRUB OR OLD RESIDENTIAL, PA	PLAIN QUALITY P [3] FIELD [2] ARK, NEW FIELD [1] RE [1] Indica	CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] Ite predominant land use(s) Oom riparian. Riparian Maximum 10
☐ 0.7-<1m [4] ☐ F	CIFFLE / RUN QUALITY CHANNEL WIDTH Veneck ONE (Or 2 & average POOL WIDTH > RIFFLE WIDT POOL WIDTH = RIFFLE WIDT POOL WIDTH < RIFFLE WIDT	CURREN e) Check A H [2] TORRENTIAL [- H [1] VERY FAST [1] H [0] FAST [1] MODERATE [1]	☐ INTERSTITIAL [-1] ☐ INTERMITTENT [-2]	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool/ Current Maximum 12
of riffle-obligate spe RIFFLE DEPTH ☐ BEST AREAS > 10cm [2]	RUN DEPTH	eck ONE (<i>Or 2 & average</i>) RIFFLE / RUN SUBS STABLE (e.g., Cobble, Bo	ol. TRATE RIFFLE / RU ulder) [2] Gravel) [1] Uvel. Sand) [0]	Ation NO RIFFLE [metric=0] JN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] EXTENSIVE [-1] MAXIMUM 8
DRAINAGE AREA	VERY LOW - LOW [MODERATE [6-10] HIGH - VERY HIGH	4 0/2	OOL: %GLID UN: %RIFFL	<u> </u>

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

A] SAMPLED REACH

Stream Drawing:

468 des and Sel

ChieEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:



Stream & Location:			RM:	Date: 9	1318
		rers Full Name & Affiliation:	ABP	JAP.	Office verified -
River Code:	STORET #:		9 182 73	525	location [
BEST TYPES	e every type present E OTHER TYPES HARDPAN [4] DETRITUS [3] MUCK [2] ARTIFICIAL [0] (Score patural sub	OOL RIFFLE ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0]	SILT DEON S	QUALITY] HEAVY [-2] [MODERATE [-] NORMAL [0]	i /3
2] INSTREAM COVER Indicate p quality; 2-quality; 3-Highest quality in moderate diameter log that is stable, well develop UNDERCUT BANKS [1] OVERHANGING VEGETATION SHALLOWS (IN SLOW WATER ROOTMATS [1] Comments	moderate amounts, but not corrigreater amounts (e.g., very ped rootwad in deep / fast water pools > 70cm POOLS > 70cm ROOTWADS [1]	or ingrest quality of in strial amounts of large boulders in deep or fast water, ater, or deep, well-defined, functional of [2] OXBOWS, BACKWATEI AQUATIC MACROPHYT	large Che pools. RS [1] RS [1] SI SI	AMOUNT ck ONE (Or 2 & KTENSIVE >759 ODERATE 25-7- PARSE 5-<25% EARLY ABSENT Co Maxin	average) % [11] 5% [7] [3] C <5% [1]
3] CHANNEL MORPHOLOGY CONTROL SINUOSITY DEVELOPME HIGH [4]	NT CHANNELIZA	TION STABILITY HIGH [3] MODERATE [2] LOW [1]		Cha . Maxin	
EROSION	PARIAN WIDTH DE > 50m [4] DERATE 10-50m [3] RROW 5-10m [2] RY NARROW < 5m [1]	FLOOD PLAIN QUALIT FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD	TY R CON: URBA MINII	SERVATION TIL AN OR INDUST NG / CONSTRUCT DOMINANT LAND US	RIAL [0] CTION [0] se(s) prian
Check ONE (<i>ONLY!</i>) Check □ > 1m [6] □ POOL W □ 0.7-<1m [4] ☑ POOL W	HANNEL WIDTH) CONE (Or 2 & average) PIDTH > RIFFLE WIDTH [2] PIDTH = RIFFLE WIDTH [1]	CURRENT VELOCITY Check ALL that apply TORRENTIAL [-1] SLOW [1] VERY FAST [1] INTERSTIT FAST [1] EDDIES [1] Indicate for reach - pools and riff	IAL [-1] "ENT [-2]		ontact ton back)
of riffle-obligate species: RIFFLE DEPTH RUI □ BEST AREAS > 10cm [2] □ MAXIN	Check ON N DEPTH RIFFL MUM > 50cm [2] STABLI MUM < 50cm [1] MOD. S	pe large enough to support a IE (Or 2 & average). E / RUN SUBSTRATE RIFF E (e.g., Cobble, Boulder) [2] TABLE (e.g., Large Gravel) [1] BLE (e.g., Fine Gravel, Sand) [0]	LE / RUN EI	MBEDDEDN [2] 1] RATE (0) Ri	iffle /
DRAINAGE AREA 📈	VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]		%GLIDE: %RIFFLE:	Grad Maxir	B (/ () B

AJ SAMPLED REACH Check ALL that apply		Is reach typical of steam?, Recreation	// Observed - Inferred, Other	Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.	ess directions, etc.
BOAT 1st -sample pass- 2nd WADE	Sp. 2nd ———————————————————————————————————	Many 19 1	/261/		
OTHER DORMAL DISTANCE DRY					
O.5 Km CLARITY O.2 Km 1st −sample pass O.15 Km 0< 20 cm 0.12 Km 020-<40 cm OTHER 040-70 cm	TY BJAESTHETICS BISACE ALGAE NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED	Circle some & COMMENT	EJ ISSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL PARCE CONSTRUCTION CONSTRUCTION	FJ MEASUREMENTS
> 70 cm/ CTB		MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED		LOGGING / IRRIGATION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	x̄ bankfull width bankfull x̄ depth W/D ratio bankfull max, depth floodprone x² width entrench, ratio
SED	<i>CJ RECREATION</i> AREA DEPTH <i>POOL:</i> □>100ft²□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:
Stream Drawing:					
			des mes		
		Chub			
RS.			1		
	() most o	200		3rcs (Small)	
		oleas Jes	Change		

SIM-009-1

Chief A Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

200	o a sustantina di Salatan di Salatan di Salatan di Salatan di Salatan di Salatan di Salatan di Salatan di Salat	-
	~1	8
	/11	8
	1X n	8
	00	18
ᆫ		_6

SITE NAME/LOCATION	PIVER BASIN	DRAINAGE AREA (mi²)
LENGTH OF STREAM REACH (ft)	LATLONG 	RIVER CODE RIVER MILE
	1	RECOVERING RECENT OR NO RECOVERY
(Max of 40). Add total number of significant properties of the control of the con	FINE DETRITU	PERCENT DODY DEBRIS [3 pts] S [3 pts] PAN [0 pt]
evaluation. Avoid plunge pools from roa > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		on [15 pts] R MOIST CHANNEL [0 pts]
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts]	average of 3-4 measurements) (□ > 1.0 m - 1.5 m □ ≤ 1.0 m (≤ 3° 3) AVERA	Check ONLY one box): n (> 3' 3" - 4' 8") [15 pts] Bankfu Width Max=30
RIPARIAN ZONE AND FLOOD	This information must also be con PLAIN QUALITY ☆NOTE: River Left (L	npleted .) and Right (R) as looking downstream☆
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Ol Field Residential, Park, New Field Fenced Pasture	Conservation Tillage
FLOW REGIME (At Time of Even Stream Flowing Subsurface flow with isolated po		Channel, isolated pools, no flow (Intermittent) annel, no water (Ephemeral)
	per 61 m (200 ft) of channel) (Check <i>ONL</i>) 1.0	Y one box): 3.0 >3
STREAM GRADIENT ESTIMATE	☐ Moderate (2 ft/100 ft) ☐ Mode	erate to Severe

QHEI PERFORMED?	_ 24	
	V *	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIG		
CWH Name:		Distance from Evaluated Stream Distance from Evaluated Stream
J EWH Name:		Distance from Evaluated Stream Distance from Evaluated Stream
		TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
		NRCS Soil Map Page: NRCS Soil Map Stream Order
		nip / City: NRCS Soli Map Stream Order
MISCELLANEOUS	- Townsi	np / Ony
sase Flow Conditions? (Y/N):	Date of last precipitation:	Ouga titur
	Canopy (% open):	
		sample no. or id. and attach results) Lab Number:
		pH (S.U.) Conductivity (µmhos/cm)
	, , , , , , , , , , , , , , , , , , ,	ease explain:
BIOTIC EVALUATION		
erformed? (Y/N): (if	Yes, Record all observations. Voucher of	collections optional. NOTE: all voucher samples must be labeled with the
erformed? (Y/N): (If \\ ID \\ sh Observed? (Y/N) Voi rogs or Tadpoles Observed? (Y/N)	number. Include appropriate field data s ucher? (Y/N) Salamanders Obs I) Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If \\ ID \\ sh Observed? (Y/N) Voi rogs or Tadpoles Observed? (Y/N)	number. Include appropriate field data s ucher? (Y/N) Salaman ders Ohs	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If \\ ID \\ sh Observed? (Y/N) Voi rogs or Tadpoles Observed? (Y/N)	number. Include appropriate field data s ucher? (Y/N) Salamanders Obs I) Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	number. Include appropriate field data s ucher? (Y/N) Salamanders Obs) Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	number. Include appropriate field data sucher? (Y/N) Salamanders Obstitution Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) DF STREAM REACH (This must be completed):
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	number. Include appropriate field data sucher? (Y/N) Salamanders Obstitution Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) DF STREAM REACH (This must be completed):
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	number. Include appropriate field data sucher? (Y/N) Salamanders Obstitution Voucher? (Y/N) Aquatic	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) DF STREAM REACH (This must be completed):
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	number. Include appropriate field data sucher? (Y/N) Salamanders Obstitution Voucher? (Y/N) Aquatic NARRATIVE DESCRIPTION Costs and other features of interest for state	theets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If ID I ID I ID I ID I ID I ID I ID I	number. Include appropriate field data sucher? (Y/N) Salamanders Obstitution Voucher? (Y/N) Aquatic NARRATIVE DESCRIPTION Costs and other features of interest for state	PF STREAM REACH (This must be completed): ite evaluation and a narrative description of the stream's location CYP
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	NARRATIVE DESCRIPTION Costs and other features of interest for s	Present the Primary Headwater Habitat Assessment Manual) Served? (Y/N) Voucher?
erformed? (Y/N): (If ID IID IID IID IID IID IID IID IID II	NARRATIVE DESCRIPTION Costs and other features of interest for s	cerved? (Y/N) Voucher?

S [M - 0 | 0 - (Cheep Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

14

SITE NAME/LOCATION				
SITE NUMBER	R RIVER BASIN	DRA	AINAGE AREA (mi²)	
ENGTH OF STREAM REACH (ft) ATE	LAT. LONG COMMENTS Form - Refer to "Field Evaluation Ma	RIVER CODE	RIVER MILE	ıctions
STREAM CHANNEL ONONE / MODIFICATIONS:	NATURAL CHANNEL RECOVERED	RECOVERING	RECENT OR NO RECO	VERY
(Max of 40). Add total number of significant properties of the control of the con	FINE DETR CLAY or H. MUCK [0 p ARTIFICIA	inal metric score is sum of the common sum of th	PERCENT 100	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedroc SCORE OF TWO MOST PREDOMINATE SU	UBSTRATE TYPES: TOTA	L NUMBER OF SUBSTR		A + B
. Maximum Pool Depth (Measure the evaluation. Avoid plunge pools from > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	<u>∭</u> <5 cm [5	eck <i>ONLY</i> one box): 0 cm [15 pts]		Pool Depti Max = 30
COMMENTS	MA	XIMUM POOL DEPTH (d		
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts	₽ ≤ 1.0 m (±	(Check <i>ONLY</i> one b 1.5 m (> 3' 3" - 4' 8") [15 p ≤ 3' 3") [5 pts]		Bankfull Width Max=30
COMMENTS	AV	ERAGE BANKFULL WIE	TH (meters)	
RIPARIAN ZONE AND FLO	This information <u>must</u> also be O ODPLAIN QUALITY ANOTE: River L FLOODPLAIN QUALITY	completed eft (L) and Right (R) as lo	oking downstream☆	
RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m	L R (Most Predominant per B Mature Forest, Wetland Immature Forest, Shrub		Conservation Tillage Urban or Industrial	
☐ ₩ Narrow <5m ☐ None COMMENTS	Residential, Park, New F	ield P	Open Pasture, Row Crop Mining or Construction	
	f Charlestian) (Charle ONI V one box):			
FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	<u> </u>	oist Channel, isolated po ry channel, no water (Ep		
FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	<u> </u>	ry channel, no water (Ep		

	REAM INFORMATION (This Information Must Also be	
QHEI P	PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
	STREAM DESIGNATED USE(S)	
UVVH Name:		Distance from Evaluated Stream
J CWH Name: _		Distance from Evaluated Stream
		Distance from Evaluated Stream
		RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
		RCS Soil Map Page: NRCS Soil Map Stream Order
ounty:	Township) / City:
MISCEL	LLANEOUS	
ase Flow Conditi	ions? (Y/N): Date of last precipitation:	Quantity:
otograph Inform	nation:	
evated Turbidity	? (Y/N): Canopy (% open):	_
ere samples coll	ected for water chemistry? (Y/N): (Note lab sar	mple no. or id. and attach results) Lab Number:
eld Measures:		pH (S.U.) Conductivity (μmhos/cm)
the sampling rea		ase explain:
, 3	mot, pice	зэс схран
	EVALUATION	
erformed? (Y/N):	(If Yes, Record all observations. Voucher col ID number. Include appropriate field data she	lections optional. NOTE: all voucher samples must be labeled with the eets from the Primary Headwater Habitat Assessment Manual)
ogs or ladpoles	/N) Voucher? (Y/N) Salamanders Obsei Observed? (Y/N) Voucher? (Y/N) Aquatic M ing Biology;	acroinvertebrates Observed? (Y/N) Voucher? (Y/N)
		STREAM REACH (This <u>must</u> be completed):
		F STREAM REACH (This <u>must</u> be completed): e evaluation and a narrative description of the stream's location
		e evaluation and a narrative description of the stream's location
Include impo	ortant landmarks and other features of interest for site	e evaluation and a narrative description of the stream's location
Include impo	ortant landmarks and other features of interest for site	e evaluation and a narrative description of the stream's location
Include impo	ortant landmarks and other features of interest for site	e evaluation and a narrative description of the stream's location
Include impo	ortant landmarks and other features of interest for site	regelation and a narrative description of the stream's location Negelation N
Include impo	ortant landmarks and other features of interest for site	e evaluation and a narrative description of the stream's location

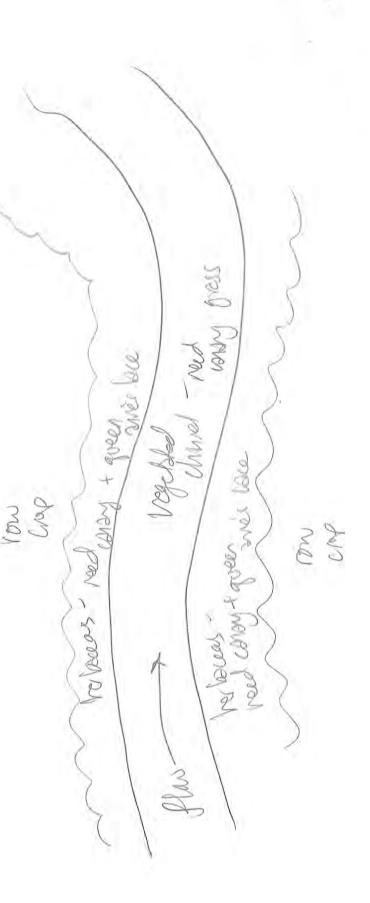


Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



n & Location.	
	Scorers Full Name & Affiliation: RM: Date: 9 13 18
er Code:	STORET #: Lat./ Long.: \(\) 1 \(\) 1 \(\) 1 \(\) 1 \(\) 1 \(\) Office verified
1] SUBSTRATE Chec	ck ONLY Two substrate TYPE BOXES;
BESTITES	POOL PIECE OTHER TYPES OPICIN
☐ ☐ BLDR /SLABS [10] ☐ ☐ BOULDER [9]	——————————————————————————————————————
	—— U DETRITUS [3] 20 TILLS [1] MODERATE [-1] Substrate
☐ GRAVEL [7]	→ □ MINOSIT [2] 30 □ WEILANDS [0] □ NORMAL [0]
SAND [6] BEDROCK [5]	HARDPAN [0] FREE [1] SANDSTONE [0] PRINCE PR
	SANDSTONE [0] (Score natural substrates; ignore RIP/RAP [0] MODERATE [-1] (Score natural substrates) LACUSTURINE [0] MODERATE [-1] SHALE [-1] COAL FINES [-2]
Comments	☐ 3 or less [0] ☐ SHALE [-1] ☐ NONE [1] 20
2] INSTREAM COVE	R Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal
quality: 3-Highest quality i	a moderate or greater annuality, but not of highest quality or in small amounts of highest
\underline{U} UNDERCUT BANKS	6 [1] POOLS > 70 w [11]
OVERHANGING VE	GETATION [1] ROOTWADS [1] AQUATIC MACROPHYTES [1] SPARSE 5-<25% [3]
ROOTMATS [1]	DW WATER) [1] D BOULDERS [1] LOGS OR WOODY DEBRIS [1] NEARLY ABSENT <5% [1]
Comments	Cover
21 01/4 1/1/5/ 1/0 7 7 1/4	Maximum / Z 20
SINUOSITY DEVI	OLOGY Check ONE in each category (Or 2 & average) ELOPMENT CHANNELIZATION STARILITY
☐ HIGH [4] ☐ E	COLUMN STABILITY
☐ MODERATE [3] ☐ G	DOD [5] RECOVERED [4] MODERATE (2)
	OR [1] RECOVERING [3] LOW [1]
Comments	Channel Maximum
41 BANK FROSION A	20 🕽
	ND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) FLOOD PLAIN OLIALITY
EROSION	☐ WIDE > 50m [4] ☐ FOREST SWAMP 121
NONE / LITTLE [3]	☐ ☐ MODERATE 10-50m [3] ☐ ☐ SHRUB OR OLD FIELD [2] ☐ ☐ URBAN OR INDUSTRIAL [0]
☐ ☐ HEAVY / SEVERE [1]	✓ VERY NARROW < 5m [1] ☐ FENCED PACK, NEW FIELD [1] ☐ MINING / CONSTRUCTION [0]
Comments	☐ NONE [0]
Comments	Maximum 4
5] POOL / GLIDE AND	RIFFLE / RUN QUALITY
MAXIMUM DEPTH Check ONE (ONLY!)	CHANNEL WIDTH CURRENT VELOCITY Recreation Potential
☐ > 1m [6]	Check ALL that apply Check ALL that apply Primary Contact
<u> </u>	POOL WIDTH = RIFFLE WIDTH 11 VERY EAST 11 VERY EAST 11 Secondary Contact
🛛 0.2-<0.4m [1]	INTERMITTENT [-2]
☐ < 0.2m [0] Comments	□ MODERATE [1] □ EDDIES [1] Pool / Indicate for reach - pools and riffles.
	Maximum A
Indicate for functio of riffle-obligate sp	nal riffles; Best areas must be large enough to support a population
RIFFLE DEPTH	PIIN DEPTH DISTRICT (07 2 & average).
BEST AREAS > 10cm [2]	MAXIMUM > 50cm [2] ☐ STARIE (o.g. Cobbin British Principle)
☐ BEST AREAS 5-10cm [1] ☐ BEST AREAS < 5cm	LOW [1] LOW [1]
[metric=0] Comments	UNSTABLE (e.g., Fine Gravel, Sand) [0] MODERATE [0] Riffle / Run
	EXTENSIVE [-1] Run Maximum
6] GRADIENT (5.5 ft DRAINAGE AREA	mi) VERY LOW - LOW [2-4] %POOL: %GLIDE: Gradient
DIGINAGE AREA (名Mn	MIODERATE 16-10

Stream Drawing:



SIM-013-1

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

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111	2000
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L. Company of the Company	,

SITE NAME/LOCATION	RIVER BASIN	DRAINAGE AREA (mi²) 6.74
NOTE: Complete All Items On This Form	COMMENTS Refer to "Field Evaluation Manual for Ohio	's PHWH Streams" for Instructions
STREAM CHANNEL NONE / NATU MODIFICATIONS:	RAL CHANNEL RECOVERED RECOVER	RING PRECENT OF NO RECOVERY
(Max of 40). Add total number of significan TYPE PEF BLDR SLABS [16 pts] PEF BOULDER (>256 mm) [16 pts] PEF COBBLE (65-256 mm) [12 pts] PEF COBBLE (65-256 mm) [12 pts]	type of substrate present. Check ONLY two predot substrate types found (Max of 8). Final metric score CENT TYPE SILT [3 pt] LEAF PACKWOODY DEB FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	PERCENT Metric Points RIS [3 pts] Substrate Max = 40 /2
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTI	(A) RATE TYPES: TOTAL NUMBER OF	SUBSTRATE TYPES: A + B
evaluation. Avoid plunge pools from road (> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	cimum pool depth within the 61 meter (200 ft) eval culverts or storm water pipes) (Check ONLY one b > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST (CHANNEL [0 pts]
COMMENTS	MAXIMUM POOL	DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	verage of 3-4 measurements) (Check ON > 1.0 m - 1.5 m (> 3' 3" - 4	LY one box): Bankfull
COMMENTS	AVERAGE BANKI	FULL WIDTH (meters)
RIPARIAN ZONE AND FLOODPI	This information <u>must</u> also be completed AIN QUALITY なNOTE: River Left (L) and Righ	it (R) as looking downstreamದ
RIPARIAN WIDTH L R (Per Bank) Wide >10m	Mature Forest, Wetland	L R Conservation Tillage Urban or Industrial
☐ ☐ Moderate 5-10m ☐ ☐ Narrow <5m ☐ ☐ None COMMENTS	rieiu	Open Pasture, Row Crop Mining or Construction
FLOW REGIME (At Time of Evaluation of Evalua	Moist Channel, is	solated pools, no flow (Intermittent) water (Ephemeral)
SINUOSITY (Number of bends por None	1.0 (Check ONLY one box) 1.5 (Check ONLY one box) 2.0 2.5	3.0

WHEI PERFORME	D? - Yes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DI	ESIGNATED USE(S)	
WWH Name:	AND THE RESERVE OF THE PERSON	Distance from Evaluated Stream
Account to the second s		Dictance from Contrated Of
LJ EWH Name:		Distance from Evaluated Stream
		TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:		NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Townsh	hip / City:
MISCELLANEOUS		
Base Flow Conditions? (Y/N):	Date of last	
		Quantity:
Elevated Turbidity? (Y/N):	Canopy (% open):	_
Were samples collected for wa	ter chemistry? (Y/N): (Note lab sa	sample no. or id. and attach results) Lab Number:
		pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach represen	tative of the street OVAN	lease explain:
	il not, pre	сизс схрант
ish Observed? (Y/N)	Voucher? (Y/N) Salamandars Obser	collections optional. NOTE: all voucher samples must be labeled with the heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) Voucher? (Y/N)
rogs or Tadpoles Observed? (* comments Regarding Biology:_	YN) Youcher? (Y/N) Aquatic N	Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
DRAWING AND	NARRATIVE DESCRIPTION OF	F STREAM REACH (This must be completed)
DRAWING AND	O NARRATIVE DESCRIPTION OF	F STREAM REACH (This <u>must</u> be completed): ite evaluation and a narrative description of the stream's location
DRAWING AND	arks and other features of interest for sit	F STREAM REACH (This must be completed): ite evaluation and a narrative description of the stream's location COP
DRAWING ANI	arks and other features of interest for sit	ite evaluation and a narrative description of the stream's location COP
include important landm	arks and other features of interest for sit	ite evaluation and a narrative description of the stream's location COP
include important landm	Steep banks - Veget Head Cha	ite evaluation and a narrative description of the stream's location
DRAWING AND Include important landma	Steep banks - Vegetated cha	ite evaluation and a narrative description of the stream's location LOP - ypland veg. whel- word plantin pricum yhad veg.
include important landm	Steep banks - Veget Head Cha	ite evaluation and a narrative description of the stream's location LOP - ypland veg. whel- word plantin pricum yhad veg.

SIM - O(H - I) Chieffy Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

3	- managapan managa	
	2%	
	20	š
L		

SITE NAME/LOCATION			
LENGTH OF STREAM REACH (ft) DATE SCORER SCORER NOTE: Complete All Items On This Fo	RIVER BASIN LAT. 41.2454 LONG. 82.246 COMMENTS rm - Refer to "Field Evaluation Manu	DRAINAGE AREA (mi²) RIVER CODE RIVER MILE al for Ohio's PHWH Streams" for Instruc	ctions
		RECOVERING RECENT OR NO RECOV	
(Max of 40). Add total number of signif TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts]	FINE DETRITION OF THE DETRITION OF THE PROPERTY OF THE PROPERT	metric score is sum of boxes A & B. PERCENT (OODY DEBRIS [3 pts] US [3 pts] DPAN [0 pt]	HHE Metri Point Substra Max = 4
evaluation. Avoid plunge pools from ro > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		ONLY one box): im [15 pts] ig] OR MOIST CHANNEL [0 pts]	Pool Dep Max = 3
COMMENTS	MAXINMAXIN	IUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the second sec	e average of 3-4 measurements)	(Check ONLY one box): m (> 3' 3" - 4' 8") [15 pts] 3") [5 pts]	Bankfu Width Max=30
COMMENTS	AVER/	AGE BANKFULL WIDTH (meters)	
RIPARIAN ZONE AND FLOOD		mpleted (L) and Right (R) as looking downstream ☆	
<u>RIPARIAN WIDTH</u> L R (Per Bank)	FLOODPLAIN QUALITY L R (Most Predominant per Bank		
☐ ☐ Wide >10m	Mature Forest, Wetland	Conservation Tillage	
☐ ☐ Moderate 5-10m	☐ ☐ Immature Forest, Shrub or C	Old	
☐ ☐ Narrow <5m	Residential, Park, New Field	Open Pasture, Row Crop	
None COMMENTS	Fenced Pasture	Mining or Construction	
Stream Flowing Subsurface flow with isolated po		t Channel, isolated pools, no flow (Intermittent) hannel, no water (Ephemeral)	
SINUOSITY (Number of bends None 0.5	per 61 m (200 ft) of channel) (Check <i>ONI</i> 1 1.0	_Y one box):	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	☐ Moderate (2 ft/100 ft) ☐ Moderate (2 ft/100 ft)	derate to Severe	ft)

ADDITIONAL STREAM INF	ORMATION (This Information N	Must Also be Completed):	<u>:</u>
QHEI PERFORME	ED? - 🗆 Yes 🙀 No QHEI Sci	ore(If Yes, At	tach Completed QHEI Form)
DOWNSTREAM D	DESIGNATED USE(S)		
WWH Name:			Distance from Evaluated Stream
CWH Name:			Distance from Evaluated Stream
D EWH Name:		·	Distance from Evaluated Stream
MAPPING: ATTAC	H COPIES OF MAPS, INCLUDING	THE <u>ENTIRE</u> WATERSHE	ED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:		NRCS Soil Map	Page: NRCS Soil Map Stream Order
County:		_ Township / City:	
MISCELLANEOUS	3		
Base Flow Conditions? (Y/N)	: Date of last precipitat	ion:	Quantity:
Photograph Information:			
	Canopy (% open): _		
Were samples collected for w	vater chemistry? (Y/N):	(Note lab sample no. or id.	and attach results) Lab Number:
			Conductivity (µmhos/cm)
, 3			
Additional comments/descript	ion of pollution impacts:		
BIOTIC EVALUAT	ion	16	· · · · · · · · · · · · · · · · · · ·
Performed? (Y/N):	(If Yes, Record all observations. ID number. Include appropriate	Voucher collections options field data sheets from the Pi	al. NOTE: all voucher samples must be labeled with the si rimary Headwater Habitat Assessment Manual)
rogs or Tadpoles Observed?	Voucher? (Y/N) Salama	nders Observed? (Y/N) Aquatic Macroinvertebra	
			REACH (This <u>must</u> be completed):
Include important land	marks and other features of int	<u> </u>	nd a narrative description of the stream's location
		Now CAP	
<u> </u>		now Steep sta	20s word was
	A A STATE OF THE PARTY OF THE P	1.0	
LOW →	regels	technical - a	attail, huxwed
and the second		Steep Stupes	1 Planot 1/Pa
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		ray oto	
		vous app	
		-	

SIM-015

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3)



	51M -0/5 RIVER BAS	SIN	DR	AINAGE AREA (mi²)	
ENGTH OF STREAM REACH (ft)	LAT. LON	G R	IVER CODE	RÎVER MÎLE	
ENGTH OF STREAM REACH (ft)	COMMENTS_				
NOTE: Complete All Items On This F	orm - Refer to "Field Eva	luation Manual fo	r Ohio's PHW	H Streams" for Insti	ructio
TREAM CHANNEL ONONE/	NATURAL CHANNEL	COVERED RE	COVERING	RECENT OR NO REC	OVER
SUBSTRATE (Estimate percent of (Max of 40). Add total number of sign (Max of 40). Add total number of sign (Max of 40). Add total number of sign (Max of 40). Add total number of sign (Max of 40). Add total number of sign (Max of 40). BLDR SLABS [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	ificant substrate types found (PERCENT TYPE		c score is sum c Y DEBRIS [3 pt: i pts] [0 pt]	f boxes A & B. PERCENT 50	H Me Po
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock ORE OF TWO MOST PREDOMINATE SU		TOTAL NUMBI	ER OF SUBSTR	ATE TYPES:	A
Maximum Pool Depth (Measure the evaluation. Avoid plunge pools from r > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	oad culverts or storm water of		one box); pts]		Pool Max
COMM ENTS		MAXIMUM P	OOL DEPTH (co	entimeters):	E IN
THE PARTY OF THE PROPERTY OF THE PARTY OF TH	The section of the se	e/-,-i 1=20-0	E 01011		
BANK FULL WIDTH (Measured as to 24.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	\$	> 1.0 m - 1.5 m (> 3 - ≤ 1.0 m (≤ 3'3") [5	pts]		W
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	\$	> 1.0 m - 1.5 m (> 3 - ≤ 1.0 m (≤ 3'3") [5	' 3" - 4' 8") [15 pt pts]		Wi
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	This information muder the property of the pro	> 1.0 m - 1.5 m (> 3 - < 1.0 m (< 3'3") [5] AVERAGE B average and a second	3" - 4' 8") [15 pt pts] ANKFULL WID ad Right (R) as loo	EH (meters)	Wi
> 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank)	This information muder the property of the pro	> 1.0 m - 1.5 m (> 3 - < 1.0 m (< 3'3") [5] AVERAGE B average and a second	ANKFULL WID ad Right (R) as loo	H (meters)	Bar Wi Max
> 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10m	This information mu DPLAIN QUALITY &NOT FLOODPLAIN QUALITY L R (Most Predom	> 1.0 m - 1.5 m (> 3 - ≤ 1.0 m (≤ 3'3") [5] AVERAGE B Ist also be complete [E: River Left (L) and	ANKFULL WID ANKFULL WID ANKFULL WID ANGLE R	TH (meters) king downstream☆ Conservation Tillage	Wi
> 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMM ENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m None	This information mu DPLAIN QUALITY &NOT FLOODPLAIN QUALITY L R (Most Predom Mature Forest Immature Fore Field Residential, Predom Fenced Pasture //aluation) (Check ONLY one	> 1.0 m - 1.5 m (> 3 - ≤ 1.0 m (≤ 3'3") [5 AVERAGE B ist also be complete [E: River Left (L) and inant per Bank) , Wetland est, Shrub or Old ark, New Field re box): Moist Chann	ANKFULL WID	King downstream & Conservation Tillage Urban or Industrial Open Pasture, Row Crop Wining or Construction	Wi
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMM ENTS	This information multiple of the property of t	> 1.0 m - 1.5 m (> 3 - ≤ 1.0 m (≤ 3'3") [5] AVERAGE B But also be completed E: River Left (L) and inant per Bank) , Wetland est, Shrub or Old ark, New Field re box): Moist Chann Dry channel	ANKFULL WIDT AN	King downstream & Conservation Tillage Urban or Industrial Open Pasture, Row Crop Wining or Construction	Wi

ADDITIONAL STREAM INFORMAT	ΠΟΝ (This Information Must A	lso be Completed):		
QHEI PERFORMED? - [Yes No QHEI Score _	(If Yes, Attac	ch Completed QHEI Form)	
DOWNSTREAM DESIGN				
WWH Name:			_ Distance from Evaluated St	ream
CWH Name:			_ Distance from Evaluated Str	eam
EWH Name:				
MAPPING: ATTACH COP	ES OF MAPS, INCLUDING THE	ENTIRE WATERSHED	AREA. CLEARLY MARK THE	SITE LOCATION
JSGS Quadrangle Name:		NRCS Soil Map Pa	age: NRCS Soil Map	Stream Order
County:	Tov	wnship / City:	77-2-2-1	
MISCELLANEOUS				
Base Flow Conditions? (Y/N):	Date of last precipitation:		Quantity:	
Photograph Information;	SIM-015	1.2		
The same of the sa	Canopy (% open):/			
Vere samples collected for water ch	emistry? (Y/N): (Note I	lab sample no. or id. ar	d attach results) Lab Number	
leld Measures: Temp (°C)	Dissolved Oxygen (mg/l)	pH (S.U.)	Conductivity (µmhos/c	m)
s the sampling reach representative	of the stream (Y/N)	ot please explain.		
	5. 3.5 3.3 3.3 3.0 (1.0 t/2 10.0 t/2	or, product explain.		
BIOTIC EVALUATION erformed? (Y/N): (If Ye	s, Record all observations. Vouc mber. Include appropriate field di	her collections optional. ata sheets from the Prim	NOTE: all voucher samples mu ary Headwater Habitat Assessn	st be labeled with the site ent Manual)
ish Observed? (Y/N)Vouc rogs or Tadpoles Observed? (Y/N)_ comments Regarding Biology;	her? (Y/N) Salamanders Voucher? (Y/N) Aqu	atic Macroinvertebrate	s Observed? (Y/N): Voud	her? (Y/N)
	ARRATIVE DESCRIPTIO			
1			1	20 1 20 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1
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LOW				
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		10		1



SIM - O/7 - (Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 32



Stream & Location:			RM:	Date: 9 /3 /9
Meggnysw	1 Creek	_Scorers Full Name & Affi		
River Code:	STORET #:_	Lat./ Long.:(2392 1827	GNG Office verified
1] SUBSTRATE Check	ate % or note every type present	(ES;		<u>441 location</u> ⊔
BEST TYPES BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5]	OTHER TY	S [3]	DS [0] SILT SILT N [0] DNE [0] DNE [0] IRINE [0]	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NORMAL [0] NONE [1]
quality: 3-Highest quality in	moderate or greater amounts (e well developed rootwad in deep / [1] POOLS:		amounts of highest cheast water, large Chean che	AMOUNT eck ONE (Or 2 & average) XTENSIVE >75% [11] IODERATE 25-75% [7] PARSE 5-<25% [3] EARLY ABSENT <5% [1] Cover Maximum 20
	DLOGY Check ONE in each ca			
☐ HIGH [4] ☐ EX ☐ MODERATE [3] ☐ GO ☐ LOW [2] ☐ FAI ☐ NONE [1] ☐ PO Comments	CELLENT [7] NONE [6] DOD [5] RECOVERE R [3] RECOVERI OR [1] RECENT OF	NG [3] DOW [1] R NO RECOVERY [1]	 ATE [2]	Channel Maximum 20
EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1] Comments	RIPARIAN WIDTH □ WIDE > 50m [4] □ MODERATE 10-50m [3] □ NARROW 5-10m [2] □ VERY NARROW < 5m [1] ☑ NONE [0]	ONE in each category for EACH BACH BACH BACH BACH BACH BACH BACH B	RUALITY R CONS	SERVATION TILLAGE [1] AN OR INDUSTRIAL [0] IG / CONSTRUCTION [0] Idominant land use(s)
MAXIMUM DEPTH Check ONE (ONLY!) ☐ > 1m [6] ☐ 0.7-<1m [4]	RIFFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average POOL WIDTH > RIFFLE WIDTH POOL WIDTH = RIFFLE WIDTH POOL WIDTH < RIFFLE WIDTH	[2] TORRENTIAL [-1] SLO [1] VERY FAST [1] INTE	ply DW [1] ERSTITIAL [-1] ERMITTENT [-2] DIES [1]	creation Potential Primary Contact condary Contact e one and comment on back) Pool/ Current Maximum 12
RIFFLE DEPTH BESTAREAS > 10cm [2] BESTAREAS 5-10cm [1] BESTAREAS < 5cm [metric=0] Comments	RUN DEPTH RI MAXIMUM > 50cm [2] ST. MAXIMUM < 50cm [1] MC	Ist be large enough to sup ok ONE (<i>Or 2 & average</i>). FFLE / RUN SUBSTRATE ABLE (e.g., Cobble, Boulder) [2] DD. STABLE (e.g., Large Gravel) [1 STABLE (e.g., Fine Gravel, Sand)	RIFFLE / RUN EM	MO RIFFLE [metric=0] BEDDEDNESS
6] GRADIENT (4.5 ft. DRAINAGE AREA	/mi) ፟፟ VERY LOW - LOW [2-4	- %FOOL.	%GLIDE:	Gradient U

SIM-025-1

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

0/	П
1	

(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE □□ BLDR SLABS [16 pts] □□ BOULDER (>256 mm) [16 pts] □□ COBBLE (65-256 mm) [12 pts] □□ GRAVEL (2-64 mm) [9 pts] □□ GRAVEL (2-64 mm) [9 pts] □□ SAND (<2 mm) [6 pts] □□ ARTIFICIAL [3 pts] □□ ARTIFICIAL [3 pts] □□ ARTIFICIAL [3 pts] □□ ARTIFICIAL [3 pts] □□ TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): □> 30 centimeters [20 pts] □> 22.5 - 30 cm [30 pts] □> 10 - 22.5 cm [25 pts] □> 10 - 22.5 cm [25 pts] □ OMMENTS MAXIMUM POOL DEPTH (centimeters): Summary	SITE NUMBE	DRAINAGE AREA (mi ²)	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction TREAM CHANNEL	NATURE OF THE PROPERTY OF THE	R RIVER BASIN	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction TREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER RECOVERING RECENT OR NO RECOVER RECENT OR NO RECOVER SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 40). Add total number of significant substrate types (Interpretation of the predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types (Interpretation of the predominant substrate Types) (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interpretation of the predominant substrate Types (Interp	NGTH OF STREAM REACH (#)	E AD COMMENTS	
TREAM CHANNEL	NOTE: Complete All Items On This	Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	ıctior
SUBSTRATE (Estimate percent of every type of substrate present. Check ONL Y two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of 40). Final metric score is sum of boxes A & B. (Max of			
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. YPE BLDR SLABS (16 pts) BLDR SLABS (16 pts) BERCROKT SLEF PACK/MOODY DEBRIS [3 pts] COBBLE (66-256 mm) [12 pts] GRAVEL (2-84 mm) [9 pts] GRAVEL (2-84 mm) [9 pts] AND (<2 mm) [16 pts] Total of Percentages of Box (A) Box (A) Box (A) Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) COMMENTS COMMENTS AVERAGE BANK FULL WIDTH (Measured as the average of 3-4 measurements) AVERAGE BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): AVERAGE BANK FULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY AVENOTE: River Left (L) and Right (R) as looking downstream of the completed of the completed of the completed of the completed of the complete of the complet		/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF NO RECO	VERI
(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Max of 40). Add total number of significant substrate types in the significant substrate type in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrate types in the significant substrat	MODIFICATIONS:		
BUDR SLABS [16 pts]	SUBSTRATE (Estimate percent o	of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	Hŀ
BLDR SLABS [16 pts]		PERCENT	Me
BEDROCK [16 pt] COBBLE (66-256 mm) [12 pts] GRAVEL (2-64 mm) [2] pts] GRAVEL (2-64 mm) [2] pts] Total of Percentages of BAND (20 mm) [2] pts] ARTIFICIAL [3] pts] Total of Percentages of BAND (20 mm) [2] pts] ARTIFICIAL [3] pts] Total of Percentages of BAND (20 mm) [2] pts] ARTIFICIAL [3] pts] Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts] 30 centimeters [20 pts] ANAIMUM POOL DEPTH (centimeters): COMMENTS AVERAGE BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): 4.0 meters (-13) [30 pts] 3.10 m -4.0 m (-9 7"-13) [25 pts] AVERAGE BANK FULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream or RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream or RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY None Residential, Park, New Field Open Pasture, Row Crop None Floow Regime (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 AND CROP (Proced Pasture) Comments Check ONLY one box): None	BLDR SLABS [16 pts]	SILT [3 pt]	Po
COBBLE (65-256 mm) [12 pts]			Sub
Total of Percentages of Bidd's Slabs, Boulder, Cobble, Bedrock CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters (20 pts]			Max
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Bildr Slabs, Boulder, Cobble, Bedrock CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters (20 pts)	□ □ □ SAND (<2 mm) [6 pts]		
Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): 30 centimeters [20 pts]	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedro		Α+
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]			
evaluation, Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]	. Maximum Pool Depth (Measure to	the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool
> 22.5 - 30 cm [30 pts]	evaluation. Avoid plunge pools from	n road culverts or storm water pipes) (Check ONLY one box):	Max
COMMENTS BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13) [30 pts]	> 22.5 - 30 cm [30 pts]	☐, <5 cm [5 pts]	1
BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13) [30 pts]		0	
SANK PULL WIDTH (Mesting as the average of 34 miles and 35 miles are also be supported (so 13) [30 pts] > 1.0 m - 1.5 m (s 3' 3" - 4' 8") [15 pts] > 1.5 m - 3.0 m (s 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (s 4' 8" - 9' 7") [20 pts]	COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
> 4.0 meters (> 1.3) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY Wide >10 m Mature Forest, Wetland Moderate 5-10 m Moderate 5-10 m Moderate 5-10 m Residential, Park, New Field Narrow <5 m None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 None 1.0 3.0 AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) FLOW REGIME (At Time of Evaluation) Moderate 5-10 m Residential, Park, New Field Open Pasture, Row Crop Mining or Construction Modist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 3.0		s the average of 3-4 measurements) (Check ONLY one box):	Bar Wi
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This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY &NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank)	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pt	isj /	121
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Moderate 5-10m	RIPARIAN ZONE AND FLO RIPARIAN WIDTH	This information <u>must</u> also be completed OODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY	
Narrow <5m	RIPARIAN ZONE AND FLO RIPARIAN WIDTH L R (Per Bank)	This information must also be completed OODPLAIN QUALITY	
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FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None COMMENTS Check ONLY one box): None 3.0	RIPARIAN ZONE AND FLO RIPARIAN WIDTH L R (Per Bank) Uide >10m	This information must also be completed OODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland □ □ Conservation Tillage Immature Forest, Shrub or Old Field □ Urban or Industrial	
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral) (Check ONLY one box): None 3.0	RIPARIAN ZONE AND FLO RIPARIAN WIDTH (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m	This information must also be completed OODPLAIN QUALITY	
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ADDITIONAL STREAM INFORMATION (This Information Must	Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score _	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CVVH Name:	Distance from Evaluated Stream
LJ EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	E <u>entire</u> watershed area. Clearly mark the site location
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: To	ownship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:_	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note	e lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) _	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If n	not, please explain:
ID number. Include appropriate field o	cher collections optional. NOTE: all voucher samples must be labeled with the sit data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?
	ON OF STREAM REACH (This <u>must</u> be completed): for site evaluation and a narrative description of the stream's location
	The evaluation and a man ative description of the stream's location
_ Viel	her becas placed
Who the Course	regelated channel - coelclebu, polyganum hobaceas old Reld veg
W W	toloreas old field veg
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Chieff Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

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DATE OF STREAM REACH (ft) SCORER ACK	RIVER BASIN	
STREAM CHANNEL NONE / NA MODIFICATIONS:	ATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERY
(Max of 40). Add total number of significant of the significant of th	rery type of substrate present. Check ONLY two predominant substrate TYPE boxes cant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT TYRE SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _ SCORE OF TWO MOST PREDOMINATE SUBS		A+B
Maximum Pool Depth (Measure the next evaluation. Avoid plunge pools from rose > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of ad culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
COMMENTS		
3. BANK FULL WIDTH (Measured as the	e average of 3-4 measurements) (Check ONLY one box):	Bankfull
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) This information must also be completed PLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANOTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and Right (R) as looking downstream ANDTE: River Left (L) and River (R) and River (R) and River (R) and River (R) and River (R) and R) and River (R) and R) and River (R) and R) idth	
> 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8"- 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) This information must also be completed PLAIN QUALITY ♣NOTE: River Left (L) and Right (R) as looking downstream ♣ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (≥ 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) This information must also be completed PLAIN QUALITY NOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland	Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDT	Width Max=30
>3.0 m - 4.0 m (>9' 7"- 13') [25 pts] >1.5 m - 3.0 m (> 4' 8"- 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDT	Width Max=30

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
FLOW TO CAMP
Cycle 1
and steel state
col stal wavel
red Any Joss
Part h

SIM - DD - (ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):



SITE NAME/LOCATION	281mhl			
SITE NUMBE	79000 RIVER BASIN	D	RAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) DATE	LAT. LONG	RIVER CODE	RIVER MILE	
	NATURAL CHANNEL RECOVER	Λ		
1. SUBSTRATE (Estimate percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of (Max of 40). Add total number of signature percent of signatur). Final metric score is sum pt] ACK/WOODY DEBRIS [3 ETRITUS [3 pts] r HARDPAN [0 pt]	of boxes A & B. PERCENT	HHE Metric Point Substrat Max = 4
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedroo SCORE OF TWO MOST PREDOMINATE S		TAL NUMBER OF SUBSI	(B) RATE TYPES:	A + B
evaluation. Avoid plunge pools from > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	<5 cm	Check <i>ONLY</i> one box): n - 10 cm [15 pts] n [5 pts] ATER OR MOIST CHANN	EL [0 pts]	Pool Dep Max = 3
	s the average of 3-4 measurements) X	(Check <i>ONLY</i> one 1 - 1.5 m (> 3' 3" - 4' 8") [15 n (≤ 3' 3") [5 pts]	box):	Bankful Width Max=30
COMMENTS		AVERAGE BANKFULL W	IDTH (meters)	/5
RIPARIAN ZONE AND FL O RIPARIAN WIDTH	This information <u>must</u> also ODPLAIN QUALITY ☆NOTE: Rive FLOODPLAIN QUALITY	be completed r Left (L) and Right (R) as	looking downstreamಚಿ	
L R (Per Bank) ☐ Wide >10m ☐ Moderate 5-10m	L R (Most Predominant per Mature Forest, Wetlan Immature Forest, Shrifteld	nd 🗆 🗆	Conservation Tillage Urban or Industrial	
Narrow <5m None COMMENTS	Residential, Park, New	v Field 💆 🕏 🗆	Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	f Evaluation) (Check ONLY one box):	Moist Channel, isolated p Dry channel, no water (E	ools, no flow (Intermittent) phemeral)	
SINUOSITY (Number of ber None 0.5		ck <i>ONLY</i> one box): 2.0 [2.5	3.0 3.3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	e	☐ Moderate to Severe	Severe (10 ft/10	Oft)

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	regelded united gosses trever ahre	45
.ow →	steep Stee	
Ú	Von CAP	KANGGAN, MARIANTAN JANGGAN JAN
	andmarks and other features of interest for site evaluation and a narrative description of the stream's location	1
DRAWING	AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):	-
		<u>-</u>
ogs or Tadpoles Observ	ed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) ogy:	_
sh Observed? (Y/N)	ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)	
,	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sit	e
BIOTIC EVALU	JATION	-
dditional comments/desc	ription of pollution impacts:	-
the sampling reach repr	resentative of the stream (Y/N) If not, please explain:	
eld Measures: Temp	(°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
	or water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
	Canopy (% open):	
	/N): Date of last precipitation: Quantity:	
MISCELLANEC		
ounty:	Township / City:	
SGS Quadrangle Name	: NRCS Soil Map Page: NRCS Soil Map Stream Order	
	FACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION	
D EWH Name:	Distance from Evaluated Stream	
OMBLE	Distance from Evaluated Stream	
] WWH Name:	M DESIGNATED USE(S)	

PHWH Form Page - 2

51M-036

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

	Title ocore (sum of medies 1, 2, 9)	
SITE NAME/LOCATION	DRAINAGE AREA (mi²)	
DATE 9/19/19 SCORER AT COM	RIVER BASIN DRAINAGE AREA (mi²) LONG RIVER CODE RIVER MILE MENTS	
NOTE: Complete All Items On This Form - Refer to	"Field Evaluation Manual for Ohio's PHWH Streams" for Instru	ctions
	NEL RECOVERED RECOVERING RECENT OR NO RECOVERING	
1. SUBSTRATE (Estimate percent of every type of sub (Max of 40). Add total number of significant substrate by PERCENT TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	bstrate present. Check ONLY two predominant substrate TYPE boxes bypes found (Max of 8). Final metric score is sum of boxes A & B. TYPE SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES	(A) (B) (B) (S) (S) (S) (TOTAL NUMBER OF SUBSTRATE TYPES:	A + B
2. Maximum Pool Depth (Measure the maximum pool evaluation. Avoid plunge pools from road culverts or st > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	depth within the of meter (200 to evaluation reast at the	Pool Depth Max = 30
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the average of 3-> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m -1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	Bankfull Width Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPL L R (Per Bank) Wide >10m	AIN QUALITY (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field L R Conservation Tillage Urban or Industrial	
4 -	Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Che Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS	Moist Channel, isolated pools, no flow (Intermittent)	
SINUOSITY (Number of bends per 61 m (200 miles) None	ft) of channel) (Check ONLY one box): 2.0 2.5 3.0 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	rate (2 ft/100 ft)	Oft)

DOWNSTREAM DESIGNATED USE(S) WWH Name:		IONAL STREAM INFORMATION (This Information Must Also be Completed):
DOWNSTREAM DESIGNATED USE(S) DOWNSTREAM DESIGNATED USE(S) Distance from Evalual Distance from Evalual Distance from Evalual Distance from Evalual Distance from Evalual MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK SGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Ma	rm)	QHEI PERFORMED? - Yes No QHEI Score(If Yes, Attach Completed QHEI Form)
Distance from Evalual Distance from Evalual Distance from Evaluat MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK GGS Quadrangle Name: NRCS Sol Map Page: NRCS Sol Map Pa		DOWNSTREAM DESIGNATED USE(S)
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK SGS Quadrangle Name: NRCS Soil Map Page: NRCS So unity: Township / City: MISCELLANEOUS see Flow Conditions? (Y/N): Date of last precipitation: Quantity: Quantity: cotograph Information: Quantity: Quantity: Canopy (% open): Sere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Note id Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (um he sampling reach representative of the stream (Y/N). If not, please explain: BIOTIC EVALUATION formed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher sampling number. Include appropriate field data sheets from the Primary Headwater Habitat Act of the Conductivity (Y/N). Youcher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N). Disserved? (Y/N). Voucher? (Y/N). Aquatic Macroinvertebrates Observed? (Y/N). Innents Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must include important landmarks and other features of interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of Macroinvertebrates of Interest for site evaluation and a narrative description of M	ated Stream	/H Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK SGS Quadrangle Name:	ated Stream	H Name: Distance from Evaluated Stream
AND Served? (Y/N). Salamanders Observed? (Y/N). Salamanders Observed? (Y/N). Voucher? (Y/N). Salamanders Observed? (Y/N). Voucher? (Y/N). Aquatic Macroinvertebrates Observed? (Y/N). Naments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must include important landmarks and other features of Interest for site evaluation and a narrative description of Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. Darward And D. Narrative Description of Interest for site evaluation and a narrative description of Manney Ave A Walkhard A. W. Manney Ave A Walkhard A. Darward And D. Narrative Description of Interest for site evaluation and a narrative description of Manney Ave A Walkhard A. W. Manney A. Walkhard A. W. Manney A. Walkhard A. W. Manney A. Walkhard A. W. Manney A. Walkhard A. W. Manney A. Walkhard A. Walkhard A. Walkhard A. Walkhard A. Walkhard A. Walkhard A. Walkhard A. Walkhard A. Walkh		
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Include important landmarks and other features of interest for site evaluation and a narrative description (A) MRM Area Veyebbed AND - WY MAN	ha samulata D	DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This result has a server
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Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHE

El Score:	38.5
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Stream & Location:	A29726001		RM:	Date: G	2418
Stream & Location.		E !! N 0 A (C'!' 4'	AND		
Discus Condes	Score	ers Full Name & Affiliation:_ - Lat./ Long.: ا ا	1 /8 2	0157	Office verified
River Code:		(NAD 83 - decimal °) 4 L 14 L	1 10 6	<u> </u>	<u>locatio</u> n ⊔
BEST TYPES □□ BLDR /SLABS [10] □□ BOULDER [9] □□ COBBLE [8] □□ GRAVEL [7] □□ SAND [6] □□ BEDROCK [5]	or note every type present RIFFLE OTHER TYPES PO HARDPAN [4] DETRITUS [3]	ORIGIN LIMESTONE [1] METILLS [1] WETLANDS [0] HARDPAN [0]	SILT	QUALITY QUALITY HEAVY [-2] MODERATE NORMAL [0] FREE [1] EXTENSIVE MODERATE NORMAL [0] NONE [1]	[-1] Substrate
quality: 3-Highest quality in mod	erate or greater amounts, but not of erate or greater amounts (e.g., very developed rootwad in deep / fast wa POOLS > 70cm	rery small amounts or if more common in highest quality or in small amounts or large boulders in deep or fast water, ter, or deep, well-defined, functional process. OXBOWS, BACKWATER AQUATIC MACROPHYT LOGS OR WOODY DEB	large pools. RS [1] ES [1]	Check ONE (Or 2 & EXTENSIVE > 75 MODERATE 25- SPARSE 5-< 25% NEARLY ABSEN	average) % [11] 75% [7] 5 [3]
SINUOSITY DEVELO	LENT [7] NONE [6] [5] RECOVERED [4] [6] RECOVERING [3]	「ION STABILITY ☐ HIGH [3] ☐ MODERATE [2] ☐ LOW [1]			annel
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2]	n each category for EACH BANK (Or FLOOD PLAIN QUALIT FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD [FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0]	Y R CO	ONSERVATION TI RBAN OR INDUS INING / CONSTRU DI CONSTRU OT INITION INI	TRIAL [0] ICTION [0]
☐ 0.7-<1m [4] ☐ PC ☐ 0.4-<0.7m [2] ☐ PC ☐ 0.2-<0.4m [1] ☐ < 0.2m [0] Comments	CHANNEL WIDTH Check ONE (Or 2 & average) DOL WIDTH > RIFFLE WIDTH [2] DOL WIDTH = RIFFLE WIDTH [1] DOL WIDTH < RIFFLE WIDTH [0]	CURRENT VELOCITY Check ALL, that apply TORRENTIAL [-1] SLOW [1] VERY FAST [1] INTERSTITI FAST [1] INTERMITT MODERATE [1] DEDDIES [1] Indicate for reach - pools and riffl	es.	Cu Maxı	ntact ontact
of riffle-obligate spec RIFFLE DEPTH BESTAREAS > 10cm [2] BESTAREAS 5-10cm [1] BESTAREAS < 5cm [metric=0] Comments	ies: Check ONI RUN DEPTH RIFFLE MAXIMUM > 50cm [2] STABLE MAXIMUM < 50cm [1] MOD. ST UNSTAB	(e.g., Cobble, Boulder) [2]	LE / RUN □ NO □ LO: □ Mo	EMBEDDEDN NE [2] W [1]	Riffle /
6] GRADIENT (S. 3 _{ft/m} DRAINAGE AREA	MODERATE [6-10]		%GLIDE: %RIFFLE:		imum 10

AJ SAMPLED REACH

ChicEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI	Score:	64	NAME AND ADDRESS OF THE PARTY O
			,

Stream & Location:	606	RM:	Date: 9 24 18
	Scorers Full Name & Affiliation:	AFR	TAC.
River Code:STORE	T#:	9 182 81	SY Office verified location
BLDR /SLABS [10]	ORIGIN ORIGIN ARDPAN [4] ETRITUS [3] UCK [2] LIT [2] HARDPAN [0] Score natural substrates; ignore [2] sludge from point-sources) ORIGIN ORIGIN ORIGIN HIMESTONE [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] RIP/RAP [0] LACUSTURINE [0]	SILT ON OF	QUALITY IEAVY [-2] IODERATE [-1] IORMAL [0] REF [1]
quality; 3-Highest quality in moderate or greater and diameter log that is stable, well developed rootwad UNDERCUT BANKS [1] OVERHANGING VEGETATION [1]	3: 0-Absent; 1-Very small amounts or if more commonounts, but not of highest quality or in small amounts nounts (e.g., very large boulders in deep or fast water in deep / fast water, or deep, well-defined, functional POOLS > 70cm [2] OXBOWS, BACKWATE ROOTWADS [1] AQUATIC MACROPHY LOGS OR WOODY DEE	Check pools. RS [1] MOI TES [1] SPA	AMOUNT ONE (Or 2 & average) ENSIVE >75% [11] DERATE 25-75% [7] RSE 5-<25% [3] IRLY ABSENT <5% [1] Cover Maximum 20
MHIGH [4] ☐ EXCELLENT [7] ☐ NO MODERATE [3] ☐ GOOD [5] ☐ RE LOW [2] ☐ FAIR [3] ☐ RE	HANNELIZATION STABILITY DINE [6] HIGH [3] COVERED [4] MODERATE [2] COVERING [3] LOW [1]		Channel Maximum 20
4] BANK EROSION AND RIPARIAN ZOLAR RIVER right looking downstream RIPARIAN V	FOREST, SWAMP [3] -50m [3]	TY R CONSE	ERVATION TILLAGE [1] I OR INDUSTRIAL [0] I CONSTRUCTION [0] minant land use(s)
5] POOL / GLIDE AND RIFFLE / RUN QQ MAXIMUM DEPTH Check ONE (ONLY!) □ > 1m [6] □ 0.7-<1m [4] □ 0.4-<0.7m [2] □ 0.2-<0.4m [1] □ < 0.2m [0] Comments	WIDTH CURRENT VELOCITY & average) Check ALL that apply LE WIDTH [2] TORRENTIAL [-1] SLOW [1] LE WIDTH [1] VERY FAST [1] INTERSTIT	FIAL [-1] TENT [-2]	reation Potential rimary Contact condary Contact one and comment on back) Pool / Current Maximum 12
of riffle-obligate species: RIFFLE DEPTH RUN DEPTH □ BEST AREAS > 10cm [2] □ MAXIMUM > 50cr	areas must be large enough to support and Check ONE (Or 2 & average). RIFFLE / RUN SUBSTRATE RIFF R[2]	FLE / RUN EM	NO RIFFLE [metric=0] BEDDEDNESS
6] GRADIENT (1.5 ft/mi) □ VERY LOW DRAINAGE AREA ☑ MODERAT (2.3 mi²) □ HIGH - VER		%GLIDE: %RIFFLE:	Gradient 8

LED REACH KALL that apply	Comment RE: Reach consistency/ I:	s reach typical of steam?, <i>Recreation</i>	n/ Observed - Inferred, Other	Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.	ess directions, etc.
L	KBM	spored.			
U. LINE DE DORMAL OTHER OTHER DORMAL					
DISTANCE DRY		SF.			
7	BJAESTHETICS	DJ MAINTENANCE	Circle some & COMMENT	EJISSUES	FI MEASUREMENTS
0.15 Km	☐ NUISANCE ALGAE☐ INVASIVE MACROPHYTES☐ EXCESS TURBIDITY	PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD		WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL	X width X depth
> 70 cm/ CTB > 70 cm/ DEPTH	☐ DISCOLORATION ☐ FOAM / SCUM ☐ OII SHEEN	SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA		BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING	max, depth x bankfull width hankfull ₹ death
		RELOCATED / CUTOFFS MOVING-BEDI OAD-STABLE		BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON	W/D ratio
□ > 85%-OPEN	SLUDGE DEPOSITS CSOs/SSOs/OUTFALLS	ARMOURED / SLUMPS ISLANDS / SCOURED		WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATI IRAI / WETI AND / STAGNANT	bankfull max. depth floodprone x² width
☐ 10%-<30%	<i>ATION</i> AREA DEPTH <i>POOL:</i> □>100ft² □>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:
Stream Drawing:					
			40		
			4		
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3	A CONTRACTOR OF THE PARTY OF TH	The state of the s		See See See See See See See See See See	
			Raw Comment		

SIM-640

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

59
and the second s

SITE NAME/LOCATION		
SITE NUMBER_	A39100 RIVER BASIN DRAINAGE AREA (mi²)	,44
LENGTH OF STREAM REACH (#)	LAT UL. 1996 LONG TO 27 9217 RIVER CODE RIVER MILE	·
DATE 9/19/10 SCORER AEP	AFCOMMENTS	
NOTE: Complete All Items On This Fo	orm - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	uctions
	NATURAL CHANNEL PRECOVERED RECOVERING RECENT OR NO RECO	
SUBSTRATE (Estimate percent of e	every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	ificant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHE Metr
TYPE BLDR SLABS [16 pts]	PERCENT TYPE PERCENT 30 SILT [3 pt]	Poin
BOULDER (>256 mm) [16 pts]	LEAF PACK/WOODY DEBRIS [3 pts]	Substra
BEDROCK [16 pt]	FINE DETRITUS [3 pts]	Max =
COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]		114
☐ SAND (<2 mm) [6 pts]	②ひ □ □ ARTIFICIAL [3 pts]	19
Total of Percentages of	(A) (B)	A + B
Bldr Slabs, Boulder, Cobble, Bedrock	0 9	
SCORE OF TWO MOST PREDOMINATE SUE		
2. Maximum Pool Depth (Measure the	maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of coad culverts or storm water pipes) (Check ONLY one box):	Pool De Max =
> 30 centimeters [20 pts]	> 5 cm - 10 cm [15 pts]	
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	30
	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the	he average of 3-4 measu <u>re</u> ments) (Check <i>ONLY</i> one box):	Bankfu
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ≤ 1.0 m (≤ 3' 3") [5 pts]	Width Max=3
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	☐ ≤ 1.0 m (≤ 3' 3") [5 pts]	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	AVERAGE BANKFULL WIDTH (meters) This information must also be completed	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	AVERAGE BANKFULL WIDTH (meters) This information must also be completed DPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOO RIPARIAN WIDTH L, R (Per Bank)	AVERAGE BANKFULL WIDTH (meters) This information must also be completed DPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed OPPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Mature Forest, Wetland Conservation Tillage	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed DPLAIN QUALITY	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed OPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland □ □ Conservation Tillage Immature Forest, Shrub or Old □ □ Urban or Industrial Residential, Park, New Field □ □ Open Pasture, Row Crop	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed OPPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R ☐ Mature Forest, Wetland ☐ Conservation Tillage Immature Forest, Shrub or Old ☐ Urban or Industrial Field ☐ Open Pasture, Row	Widtl
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOO RIPARIAN WIDTH	This information must also be completed DPLAIN QUALITY	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed DPLAIN QUALITY	Width

ADDITIONAL STREAM INFORMATION (This Information Must Al	so be Completed):
QHEI PERFORMED? - Tyes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
U WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
	rnship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note In	ab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If no	t, please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field da	
Include important landmarks and other features of interest f	N OF STREAM REACH (This must be completed): or site evaluation and a narrative description of the stream's location was because the stream's location of the stream's loc
LOW WE WE CON	, veg
Change Change gross ago	striphytes) -> SIN
Moun /sun	
woods	/ Pedeshan bridge

Primary Headwater Habitat Evaluation Form
HHEI Score (sum of metrics 1, 2, 3):

r	ar (m. 1.) the area (m. 1.) and (m. 1.) and	100
	(1)	8
ı	92	2/8/20
١.,		

V	RIVER BASIN DRAINAGE AREA (mi²) LAT. 41.144 LONG. 81.66 RIVER CODE RIVER MILE COMMENTS	
DATE 1919 SCORER AT This Ed	COMMENTSCOMMENTS	ructions
	IATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	
1. SUBSTRATE (Estimate percent of e (Max of 40). Add total number of signi TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	Precipitation of substrate present. Check ONLY two predominant substrate TYPE boxes ficant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUB		A+B
2. Maximum Pool Depth (Measure the evaluation. Avoid plunge pools from re > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of pad culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	9
3. BANK FULL WIDTH (Measured as the second sec		Bankfull Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	he average of 3-4 measurements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	he average of 3-4 measurements) (Check <i>ONL</i> Y one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] \(\leq \text{1.0 m} \leq \text{3' 3''} \) [5 pts] AVERAGE BANKFULL WIDTH (meters) This information must also be completed	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	This information must also be completed DPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Check ONLY one box): > 1.0 m (> 3' 3" - 4' 8") [15 pts] > 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters) AVERAGE BANKFULL WIDTH (meters) L R (Most Predominant per Bank) Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed DPLAIN QUALITY	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed DPLAIN QUALITY	Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOO RIPARIAN WIDTH L R (Per Bank) Wide > 10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of E Stream Flowing Subsurface flow with isolated p COMMENTS	This information must also be completed DPLAIN QUALITY	Width Max=30

ADDITIONAL STREAM INFORMATION (Tr	uis Information Must Also be Con	npleted):	_ _
QHEI PERFORMED? - 🗌 Yes	No QHEI Score(I	If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED U			
WWH Name:		Distance from Evaluated Stream	
CWH Name:		Distance from Evaluated Stream	
		Distance from Evaluated Stream	
		TERSHED AREA. CLEARLY MARK THE SITE LOCATION	
USGS Quadrangle Name:	NRCS	Soil Map Page: NRCS Soil Map Stream Order	
County:	Township / City	<i>f</i>	
MISCELLANEOUS			
Base Flow Conditions? (Y/N): Date	of last precipitation:	Quantity:	
Photograph Information:		·	
Elevated Turbidity? (Y/N):Ca			
		no. or id. and attach results) Lab Number:	
		H (S.U.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the si	ream (Y/N) If not, please ex	xplain:	
Additional comments/description of pollution	mpacts:		
BIOTIC EVALUATION			
Performed? (Y/N): (If Yes Record	d all observations. Vousbor collection	ns optional. NOTE: all voucher samples must be labeled with the site	
ID number. In	clude appropriate field data sheets fr	om the Primary Headwater Habitat Assessment Manual)	
Fish Observed? (Y/N) Voucher? (Y/	N) Salamanders Observed?	(Y/N) Voucher? (Y/N)	
Frogs or Tadpoles Observed? (Y/N) Vo	ucher? (Y/N) Aquatic Macroin	nvertebrates Observed? (Y/N) Voucher? (Y/N)	
Comments Regarding Biology:			
		·	
DRAWING AND NARRAT	IVE DESCRIPTION OF STI	REAM REACH (This <u>must</u> be completed):	I
		luation and a narrative description of the stream's location	
		The state of the s	
1 1			
		mosted charge 1- reed	
		whele 1 - reed	
FLOW -		in charge (ero	A 2100
3		vege tea	
2		2/412/	
		Oligon A H	The state of the s
		old frela	
		VAN GOV	

160	CHARGEOGRAPHIC	
Sec. Water Size	14	27.0827.0389
L	/ /	1
	S. S. S. S. S. S. S. S. S. S. S. S. S. S	14

ChieFA Primary I	Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3)	: 14
SITE NAME/LOCATIONSITE NUMBER	⊕\ RIVER BASIN DRAINAGE AREA (mi²)
DATE 10 SCORER NOTE: Complete All Items On This Form	LAT. U. 1365 LONG82.8292 RIVER CODE RIVER COMMENTS RIVER	MILE
(Max of 40). Add total number of significa		Motric
2. Maximum Pool Depth (Measure the mevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	naximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS_		Bankfull Width Max=30
RIPARIAN ZONE AND FLOODF RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	This information must also be completed PLAIN QUALITY &NOTE: River Left (L) and Right (R) as looking downstread FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland Conservation I Immature Forest, Shrub or Old Urban or Indus Field Residential, Park, New Field Crop Fenced Pasture Mining or Conservation I Crop Mining or Conservation I Crop	Tillage trial Row
Stream Flowing Subsurface flow with isolated poo		rmittent)
SINUOSITY (Number of bends p None 0.5	per 61 m (200 ft) of channel) (Check <i>ONLY</i> one box): 1.0 2.0 3.0 1.5 3.0 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	☐ Moderate (2 tl/100 ft) ☐ Moderate to Severe ☐ Seve	re (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also	o be Completed):
QHEI PERFORMED? - Yes No QHEI Score	
DOWNSTREAM DESIGNATED USE(S)	(ii res) retain completed with it only
WWH Name:	Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream
	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	· · · · · · · · · · · · · · · · · · ·
	NRCS Soil Map Page: NRCS Soil Map Stream Order
·	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	
Photograph Information:	····
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
ID number: Include appropriate field data s	collections optional. NOTE: all voucher samples must be labeled with the site sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Comments Regarding Biology	: Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION (OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for s	site evaluation and a narrative description of the stream's location
hrested	
FLOW -> WOODY	14
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PMESHED Y.X	
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«IM = 049	> In way of the

PHWH Form Page - 2

Chief A Primary Headwater Habitat Evaluation Form

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	HHEI Score (sum of metrics 1, 2, 3):	/ _
SITE NAME/LOCATION	99 2000\	
SITE NUMBER	RIVER BASIN DRAINAGE AREA (mi²)	
DATE A DATE (B)	LAT VI.1359 LONG. 828195 RIVER CODE RIVER MILE	
DATE OF TO TO SCORER SCORER	COMMENTS	
NOTE: Complete All Items On This Fo	orm - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	uotiono
STREAM CHANNEL NONE /N	JATURAL CHANNEL M DECOVERS CI	uctions
MODIFICATIONS:	IATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO	VERY
 SUBSTRATE (Estimate percent of e 	very type of substrate present. Check ONLY two predominant substrate TYPE boxes	
(Max of 40). Add total number of signit	(Wax Or o). Final metric score is sum of hoxes A & B	HHEI
BLDR SLABS [16 pts]	PERCENT	Metric
BOULDER (>256 mm) [16 pts]	SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts]	Points
BEDROCK [16 pt]	FINE DETRITUS [3 pts]	Substrate
CODDLE (03-230 [[[[]]) [12 pts]	CLAY or HARDPAN [0 pt]	Max = 40
☐ ☐ GRAVEL (2-64 mm) [9 pts] ☐ ☐ SAND (<2 mm) [6 pts]	———	
= = = = = = = = = = = = = = = = = = =	ARTIFICIAL [3 pts]	1
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock _	(A) 2	
SCORE OF TWO MOST PREDOMINATE SUB		A + B
	THE MODELY OF SUBSTRATE TYPES:	
evaluation. Avoid plunge pools from roa	naximum pool depth within the 61 meter (200 ft) evaluation reach at the time of id culverts or storm water pipes) (Check ONLY one box):	ool Depth
> 30 centimeters [20 pts]	There is storing watch bibes! If there (180) V and have.	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		2
	NO WATER OR MOIST CHANNEL [0 pts]	0
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the		
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankfull
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Width Max=30
COMMENTS.	AVERAGE BANKFULL WIDTH (meters)	>
RIPARIAN ZONE AND FLOODP	This information must also be completed	
RIPARIAN WIDTH	LAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ FLOODPLAIN QUALITY	
L, R, (Per Bank) W Wide >10m	L R (Most Predominant per Bank) L R	
☐ ☐ Moderate 5-10m	Mature Forest, Wetland Conservation Tillage	
	Immature Forest, Shrub or Old Field Urban or Industrial	
☐ ☐ Narrow <5m	Residential, Park, New Field Open Pasture, Row	
□ □ None	Fenced Pasture Crop Mining or Construction	
COMMENTS		
FLOW REGIME (At Time of Evalu.	ation) (Check ONLY one box):	
Stream Flowing Subsurface flow with isolated pools	Moist Channel, isolated pools, no flow (Intermittent)	
COMMENTS	(Interstitial) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of hondan	Cd = (200 a) (
	61 m (200 ft) of channel) (Check ONLY one box):	
□ 0.5	1.5	
STREAM GRADIENT ESTIMATE		
Flat (0.5 ft/100 ft)	☐ Moderate (2 tt/100 ft) ☐ Moderate to Severe ☐ Severe (10 tt/100 ft)	
	Moderate to Severe	

OHEI PERFORMED	7 - Yes No QHEI Score(If	Yes, Attach Completed QHEI Form)
		Distance from Evaluated Stream
EWH Name:	The state of the s	Distance with a same
MAPPING: ATTACH	COPIES OF MAPS, INCLUDING THE ENTIRE WA	TERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name:	NRCS	Soil Map Page: NRCS Soil Map Stream Order
ounty:	Township / City	
MISCELLANEOUS		
tase Flow Conditions? (Y/N):	Date of last precipitation:	Quantity:
hotograph Information:		
Elevated Turbidity? (Y/N):	Canopy (% open):	
Nere samples collected for w	vater chemistry? (Y/N): (Note lab sample	no. or id. and attach results) Lab Number:
Tare /9/	C) Dissolved Oxygen (mg/l) P	H (S.U.) Conductivity (µmhos/cm)
Field Measures: Temp (°C	Discourse like a classes	explain:
s the sampling reach represe	entative of the stream (Y/N) If not, please	spiani.
PIOTIC EVALUA		
Fish Observed? (Y/N) Frogs or Tadpoles Observed	TION (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets	ions optional. NOTE: all voucher samples must be labeled with the site from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) oinvertebrates Observed? (Y/N) Voucher? (Y/N)
Performed? (Y/N): Fish Observed? (Y/N) Frogs or Tadpoles Observed Comments Regarding Biolog	TION (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets Voucher? (Y/N) Salamanders Observed? (Y/N) Aquatic Macings: AND NARRATIVE DESCRIPTION OF Service of the control of the contro	ions optional. NOTE: all voucher samples must be labeled with the site from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) olnvertebrates Observed? (Y/N) Voucher? (Y/N)

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Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



	ream & Location:	A 390 LOW		trioid officet	RM:	Data	T 5 1 / 8
	Birra O. I		_Scorers Full	Name & Affiliation.		Date:	1410
	River Code:	STORET#:	Lat	/Long.: 41. 196	0 10 0	2749	Office verified
		% or note every type present DL RIFFLE OTHER TYI D HARDPAN D DETRITUS D MUCK [2] D SILT [2] D ARTIFICIA (Score natu	PES POOL RIFFL [4]	Check ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0]	SILT	QUALIT HEAVY [-2] MODERATE NORMAL [0]	[-1] Substrate
	2] INSTREAM COVER In quality; 3-Highest quality in modiameter log that is stable, well UNDERCUT BANKS [1] OVERHANGING VEGET. SHALLOWS (IN SLOW VER ROOTMATS [1]) Comments	derate or greater amounts (e. developed rootwad in deep /	g., very large bould fast water, or deep, 70cm [2]	ality or in small amounts	of highest Cl large Cl pools. RS [1] FES [1]		& average) 1% [11] 175% [7] 5 [3] 1T <5% [1] 1T www.
	B] CHANNEL MORPHOLO SINUOSITY DEVELO HIGH [4]	DPMENT CHANNE LENT [7] NONE [6] [5] RECOVERE B] RECOVERIN	LIZATION D [4]	STABILITY HIGH [3] MODERATE [2]		Cha Maxii	nnel 0.5
	Omments	WIDE > 50m [4] WIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] VERY NARROW < 5m [1] NONE [0]	FLOO FOREST, SI FOREST, SI SHRUB OR RESIDENTIA FENCED PA	OD PLAIN QUALIT` NAMP [3] OLD FIELD [2] AL, PARK, NEW FIELD [4	Y CON CON URB	SERVATION TIL AN OR INDUST NG / CONSTRUC	RIAL [0] CTION [0] e(s) rian
	☐ 2.7-<1m [4] ☐ PO	FLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average) OL WIDTH > RIFFLE WIDTH [OL WIDTH = RIFFLE WIDTH [OL WIDTH < RIFFLE WIDTH [Che 2]	☐ INTERMITTE	L [-1] NT [-2]	ecreation Pote Primary Consecondary Consecondary Consecondary Consecond Comment of Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consecond Consec	ential tact ntact on back)
E E	BEST AREAS > 10cm [2] MBEST AREAS 5-10cm [1] MBEST AREAS < 5cm [metric=0] mments	RUN DEPTH RIF AXIMUM > 50cm [2] STA AXIMUM < 50cm [1] MOD	FLE / RUN SUI	age). BSTRATE RIFFLE Boulder) [2] arge Gravel) [1]	E / RUN EN	NO RIFFLE BEDDEDNE [2]	[metric=0]
	GRADIENT(((()√) ft/mi) DRAINAGE AREA ((() mi²)	VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6	70		GLIDE:	Gradie Maximu	

MARGAN FJ MEASUREMENTS bankfull max, depth floodprone x² width x bankfull width bankfull 🖁 depth entrench. ratio Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. Legacy Tree: max, depth W/D ratio X depth X width LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON NATURAL / WETLAND / STAGNANT HARDENED / URBAN / DIRT&GRIME BMPs-CONSTRUCTION-SEDIMENT WWTP / CSO / NPDES / INDUSTRY ATMOSPHERE / DATA PAUCITY ACID / MINE / QUARRY / FLOW BANK / EROSION / SURFACE WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL EJ ISSUES And revely may bound Circle some & COMMENT Con Cal FLOOD CONTROL / DRAINAGE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED RELOCATED / CUTOFFS DJ MAINTENANCE ARMOURED / SLUMPS ISLANDS / SCOURED LEVEED / ONE SIDED 50 INVASIVE MACROPHYTES ☐ CSOS/SSOS/OUTFALLS **BJAESTHETICS** SLUDGE DEPOSITS **EXCESS TURBIDITY** POOL: □>100ft²□>3ft ☐ NUISANCE ALGAE AREA DEPTH NUISANCE ODOR DISCOLORATION TRASH / LITTER FOAM / SCUM OIL SHEEN CJ RECREATION Z ಕ್ಟ ☐ SECCHI DEPTH□ O DRY 1st -sample pass- 2nd -sample pass-> 70 cm/ CTB CLARITY STAGE Stream Drawing.] 20-<40 cm] #0-70 cm AJ SAMPLED REACH Check ALL that apply] < 20 cm Đ **4** ☐ <10%- CLOSED CANOPY 25%-<85% □ 30%-<55% 10%-<30% DISTANCE 0,5 Km 0.15 Km 0.12 Km METHOD OTHER L. LINE 0.2 Km BOAT OTHER meters WADE

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Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

30

	Timer ocore (sum of meanes 1, 2, 4)	
SITE NAME/LOCATION SITE NUMBER	51 M = 05 4 RIVER BASIN DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT. 41.1816 LONG. 92.785 RIVER CODE RIVER MILE	<u> </u>
NOTE: Complete All Items On This Form	a - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for In:	structions
	TURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RE	
(Max of 40). Add total number of significa TYPE □ □ BLDR SLABS [16 pts] □ BOULDER (>256 mm) [16 pts] □ BEDROCK [16 pt] □ COBBLE (65-256 mm) [12 pts]	ry type of substrate present. Check ONLY two predominant substrate TYPE boxes ant substrate types found (Max of 8). Final metric score is sum of boxes A & B. RECENT	HHE Metri Point Substra Max =
SCORE OF TWO MOST PREDOMINATE SUBST	TRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	aximum pool depth within the 61 meter (200 ft) evaluation reach at the time of diculverts or storm water pipes) (Check ONLY one box):	Pool De Max =
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Bankf Widtl Max=3
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m	This information <u>must</u> also be completed PLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland □ □ Conservation Tillag	
☐ ☐ Moderate 5-10m	Immature Forest, Shrub or Old Urban or Industrial	
☐ ☐ Narrow <5m	Open Pasture, Row Crop Fenced Pasture Open Pasture Mining or Construct	
COMMENTS	ofwation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermitt Dry channel, no water (Ephemeral)	ent)
SINUO SITY (Number of bends p None 0.5	Der 61 m (200 ft) of channel) (Check <i>QNLY</i> one box): 1.0 1.5 2.0 3.0 3.0 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (1	0 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must A	
QHEI PERFORMED? - ☐ Yes ☐ No QHEI Score _	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
J EWH Name:	Distance from Evaluated Stream
	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
	wnship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity
	Quantity
Elevated Turbidity? (Y/N): Canopy (% open):	
	lab sample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If no	ot, please explain:
NUUIDORI COmments/description of pollution imports:	
Adultional comments/description of pollution impacts:	
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BIOTIC EVALUATION	
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Vouch	her collections optional. NOTF: all voucher samples must be labeled with the si
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouch ID number. Include appropriate field date	her collections optional. NOTE: all voucher samples must be labeled with the sil ata sheets from the Primary Headwater Habitat Assessment Manual)
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SIM-055

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

- 1
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SITE NAME/LOCATION	heren I					
CITE NUIS	IDED	RIVER BASIN	0 -16	DR	AINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) DATE CONTROL SCORER	LAT. 41.19	(2) LONG. <u>9</u> MENTS	11.769 RIVE	R CODE	RIVER MILE	
NOTE: Complete All Items On Th						000000000000000000000000000000000000000
STREAM CHANNEL □ NO MODIFICATIONS:	NE / NATURAL CHANI	NEL 🗆 RECOVE	RED 🗆 RECO	VERING [RECENT OR NO RECO	VERY
SUBSTRATE (Estimate percei (Max of 40). Add total number of	f significant substrate ty	ypes found (Max of	eck <i>ONLY</i> <u>two</u> p 8). Final metric s	redominant s core is sum	of boxes A & B.	HHEI Metric
TYPE BLDR SLABS [16 pts]	PERCENT	TYPE SILT [3 pt]		PERCENT	Points
BOULDER (>256 mm) [16 p	ots]		PACKWOODY I DETRITUS [3 pi		ts]	Substrate
BEDROCK [16 pt] COBBLE (65-256 mm) [12 p	ots]	<u> </u>	or HARDPAN [0		30	Max = 40
GRAVEL (2-64 mm) [9 pts]	7-7		([0 pts]			1/3
SAND (<2 mm) [6 pts]	<u> </u>	☐ ☐ ARTIF	ICIAL [3 pts]			
Total of Percentages of Bldr Slabs, Boulder, Cobble, Be		(A) 9			(B) <i>U</i>	A + B
SCORE OF TWO MOST PREDOMINAT		s: T	OTAL NUMBER	OF SUBSTI	RATE TYPES:	
Maximum Pool Depth (Measure	re the maximum pool	depth within the 6	1 meter (200 ft)	evaluation re	ach at the time of	Pool Depth
evaluation. Avoid plunge pools > 30 centimeters [20 pts]	from road culverts or st		(Check <i>ONLY</i> or m - 10 cm [15 pt			Max = 30
> 22.5 - 30 cm [30 pts]		< 5 c	m [5 pts]		1 [0 etc]	25
> 10 - 22.5 cm [25 pts]	-		VATER OR MOI		10	
COMMENTS			MAXIMUM PO	OL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measure	d as the average of 3-		(Check m - 1.5 m (> 3' 3	ONLY one b	CONTRACTOR OF THE PROPERTY OF	Bankfull Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25			m (≤ 3' 3") [5 pts		no _j	Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [2					21	20
COMMENTS			AVERAGE BAI	NKFULL WII	OTH (meters)	
	This inf	formation <u>must</u> als	o be completed	[
RIPARIAN ZONE AND	FLOODPLAIN QUALIT	Y ☆NOTE: Ri	er Left (L) and F	Right (R) as le	ooking downstream ☆	
<u>RIPARIAN WIDTH</u> L R (Per Bank)		AIN QUALITY Most Predominant	er Bank)	L R		
☐ ☐ Wide >10m		Mature Forest, Wetl			Conservation Tillage	
☐ ☐ Moderate 5-10m	1 1 1 1	mmature Forest, St Field	rub or Old		Urban or Industrial	
☐ ☐ Narrow <5m		Residential, Park, N	ew Field	pp pi	Open Pasture, Row Crop	
None COMMENTS		enced Pasture			Mining or Construction	
		ale OAU V here				
FLOW REGIME (At Time Stream Flowing Subsurface flow with isol COMMENTS		CK O/VLY ONE BOX).	Moist Channe Dry channel, r		ols, no flow (Intermittent) hemeral)	
SINUOSITY (Number of	hends per 61 m (200 f	t) of channel) (Ch	eck ONLY one ho	ox):		
	1.0		2.0 2.5	´ - E	J 3.0 J >3	
□ 0.5	□ 1.5		۷.5		, -3	
STREAM GRADIENT ESTIMATION Flat to Mode	_	ite (2 ft/100 ft)	☐ Moderate to	Severe	Severe (10 ft/10	0.ft)

DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream NMAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION SGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order Sunty: Township / City. MISCELLANEOUS see Flow Conditions? (Y/N): Date of last precipitation: Quantity: Canopy (% open): Ser examples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: did Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) he sampling reach representative of the stream (Y/N) If not, please explain: BIOTIC EVALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habital Assessment Manual) h Observed? (Y/N) Youcher? (Y/N) Salamanders Observed? (Y/N) Youcher? (Y/N) Youcher? (Y/N) Numents Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location ACAL ACAC ACAC ACAC ACAC ACAC ACAC ACA	QHEI PERFORMED? - 🗖 Yes 💢 No QHEI	El Score(If Yes, Attach Completed QHEl Form)
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION SGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order		
Distance from Evaluated Stream	WWH Name:	Distance from Evaluated Stream
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ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location ONLY OF THE PRIMARY STREAM REACH (This must be completed): Assert of the primary Headwater Habitat Assessment Manual)	BIOTIC EVALUATION	
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location ONLY OF THE PRIMARY STREAM REACH (This must be completed): Assert of the primary Headwater Habitat Assessment Manual)	Performed? (Y/N): (If Yes Record all observation	tions. Voucher collections entired. NOTE: ellered by
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	ID number. Include appropr	ions. Voucher collections optional. NOTE: all voucher samples must be labeled with the si rriate field data sheets from the Primary Headwater Habitat Assessment Manual)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	ish Observed? (Y/N) Voucher? (Y/N) Sal	alamanders Observed? (Y/N) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location OW Stream	rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location OW See As As As As As As As As As As As As As	omments Regarding Biology	
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Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location OW See day of		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location OW See day of		CRIPTION OF CTREAM REACH (T)
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and blockage!		1000
and blockage!	A seek	dead doc all
Negelsted channel Negelsted channel Day four RA	LOW	New over only
Don four Rd	11,4	Mars Herchanel
Don four Rd		
Dog Jour Kd		Vegoci Pray
		Sharet May
		Dyhun Rd.



SIM - 056

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOC	ATION	A 214 1600 \		(sum of medics i	
	SITE NUMBER EAM REACH (ft) SCORER SCORER Lete All Items On This F	LAT. YI.1175_1	BASIN RIV	/ER CODE	RIVER MILE
STREAM CHAI	NNEL ONONE/	NATURAL CHANNEL		1/	
(Max of 4	ATE (Estimate percent of 10). Add total number of sign of S SLABS [16 pts] LDER (>256 mm) [16 pts] ROCK [16 pt] BLE (65-256 mm) [12 pts] VEL (2-64 mm) [9 pts] D (<2 mm) [6 pts] tal of Percentages of		nd (Max of 8). Final metric SILT [3 pt] LEAF PACK/WOOD' FINE DETRITUS [3] CLAY or HARDPAN MUCK [0 pts]	e score is sum of boxes PI DEBRIS [3 pts] pts]	
2. Maximur evaluatio 30 centi	s, Boulder, Cobble, Bedrock MOST PREDOMINATE SU n Pool Depth (Measure the n. Avoid plunge pools from meters [20 pts] 10 cm [30 pts] 15 cm [25 pts]	BSTRATE TYPES:	rithin the 61 meter (200 f er pipes) (Check ONLY > 5 cm - 10 cm [15 < 5 cm [5 pts] NO WATER OR MO	one box):	PES: e time of Max =
3. BANK FI > 4.0 mete	JLL WIDTH (Measured as rs (> 13') [30 pts] 4.0 m (> 9' 7" - 13') [25 pts] 3.0 m (> 4' 8" - 9' 7") [20 pts]			k <i>ONLY</i> one box): 3" - 4' 8") [15 pts]	Bankt Widt Max=:
COMME	NTS		AVERAGE B	ANKFULL WIDTH (me	ters)
	IPARIAN ZONE AND FLOORIPARIAN WIDTH (Per Bank)	DPLAIN QUALITY &	n <u>must</u> also be complete rNOTE: River Left (L) and <u>ALITY</u> edominant per Bank)	ed Right (R) as looking do L R	wnstream☆
	Wide >10m Moderate 5-10m	☐ ☐ Immature	orest, Wetland Forest, Shrub or Old		vation Tillage or Industrial
	Narrow <5m None OMMENTS	Field Resident	ial, Park, New Field Pasture	Crop	Pasture, Row
F St St	LOW REGIME (At Time of the control o		Moist Chan	nel, isolated pools, no fl , no water (Ephemeral)	•
\ \\		ls per 61 m (200 ft) of cha 1.0 1.5	nnel) (Check <i>ONLY</i> one 2.0 2.5	box): 3.0 3.0 >3	
STREAM	GRADIENT ESTIMATE	☐ Moderate (2 ft/10	ont)	o Savara	Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Al	so be Completed):
QHEI PERFORMED? - 🗍 Yes 🕅 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
_J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE E	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Tow	vnship / City:
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
hotograph Information:	
levated Turbidity? (Y/N): Canopy (% open):	
Vere samples collected for water chemistry? (Y/N): (Note la	ab sample no. or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.)Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	ot, please explain:
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Vouch ID number. Include appropriate field da	ner collections optional. NOTE: all voucher samples must be labeled with the at sheets from the Primary Headwater Habitat Assessment Manual)
ish Observed? (Y/N) Voucher? (Y/N) Salamanders	•
comments Regarding Biology:	
· · · · · · · · · · · · · · · · · · ·	
DRAWING AND NARRATIVE DESCRIPTION	N OF STREAM REACH (This must be completed):
Include important landmarks and other features of interest fo	for site evaluation and a narrative description of the stream's location
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old freld veg.	
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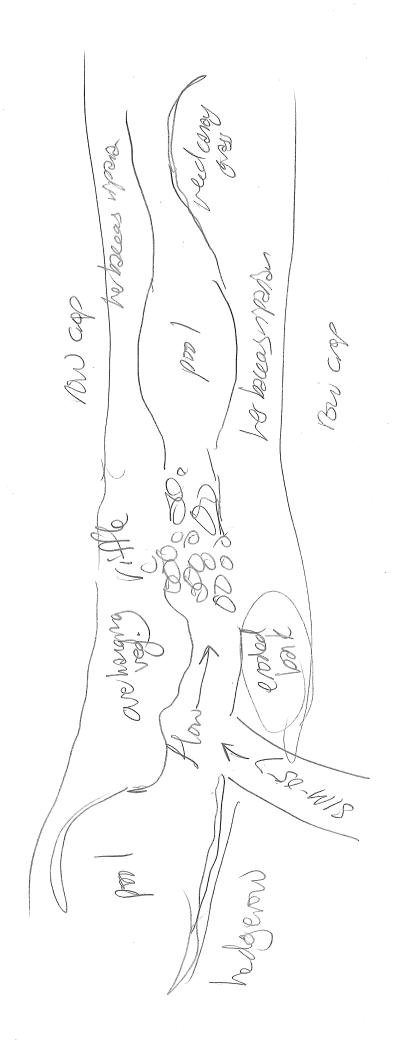
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI	Score:	30
		100000000000000000000000000000000000000

core:	39

Stream & Location:	A390001		RM:	Date:	921/8
Med Ker		Scorers Full Name & Affiliation:	HEY	JAY	Office verified —
River Code:	_STORET #:	Lat./Long.: U L T	3/82	951L	
1] SUBSTRATE Check ONLY Two s estimate % or note	every type present	CHECK	NE (Or 2 &		
BEST TYPES	OTHER TYP	[4] UIMESTONE [1] [3] TILLS [1] WETLANDS [0] [4] HARDPAN [0] [5] SANDSTONE [0] [6] RIP/RAP [0]	SILT SDDEON	QUAL HEAVY [- MODERA NORMAL FREE [1] EXTENSI MODERA NORMAL NONE [1]	2] TE [-1] Substrate [0]
2] INSTREAM COVER Indicate pre	esence 0 to 3: 0 -Abs	ent; 1-Very small amounts or if more commo	n of margin	al AMO	JNT
quality; 3-Highest quality in moderate or diameter log that is stable, well develop: UNDERCUT BANKS [1] OVERHANGING VEGETATION [1] SHALLOWS (IN SLOW WATER)	greater amounts, but greater amounts (e. ed rootwad in deep / POOLS > ROOTWA	g., very large boulders in deep or fast water fast water, or deep, well-defined, functional > 70cm [2] OXBOWS, BACKWATE ADS [1] AQUATIC MACROPHY	inglest, large pools. [RS [1] [TES [1]	Check ONE (O EXTENSIVE MODERATE SPARSE 5-<	>75% [11] 25-75% [7] 25% [3] SENT <5% [1]
↑ ROOTMATS [1] Comments				I	Cover Maximum 20
3] CHANNEL MORPHOLOGY Ch					
SINUOSITY DEVELOPMEN HIGH [4]	NONE [6] RECOVERE				Channel Maximum 20
•		k ONE in each category for EACH BANK (O		& average)	
EROSION WIDE ARIAN WIDTH E > 50m [4] ERATE 10-50m [3] ROW 5-10m [2] / NARROW < 5m [1] E [0]	FLOOD PLAIN QUALI RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD RESIDENTIAL, PARK, NEW FIELD	[1] Indicate		OUSTRIAL [0] TRUCTION [0]	
5] POOL / GLIDE AND RIFFLE /				Recreation	Potential
Check ONE (<i>ONLY!</i>) Check □ > 1m [6] □ POOL WII □ 0.7-<1m [4] □ POOL WII	ANNEL WIDTH ONE (Or 2 & average OTH > RIFFLE WIDTI OTH = RIFFLE WIDTI OTH < RIFFLE WIDTI	H [2] □ TORRENTIAL [-1] □ SLOW [1] H [1] □ VERY FAST [1] □ INTERSTI	TENT [-2]]	Primary Secondary (circle one and co	Contact Contact
	s; Best areas m	nust be large enough to support	a popula	tion □NOF	RIFFLE [metric=0]
☐ BEST AREAS > 10cm [2] ☐ MAXIM	DEPTH	eck ONE (Or 2 & average). RIFFLE / RUN SUBSTRATE RIFI STABLE (e.g., Cobble, Boulder) [2] MOD. STABLE (e.g., Large Gravel) [1] JNSTABLE (e.g., Fine Gravel, Sand) [0]		N EMBEDDE ONE [2] OW [1] ODERATE [0] XTENSIVE [-1]	EDNESS Riffle
DRAINAGE AREA	/ERY LOW - LOW [2 MODERATE [6-10] HIGH - VERY HIGH [%GLIDE %RIFFLE	\Rightarrow	Gradient Maximum 10
EDΔ 4520					06/16/06

ess directions, etc.		FJ MEASUREMENTS X width X depth max. depth Dankfull width Dankfull X depth W/D ratio Dankfull max. depth W/D ratio Dankfull max. depth floodprone x² width entrench. ratio	
Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.		WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	
n/Observed - Inferred, Other/		Circle some & COMMENT	
s reach typical of steam?, Recreatio	A GIVENO	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	-
Comment RE: Reach consistency/1	SH (F)	BJAESTHETICS □ NUISANCE ALGAE □ INVASIVE MACROPHYTES □ EXCESS TURBIDITY □ DISCOLORATION □ FOAM / SCUM □ OIL SHEEN □ TRASH / LITTER □ TRASH / LITTER □ NUISANCE ODOR □ SLUDGE DEPOSITS □ CSOS/SSOS/OUTFALLS ATION AREA DEPTH	
AJ SAMPLED REACH Check ALL that apply	METHOD STAGE BOAT 1st-sample pass-2nd WADE HIGH	0.5 Km	Stream Drawing:



SIM-063

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION SITE NUMBER RIVER BASIN DRAINAGE AREA (mi2) LENGTH OF STREAM REACH (ft) LONG. 92. 8156 RIVER CODE COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. HHEI Metric BLDR SLABS [16 pts] SILT [3 pt] **Points** BOULDER (>256 mm) [16 pts] \cap LEAF PACK/WOODY DEBRIS [3 pts] BEDROCK [16 pt] FINE DETRITUS [3 pts] Substrate \Box COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] Max = 40GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock (B) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth Max = 30> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts COMMENTS MAXIMUM POOL DEPTH (centimeters): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] Max=30 > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS AVERAGE BANKFULL WIDTH (meters) This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY (Per Bank) (Most Predominant per Bank) Ø Ø 风缸 Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Moderate 5-10m 口门 Urban or Industrial Narrow <5m Open Pasture, Row Residential, Park, New Field Cron None Fenced Pasture Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) 慁 Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 2.5 STREAM GRADIENT ESTIMATE ☐ Flat (0.5 ft/100 ft)

☐ Moderate to Severe

Severe (10 ft/100 ft)

Moderate (2 ft/100 ft)

☐ Flat to Moderate

No QHEI Score(If Yes, Attach Completed QHEI Form)	
ISE(S)	
Distance from Evaluated Stream	
Distance from Evaluated Stream	
Distance from Evaluated Stream	
MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LO	LOCATION
NRCS Soil Map Page: NRCS Soil Map Stream	eam Order
Township / City:	
ate of last precipitation:Quantity:	
Canopy (% open):	
y? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
ssolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
stream (Y/N) If not, please explain:	
	1/2010 B.S.
coord all observations. Voucher collections optional. NOTE: all voucher samples must be Include appropriate field data sheets from the Primary Headwater Habitat Assessment I (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher?	nt Maridar)
Include appropriate field data sheets from the Primary Headwater Habitat Assessment I	nt Maridar)
(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	nt Maridar)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher?	er? (Y/N)
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. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
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. Include appropriate field data sheets from the Primary Headwater Habitat Assessment (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) _	er? (Y/N)
. Include appropriate field data sheets from the Primary Headwater Habit (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) RATIVE DESCRIPTION OF STREAM REACH (This m_	Vouch

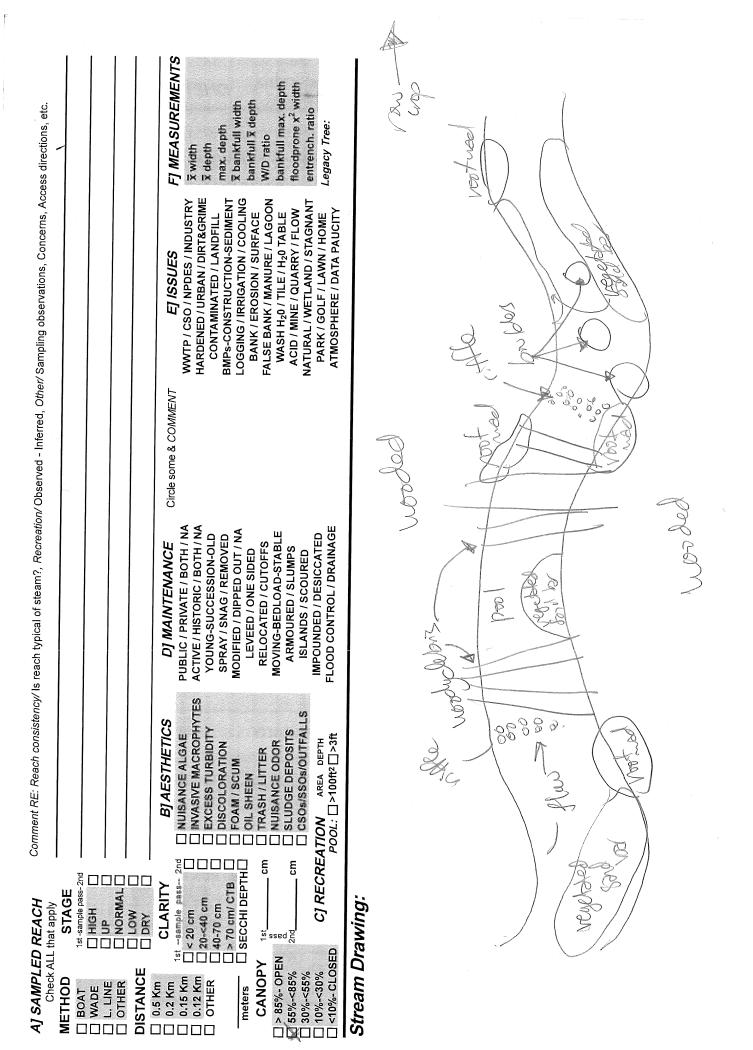
ChieEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:



Stream & Location:	A729 2000	<i>RM:</i> _	Date: 9 75 /8
		full Name & Affiliation:	Office verified
River Code:	O/O/C/ #.	<i>Lat./ Long.:</i> ∮	BIYD Incation
1] SUBSTRATE Check ONLY estimate % or BEST TYPES BEST TYPES POOL II BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BEST TYPES Comments	OTHER TYPES RIFFLE HARDPAN [4] DETRITUS [3] MUCK [2] SILT [2] SCORE NATIONAL SUBSTRATES	LIMESTONE [1] TILLS [1] SILT WETLANDS [0]	QUALITY HEAVY [-2] MODERATE [-1] Substrate
quality; 3-Highest quality in mode diameter log that is stable, well doubled of the control of t	TION [1] 2 ROOTWADS [1] ATER) [1] BOULDERS [1]	deep, well-defined, functional pools. OXBOWS, BACKWATERS [1] AQUATIC MACROPHYTES [1] LOGS OR WOODY DEBRIS [1]	inal AMOUNT t Check ONE (Or 2 & average) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20
SINUOSITY DEVELOR	LENT [7] □ NONE [6] [5] ☑ RECOVERED [4] [□ RECOVERING [3]	STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	MODERATE 10-50m [3]	EST, SWAMP [3] UB OR OLD FIELD [2] IDENTIAL, PARK, NEW FIELD [1] CED PASTURE [1]	CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0]
□ > 1m [6]	CHANNEL WIDTH Check ONE (Or 2 & average) OOL WIDTH > RIFFLE WIDTH [2] ☐ TO OOL WIDTH = RIFFLE WIDTH [1] ☐ VE OOL WIDTH < RIFFLE WIDTH [0] ☐ FA	CURRENT VELOCITY Check ALL that apply RRENTIAL [-1] SLOW [1] RY FAST [1] INTERSTITIAL [-1] ST [1] INTERMITTENT [-2] DERATE [1] EDDIES [1] Indicate for reach - pools and riffles.	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool / Current Maximum 12
of riffle-obligate spec RIFFLE DEPTH ☐ BEST AREAS > 10cm [2] ☐	RUN DEPTH RIFFLE / R MAXIMUM > 50cm [2]	2 & average). UN SUBSTRATE RIFFLE / R , Cobble, Boulder) [2] E (e.g., Large Gravel) [1] D. G. Fine Gravel, Sand) [0]	UN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] EXTENSIVE [-1] Maximum 8
DRAINAGE AREA	MODERATE [6-10] ☐ HIGH - VERY HIGH (10-6)	%RUN: (6) %RIFFI	Mayimum (7)



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

HEI	Sco	re:	5	2.	25

Stream & Location:	Angrood	R	PM: Date	:92718
		Full Name & Affiliation:	AEP IN	055
River Code:	STORET #:	Lat./ Long.: 4 L 17 4	182 8170	Office verified location
BEST TYPES D BLDR /SLABS [10] COBBLE [8] GRAVEL [7] SAND [6] BEDROCK [5]	note every type present	ORIGIN CIMESTONE [1] TILLS [1] WETLANDS [0]	Or 2 & average) QUA HEAVY SILT MODER NORMA FREE [1 DDED MODER NORMA	[-2] ATE [-1] Substrate
quality: 3-Highest quality in moder	ON [1] ROOTWADS [1]	gnest quality or in small amounts of n ge boulders in deep or fast water, lar	ge Check ONE (ols.	OUNT Or 2 & average) E > 75% [11] E 25-75% [7] <25% [3] BSENT < 5% [1] Cover Maximum 20
3] CHANNEL MORPHOLOG SINUOSITY DEVELOP HIGH [4]	NT [7] NONE [6] RECOVERED [4] RECOVERING [3]	STABILITY HIGH [3] MODERATE [2] LOW [1]		Channel Maximum 20
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	MODERATE 10-50m [3]	FLOOD PLAIN QUALITY DREST, SWAMP [3] IRUB OR OLD FIELD [2]	L R CONSERVATION	
☐ > 1m [6]	CHANNEL WIDTH heck ONE (Or 2 & average) pL WIDTH > RIFFLE WIDTH [2]	CURRENT VELOCITY Check ALL that apply ORRENTIAL [-1] SLOW [1] VERY FAST [1] INTERSTITIAL AST [1] INTERMITTEN MODERATE [1] DEDDIES [1] Indicate for reach - pools and riffles.	Primary Seconda (circle one and c	n Potential c Contact ry Contact comment on back) Pool / Current Maximum 12
of riffle-obligate specie RIFFLE DEPTH □ BESTAREAS > 10cm [2] M	RUN DEPTH AXIMUM > 50cm [2] X STABLE (e.4 AXIMUM < 50cm [1] MOD. STAB	Or Ž & average). RUN SUBSTRATE RIFFLE g., Cobble, Boulder) [2]	opulation ☐ NO ☐ / RUN EMBEDD ☐ NONE [2] ☐ LOW [1] ☐ MODERATE [0] ☐ EXTENSIVE [-1]	RIFFLE [metric=0] EDNESS Riffle
6] GRADIENT (ft/mi) DRAINAGE AREA (mi²)	☐ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6]		GLIDE:	Gradient 3

F] MEASUREMENTS bankfull max, depth floodprone x² width bankfull X depth x bankfull width Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench, ratio Legacy Tree: max. depth W/D ratio ¥ depth XXIII HARDENED / URBAN / DIRT&GRIME BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON WWTP / CSO / NPDES / INDUSTRY NATURAL / WETLAND / STAGNANT ACID / MINE / QUARRY / FLOW ATMOSPHERE / DATA PAUCITY WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME **BANK / EROSION / SURFACE** CONTAMINATED / LANDFILL EJ ISSUES 5 Circle some & COMMENT Wim-offers stadion FLOOD CONTROL / DRAINAGE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED IMPOUNDED / DESICCATED DI MAINTENANCE RELOCATED / CUTOFFS ARMOURED / SLUMPS LEVEED / ONE SIDED ISLANDS / SCOURED 783 JON COL ☐ NUISANCE ALGAE ☐ INVASIVE MACROPHYTES ☐ SLUDGE DEPOSITS ☐ CSOs/SSOs/OUTFALLS **BI AESTHETICS EXCESS TURBIDITY** CXCESS TURBIDIT
DISCOLORATION
FOAM / SCUM
OIL SHEEN
TRASH / LITTER POOL: □>100ft2□>3ft AREA DEPTH NUISANCE ODOR CJ RECREATION ಕ್ರ HIGH DP NORMAL DOW DRY 1st -sample pass- 2nd 1st ---sample pass---CLARITY STAGE Stream Drawing: AJ SAMPLED REACH Check ALL that apply _ < 20 cm Zy pass Zy ☐ <10%- CLOSED > 85%- OPEN CANOPY WADE

L. LINE

OTHER

DISTANCE | > 85%- OPE| | 55%-<85% | 30%-<55% □ 10%-<30% METHOD 0.5 Km 0.15 Km 0.12 Km 0.2 Km OTHER BOAT meters

and the

ChieEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 57

		4556221116111	rieiu Sileet	-	(
Stream & Location.	: Angro	710(RM:	. Date: 9	77 18
	/ \ \		me & Affiliation:	AZP -	700	<u> </u>
River Code:	STORET #:_	Lat./ L	ong.: 41 202	1 /82	1102	Office verified location
1] SUBSTRATE Cheestir BEST TYPES BEST TYPES BEDR /SLABS [10] GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BEST Comments 2] INSTREAM COVE quality; 3-Highest quality diameter log that is stable UNDERCUT BANK OVERHANGING V SHALLOWS (IN SI	ck ONLY Two substrate TYPE BO mate % or note every type present POOL RIFFLE OTHER TY	Lat./L (NAD 83 - d) XES; TYPES POOL RIFFLE IN [4] IS [3] IN [4] Check O ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] RIP/RAP [0] LACUSTURINE [0] [1] SHALE [-1] COAL FINES [-2]	SILT SILT of marginal of highest large Cools. IS [1] ES [1]	1102	[-1] Substra [-2] Maximu 20 [a average) % [11] [3]	
O ROOTMATS [1]					C. Maxi	over 7
SINUOSITY DEV HIGH [4]	EXCELLENT [7] NONE [6] GOOD [5] RECOVEF FAIR [3] RECOVEF	IELIZATION RED [4]	STABILITY HIGH [3] MODERATE [2] LOW [1]		Cha Maxii	
A] BANK EROSION River right looking downstre EROSION ROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]		FLOO	D PLAIN QUALIT AMP [3] DLD FIELD [2] _, PARK, NEW FIELD [Y R CO	NSERVATION TIL BAN OR INDUST IING / CONSTRU- redominant land us	RIAL [0] CTION [0] Se(s) Orian
5] POOL / GLIDE AN MAXIMUM DEPTH Check ONE (ONLY!) > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] <0.2m [0] Comments	ID RIFFLE / RUN QUALITY	Y I CURR ge) Che TH [2] TORRENTIA TH [1] VERY FAST TH [0] FAST [1] MODERATE		AL [-1] ENT [-2]	Recreation Pote Primary Con Secondary Co circle one and comment Pote Cur. Maxin	on back)
Indicate for function of riffle-obligate RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0] Comments	RUN DEPTH [] ☐ MAXIMUM > 50cm [2] ☐ ☐ [] ☐ MAXIMUM < 50cm [1] ☐	heck ONE (<i>Or 2 & avera</i> RIFFLE / RUN SUE STABLE (e.g., Cobble,	ge). BSTRATE RIFFL Boulder) [2] arge Gravel) [1]	E / RUN E	MBEDDEDNI E [2]	ffle /
6] <i>GRADIENT</i> (fl/mi) ☐ VERY LOW - LOW [☐ MODERATE [6-10] ☐ HIGH - VERY HIGH		~~~	GLIDE:(Grad Maxin	

F] MEASUREMENTS floodprone x2 width bankfull max. depth bankfull x depth X bankfull width entrench, ratio Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. Legacy Tree: max. depth W/D ratio X depth X LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON HARDENED / URBAN / DIRT&GRIME NATURAL / WETLAND / STAGNANT WWTP / CSO / NPDES / INDUSTRY BMPs-CONSTRUCTION-SEDIMENT ACID / MINE / QUARRY / FLOW ATMOSPHERE / DATA PAUCITY BANK / EROSION / SURFACE WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL EJ ISSUES くる。 2022 2022 Circle some & COMMENT Pent min ACTIVE / HISTORIC / BOTH / NA FLOOD CONTROL / DRAINAGE PUBLIC / PRIVATE / BOTH / NA MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED RELOCATED / CUTOFFS DI MAINTENANCE ARMOURED / SLUMPS **LEVEED / ONE SIDED** ISLANDS / SCOURED INVASIVE MACROPHYTES ☐ CSOs/SSOs/OUTFALLS **BI AESTHETICS EXCESS TURBIDITY** ☐ SLUDGE DEPOSITS ☐ NUISANCE ALGAE **47/ON** AREA DEPTH POOL; □>100ft²□>3ft NUISANCE ODOR DISCOLORATION ☐ TRASH / LITTER FOAM / SCUM OIL SHEEN CJ RECREATION □ > 70 cm/ CTB □ SECCHI DEPTH□ Ë □ UP □ NORMAL □ · · · · · · 1st -sample pass- 2nd --sample pass--CLARITY STAGE ☐ 20-<40 cm ☐ 40-70 cm Stream Drawing. AJ SAMPLED REACH Check ALL that apply **T** T □ < 20 cm Ž Z pass Z ☐ <10%- CLOSED > 85%- OPEN CANOPY □ > 85%- OPE ☑ 55%-<85% DISTANCE 10%-<30% 30%-<55% 0.5 Km 0.15 Km METHOD 0.12 Kr OTHER L. LINE 0.2 Km ☐ BOAT OTHER WADE meters

OhicEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:

re:	69	

Stream & Location:	A792620	RM	1: Date: 9 L8 18
Fryklur	Scorers	Full Name & Affiliation:	18P
River Code:	<i>STORET #:</i>	Lat./Long.: 1 2050 /	82 7768 Office verified location □
BEST TYPES	r note every type present	RIFFLE ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0]	Or 2 & average) QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] MODERATE [-1] MAXIMUM 20
quality: 3-Highest quality in mode	ty; 2-Moderate amounts, but not of nig rate or greater amounts (e.g., very larg eveloped rootwad in deep / fast water, POOLS > 70cm [2] TON [1] ROOTWADS [1]	small amounts or if more common of minest quality or in small amounts of highest quality or in small amounts of highest conders in deep or fast water, large or deep, well-defined, functional pools OXBOWS, BACKWATERS [1] AQUATIC MACROPHYTES [2] LOGS OR WOODY DEBRIS [3]	Check ONE (<i>Or 2 & average</i>) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3]
3] CHANNEL MORPHOLOG SINUOSITY DEVELOF HIGH [4]	ENT [7] NONE [6] FRECOVERED [4] RECOVERING [3]	N STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
River right looking downstream EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	RIPARIAN WIDTH WIDE > 50m [4]		CONSERVATION TILLAGE [1]
☐ > 1m [6] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐ PO(☐ 0.7-<1m [4] ☐	CHANNEL WIDTH Check ONE (Or 2 & average) OL WIDTH > RIFFLE WIDTH [2] □ ⊤ OL WIDTH = RIFFLE WIDTH [1] □ ∨	CURRENT VELOCITY Check ALL that apply ORRENTIAL [-1] SLOW [1] YERY FAST [1] INTERSTITIAL [-1] AST [1] INTERMITTENT HODERATE [1] EDDIES [1] Indicate for reach - pools and riffles.	
of riffle-obligate specie RIFFLE DEPTH ☐ BEST AREAS > 10cm [2]	Check ONE (C RUN DEPTH RIFFLE / I IAXIMUM > 50cm [2] STABLE (e.g IAXIMUM < 50cm [1] MOD. STAB	g., Cobble, Boulder) [2]	RUN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] Riffle / Run Maximum 8
6] GRADIENT (ft/mi) DRAINAGE AREA (mi²)	 VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6] 	7.3	Gradient FLE: Maximum 10

SIM- 689

Chieff Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

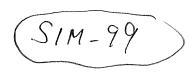


		78
SITE NAME/LOCATION	17,6971	
LENGTH OF, STREAM REACH (#) DATE 4/18/8 SCORER A EP	RIVER BASIN DRAINAGE AREA (mi²) LAT. 4 ONG. 10 RIVER MILE COMMENTS	
	m - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Inst	
STREAM CHANNEL	TURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERY
(Max of 40). Add total number of signific TYPE	ery type of substrate present. Check ONLY two predominant substrate TYPE boxes cant substrate types found (Max of 8). Final metric score is sum of boxes A & B. PERCENT SILT [3 pt] PERCENT	HHEI Metric Points
☐ ☐ BLDR SLABS [16 pts] ☐ ☐ BOULDER (>256 mm) [16 pts] ☐ ☐	LEAF PACKWOODY DEBRIS [3 pts]	Substrate
☐ ☐ BEDROCK [16 pt]		Max = 40
	7.6 □ □ MUCK [0 pts] 20 □ □ ARTIFICIAL [3 pts]	17
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _ SCORE OF TWO MOST PREDOMINATE SUBS		A+B
2. Maximum Pool Depth (Measure the m	naximum pool depth within the 61 meter (200 ft) evaluation reach at the time of ad culverts or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
evaluation. Avoid plunge pools from roa > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	Chief Only Gie Box). Sem - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	0
> 10 - 22.5 Cir [23 pts]	A	
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4'8" - 9' 7") [20 pts]		Bankfull Width Max=30
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	e average of 3-4 measurements) (Check <i>ONLY</i> one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	e average of 3-4 measurements) (Check <i>ONLY</i> one box):	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13") [30 pts]	e average of 3-4 measurements) (Check <i>ONLY</i> one box):	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13") [30 pts] > 3.0 m - 4.0 m (> 9" 7" - 13") [25 pts] > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODI RIPARIAN WIDTH (Per Bank) Wide > 10m	This information must also be completed PLAIN QUALITY L R (Most Predominant per Bank) R (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODI RIPARIAN WIDTH (Per Bank) Wide > 10m Moderate 5-10m	This information must also be completed PLAIN QUALITY L R (Most Predominant per Bank) L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Conservation IIIage III Description (Check ONLY one box): (Check ONLY one box): (Check ONLY one box): (A S' 3" [15 pts] AVERAGE BANKFULL WIDTH (meters) III Description AVERAGE BANKFULL WIDTH (meters) L R Conservation Tillage Immature Forest, Shrub or Old Field Open Pasture, Row	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13") [30 pts] > 3.0 m - 4.0 m (> 9" 7" - 13") [25 pts] > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODI RIPARIAN WIDTH (Per Bank) Wide > 10 m Moderate 5-10 m Narrow <5m None	This information must also be completed PLAIN QUALITY L R (Most Predominant per Bank) R (Most Predominant per Bank) Mature Forest, Wetland Check ONLY one box): (Check ONLY one box): (2	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODI RIPARIAN WIDTH (Per Bank) Wide > 10 m Moderate 5-10 m Narrow <5m None COMMENTS	This information must also be completed PLAIN QUALITY LR (Most Predominant per Bank) Most Predominant per Bank) Residential, Park, New Field Residential, Park, New Field Reliation) (Check ONLY one box): (Check ONLY one b	Width Max=30
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts]	Check ONLY one box):	Width Max=30

QHEI PERFORMED? - 🗍 Yes 🎵 No QHEI Score	(If Yes, Attach Completed OHELForm)
DOWNSTREAM DESIGNATED USE(S)	_ (ii 103, Attach Completed QHLI FOIII)
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE	WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:NR	CS Soil Map Page: NRCS Soil Map Stream Order
County: Township /	City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Were samples collected for water chemistry? (Y/N): (Note lab samples)	
	_ pH (S.U.) Conductivity (μmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, please	ee explain:
additional comments/description of pollution impacts:	
BIOTIC EVALUATION Performed? (V/N): (If Yes, Record all phoen pitions, Valuables calls)	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections)	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections)	actions optional. NOTE: all voucher samples must be labeled with the site ets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher college	actions optional. NOTE: all voucher samples must be labeled with the site ets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher college	actions optional. NOTE: all voucher samples must be labeled with the site ets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher colled ID number. Include appropriate field data shee lish Observed? (Y/N) Voucher? (Y/N) Salamanders Observer ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Maccomments Regarding Biology:	ections optional. NOTE: all voucher samples must be labeled with the site strom the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher college	ections optional. NOTE: all voucher samples must be labeled with the site strom the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) croinvertebrates Observed? (Y/N) Voucher? (Y/N)
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collection in ID number. Include appropriate field data shee lish Observed? (Y/N) Salamanders Observed of the Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Salamanders Observed? (Y/N) Advantage of Include important landmarks and other features of interest for site of the property	ections optional. NOTE: all voucher samples must be labeled with the site sts from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collection in ID number. Include appropriate field data shee lish Observed? (Y/N) Salamanders Observed of the Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Salamanders Observed? (Y/N) Advantage of Include important landmarks and other features of interest for site of the property	ections optional. NOTE: all voucher samples must be labeled with the site sts from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location
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BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collection in the properties of the data shee is hobserved? (Y/N) Voucher? (Y/N) Salamanders Observed of the properties of the prope	ections optional. NOTE: all voucher samples must be labeled with the site sts from the Primary Headwater Habitat Assessment Manual) ed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Croinvertebrates Observed? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): evaluation and a narrative description of the stream's location

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION	9)			
SITE NUMBER_	SIM-99 RIVER BASIN_	DI	RAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	_ LAT LONG	RIVER CODE _	RIVER MILE	
DATE (10-4-18) SCORER JF, CL	ム)COMMENTS	<u> </u>		
NOTE: Complete All Items On This Fol	rm - Refer to "Field Evaluation	n Manual for Ohio's PH\	VH Streams" for Instru	uctions
STREAM CHANNEL NONE/NAMODIFICATIONS:	ATURAL CHANNEL	ERED RECOVERING (RECENT OR NO RECO	VERY
SUBSTRATE (Estimate percent of ev	very type of substrate present. C	heck ONLY <u>two</u> predominant	substrate TYPE boxes	UUEI
(Max of 40). Add total number of signifi	cant substrate types found (Max o PERCENT TYPE	f 8). Final metric score is sum	of boxes A & B. PERCENT	HHEI Metric
☐ ☐ BLDR SLABS [16 pts]	SILT	[3 pt]	20_	Points
□ □ BOULDER (>256 mm) [16 pts] . □ □ BEDROCK [16 pt]		PACKWOODY DEBRIS [3 DETRITUS [3 pts]	ots]	Substrate
☐ ☑ COBBLE (65-256 mm) [12 pts]		or HARDPAN [0 pt]		Max = 40
GRAVEL (2-64 mm) [9 pts]		K [0 pts]		20
☐	<u>2_5</u>	FICIAL [3 pts]		
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	10 (A) 15		(B)	A + B
SCORE OF TWO MOST PREDOMINATE SUB	STRATE TYPES:	TOTAL NUMBER OF SUBST	RATE TYPES:	
Maximum Pool Depth (Measure the r	naximum pool depth within the	61 meter (200 ft) evaluation r	each at the time of	Pool Dept
evaluation. Avoid plunge pools from roa	ad culverts or storm water pipes)	(Check ONLY one box):		Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	□ <5	cm - 10 cm [15 pts] cm [5 pts]		75
> 10 - 22.5 cm [25 pts]		WATER OR MOIST CHANN	EL [0 pts]	
COMMENTS		_MAXIMUM POOL DEPTH		
3. BANK FULL WIDTH (Measured as th > 4.0 meters (> 13') [30 pts]	□ >1.	(Check <i>ONLY</i> one 3 m - 1.5 m (> 3' 3" - 4' 8") [15	esantine HAPerra e regione reconstruir estructurar a la contractión 👢 📳	Bankfull Width
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	□ ≤1	0 m (≤ 3' 3") [5 pts]		Max=30
	· cheurienenienen dun eranfrenen)		Zo	20
COMMENTS		_ AVERAGE BANKFULL W	IDTH (meters)	
	This information must a	so he completed		
RIPARIAN ZONE AND FLOOD	PLAIN QUALITY ☆NOTE: R	iver Left (L) and Right (R) as	looking downstream☆	
<u>RIPARIAN WIDTH</u> L R (Per Bank)	FLOODPLAIN QUALITY L R (Most Predominant	per Bank) L R		
☑ ☑ Wide >10m	Mature Forest, We	land 🗇 🗇	Conservation Tillage	
☐ ☐ Moderate 5-10m	Immature Forest, S	hrub or Old	Urban or Industrial	
□ □ Narrow <5m	Residential, Park, I	New Field	Open Pasture, Row	
□ □ None	Fenced Pasture		Crop Mining or Construction	
COMMENTS				•
FLOW REGIME (At Time of Ev	raluation) (Check ONLY one box)	:		
Stream Flowing Subsurface flow with isolated po	ools (Interstitial)	Moist Channel, isolated p Dry channel, no water (E	ools, no flow (Intermittent) phemeral)	•
SINITO SITY (Number of bends	per 61 m (200 ft) of channel) (C	neck ONLY one box):		
None	1.0	2.0	3.0	
□ 0.5	J 1.5	2.5 L	J >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	Moderate (2 ft/100 ft)	☐ Moderate to Severe	Severe (10 ft/10	n #1



ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Tyes Ano QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): N Date of last precipitation: Quantity: Quantity: Photograph Information: $SIM - 99 - 1W$, $SIM - 99 - 1E$, $SIM - 99 - 3$
Photograph Information: SIM - 99-1W, SIM-99-1E, SIM-99-3
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Additional commentances place of policies impasses.
PIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site
ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (17N) Voucner? (17N) Aquatic Macronivertebrates Observed? (17N) Voucner? (17N) Comments Regarding Biology:
Comments regarding Biology.
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
12000 WOODLAND WOODY
WOODY DEBRIS
DEBRIS DEBRIS
FLOW
MOODLAND
MO O D MA IOT

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): 45

SITE NAME/LOCATION 4 PEX A	3800001			
SITE NUMBER	SIM-101 RIVER BASIN	1	_ DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) 2.00	LAT. 41.000 LONG.	- <u>82.77</u> 88 RIVER COD	E RIVER MILE	**************
DATE 10-4-18 SCORER JE	CLW_COMMENTSA	ta DITCH		
NOTE: Complete All Items On This F	Form - Refer to "Field Evalu	ation Manual for Ohio's	PHWH Streams" for Instr	uctions
STREAM CHANNEL NONE / MODIFICATIONS:	NATURAL CHANNEL	OVERED RECOVERING	3 RECENT OR NO RECO	DVERY
1. SUBSTRATE (Estimate percent of (Max of 40). Add total number of sig	nificant substrate types found (Ma	ax of 8). Final metric score is SILT [3 pt] EAF PACK/WOODY DEBRIS	sum of boxes A & B. PERCENT SO	HHEI Metric Points
BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]		INE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts]	7.0	Max = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedroo SCORE OF TWO MOST PREDOMINATE SU		TOTAL NUMBER OF SU	BSTRATE TYPES:	A + B
2. Maximum Pool Depth (Measure the evaluation. Avoid plunge pools from > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	road culverts or storm water pipe	the 61 meter (200 ft) evaluati es) (Check ONLY one box): > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHA	NNEL [0 pts]	Pool Depth Max = 30
COMMENTS		MAXIMUM POOL DEF	PTH (centimeters):	
3. BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		nts) (Check <i>ONLY</i> of the state of the stat	[15 pts]	Bankfull Width Max=30
COMMENTS		AVERAGE BANKFUL	L WIDTH (meters)	20
RIPARIAN ZONE AND FLO		st also be completed E: River Left (L) and Right (R)	as looking downstream☆	
RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m	1 1 1		Conservation Tillage	
☐ ☐ Narrow <5m ☐ ☑ None COMMENTS	Field Residential, Pa		Crop	
FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	Evaluation) (Check ONLY one t pools (Interstitial)	oox): Moist Channel, isolate Dry channel, no wate	ed pools, no flow (Intermittent) er (Ephemeral)	-
SINUOSITY (Number of ben Non e 0.5	ds per 61 m (200 ft) of channel) 1.0 1.5	(Check <i>ONLY</i> one box): ☐ 2.0 ☐ 2.5	3.0 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	☐ Moderate (2 ft/100 ft)	☐ Moderate to Severe	Severe (10 ft/10	00 ft)

DOWNSTREAM DESIGNATED USE(S) JOWH Name: Distance from Evaluated Stream JOWH Name: Distance from Evaluated Stream Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION SGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order NRCS Soil Map Stream Order Ounty: Township / City. MISCELLANEOUS ase Flow Conditions? (Y/N): Date of last precipitation: Quantity. Canopy (% open): LOO Rere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: eld Measures: Temp (*C) Dissolved Oxygen (mg/l) If not, please explain: BIOTIC EVALUATION afformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the JD number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Sch Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Domments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location AGREEMENT AGREEME	QHEI PERFORMED? - Yes X No	QHEI Score(If Yes, Attach Completed QHEI Form)
Jown Name: Distance from Evaluated Stream Distance from Evaluation	. = 7600 190 T. Nejaraka	
Distance from Evaluated Stream		Distance from Evaluated Stream
Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION SGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order Ounty: Township / City: MISCELLANEOUS ase Flow Conditions? (Y/N): Date of last precipitation: Cuantity: Canopy (% open): LD D (rere samples collected for water chemistry? (Y/N); LL (Note lab sample no, or id, and attach results) Lab Number: eld Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) the sampling reach representative of the stream (Y/N) If not, please explain: BIOTIC EVALUATION (if Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with th ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aqualic Macroinvertebrates Observed? (Y/N) DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location AG FIGURE 1.		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION SGS Quadrangle Name:		
MISCELLANEOUS ase Flow Conditions? (Y/N): Date of last precipitation: Quantity hotograph Information: SIM (Note lab sample no. or id. and attach results) Lab Number: fere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: eld Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (jumhos/cm) the sampling reach representative of the stream (Y/N) If not, please explain: diditional comments/description of pollution impacts: BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the (D number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	The state of the s	
MISCELLANEOUS ase Flow Conditions? (Y/N): Date of last precipitation: Quantity hotograph Information: SIM (Note lab sample no. or id. and attach results) Lab Number: fere samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number: eld Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (jumhos/cm) the sampling reach representative of the stream (Y/N) If not, please explain: diditional comments/description of pollution impacts: BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the (D number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
Date of last precipitation: Quantity:		
revated Turbidity? (Y/N):	MISCELLANEOUS	
levated Turbidity? (Y/N): Canopy (% open): (Note lab sample no. or id. and attach results) Lab Number:	sase Flow Conditions? (Y/N): Date of last	precipitation:Quantity:
levated Turbidity? (Y/N): Canopy (% open): (Note lab sample no. or id. and attach results) Lab Number:	Photograph Information: 517	-101-122
the sampling reach representative of the stream (Y/N) If not, please explain:		
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Outher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location.	Vere samples collected for water chemistry? (Y/N):	(Note lab sample no, or id, and attach results) Lab Number:
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location.	ield Measures: Temp (°C) Dissolved C	Dxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location.	s the sampling reach representative of the stream (Y/N) If not, please explain;
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location and a narrative description and a narrative description of the stream's location and a narrative description of the stream's location and a narrative description and a nar		
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ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location AG FIELD AG FIELD	BIOTIC EVALUATION	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location		
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	Cab Observed 2 OVAN	Salamanders Observed? (VIN) Veusbar? (VIN)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location AG FIELD	rogs or Tadpoles Observed? (Y/N) Voucher?	Salamanders Observed? (Y/N) Voucher? (Y/N) ? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location AG FIELD		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location $AGFIELD$	oriniento regularing bloregy.	
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location $AGFIELD$		
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location $AGFIELD$		
N 11 AG FIELD	DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed):
	Include important landmarks and other feat	ures of interest for site evaluation and a narrative description of the stream's location
		C EIELD
	1	A (9
AG FIELD	NI	
AG FIELD	N 11	
AG FIECE	NIL	
AG	-Low→ . [
0	Low →	
	Low-	
	N ROAD	

SIM_105 OnicEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

	THE Score (sum of metrics 1, 2, 3).	
SITE NAME/LOCATION / 15 5 X	4 38 Z000 /	200
SITE NUMBER	RIVER BASIN DRAINAGE AREA (mi²) LAT. 4 (.084 LONG. 9294 RIVER CODE RIVER MILE	
LENGTH OF STREAM REACH (ft)	LAT. 41.0614 LONG. 42.0146 RIVER CODE RIVER MILE	
DATE 10 SCORER 3	COMMENTS	
NOTE: Complete All Items On This Fe	orm - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	ctions
STREAM CHANNEL DNONE/N	NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO	VERY
MODIFICATIONS:		
SUBSTRATE (Estimate percent of a company of 40). Add total number of sign	every type of substrate present. Check ONLY two predominant substrate TYPE boxes ifficant substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEI
TYPE	PERCENT TYPE PERCENT	Metric Points
BLDR SLABS [16 pts]	SILT [3 pt]	r Oilles
□ □ BOULDER (>256 mm) [16 pts] □ □ BEDROCK [16 pt]		Substrate Max = 40
COBBLE (65-256 mm) [12 pts]	CLAY or HARDPAN [0 pt]	Max = 40
GRAVEL (2-64 mm) [9 pts]		
SAND (<2 mm) [6 pts]	ARTIFICIAL [3 pts]	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A) (B)	A + B
SCORE OF TWO MOST PREDOMINATE SU		
2. Maximum Pool Depth (Measure the	e maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Dept
evaluation. Avoid plunge pools from r	road culverts or storm water pipes) (Check ONLY one box):	Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pts] < 5 cm [5 pts]	20
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts]	20
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	5.00
O DANICEUL MIDTH Mecoured on	the average of 3-4 measurements) (Check ONLY one box):	Bankfull
3. BANK FULL WIDTH (Measured as 1 > 4.0 meters (> 13') [30 pts]	□ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width Max=30
> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	☐ ≤ 1.0 m (≤ 3' 3") [5 pts]	Wax-30
		20
COMMENTS	AVERAGE BANKFULL WIDTH (IIIeleis)	
	This information must also be completed	
RIPARIAN ZONE AND FLOO	DDPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH	FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R	€
L R (Per Bank) □ □ Wide >10m	Mature Forest, Wetland Conservation Tillage	
☐ ☐ Moderate 5-10m	☐ ☐ Immature Forest, Shrub or Old ☐ ☐ Urban or Industrial Field	
☐ ☐ Narrow <5m	Open Pasture, Row	
None Nation	Grop Fenced Pasture Grop Mining or Construction	
COMMENTS	2	
FLOW REGIME (At Time of I	Evaluation) (Check ONLY one box):	
Stream Flowing	Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated COMMENTS	pools (Interstitial) Dry channel, no water (Ephemeral)	
	do not 64 m (200 ft) of channel). (Chack OMI V one boy):	
None Sinuosity (Number of bend	ds per 61 m (200 ft) of channel) (Check <i>ONLY</i> one box):	
1 0.5	☐ 1.5 ☐ 2.5 ☐ >3	
STREAM GRADIENT ESTIMATE	_	
	☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/10	

		Also be Completed):
	QHEI PERFORMED? - 🗖 Yes 💆 No QHEI Score _	(If Yes, Attach Completed QHEI Form)
	DOWNSTREAM DESIGNATED USE(S)	
	WWH Name:	Distance from Evaluated Stream
	DOWN Name:	Distance from Evaluated Stream
		Distance from Evaluated Stream
		ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
		NRCS Soil Map Page: NRCS Soil Map Stream Order
	County: To	ownship / City:
	MISCELLANEOUS	
	Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
	Photograph Information:	
	Elevated Turbidity? (Y/N): Canopy (% open):	D 0
		lab sample no. or id. and attach results) Lab Number:
		pH (S.U.) Conductivity (µmhos/cm)
	If n	not, please explain:
	BIOTIC EVALUATION	
		cher collections optional. NOTE: all voucher samples must be labeled with the site data sheets from the Primary Headwater Habitat Assessment Manual)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamander.	data sheets from the Primary Headwater Habitat Assessment Manual)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) Aqu	data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamander.	data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) Aqu	data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) Aqu	data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) Aque Comments Regarding Biology:	data sheets from the Primary Headwater Habitat Assessment Manual) s Observed? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqui Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqui Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqui Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqui Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) Aquicomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquicomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest Control of C	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
DEEI	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquicomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest Control of C	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
REEL AN AR	ID number. Include appropriate field of Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquicomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Include important landmarks and other features of interest Control of C	DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location Buffer Buffer

S1M-106

ChieFPA Primary Headwater Habitat Evaluation Form

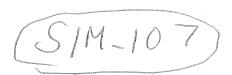
5	7.	5	A COUNTY OF THE PARK
	<u>·</u>	_	B

SITE NAME/LOCATION	HHEI Score (sum of metrics 1, 2, 3) .	
SITE NUMBER 51	1M-106 RIVER BASIN DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT. 41.000 LONG. 82.819 RIVER CODE RIVER MILE	
NOTE: Complete All Items On This Form	n - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	uctions
STREAM CHANNEL NONE/NAT MODIFICATIONS:	FURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERY
(Max of 40). Add total number of significa TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	ry type of substrate present. Check ONLY two predominant substrate TYPE boxes ant substrate types found (Max of 8). Final metric score is sum of boxes A & B. RECENT TYPE SILT [3 pt] PERCENT	HHE Metri Point Substra Max = 4
evaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	aximum pool depth within the 61 meter (200 ft) evaluation reach at the time of disculverts or storm water pipes) (Check ONLY one box):	Pool De Max = :
BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]	Bankfu Width Max=3
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	~ 0
RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m	FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Pesidential Park New Field Open Pasture, Row	
Narrow sim	Fenced Pasture Crop Mining or Construction	_
FLOW REGIME (At Time of Evalued Stream Flowing Subsurface flow with isolated pools COMMENTS	Moist Channel, isolated pools, no flow (Intermittent)	_
SINUOSITY (Number of bends pe	er 61 m (200 ft) of channel) (Check <i>ONLY</i> one box): 1.0	
STREAM GRADIENT ESTIMATE		

SIM-106

10-5-18

MULLEVLOVINIEDI - P. 162 PONO MULLI OCO16	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u>	
GGS Quadrangle Name: NR	RCS Soil Map Page: NRCS Soil Map Stream Order
unty: Township /	/ City:
MISCELLANEOUS	
se Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
otograph Information:	
evated Turbidity? (Y/N): N Canopy (% open): 6	
ere samples collected for water chemistry? (Y/N): (Note lab sam	
	pH (S.U.)Conductivity (µmhos/cm)
he sampling reach representative of the stream (Y/N) If not, plea	se explain:
BIOTIC EVALUATION If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Materials of the property of the pro	eets from the Primary Headwater Habitat Assessment Manual) ved? (Y/N) Voucher? (Y/N)
rformed? (Y/N): (If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she	eets from the Primary Headwater Habitat Assessment Manual) ved? (Y/N) \(\frac{\mu}{L} \) Voucher? (Y/N) \(\ldots \) acroinvertebrates Observed? (Y/N) \(\ldots \) Voucher? (Y/N) \(\ldots \)
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If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Ma	ved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N)
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observegs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site	Peets from the Primary Headwater Habitat Assessment Manual) Proed? (Y/N)
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF	ved? (Y/N) Voucher? (
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observegs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site CONSERV	ved? (Y/N) Voucher? (
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site	ved? (Y/N) Voucher? (
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observegs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site CONSERV	Provided to the Primary Headwater Habitat Assessment Manual) Proved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): Be evaluation and a narrative description of the stream's location of the stream's l
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observegs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site CONSERV	ved? (Y/N) Voucher? (
If Yes, Record all observations. Voucher coll ID number. Include appropriate field data she h Observed? (Y/N) Voucher? (Y/N) Salamanders Observegs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mamments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF Include important landmarks and other features of interest for site CONSERV	Provided to the Primary Headwater Habitat Assessment Manual) Proved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) STREAM REACH (This must be completed): Be evaluation and a narrative description of the stream's location of the stream's l



Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): 53

SITE NAME/LOCATION						
	site number $S/$	M /OT RIVER BA	ASIN	DR	AINAGE AREA (mi²)	
ENGTH OF STREAM FOR	SITE NUMBER\$L EACH (ft)L SCORERL	AT. <u>41. 6926</u> LO COMMENTS	NG. <u>-02-8(8)</u>	RIVER CODE	RIVER MILE	
NOTE: Complete A	I Items On This Form	- Refer to "Field Ev	aluation Manual f	or Ohio's PHV	VH Streams" for Instru	uctions
STREAM CHANNEL MODIFICATIONS:					RECENT OR NO RECO	
I. SUBSTRATE (I (Max of 40). Add	Estimate percent of every d total number of significan	type of substrate pre	sent. Check <i>ONL</i> Y <u>t</u> (Max of 8). Final me	<u>wo</u> predominant : tric score is sum	substrate <i>TYPE</i> boxes of boxes A & B.	HH Met
TYPE BLDR SLAE	POSTERIO DE CONTROL DE	RCENT TYPE	SILT [3 pt]		PERCENT	Poir
500 paya 2000 2000 2000 2000 2000 2000 2000 2	>256 mm) [16 pts]		LEAF PACK/WOO	DDY DEBRIS [3 p		Subst
BEDROCK COBBLE (6)			FINE DETRITUS CLAY or HARDPA		40	Max:
	5-256 mm) [12 pts] -64 mm) [9 pts]		MUCK [0 pts]	u, fo bel		13
SAND (<2 n	nm) [6 pts]		ARTIFICIAL [3 pt	s]		
Total of P	ercentages of	(A)	30000000000000000000000000000000000000		(B)	A +
Bidr Slabs, Boul SCORE OF TWO MOST	der, Cobble, Bedrock	RATE TYPES:	TOTAL NUM	BER OF SUBST	RATE TYPES:	
2. Maximum Pool	Depth (Measure the max	rimum pool depth with	nin the 61 meter (20	0 ft) evaluation re	each at the time of	Pool I
evaluation. Avoi	d plunge pools from road o	culverts or storm water	pipes) (Check <i>ON</i> > 5 cm - 10 cm [LY one box): 15 pts]		Max
22.5 - 30 cm [30 pts]		< 5 cm [5 pts]		El f0 pts]	2
	25 pts]	2000-0-1-0-1-0-1-0-1-0-1-0-1-0-1-0-1-0-1				
BANK FULL W	IDTH (Measured as the a	verage of 3-4 measure	ements) (CI > 1.0 m - 1.5 m (neck ONLY one	box): ntsi	Bani Wid
> 4.0 meters (> 1	3') [30 pts] (> 9' 7" - 13') [25 pts]		≤ 1.0 m (≤ 3' 3")			Max
<u>p>4</u> > 1.5 m − 3.0 m ⋅	> 4' 8" - 9' /") [20 pts]					12
COMMENTS_		2.5 m	AVERAGI	BANKFULL WI	DTH (meters)	
RIPARI	AN ZONE AND FLOODPL		must also be comp IOTE: River Left (L) a	leted and Right (R) as l	ooking downstream ☆	
RIPAR	RIAN WIDTH	FLOODPLAIN QUAL				
`	Bank) >10m	☐ ☐ Mature For	ominant per Bank) est, Wetland		Conservation Tillage	
	erate 5-10m	Immature F	orest, Shrub or Old	, \Box	Urban or Industrial	
□ □ Narro	ow <5m	7 7010	, Park, New Field		Open Pasture, Row	
☐ ☐ None	:	☐ ☐ Fenced Pa		ق ق	Crop Mining or Construction	_
	ice flow with isolated pools			annel, isolated p inel, no water (E	ools, no flow (Intermittent) phemeral)) -
	SITY (Number of bends pe			one box):	J 3.0	
None 0.5		1.0 1.5	☐ 2.0 ☐ 2.5		J >3.0	
STREAM GRA	DIENT ESTIMATE Flat to Moderate	☐ Moderate (2 ft/100 f	n	ate to Severe	Severe (10 ft/1)	00 ft)

QHEI PER	RFORMED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)
	REAM DESIGNATED USE(S)
WWH Name:	Distance from Evaluated Stream
J CWH Name:	Distance from Evaluated Stream
J EWH Name;	Distance from Evaluated Stream
MAPPING	: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle N	lame: NRCS Soil Map Page: NRCS Soil Map Stream Order
ounty:	Township / City:
MISCELLA	
ase Flow Condition:	s? (Y/N): Date of last precipitation: Quantity:
notograph Informati	ion: SIM_107_001 & SIM_107_602
evated Turbidity? (Y/N): Canopy (% open):
ere samples collect	ted for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
eld Measures: T	Γemp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/cm)
	representative of the stream (Y/N) If not, please explain:
Iditional comments/	description of pollution impacts:
erformed? (Y/N):	(If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sit ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
ogs or Tadpoles Ob	Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Biology.
ogs or Tadpoles Ob	served? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
ogs or Tadpoles Ob mments Regarding DRAWI	served? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
ogs or Tadpoles Ob mments Regarding DRAWI	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
ogs or Tadpoles Ob mments Regarding DRAWI	Biology Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Biology ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
pgs or Tadpoles Ob mments Regarding DRAWI Include importa	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
pgs or Tadpoles Ob mments Regarding DRAWI Include importa	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
pgs or Tadpoles Ob mments Regarding DRAWI Include importa	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
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ogs or Tadpoles Ob omments Regarding DRAWI Include importa	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location
ogs or Tadpoles Ob omments Regarding DRAWI	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location Wullter Culler Culler Culler
ogs or Tadpoles Obomments Regarding DRAWI Include importa	ING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): ant landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Chief A Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

	7		2000
9	10	1	1000
š	-v		В

SITE NAME/LOCATIONSITE NUMBER_	(///_///) RIVER BASIN	D	RAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) DATE 10 S-12 SCORER NOTE: Complete All Items On This For	LAT. <u>U. 0927</u> LONG COMMENTS m - Refer to "Field Evaluat	RIVER CODE_	RIVER MILE	uctions
STREAM CHANNEL AND NONE / NA MODIFICATIONS:	TURAL CHANNEL	VERED RECOVERING	TRECENT OR NO RECO	VERY
1. SUBSTRATE (Estimate percent of ev (Max of 40). Add total number of signification of the control of the contr	cant substrate types found (Max PERCENT TYPE SILL CLE CLE CLE CLE CLE CLE CLE CLE CLE C	Check ONLY two predominant of 8). Final metric score is sum T [3 pt] AF PACKWOODY DEBRIS [3] NE DETRITUS [3 pts] AY OF HARDPAN [0 pt] JCK [0 pts] TIFICIAL [3 pts]	pts]	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the nevaluation. Avoid plunge pools from ros > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] COMMENTS	ad culverts or storm water pipes	e 61 meter (200 ft) evaluation i) (Check ONLY one box): 5 cm - 10 cm [15 pts] 5 cm [5 pts] O WATER OR MOIST CHANN MAXIMUM POOL DEPTH	EL [0 pts]	Pool Depth Max = 30
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	e average of 3-4 measurement		box): i pts]	Bankfull Width Max=30
RIPARIAN ZONE AND FLOOD RIPARIAN WIDTH LR (Per Bank) LT/17 Wide > 10m	This information <u>must</u> PLAIN QUALITY ☆NOTE: FLOODPLAIN QUALITY L R (Most Predomina	River Left (L) and Right (R) as	looking downstream☆	
	Immature Forest Field Residential, Park	, Shrub or Old	Urban or Industrial Open Pasture, Row Crop Mining or Construction	ROSSIN
FLOW REGIME (At Time of Even Stream Flowing Subsurface flow with isolated por COMMENTS	L	ox): Moist Channel, isolated p Dry channel, no water (B	pools, no flow (Intermittent) Ephemeral)	
SINUOSITY (Number of bends None 0.5		(Check <i>ONLY</i> one box): 2.0 [2.5 [□ 3.0 □ >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	☐ Moderate (2 ft/100 ft)	☐ Moderate to Severe	Severe (10 ft/10	0 ft)

QHEI PERFORMED? - Tyes Mino QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
D EWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE V	
JSGS Quadrangle Name: NRC	S Soil Map Page: NRCS Soil Map Stream Order
County: Township / C	ity:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
· · · · · · · · · · · · · · · · · · ·	
Nere samples collected for water chemistry? (Y/N): (Note lab sampl	
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, please	explain:
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets	ions optional. NOTE: all voucher samples must be labeled with the site from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Yes, Record all observations. Voucher collect	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) poinvertebrates Observed? (Y/N) Voucher? (Y/N)
Oreformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Y	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) poinvertebrates Observed? (Y/N) Voucher? (Y/N)
Oreformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrogs or Tadpoles Observed? (Y/N) Y	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) poinvertebrates Observed? (Y/N) Voucher? (Y/N)
reformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroomments Regarding Biology:	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed):
Oerformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro Comments Regarding Biology:	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed):
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro comments Regarding Biology:	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
reformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroomments Regarding Biology:	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of interest for site events.	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrosomments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of interest for site events.	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
erformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of interest for site events.	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
Include important landmarks and other features of interest for site every large and the state of	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macrosomments Regarding Biology:	from the Primary Headwater Habitat Assessment Manual) 1? (Y/N) Voucher? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location ANIELS
reformed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets ish Observed? (Y/N) Salamanders Observed rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macro omments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF S Include important landmarks and other features of interest for site even to the property of th	from the Primary Headwater Habitat Assessment Manual) d? (Y/N) Voucher? (Y/N) coinvertebrates Observed? (Y/N) Voucher? (Y/N) TREAM REACH (This must be completed): raluation and a narrative description of the stream's location

SIM-118

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION	ructions
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Manual for	HHEI Metric Points Substrate
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction Stream Channel	HHEI Metric Points Substrate
STREAM CHANNEL	HHEI Metric Points
MODIFICATIONS: SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock (A) 3	HHEI Metric Points
(Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] BBULDER (>256 mm) [16 pts] BEDROCK [16 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock BLDR SLABS [16 pts] SILT [3 pt] LEAF PACKWOODY DEBRIS [3 pts] FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] ARTIFICIAL [3 pts]	Metric Points Substrate
TYPE	Metric Points Substrate
BLDR SLABS [16 pts]	Substrate
BEDROCK [16 pt]	1
☐ COBBLE (65-256 mm) [12 pts] ☐ CLAY or HARDPAN [0 pt] ☐ ☐ MUCK [0 pts] ☐ MUCK [0 pts] ☐ ARTIFICIAL [3 pts] ☐ ARTIFICIAL [3 pts] ☐ ☐ Gldr Slabs, Boulder, Cobble, Bedrock ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Max = 40
GRAVEL (2-64 mm) [9 pts]	
Total of Percentages of (A) Bldr Slabs, Boulder, Cobble, Bedrock 5	11/_ [
Bldr Slabs, Boulder, Cobble, Bedrock 0	
	A+B
CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	Max = 30
☐ > 30 centimeters [20 pts] ☐ > 5 cm - 10 cm [15 pts] ☐ > 22.5 - 30 cm [30 pts]	
☐ > 10 - 22.5 cm [25 pts] ☐ NO WATER OR MOIST CHANNEL [0 pts]	5
COMMENTS 3, 3 MAXIMUM POOL DEPTH (centimeters):	4-3-4-3-1
BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]	Bankfull Width Max=30
	5
COMMENTS 0 8 0 8 0 6 AVERAGE BANKFULL WIDTH (meters)	
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE; River Left (L) and Right (R) as looking downstream☆ RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
☐	
Moderate 5-10m Dipan or industrial	
Narrow <5m Residential, Park, New Field red Open Pasture, Row Crop	
None	
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
COMMENTS BARELY FLOWING	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
☐ None ☐ 1.0 ☐ 2.0 ☐ 3.0 ☐ 3.0 ☐ 0.5 ☐ 1.5 ☐ 2.5 ☐ >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	

QHEI PERFORME	ED? - Tyes No QHEI Score	(If Yes, Attach Complete	d QHEI Form)
	DESIGNATED USE(S)		for an Escalusate of Oter and
WWH Name:		Distance	from Evaluated Stream
CWH Name;		Distance 1	rom Evaluated Stream
	CH COPIES OF MAPS, INCLUDING THE EN		
County:	Towns	hip / City:	
MISCELLANEOUS			
Base Flow Conditions? (Y/N)	I): Date of last precipitation:	Quantit	y:
Photograph Information:	SIM-11815,	5171-118-2	-N, 5/19-
Elevated Turbidity? (Y/N):	1): Date of last precipitation:	<u> </u>	,
	water chemistry? (Y/N): (Note lab		
•	°C) Dissolved Oxygen (mg/l)		
Is the sampling reach repres	sentative of the stream (Y/N) If not,	piease expiain:	
Frogs or Tadpoles Observed	(If Yes, Record all observations. Vouche ID number. Include appropriate field data Voucher? (Y/N) Salamanders Od? (Y/N) Aquatiggy	a sheets from the Primary Headwa bserved? (Y/N) Voucher ic Macroinvertebrates Observed	ater Habitat Assessment Manua ? (Y/N) !? (Y/N) Voucher? (Y/N)
	AND NARRATIVE DESCRIPTION ndmarks and other features of interest for wood LA An		
		0	
Z>	MOWED 0		
FLOW	HOWED O	<u> </u>	
FLOW	->	<u> </u>	
•	->	<u> </u>	

SM_120

Onis ETA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

|--|

SITE NAME/LOCATION	
OUTE MUMBER SIM 171) DIVER	BASIN DRAINAGE AREA (mi²)
LAT	LONG RIVER CODE RIVER MILE
DATE 10-9-10 SCORER 3 - COMMENTS	
	Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL ONONE / NATURAL CHANNEL ON MODIFICATIONS:	RECOVERED TO RECOVERING RECOVERY
SUBSTRATE (Estimate percent of every type of substrate (Max of 40). Add total number of significant substrate types for	present. Check ONLY two predominant substrate TYPE boxes and (Max of 8). Final metric score is sum of boxes A & B.
TYPE PERCENT TYP	Percent Poin
BLDR SLABS [16 pts]	J SILT [3 pt] 7 LEAF PACKWOODY DEBRIS [3 pts]
□ □ BEDROCK [16 pt] □ □ □	FINE DETRITUS [3 pts] — Max =
OBBLE (65-256 mm) [12 pts] O	
GRAVEL (2-64 mm) [9 pts]	
Total of Percentages of (A)	(B) A+B
Bldr Slabs, Boulder, Cobble, Bedrock CORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	TOTAL NUMBER OF SUBSTRATE TYPES:
. Maximum Pool Depth (Measure the maximum pool depth evaluation, Avoid plunge pools from road culverts or storm wa	ter pipes) (Check ONLY one Dox):
>30 centimeters [20 pts]	★ > 5 cm - 10 cm [15 pts]
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts]
COMMENTS	
BANK FULL WIDTH (Measured as the average of 3-4 meas	urements) (Check ONLY one box): Bankt
	☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8') [15 pts] Widtl ☐ ≤ 1.0 m (≤ 3' 3') [5 pts] Max=:
> 1.5 m - 3.0 m (> 4'.8" - 9'.7") [20 pts]	151110
COMMENTS 1.2 m	AVERAGE BANKFULL WIDTH (meters)
This informati RIPARIAN ZONE AND FLOODPLAIN QUALITY	on <u>must</u> also be completed &NOTE: River Left (L) and Right (R) as looking downstream☆
RIPARIAN WIDTH FLOODPLAIN QU	<u>ALITY</u>
	redominant per Bank) L R Forest, Wetland
	e Forest, Shrub or Old Urban or Industrial
riciu	tial, Park, New Field
None	C C C C C C C C C C C C C C C C C C C
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONL	Y one box):
Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS	Moist Channel, isolated pools, no flow (Intermittent) Dry channel, no water (Ephemeral)
SINUOSITY (Number of bends per 61 m (200 ft) of che	annel) (Check ONLY one box):
☐ None ☐ 1.0	168 2.0 □ 3.0 □ >3
☐ 0.5 ☐ 1.5	- L.O
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/1	Moderate to Severe Severe Severe (10 ft/100 ft)

	be Completed):
QHEI PERFORMED? - Yes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
C COVI Maine.	Distance from Evaluated Stream
EWH Name:	
	RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Townshi	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information: SIM_IZO_1	
Elevated Turbidity? (Y/N): N Canopy (% open): 15	1
Vere samples collected for water chemistry? (Y/N): (Note lab sa	
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, ple	ease explain:
1 Cultura (Cultura (C	
ID number. Include appropriate field data sho sh Observed? (Y/N) Voucher? (Y/N) Salamanders Obse ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic M	llections optional. NOTE: all voucher samples must be labeled with the site eets from the Primary Headwater Habitat Assessment Manual) rved? (Y/N) Voucher? (Y/N) lacroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data shi ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic M	Ilections optional. NOTE: all voucher samples must be labeled with the site eets from the Primary Headwater Habitat Assessment Manual) rved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) lacroinvertebrates Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If Yes, Record all observations, Voucher coll ID number. Include appropriate field data she she Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Momments Regarding Biology:	illections optional. NOTE: all voucher samples must be labeled with the site eets from the Primary Headwater Habitat Assessment Manual) rved? (Y/N)
United the control of	elections optional. NOTE: all voucher samples must be labeled with the site eets from the Primary Headwater Habitat Assessment Manual) rved? (Y/N)

OhioEPA

EPA 4520

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI	Score:	1665	

Stream & Location:	SIM-121		<i>RM</i> :	_Date: 10 -9-18
***		corers Full Name & Affiliation		Office verified
River Code:	STORET #:	Lat./ Long.: (NAD 83 - decimal º)	/8	location U
BEST TYPES BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] GRAVEL [7]	ONLY Two substrate TYPE BOXES; ite % or note every type present OTHER TYPE OCIDENT OTHER OCI	S POOL RIFFLE ORIGIN LIMESTONE [* TILLS [1] WETLANDS [0] 30		Agge) QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] FREE [1] EXTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
	well developed rootwad in deep / fast [1] POOLS > 70 GETATION [1] ROOTWAD		vater, large Checonal pools. ☐ EXTATERS [1] ☐ SPO	AMOUNT k ONE (Or 2 & average) TENSIVE >75% [11] DERATE 25-75% [7] ARSE 5-<25% [3] ARLY ABSENT <5% [1] Cover Maximum 20
21 CUANNEL MODDU	OLOGY Check ONE in each categ	lory (Or 2 & average)		
SINUOSITY DEV Mathigh [4] Moderate [3] Control Low [2] Fig. 1	ELOPMENT CHANNELI (CELLENT [7] NONE [6] OOD [5] RECOVERED AIR [3] RECOVERING	ZATION STABILITY HIGH [3] MODERATE		Channel Maximum 20
River right looking downstread EROSION NONE / LITTLE [3] MODERATE [2]	RIPARIAN WIDTH DXWIDE > 50m [4] MODERATE 10-50m [3] NARROW 5-10m [2] VERY NARROW < 5m [1]	NE in each category for EACH BANK FLOOD PLAIN QUA CTOREST, SWAMP [3] CSHRUB OR OLD FIELD [2] CHAPTER OR OLD FIELD [2] CHAPTER OR OLD FIELD [2] CHAPTER OR OLD FIELD [2] CHAPTER OR OLD FIELD [4] CHAPTER OR OLD FIELD FIELD OPEN PASTURE, ROWCROP	ALITY	ERVATION TILLAGE [1] N OR INDUSTRIAL [0] G I CONSTRUCTION [0] ominant land use(s)
MAXIMUM DEPTH Check ONE (ONLY!) □ > 1m [6] ★ 0.7-<1m [4]	O RIFFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & average) □ POOL WIDTH > RIFFLE WIDTH [: ☑ POOL WIDTH = RIFFLE WIDTH [: □ POOL WIDTH < RIFFLE WIDTH [1] 🔲 VERY FAST [1] 🔲 INTER:	[1] STITIAL [-1] MITTENT [-2] S [1]	Creation Potential Crimary Contact Condary Contact Contact Contact Contact Contact Maximum Maximum 12
Indicate for funct of riffle-obligate s RIFFLE DEPTH ☐ BESTAREAS > 10cm [2] ☐XBEST AREAS 5-10cm [1] ☐ BEST AREAS < 5cm [metric=0] Comments	Check RUN DEPTH RIF MAXIMUM > 50cm [2] ☐ STA MAXIMUM < 50cm [1] MMOI		RIFFLE / RUN EN NONE LOW [1 DX MODER	2]]
6] GRADIENT (& 3) DRAINAGE AREA (2.50	ft/mi) VERY LOW - LOW [2-4] MODERATE [6-10] mi²) HIGH - VERY HIGH [10-		%GLIDE: %RIFFLE:	Gradient Maximum 10 06/16/06

Froge, Crawfish, Froh

Stream Drawing:

ChieFA Primary Headwater Habitat Evaluation Form
HHEI Score (sum of metrics 1, 2, 3):

32	

SITE NAME/LOCATION <u> </u>	/	
SITE NUMBER \$1	M_IZS RIVER BASIN	DRAINAGE AREA (mi²)
LENGTH OF STREAM REACH (ft)	LAT. LONG.	RIVER CODERIVER MILE
DATE 10-10-18 SCORER JF	COMMENTS	
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation Man	nual for Ohio's PHWH Streams" for Instructions
		☐ RECOVERING ☐ RECENT OR NO RECOVERY
(Max of 40). Add total number of significa	nt substrate types found (Max of 8). Fir	ONLY two predominant substrate TYPE boxes hall metric score is sum of boxes A & B.
TYPE PE	RCENT TYPE SILT [3 pt]	PERCENT Poin
	☐ ☐ LEAF PACK	(WOODY DEBRIS [3 pts] Substr
BEDROCK [16 pt]		TUS [3 pts]
COBBLE (65-256 mm) [12 pts]	CLAY or HA	ARDPAN [0 pt]
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	ARTIFICIAL	
		(B) A+B
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock! CORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES: TOTAL	NUMBER OF SUBSTRATE TYPES:
. Maximum Pool Depth (Measure the ma	ximum pool depth within the 61 met	Per (200 ft) evaluation reach at the time of Pool De
evaluation. Avoid plunge pools from road	culverts or storm water pipes) (Chec	ck ONLY one box): 0.cm [15 pts]
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	[5] <5 cm [5]	ots] \
> 10 - 22.5 cm [25 pts]		R OR MOIST CHANNEL [0 pts] 2.5
COMMENTS	2.5 cm MAX	(IMUM POOL DEPTH (centimeters):
BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	کا کا 51.0 m - 1 ≤ 1.0 m (≤	(Check ONLY one box): .5 m (> 3' 3" - 4' 8") [15 pts] 3' 3") [5 pts] Bankf Width Max=3
COMMENTS		RAGE BANKFULL WIDTH (meters)
COMMENTS		
RIPARIAN ZONE AND FLOODPI		completed ft (L) and Right (R) as looking downstream☆
RIPARIAN WIDTH L R /(Per Bank)	FLOODPLAIN QUALITY L R (Most Predominant per Be	ank) LR
Wide >10m	Mature Forest, Welland	Conservation Tillage
☐ ☐ Moderate 5-10m	Immature Forest, Shrub o	C) D Cibali of Ilidastrial
☐ ☐ Narrow <5m	Residential, Park, New Fig	eld Open Pasture, Row
None None	☐ ☐ Fenced Pasture	Crop Mining or Construction
COMMENTS		
FLOW REGIME (At Time of Evalu. Stream Flowing Subsurface flow with isolated pools COMMENTS	<u> </u>	oist Channel, isolated pools, no flow (Intermittent) y channel, no water (Ephemeral)
SINUO SITY (Number of bends per None 0.5	r 61 m (200 ft) of channel) (Check O 1.0	NLY one box): 3.0 >3
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	☐ Moderate (2 ft/100 ft) ☐ N	10derate to Severe ☐ Severe (10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Yes No QHEI Score(If Yes, At	tach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
D CVVH Name:	Distance from Evaluated Stream
☐ EWH Name:	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHE	
USGS Quadrangle Name: NRCS Soil Map	
County: Township / City:	
MISCELLANEOUS	,
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information: SIM 125 1, 2 2	5
Elevated Turbidity? (Y/N): Canopy (% open): 3 O	
Were samples collected for water chemistry? (Y/N); (Note lab sample no. or id. a	and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) _	
is the sampling reach representative of the stream (Y/N) If not, please explain:	
A SOUTH OF THE RESIDENCE OF THE SECOND SECON	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional	I. NOTE: all voucher samples must be labeled with the si
ID number. Include appropriate field data sheets from the Pri	
ish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrate	Voucher? (Y/N)
ommente Regarding Blakess	
	A CONTRACTOR OF THE CONTRACTOR
DRAWING AND NARRATIVE DESCRIPTION OF STREAM R	PEACH (This must be completed):
Include Important landmarks and other features of interest for site evaluation and	d a parrathy decadation of the above to the
and the second s	a a name to description of the stream's location
**	1
HILL	
We	SEBRIS \
_ow→	SERVIS ()
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XX (X)	Chi o I
	X 7 量 V V
1/	1 6
SAMPLE PT.	dur. 1 D1
SAMPLE PT.	CONFLUENCE 3

OhioEPA

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3): APEX A 3820001 SITE NUMBER 51 M - 127 RIVER BASIN ____ DRAINAGE AREA (mi2) LENGTH OF STREAM REACH (ft) ______LAT. ____LONG. _____ RIVER CODE _ DATE 10-18-18 SCORER JF COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY STREAM CHANNEL MODIFICATIONS: SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPÉ, PERCENT TYPE **Points** SILT [3 pt] BLDR SLABS [16 pts] LEAF PACKWOODY DEBRIS [3 pts] BOULDER (>256 mm) [16 pts] Substrate FINE DETRITUS [3 pts] BEDROCK [16 pt] Max = 40CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] MUCK [0 pts] GRAVEL (2-64 mm) [9 pts] ARTIFICIAL [3 pts] Ø Ø SAND (<2 mm) [6 pts] (B) A + B Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock TOTAL NUMBER OF SUBSTRATE TYPES: SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Pool Depth Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pts] < 5 cm [5 pts] > 30 centimeters [20 pts] S > 22.5 - 30 cm [30 pts] NO WATER OR MOIST CHANNEL [0 pts] > 10 - 22.5 cm [25 pts] MAXIMUM POOL DEPTH (centimeters): Bankfull BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): ☐ > 1.0 m - 1.5 m (> 3'.3"-☐ ≤ 1.0 m (≤ 3'.3") [5 pts] Width > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] > 4,0 meters (> 13') [30 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] 20 AVERAGE BANKFULL WIDTH (meters) This information must also be completed ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN ZONE AND FLOODPLAIN QUALITY FLOODPLAIN QUALITY RIPARIAN WIDTH (Most Predominant per Bank) (Per Bank) Mature Forest, Wetland Conservation Tillage Ø D Wide >10m Immature Forest, Shrub or Old Urban or Industrial Moderate 5-10m Open Pasture, Row Residential, Park, New Field Narrow <5m Crop Mining or Construction Fenced Pasture ПП None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box) Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Dry channel, no water (Ephemeral) Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): 3.0 2,0 1.0 2.5 STREAM GRADIENT ESTIMATE Severe (10 ft/100 ft) Moderate to Severe Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 tr/100 ft)

QHEI PERFORMED? - Yes No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
D EWH Name:	
	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Tow	vnship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
	11/4 //4 /
Photograph Information: 5 M ~ 127	
Elevated Turbidity? (Y/N): Canopy (% open): 3 C	
	lab sample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If no	ot, please explain:
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Vouch ID number. Include appropriate field di	ther collections optional. NOTE: all voucher samples must be labeled with the state shows the Primary Headwater Habitat Assessment Manual) S Observed? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Performed? (Y/N): (If Yes, Record all observations. Vouch ID number. Include appropriate field did number. Include appropriate field did number. Include appropriate field did not be recorded? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquit Comments Regarding Biology:	lata sheets from the Primary Headwater Habitat Assessment Manual) S Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) DN OF STREAM REACH (This must be completed): for site evaluation and a narrative description of the stream's location
Performed? (Y/N): (If Yes, Record all observations. Vouch ID number. Include appropriate field did number. Include appropriate field did number. Include appropriate field did not be recorded? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquit Comments Regarding Biology:	lata sheets from the Primary Headwater Habitat Assessment Manual) S Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) voucher? (Y/N) Latic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) DN OF STREAM REACH (This must be completed):

S1M_128

ChieFA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

Section Section	5	2
100	THE RESERVE	Market Street

	DIVED F	RASIN	DR	AINAGE AREA (mi²)	
SIJE NUMBER	IAT LO	ONG. R	VER CODE	RIVER MILE	
ENGTH OF STREAM REACH (ft)	COMMENTS_				***************************************
NOTE: Complete All Items On This F	orm - Refer to "Field E	valuation Manual fo	r Ohio's PHW	/H Streams" for Instr	uctions
	NATURAL CHANNEL				
	NATURAL CHANNEL L	RECOVERED EDICE	COVERING L	, 1,2,2,1,1	
MODIFICATIONS:					
SUBSTRATE (Estimate percent of	every type of substrate pr	esent. Check ONLY tw	o predominant s	substrate TYPE boxes	нн
(Max of 40). Add total number of sign	PERCENT TYPE	/		PERCENT I	Meti Poir
BLDR SLABS [16 pts]		SILT [3 pt] LEAF PACKWOOD			Poli
☐ ☐ BOULDER (>256 mm) [16 pts] ☐ ☐ BEDROCK [16 pt]		FINE DETRITUS			Subst Max =
COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN	[0 pt]		IVIAX -
GRAVEL (2-64 mm) [9 pts]	यरे तत	MUCK [0 pts]			1/2
Ø SAND (<2 mm) [6 pts]	70	ARTIFICIAL [3 pts]		(0)	
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock	(<u>(A)</u>			(B) 3	A + E
CORE OF TWO MOST PREDOMINATE SU	BSTRATE TYPES:	TOTAL NUMB	ER OF SUBSTI	RATE TYPES:	
Maximum Pool Depth (Measure the	e maximum pool depth wi	thin the 61 meter (200	ft) evaluation re	ach at the time of	Pool D
evaluation. Avoid plunge pools from	road culverts or storm water	pipes) (Check <i>ONL</i>) > 5 cm - 10 cm [15	y one box):		Max =
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]] < 5 cm [5 pts]			15
> 10 - 22.5 cm [25 pts]		NO WATER OR M	OIST CHANNE	L [U pts]	
	P #5.				
COMMENTS) Chr.	MUMIXAM	POOL DEPȚH (centimeters):	
	the average of 3-4 measur	ements) (Che	ck ONLY one b	nox):	
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts]	the average of 3-4 measur		ck <i>ONLY</i> one t 3' 3" - 4' 8") [15 p	oox): otsj	Wid
BANK FULL WIDTH (Measured as	the average of 3-4 measur	ements) (Che	ck <i>ONLY</i> one t 3' 3" - 4' 8") [15 p	oox): otsj	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	the average of 3-4 measur	ements) (Che] > 1.0 m - 1.5 m (>] ≤ 1.0 m (≤ 3' 3") [5	ck <i>ONLY</i> one t 3' 3" - 4' 8") [15 p pts]	oox): atsj	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	the average of 3-4 measur	ements) (Che] >1.0 m - 1.5 m (>] ≤ 1.0 m (≤ 3'3") [5	ck <i>ONLY</i> one b 3' 3" - 4' 8") [15 p pts] BANKFULL WII	oox): atsj	Bank Widt Max=
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	the average of 3-4 measur	ements) (Che > 1.0 m - 1.5 m (> 3 3 3 3 1 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	ck <i>ONLY</i> one t 3'3" - 4'8") [15 p pts] BANKFULL WII	oox): ots] OTH (meters)	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	the average of 3-4 measur This information This information This information This information This information This information This information	ements) (Che	ck <i>ONLY</i> one b 3'3" - 4'8") [15 p pts] BANKFULL WII ted d Right (R) as la	oox): ots] OTH (meters)	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank)	the average of 3-4 measur This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre	ements) (Che] > 1.0 m - 1.5 m (>] ≤ 1.0 m (≤ 3' 3") [5 AVERAGE must also be comple NOTE: River Left (L) an LITY dominant per Bank)	ck <i>ONLY</i> one t 3'3" - 4'8") [15 p pts] BANKFULL WII	oox): ots] OTH (meters)	Wid
BANK FULL WIDTH (Measured as > 4,0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Y Uside > 10 m	This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature Fo	ements) (Che	ck ONLY one to 3' 3" - 4' 8") [15 property of the property of	oox): OTH (meters) Cooking downstream ☆	Wid
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m	This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature Fo	ements) (Che > 1.0 m - 1.5 m (>) 1.0 m (> 3' 3') [5 AVERAGE I Must also be completed to the completed t	ck ONLY one b 3'3" - 4'8") [15 p pts] BANKFULL Will ted d Right (R) as lo	DTH (meters) Doking downstream & Conservation Tillage	Widt
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH (Per Bank) Wide >10 m Moderate 5-10 m Narrow <5 m	This information This information DPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature Fo Immature Field Residentia	ements) (Che > 1.0 m - 1.5 m (>) < 1.0 m (≤ 3'3") [5 AVERAGE must also be completed in the com	ck ONLY one b 3'3" - 4'8") [15 p pts] BANKFULL WII ted d Right (R) as la	conservation Tillage Urban or Industrial Open Pasture, Row Crop	Wid
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m	This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature Fo	ements) (Che > 1.0 m - 1.5 m (>) < 1.0 m (≤ 3'3") [5 AVERAGE must also be completed in the com	ck ONLY one b 3'3" - 4'8") [15 p pts] BANKFULL Will ted d Right (R) as lo	DOTH (meters) DOTH (meters) Doking downstream ☆ Conservation Tillage Urban or Industrial Open Pasture, Row	Wid
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m None COMMENTS	This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature For Immature Field Residentia	ements) (Che > 1.0 m - 1.5 m (>) < 1.0 m (≤ 3'3") [5 AVERAGE must also be comple: NOTE: River Left (L) an LITY dominant per Bank) rest, Wetland Forest, Shrub or Old asture one box):	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL WII ted d Right (R) as lo	DOTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	Widt Max=
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m None COMMENTS FLOW REGIME (At Time of the Stream Flowing)	This information This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Prelim Mature Follow) mmature Follow mature ements) (Che > 1.0 m - 1.5 m (>) < 1.0 m (≤ 3'3") [5 AVERAGE I n must also be comple: NOTE: River Left (L) an LITY dominant per Bank) rest, Wetland Forest, Shrub or Old al, Park, New Field asture One box): Moist Char	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL WII ted d Right (R) as lo	DOTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	Widt Max=	
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH (Per Bank) Wide >10 m Moderate 5-10 m Narrow <5 m None COMMENTS FLOW REGIME (At Time of the Stream Flowing) Subsurface flow with isolated	This information This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Prelim Mature Follow) mmature Follow mature ements) (Che > 1.0 m - 1.5 m (>) < 1.0 m (≤ 3'3") [5 AVERAGE I n must also be comple: NOTE: River Left (L) an LITY dominant per Bank) rest, Wetland Forest, Shrub or Old al, Park, New Field asture One box): Moist Char	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL WII ted d Right (R) as lo	DOTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	Wide Max=	
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10 m Moderate 5-10 m Narrow <5 m None COMMENTS FLOW REGIME (At Time of the Stream Flowing) Subsurface flow with isolated COMMENTS	This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- l Mature For Immature Field Residentia Fenced Pre- Evaluation) (Check ONLY)	ements) (Che > 1.0 m - 1.5 m (> 1.0 m (> 3 '3') [5] AVERAGE I MINUST also be completed in MoTE: River Left (L) and LITY dominant per Bank) rest, Wetland Forest, Shrub or Old II, Park, New Field asture one box): Moist Char	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL Will ted d Right (R) as long to the control of	DOTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	Wide Max=
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m None COMMENTS FLOW REGIME (At Time of 15 Stream Flowing) Subsurface flow with isolated COMMENTS SINUOSITY (Number of bence None)	This information DPLAIN QUALITY & FLOODPLAIN QUAL L R (Most Pre- Mature For Immature Field Residentia Fenced Pre- Fenced	ements) (Che > 1.0 m - 1.5 m (>) > 1.0 m (≤ 3' 3") [5] AVERAGE Must also be completed in the comp	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL Will ted d Right (R) as long to the control of	DOCKING downstream Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction Docking town (Intermittent) Docking town (Intermittent)	Wide Max=
BANK FULL WIDTH (Measured as: > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m None COMMENTS FLOW REGIME (At Time of the stream Flowing) Subsurface flow with isolated COMMENTS SINUOSITY (Number of benefits)	This information This information DDPLAIN QUALITY FLOODPLAIN QUAL L R (Most Pre- Mature Formation Immature Field Residentia Fenced Pre- Evaluation) (Check ONLY pools (Interstitial)	ements) (Che > 1.0 m - 1.5 m (> 1.0 m (> 3.3") [5] ≤ 1.0 m (≤ 3'3") [5] AVERAGE must also be completed (as a completed (b) and (b) and (c)	ck ONLY one to 3' 3" - 4' 8") [15 pres] BANKFULL Will ted d Right (R) as long to the control of	DOTH (meters) DOTH (meters) DOKING downstream☆ Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction DOIS, no flow (Intermittent)	Wide Max=

ADDITIONAL STREAM INF	ORMATION (This Information Mus	st Also be Completed):	
QHEI PERFORM	ED? - Yes No QHEI Score	(If Yes, Attac	n Completed QHEI Form)
DOWNSTREAM D	DESIGNATED USE(S)		
O COMUNICATION			Distance from Evaluated Stream
C Gyvi i vaine,			Distance from Evaluated Stream
LJ EWH Name:	market Autoria		Distance from Evaluated Stream
			REA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	The state of the s	NRCS Soil Map Pag	ge: NRCS Soil Map Stream Order
County:		Township / City:	
MISCELLANEOUS			
Base Flow Conditions? (Y/N):	: Date of last precipitation:		Quantity:
Photograph Information:	51M 128		
	Canopy (% open):		
			attach results) Lab Number:
			Conductivity (µmhos/cm)
to the sampling reach represen	reactive of the stream (Y/N) If	not, please explain:	
	(If Yes, Record all observations. Vol ID number. Include appropriate field	data sneets from the Primar	OTE: all voucher samples must be labeled with the site y Headwater Habitat Assessment Manual)
rogs or Tadpoles Observed? (comments Regarding Biology:	(Y/N) Voucher? (Y/N) Ad	quatic Macroinvertebrates (Voucher? (Y/N) Observed? (Y/N) Voucher? (Y/N)
DD444440 444			
Include Important landr	narks and other features of Interes	t for site evaluation and a	ACH (This must be completed): narrative description of the stream's location
B	000		

PHWH Form Page - 2

June 20, 2008 Revision

Flours from bean field to perannial

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

Santa Marketta	3	7
ā.	-	

SITE NAME/LOCATION APEX A 38	RIVER BASIN	DRA	AINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT. LONG	RIVER CODE	RIVER MILE	
DATE 10-11-18 SCORER JE	COMMENTS		····································	
NOTE: Complete All Items On This Form	a - Refer to "Field Evaluation M	anual for Ohio's PHW	H Streams" for Instru	uctions
STREAM CHANNEL NONE/NAT MODIFICATIONS:	URAL CHANNEL	RECOVERING	RECENT OR NO RECO	OVERY
	ry type of substrate present. Check int substrate types found (Max of 8). I	Final metric score is sum o	ubstrate <i>TYPE</i> boxes of boxes A & B. PERCENT	HHEI Metric Points
BOULDER (>256 mm) [16 pts] BEDROCK [16 pt]	LEAF PAC	CKWOODY DEBRIS [3 pt RITUS [3 pts] JARDPAN [0 pt]	sj	Substrate Max = 40
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	MUCK [0.			12
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBST	(A) 7 TOTA	AL NUMBER OF SUBSTR	ATE TYPES:	A+B
Maximum Pool Depth (Measure the ma evaluation, Avoid plunge pools from road	eximum pool depth within the 61 m	e <i>ter (200 ft)</i> evaluation rea	ach at the time of	Pool Dept Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	□ >5 cm - □ <5 cm [t □ NO WAT	10 cm [15 pts] 5 pts] ER OR MOIST CHANNEI		. 2
comments	<u>C //\</u>	AXIMUM POOL DEPTH (c	entimeters):	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13°) [30 pts] > 3.0 m - 4.0 m (> 9° 7" - 13°) [25 pts] > 1.5 m - 3.0 m (> 4° 8" - 9° 7") [20 pts]	average of 3-4 measurements)	(Check ONLY one b 1.5 m (> 3' 3" - 4' 8") [15 p	ox):	Bankfull Width Max=30
COMMENTS 15	23.5A	'ERAGE BANKFULL WID	TH (meters)	
RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH	This information <u>must</u> also be LAIN QUALITY ☆NOTE: River L FLOODPLAIN QUALITY	e completed eft (L) and Right (R) as lo	oking downstream☆	
L R (Per Bank) Wide >10m Moderate 5-10m	L R (Most Predominant per I Mature Forest, Wetland Immature Forest, Shrub		Conservation Tillage Urban or Industrial	
☐ ☐ Narrow <5m	Field Residential, Park, New f	Field	Open Pasture, Row Crop	
☐ ☐ None COMMENTS	Fenced Pasture		Mining or Construction	-
FLOW REGIME (At Time of Eval Stream Flowing Subsurface flow with isolated pool COMMENTS	\	floist Channel, isolated poorly channel, no water (Epl	ols, no flow (Intermittent) nemeral)	-
SINUOSITY (Number of bends por None	er 61 m (200 ft) of channel) (Check 1.0)	3.0 >3	
STREAM GRADIENT ESTIMATE	☐ Moderate (2 ft/100 ft)	Moderate to Severe	Severe (10 ft/10	ıń fri

OHEI BEREORMERS	True Oliverania		
		(If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGN J WWH Name:	ATED USE(S)	Distance from Evaluated Stream	
Svvi i ivalile,		Distance from Evaluated Stream	
EWH Name:		Distance from Evaluated Stream	
		RE WATERSHED AREA. CLEARLY MARK THE SITE LOC	
		NRCS Soil Map Page: NRCS Soil Map Stream C	
ounty:	Township	p / City	
MISCELLANEOUS			
se Flow Conditions? (Y/N):	Date of last precipitation:	Quantity:	
notograph Information:	C / N.A		
evated Turbidity? (Y/N):	Canopy (% open): 70		
		mple no. or id. and attach results) Lab Number:	
		pH (S.U.) Conductivity (µmhos/cm)	
sampling reach representative (or the stream (Y/N) If not, ples	ase explain:	
1901-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			
iditional comments/description of po	ollution impacts:		
ID num	node. Include appropriate field data she	lections optional. NOTE; all voucher samples must be labele sets from the Primary Headwater Habitat Assessment Manua	ed with the site
rformed? (Y/N): (If Yes, ID num h Observed? (Y/N) Vouchings or Tadpoles Observed? (Y/N)	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Mi	lections optional. NOTE: all voucher samples must be labele eets from the Primary Headwater Habitat Assessment Manua ved? (Y/N) Voucher? (Y/N) acroinvertebrates Observed? (Y/N) Voucher? (Y/N)	il)
rformed? (Y/N): (If Yes, ID num th Observed? (Y/N) Vouch togs or Tadpoles Observed? (Y/N) mments Regarding Biology:	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Mi	eets from the Primary Headwater Habitat Assessment Manua	i):
rformed? (Y/N): (If Yes, ID num th Observed? (Y/N) Vouch togs or Tadpoles Observed? (Y/N) mments Regarding Biology:	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Mi	ved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) voucher? (i):
Observed? (Y/N): (If Yes, ID num Observed? (Y/N) Vouch is or Tadpoles Observed? (Y/N) iments Regarding Biology: DRAWING AND NAI Include important landmarks an	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Mi	STREAM REACH (This must be completed evaluation and a narrative description of the stream's	i):
formed? (Y/N): (If Yes, ID num n Observed? (Y/N) Vouch gs or Tadpoles Observed? (Y/N) nments Regarding Biology: DRAWING AND NAI Include important landmarks an	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Minimum Aquatic	STREAM REACH (This must be completed evaluation and a narrative description of the stream's	d):
formed? (Y/N): (If Yes, ID num n Observed? (Y/N) Vouchers or Tadpoles Observed? (Y/N) nments Regarding Biology: DRAWING AND NAI Include important landmarks and Includ	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Minimum Aquatic	Page - 2	i):
formed? (Y/N): (If Yes, ID num a Observed? (Y/N) Vouch gs or Tadpoles Observed? (Y/N) nments Regarding Biology: DRAWING AND NAI Include important landmarks an	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Minimum Aquatic	Page - 2	i):
formed? (Y/N): (If Yes, ID num n Observed? (Y/N) Vouch gs or Tadpoles Observed? (Y/N) nments Regarding Biology: DRAWING AND NAI Include important landmarks an	er? (Y/N) Salamanders Obser Voucher? (Y/N) Aquatic Minimum Aquatic	STREAM REACH (This must be completed evaluation and a narrative description of the stream's	i):

51M-132 10-15-2018

One Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION		to the state of th	
SITE NUMBER SI	M - 132 RIVER BASIN	DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)L	_ATLONG	RIVER CODE RIVER MILE	***************************************
DATE 10-15-18 SCORER	COMMENTS	Long Objete DISMII Strooms" for In	etructions
NOTE: Complete All Items On This Form			
STREAM CHANNEL MODIFICATIONS:	JRAL CHANNEL RECOVERED	RECOVERING RECENT OR NO RE	ECOVERY
(Max of 40). Add total number of significant type PE □ □ BLDR SLABS [16 pts] — □ BOULDER (>256 mm) [16 pts] — □ BEDROCK [16 pt] — □ COBBLE (65-256 mm) [12 pts] —	nt substrate types found (Max of 8). F RCENT TYPE SILT [3 pt] LEAF PAC FINE DETF	KWOODY DEBRIS [3 pts] KITUS [3 pts] ARDPAN [0 pt]	HHEI Metric Point: Substrat Max = 4
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of	(A)	IN IN THE NEW YORK IN THE STATE OF THE STAT	
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTI	RATE TYPES: TOTAL	L NUMBER OF SUBSTRATE TYPES:	1
2. Maximum Pool Depth (Measure the maxevaluation. Avoid plunge pools from road of the sevaluation and plunge pools from road of the sevaluation. Avoid plunge pools from road of the sevaluation. 30 centimeters [20 pts]	culverts or storm water pipes) (Che	0 cm [15 pts] pts] ER OR MOIST CHANNEL [0 pts]	Pool Depi Max = 30
COMMENTS	<u>6</u> MA	XIMUM POOL DEPTH (centimeters):	4
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	⅓ >1,0 m - ≤ 1:0 m (≤	(Check <i>ONLY</i> one box): 1.5 m (> 3' 3" - 4' 8") [15 pts] ; 3' 3") [5 pts] ERAGE BANKFULL WIDTH (meters)	Bankful Width Max=30
	This information <u>must</u> also be	completed	
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	AIN QUALITY ANOTE: River Let FLOODPLAIN QUALITY L R (Most Predominant per B Mature Forest, Wetland Immature Forest, Shrub of Field Residential, Park, New Fi	or Old Conservation Tillage Urban or Industrial	
FLOW REGIME (At Time of Evalu Stream Flowing Subsurface flow with isolated pools COMMENTS	<u>⊿</u> M∘	oist Channel, isolated pools, no flow (Intermitte y channel, no water (Ephemeral)	ent)
SINUOSITY (Number of bends per None 0.5	r 61 m (200 ft) of channel) (Check C 1.0	ONLY one box):	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	☐ Moderate (2 €/100 ਜ)	Moderate to Severe 10	ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Informati	
	Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
☐ EWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
	DING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
	Township / City:
MISCELLANEOUS /	1 24 6 8 7 7
Base Flow Conditions? (Y/N): Date of last precip	pitation: Quantity:
Photograph Information: 5/M-13	
A A A A A A A A A A A A A A A A A A A	in):
	(Note lab sample no. or id. and attach results) Lab Number:
	n (mg/l) pH (S.U.) Conductivity (µmhos/cm)
is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
Fish Observed? (Y/N) Voucher? (Y/N) Sala	Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCIONAL Important landmarks and other features of	RIPTION OF STREAM REACH (This <u>must</u> be completed): Interest for site evaluation and a narrative description of the stream's location
£Low→	SAMPLE Y

SLM- 134

ChieEPA Primar			HHEI Score	(sum of m	etrics 1, 2, 3): 👢	15
SITE NAME/LOCATIONSITE NUMBE	Aroof				DAINAGE AREA (mi²)	
SITE NUMBE	R	RIVER BASI	N	ED CODE	RIVER MILE	
LENGTH OF STREAM REACH (ft) DATESCORER	LAT.	LONG	i RIV	EK CODE	KIVER MILL	
NOTE: Complete All Items On This	Farm Bafar	MMEN 13	ation Manual for	Ohio's PHV	VH Streams" for instr	uctions
NOTE: Complete All Items On This	roim - Keiei	to Fleid Evait	iation manda lo			s versy
STREAM CHANNEL NONE	/ NATURAL CH	ANNEL □ REG	COVERED LI REC	OVERING L	I RECENT OR NO RECO	OVERY
MODIFICATIONS:						
SUBSTRATE (Estimate percent o	fevery type of	substrate prese	nt. Check ONLY two	predominant	substrate <i>TYPE</i> boxes	
(Max of 40). Add total number of sig	nificant substra	te types found (N	ax of 8). Final metric	score is sum	of doxes A & B.	HHEI Metric
TYPE BLDR SLABS [16 pts]	PERCENT	XI D	SILT [3 pt]		PERCENT SS	Points
BOULDER (>256 mm) [16 pts]			EAF PACKWOODY	DEBRIS [3 p	ts] <u>30</u>	Substrate
BEDROCK [16 pt]			FINE DETRITUS [3]			Max = 40
COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts]	5	. == *	MUCK [0 pts]	լս իւյ		10
SAND (<2 mm) [6 pts]	10		ARTIFICIAL [3 pts]			10
Total of Percentages of		(A) /			(B)	A + B
Bidr Slabs, Boulder, Cobble, Bedro	ck	lh l	TOTAL NUMBE	n or cuper	DATE TYPES	
SCORE OF TWO MOST PREDOMINATE S						
2. Maximum Pool Depth (Measure ti	he maximum po	ool depth within	the 61 meter (200 ft) evaluation re	each at the time of	Pool Dept
evaluation, Avoid plunge pools from > 30 centimeters [20 pts]	road culverts o	r storm water pip	> 5 cm - 10 cm [15	one box). pts]		
> 22.5 - 30 cm [30 pts]		Ø	< 5 cm [5 pts] NO WATER OR MC	NET CHANNE	I Mintel	$\parallel \mathcal{O} \parallel$
> 10 - 22.5 cm [25 pts]						
			MAXIMUM PO			D 1.5 . 11
BANK FULL WIDTH (Measured as	the average of	f 3-4 measureme	nts) (Chec > 1.0 m - 1.5 m (> 3'	k <i>ONLY</i> one l 3" - 4' 8") [15]		Bankfull Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]			≤ 1.0 m (≤ 3' 3") [5 p			Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts					1	5
COMMENTS			AVERAGE BA	ANKFULL WI	DTH (meters)	
RIPARIAN ZONE AND FLO			<u>st</u> also be complete F: River Left (L) and	ed Rìoht (R) as l	ooking downstream ☆	
RIPARIAN WIDTH		PLAIN QUALITY				
R, (Per Bank) Wide >10m	B B	(Most Predomi	nant per Bank) Wetland	L R	Conservation Tillage	
		Immature Forest	st, Shrub or Old		Urban or Industrial	
☐ ☐ Moderate 5-10m	טט	Field			Open Pasture, Row	
☐ ☐ Narrow <5m		Residential, Pa	ark, New Field		Crop	
☐ ☐ None COMMENTS	00	Fenced Pastur	e		Mining or Construction	<u>.</u>
	erindustinal tr	Shook ONI Vons	hov):			
FLOW REGIME (At Time of Stream Flowing					ools, no flow (Intermittent)	
Subsurface flow with isolated	i pools (Interstiti	ai)	Dry channel	, nowater (E	ohemeral)	_
COMMENTS						-
SINUOSITY (Number of bea	nds per 61 m (20	00 ft) of channel)	(Check ONLY one 2.0	box):	J 3.0	
None	77 1.0		7 25	ř	J >3	

☐ Moderate to Severe

Severe (10 h/100 ft)

Moderate (2 ft/100 ft)

☐ Flat (0.5 ft/100 ft)

	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	(II Tes, Attach Completed QHEI Form)
WWH Name:	Distance from Evaluated Street
Court Hame.	Distance from Evaluated Steeper
EWH Name:	Distance from Evaluated Stream
	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	
County: Townsh	
MISCELLANEOUS	iip / Gity.
Base Flow Conditions? (Y/N): Date of last precipitation:	
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	- Trot
Vere samples collected for water chemistry? (Y/N): (Note lab s	ample no, or id, and attach results) Lab Number
ield Measures: Temp (°C) Dissolved Oxygen (mg/l)	
the sampling reach representative of the stream (Y/N) If not, ple	ease explain:
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
rformed? (VAD:	
erformed? (Y/N): (If Yes, Record all observations. Voucher co	ollections optional. NOTE: all voucher samples must be labeled with the
no nomber. Include appropriate neid data sh	neets from the Primary Headwater Habitat Assessment Manual)
th Observed? (Y/N) Voucher? (Y/N) Salamanders Observed?	neets from the Primary Headwater Habitat Assessment Manual)
th Observed? (Y/N) Voucher? (Y/N) Salamanders Obsergs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic M	neets from the Primary Headwater Habitat Assessment Manual) Prved? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
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th Observed? (Y/N) Voucher? (Y/N) Salamanders Obserbes or Tadpoles Observed? (Y/N) Aquatic Marments Regarding Biology;	neets from the Primary Headwater Habitat Assessment Manual) Prved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
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ch Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Markets Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION Of Include Important landmarks and other features of Interest for sit	neets from the Primary Headwater Habitat Assessment Manual) Prved? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
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S(M-135

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NAME / OCATION 1. 1 &	1 000	
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)
LENGTH OF STREAM REACH (ft)	LATLONG	RIVER CODE RIVER MILE
NOTE: Complete All Items On This Form	ı - Refer to "Field Evaluation Mar	nual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL NONE / NAT MODIFICATIONS:	URAL CHANNEL	☐ RECOVERING ☐ RECENT OR NO RECOVERY
(Max of 40). Add total number of significations of the control of	ant substrate types found (Max of 8). Fine RCENT TYPE SILT [3 pt] LEAF PACK FINE DETRI CLAY or HA MUCK [0 pt] ARTIFICIAL	Percent
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES: TOTAL	NUMBER OF SUBSTRATE TYPES:
2. Maximum Pool Depth (Measure the mace valuation, Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	culverts or storm water pipes) (Chec	orm [15 pts] sts] R OR MOIST CHANNEL [0 pts]
COMMENTS	MAX	IMUM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	X > 1.0 m − 1	(Check ONLY one box): 5 m (> 3' 3" - 4' 8") [15 pts] Width Max=30
COMMENTS	AVE	RAGE BANKFULL WIDTH (meters)
RIPARIAN ZONE AND FLOODP	This information <u>must</u> also be on the control of t	completed t (L) and Right (R) as looking downstream
RIPARIAN WIDTH L, R, (Per Bank) Wide > 10m Moderate 5-10m	(Most Predominant per Ba Mature Forest, Wetland Immature Forest, Shrub or Field	Old Urban or Industrial
☐ ☐ Narrow <5m ☐ ☐ None COMMENTS	Residential, Park, New Fie	Open Pasture, Row Crop Mining or Construction
FLOW REGIME (At Time of Eval. Stream Flowing Subsurface flow with isolated pool	. <u>↓</u> Moi	st Channel, isolated pools, no flow (Intermittent) channel, no water (Ephemeral)
SINUOSITY (Number of bends por None 0.5	er 61 m (200 ft) of channel) (Check 0/ 1.0	VLÝ one box):
STREAM GRADIENT ESTIMATE	Moderate (2 ft/100 ft)	oderate to Severe Severe (10 fl/100 ft)

QHEI PERFORMED? -	res No QHEI Score	(If Yes, Attach Completed QHEI Form	n)
DOWNSTREAM DESIGNAT		so, r state Completed Qriel Forn	,
J WWH Name;		Distance from Evaluat	ed Stream
2 OAALI Mallier		Distance from Evaluate	d Cleans
J EWH Name;		Distance from Evaluate	d Stream
MAPPING: ATTACH COPIES	OF MAPS, INCLUDING THE ENTIRE	NATERSHED AREA. CLEARLY MARK	THE SITE LOCATION
		S Soil Map Page; NRCS Soil	
		City: NACG GOII	
	Township / C	aty	
MISCELLANEOUS			
ase Flow Conditions? (Y/N):	Date of last precipitation:	Quantity:	
notograph Information:			
evated Turbidity? (Y/N):			
ere samples collected for water chemis			
leld Measures: Temp ("C)	Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmh	os/cm)
the sampling reach representative of the			
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BIOTIC EVALUATION erformed? (Y/N): (If Yes, Re	scord all observations. Voucher collect	ons onlinnal NOTE: all voucher cample	must be labeled with the city
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26-18	ChieFA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):
	SITE NAME/LOCATION A 39 2-60//
	SITE NUMBER RIVER BASINDRAINAGE AREA (mi²)
	LENGTH OF STREAM REACH (ft) LAT LONG RIVER CODE RIVER MILE DATE 10 - 26 18 SCORER COMMENTS
	NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
	STREAM CHANNEL ON NOTE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:
	1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE DECENT PERCENT PERCENT PERCENT PERCENT POINT BLDR SLABS [16 pts] DECENT SILT [3 pt] SILT [3 pt] BEDROCK [16 pt] DECENT POINT BEDROCK [16 pt] DECENT SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: A + B SUBSTRATE SUBSTRATE TYPES: TOTAL NUMBER OF
	2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]
	3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts]
	COMMENTS L. C. L. J. AVERAGE BANKFOLL WIDTH (INSCESS)
_	This Information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY \$NOTE: River Left (L) and Right (R) as looking downstream \$\frac{RIPARIAN WIDTH}{RIPARIAN WIDTH}\$ L R (Per Bank) L R (Most Predominant per Bank) L R (Most Predominant per Bank) Urban or Industrial Field Moderate 5-10m Mature Forest, Wetland Urban or Industrial Field Open Pasture, Row Crop None Residential, Park, New Field Mining or Construction
	FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Dry channel, no water (Ephemeral)
	SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None

01.1-100

QHEI PERFORMED? - Yes No QHEI Score (If Yes, Altach Completed OHEI Form) DOWNSTREAM DESIGNATED USE(S) WWN Hame: Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name: NRCS Soil Map Stream Order. NRCS Soil Map Page: NRCS Soil Map Stream Order. Township / City. MISCELLANEOUS Base Flow Conditions? (Y/N): Date of last precipitation: Quantity. Outlify: Outlify: Outlify: Outlify: Outlify: Photograph Information: S M	ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
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SIM_138 Choff Primary Headwater Habitat Evaluation Form
HHEI Score (sum of metrics 1, 2, 3):

TE NAME/LOCATION	
SITE NUMBER	
RIGTH OF STREAM REACH (ft)LATLONGRIVER CODERIVER MILE ATE	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructio	ions
TREAM CHANNEL ON NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER MODIFICATIONS:	ERY
(Max of 40). Add total number of significant substrate types found (Max of 6). Find mothe 35010 to 55110 HHE Vletri	
PERCENT TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] PERCENT PO	oint
BOULDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] Sub-	ubstra
BEDROCK [16 pt] Mau	Max = 4
COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt]	
☐ GRAVEL (2-64 mm) [9 pts] ☐ MUCK [0 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ ARTIFICIAL [3 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts] ☐ [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6 pts]] [2 SAND (<2 mm) [6	2
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock ORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	A + B
Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	ol Dep
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	1ax = 3
→ 30 centimeters [20 pts]	15
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	1 3
COMMENTS (, L	
SANK FOLE WIDTH (Weasting as the average of 3-4 integration 1.5 m (> 3' 3" - 4' 8") [15 pts] 9 ± 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Max 1.5 m 3.0 m (> 4' 8" - 9' 7" 13') [25 pts] Max 1.5 m 3.0 m (> 4' 8" - 9' 7" 13') [25 pts] Max 1.5 m 3.0 m (> 4' 8" - 9' 7" 13') [25 pts] Max 1.5 m 3.0 m (> 4' 8" - 9' 7" 13') [25 pts] Max 1.5 m 1	Bankful Width Nax=30
COMMENTS 1, Z, 1, Z AVERAGE BANKFULL WIDTH (meters)	12
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
☐ ☐ Wide >10m ☐ ☐ Mature Forest, Wetland ☐ ☐ Conservation Tillage	
☐ ☐ Moderate 5-10m ☐ ☐ Immature Forest, Shrub or Old ☐ ☐ ☐ Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Genced Pasture Mining or Construction COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft)	

ADDITIONAL STREAM INFORMATION (This	Information Must Also be Co	empleted):	
QHEI PERFORMED? - Tyes	No QHEI Score	(If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE	(S)		
CIVIL Name:		Distance from Evaluated Stream	
CVVH Name,		Distance from Evaluated Stream	
		Distance from Evaluated Stream	
		ATERSHED AREA. CLEARLY MARK THE SITE LOC	
		Soil Map Page: NRCS Soil Map Stream	
County:	Township / Cit	ty:	
MISCELLANEOUS			
Base Flow Conditions? (Y/N): Date of	last precipitation;	Quantity:	
Photograph Information:	138_01E AM	1D 51M-138-02 S	UBSTRATE
Elevated Turbidity? (Y/N): Y Canop			ALCOHOL: SAN AL
Were samples collected for water chemistry? (Y/I	N): Note lab sample	no. or id. and attach results) Lab Number:	
		H (S.U.) Conductivity (µmhos/cm)	
		explain:	
	in (in), please e.	лунан	
Additional comments/description of pollution impa	acts:		
Fish Observed? (Y/N) Voucher? (Y/N)	e appropriate field data sheets fr Salamanders Observed? er? (Y/N) Aquatic Macroir	nvertebrates Observed? (Y/N) Voucher? (Y/N	al)
DRAWING AND NARRATIVE	E DESCRIPTION OF STI	REAM REACH (This <u>must</u> be completed uation and a narrative description of the stream's	d):
N	SAMPLE		\bigcup
1.	POINT		~
Low → \\	J	19/	LARGER STREAM
			STREAM
			1+311
1+ ROAD	>		
		3 7	1 1
	NOTT	10 SCALE	

SIM_139 10-29-18

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

		Tocore (sum of the	
SITE NAME/LOCATIONSITE NUMBER S	///_/39 RIVER BASIN	. DR	AINAGE AREA (mi²)
LENGTH OF STREAM REACH (ft)	LAT. LONG	RIVER CODE	RIVER MILE
DATE 19-18 SCORER JAE	COMMENTS		
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation	Manual for Ohio's PHW	'H Streams" for Instructions
the state of the s	URAL CHANNEL RECOVER		
1. SUBSTRATE (Estimate percent of ever (Max of 40). Add total number of significa TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	nt substrate types found (Max of 6) RCENT TYPE SILT [3] SILT [3] LEAF P/	, Final metric score is sum o pt] ACKWOODY DEBRIS [3 pt ETRITUS [3 pts] HARDPAN [0 pt]	PERCENT Metric Points s] 70
Bidr Siabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES: TO	TAL NUMBER OF SUBSTR	ATE TYPES:
2. Maximum Pool Depth (Measure the ma evaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	culverts or storm water pipes) (C	Check <i>ONLY</i> one box): - 10 cm [15 pts]	_[0 pts]
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS		- 1.5 m (> 3' 3" - 4' 8") [15 p ı (≤ 3' 3") [5 pts]	Width Max=30
RIPARIAN ZONE AND FLOODPL	This information must also	be completed · Left (L) and Right (R) as lo	okina downstream ☆
RIPARIAN ZONE AND FLOODFE RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	FLOODPLAIN QUALITY L R Most Predominant per Mature Forest, Wetlan- Immature Forest, Shru Field Residential, Park, New Fenced Pasture	r Bank) L R d	Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction
FLOW REGIME (At Time of Evalue Stream Flowing Subsurface flow with isolated pools COMMENTS		Moist Channel, isolated poo Dry channel, no water (Epi	
SINUOSITY (Number of bends pe None 0.5	parties.	(ONLY one box); 2.0	3.0 >3
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	Moderate (2 ft/100 ft)	Moderate to Severe	Severe (10 ft/100 ft)

PHWH Form Page - 1

June 20, 2008 Revision

RECENT RAIN

SIM_139 10-29-18

	distribution of the second second second second second second second second second second second second second
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? - Tyes WNo QHEI Score(If Yes, Attach Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream	_
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION	
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order	
County: Township / City:	***************************************
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photograph Information: S	_
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)	site
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:	
	:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location	
FLOW -	- POINT
NOT TO SCALE 3	

SIM_14Z 10-30-18

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3): SITE NAME/LOCATION DRAINAGE AREA (mi2) _ SITE NUMBER 511-142 RIVER BASIN____ LONG. _____ RIVER CODE _____ RIVER MILE LENGTH OF STREAM REACH (ft) _____ LAT. ____ DATE 10-30-18 SCORER JAF ___COMMENTS_ NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions □ NONE / NATURAL CHANNEL □ RECOVERED □ RECOVERING □ RECEIVED TO RECOVERY STREAM CHANNEL MODIFICATIONS: SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric PERCENT TYPE PERCENT Points SILT [3 pt] BLDR SLABS [16 pts] $\sqcap \sqcap$ LEAF PACKWOODY DEBRIS [3 pts] BOULDER (>256 mm) [16 pts] Substrate FINE DETRITUS [3 pts] BEDROCK [16 pt] Max = 40CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] MUCK [0 pts] GRAVEL (2-64 mm) [9 pts] ARTIFICIAL [3 pts] SAND (<2 mm) [6 pts] (B) A + B Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock TOTAL NUMBER OF SUBSTRATE TYPES: SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] < 5 cm [5 pts] 5 > 22.5 - 30 cm [30 pts] NO WATER OR MOIST CHANNEL [0 pts] > 10 - 22.5 cm [25 pts] 73 MAXIMUM POOL DEPTH (centimeters): COMMENTS Bankfull (Check ONLY one box): BANK FULL WIDTH (Measured as the average of 3-4 measurements) > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 4.0 meters (> 13') [30 pts] Max=30 ≤ 1,0 m (≤ 3' 3") [5 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] 20 AVERAGE BANKFULL WIDTH (meters) COMMENTS This information must also be completed &NOTE: River Left (L) and Right (R) as looking downstream & RIPARIAN ZONE AND FLOODPLAIN QUALITY FLOODPLAIN QUALITY RIPARIAN WIDTH (Most Predominant per Bank) (Per Bank) R Conservation Tillage Mature Forest, Wetland Wide >10m Immature Forest, Shrub or Old Urban or Industrial $\neg \neg$ Moderate 5-10m Open Pasture, Row **13**/13/ Residential, Park, New Field Narrow <5m Crop Mining or Construction Fenced Pasture None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Dry channel, no water (Ephemeral) Subsurface flow with isolated pools (Interstitial) COMMENTS (Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel)

2.0

2.5

☐ Moderate to Severe

1.0

☐ Moderate (2 t/100 ft)

3.0

Severe (10 ft/100 ft)

Flat (0.5 ft/100 ft)

None

STREAM GRADIENT ESTIMATE

Flat to Moderate

SIM 142

ADDITIONAL STREAM INFORMATION (This	Information Must Also be Complete	<u>d):</u>	
QHEI PERFORMED? - 🗌 Yes 📜	No QHEI Score(If Yes,	Attach Completed QHEI Form)	
CWH Name:		Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream	_
		HED AREA. CLEARLY MARK THE SITE LOCATION	_
		ap Page: NRCS Soil Map Stream Order	
	Township / City		
MISCELLANEOUS	Control of the Control	Quantity	
Base Flow Conditions? (Y/N): Date of Photograph Information: 5 (M/N)	of last precipitation.	SIM 142 02	SUBSTRAI
Elevated Turbidity? (Y/N): Can-			
		id. and attach results) Lab Number:	
Field Measures: Temp (°C) Dissol	ved Oxygen (mg/l) pH (S.U	.) Conductivity (µmhos/cm)	
Is the sampling reach representative of the stre	eam (Y/N) If not, please explain		
Additional comments/description of pollution im	npacts:		
ID number. Incl	ude appropriate field data sheets from th Salaman ders Observed? (Y/N) cher? (Y/N) Aquatic Macroinverte	brates Observed? (Y/N) Voucher? (Y/N)	e site
	r features of Interest for site evaluatio	.M REACH (This <u>must</u> be completed): on and a narrative description of the stream's location	
	CORNEL	ELU	
FLOW →	And the second s		
FLOW •			
2	CORNFIEI	NARROW HERB	ACE OUS BUFFER
	000101101)	E
	LIOT TO	SCALK	

SIM_143 10-30-18

SHEET 14

ChieFPA Primary Headwater Habitat Evaluation Form

	5/4-143 RIVER BASIN	DRAIN	IAGE AREA (mi²)	
ENGTH OF STREAM REACH (ft)	IAT LONG.	RIVER CODE	RIVER MILE	
ATE 10-30-18 SCORER	COMMENTS			
NOTE: Complete All Items On This F	orm - Refer to "Field Evaluation N	lanual for Ohio's PHWH	Streams" for Instru	ctions
	NATURAL CHANNEL			
Company of the second s	NATURAL CHANNEL ED RECOVERE	D Diffeodering Di		
MODIFICATIONS:				
SUBSTRATE (Estimate percent of	every type of substrate present. Check	ONLY two predominant subs	strate TYPE boxes	нн
	nificant substrate types found (Max of 8). PERCENT TYPE	Final metric score is sum or b	PERCENT	Met
TYPE BLDR SLABS [16 pts]	SILT [3 p		<u> 60</u>	Poir
BOULDER (>256 mm) [16 pts] BEDROCK [16 pt]		CKAWOODY DEBRIS [3 pts] TRITUS [3 pts]	785	Subst
☐ ☐ BEDROCK [16 pt] ☐ ☐ COBBLE (65-256 mm) [12 pts]		HARDPAN [0 pt]	II	Max =
GRAVEL (2-64 mm) [9 pts]	DD MUCK [0		15	13
SAND (<2 mm) [6 pts]	上ム ロロ ARTIFICI	AL [3 pts]		
Total of Percentages of	(A) 9		(B)	A +
Bidr Slabs, Boulder, Cobble, Bedrock	JBSTRATE TYPES: TOT	AL NUMBER OF SUBSTRAT	TE TYPES:	
	e maximum pool depth within the 61 п	neter (200 ft) evaluation reach	at the time of	Poal C
evaluation, Avoid plunge pools from	road culverts or storm water pipes) (Cl	neck ONLY one box):	teases and established	Max :
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	⊠ >5 cm - □ <5 cm[· 10 cm [15 pts]		13
> 10 - 22.5 cm [25 pts]	□ nowa	TER OR MOIST CHANNEL [pts]	
				500000
COMMENTS 7 7	9m			
		AXIMUM POOL DEPTH (cen	timeters):	Bank
BANK FULL WIDTH (Measured as	the average of 3-4 measurements)	AXIMUM POOL DEPTH (cen (Check <i>ONLY</i> one box - 1.5 m (> 3' 3" - 4' 8") [15 pts]	tlmeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	the average of 3-4 measurements) ⇒ 1.0 m ≤ 1.0 m	AXIMUM POOL DEPTH (cen	tlmeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	the average of 3-4 measurements)	AXIMUM POOL DEPTH (cen (Check <i>ONLY</i> one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts]	timeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	the average of 3-4 measurements) ⇒ 1.0 m ≤ 1.0 m	AXIMUM POOL DEPTH (cen (Check <i>ONLY</i> one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts]	timeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	the average of 3-4 measurements) > 1.0 m < 1.0 m A This information must also be	AXIMUM POOL DEPTH (cen (Check <i>ONLY</i> one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts] VERAGE BANKFULL WIDTH	timeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR	the average of 3-4 measurements) > 1,0 m ≤ 1.0 m A' This information must also be dependent of the complex of the	AXIMUM POOL DEPTH (cen (Check <i>ONLY</i> one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts] VERAGE BANKFULL WIDTH	timeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR	the average of 3-4 measurements) > 1.0 m > 1.0 m ≤ 1.0 m A This information must also be DDPLAIN QUALITY £ NOTE: River FLOODPLAIN QUALITY L R (Most Predominant per	AXIMUM POOL DEPTH (cen (Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts] VERAGE BANKFULL WIDTH e completed Left (L) and Right (R) as looki Bank) L R	tilmeters):	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR	the average of 3-4 measurements) > 1.0 m < 1.0 m ≤ 1.0 m A' DDPLAIN QUALITY	AXIMUM POOL DEPTH (cen (Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts] VERAGE BANKFULL WIDTH e completed Left (L) and Right (R) as looki Bank) L R C	timeters): I (meters) Ing downstream conservation Tillage	Wid
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BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide > 10 m	the average of 3-4 measurements) > 1.0 m > 1.0 m ≤ 1.0 m A This information must also be properly and the properly and	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] VERAGE BANKFULL WIDTH The completed Left (L) and Right (R) as looking to the complete of the complete	timeters): I (meters) Ing downstream to onservation Tillage rban or Industrial pen Pasture, Row	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m	the average of 3-4 measurements) > 1.0 m > 1.0 m ≤ 1.0 m A This information must also be complain QUALITY ♣ NOTE: River FLOODPLAIN QUALITY L R (Most Predominant per mature Forest, Wetland immature Forest, Shrub Field	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 1 3	timeters): i (meters) ng downstream to onservation Tillage than or Industrial	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m	the average of 3-4 measurements) > 1.0 m > 1.0 m ≤ 1.0 m	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 1 3	timeters): I (meters) I (meters) Ing downstream conservation Tillage rban or Industrial pen Pasture, Row rop	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7'') [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of the contraction)	the average of 3-4 measurements) > 1.0 m > 1.0 m	AXIMUM POOL DEPTH (cen (Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (\$ 3' 3") [5 pts] VERAGE BANKFULL WIDTH The completed Left (L) and Right (R) as looki Bank) O or Old O proold O make the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the completed of the complete of the	tilmeters): I (meters) I (meters) Ing downstream to onservation Tillage repair or Industrial pen Pasture, Row rop inling or Construction	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Stream Flowing	the average of 3-4 measurements) > 1.0 m	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 3' 3" \right) \) (\(\le 1 3	tilmeters): I (meters) I (meters) Ing downstream the onservation Tillage repair or Industrial pen Pasture, Row rop inling or Construction In of low (Intermittent)	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7'') [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of the contraction)	the average of 3-4 measurements) > 1.0 m	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (\(\) 3' 3") [5 pts] VERAGE BANKFULL WIDTHER COMPleted Left (L) and Right (R) as looki Bank) Field Or Old OMOIST Channel, isolated pools	tilmeters): I (meters) I (meters) Ing downstream the onservation Tillage repair or Industrial pen Pasture, Row rop inling or Construction In of low (Intermittent)	Wid
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	the average of 3-4 measurements) > 1.0 m > 1.0 m ≤ 1.0 m A This information must also be properly as a second of the secon	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] (≤ 3' 3") [5 pts] VERAGE BANKFULL WIDTH De completed Left (L) and Right (R) as looki Bank) Bank) Field Go or Old	timeters): I (meters) Ing downstream and onservation Tillage repart or Industrial pen Pasture, Row rop inling or Construction In on flow (Intermittent) meral)	Bank Widi Max=
BANK FULL WIDTH (Measured as > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8'' - 9' 7'') [20 pts] COMMENTS RIPARIAN ZONE AND FLOOR RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Stream Flowing Subsurface flow with isolated COMMENTS	the average of 3-4 measurements) > 1.0 m	(Check ONLY one box - 1.5 m (> 3' 3" - 4' 8") [15 pts] VERAGE BANKFULL WIDTH The completed Left (L) and Right (R) as looking as lo	tilmeters): I (meters) I (meters) Ing downstream the onservation Tillage repair or Industrial pen Pasture, Row rop inling or Construction In of low (Intermittent)	Wid

SIM_143

	QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
	NCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City
MISCELLANEOUS	
	Quartity
Base Flow Conditions? (Y/N): Date of last	precipitation: Quantity: Quantity: SURCTRO
Photograph Information: $SP-/43$	-01W, 5/M-143-02 SUBSTRATE
Elevated Turbidity? (Y/N): Canopy (
Vere samples collected for water chemistry? (Y/N):	(Note lab sample no. or id. and attach results) Lab Number:
	Dxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
• • • • • • • • • • • • • • • • • • • •	
s the sampling reach representative of the stream (Y/N) If not, please explain:
ID number. Include a	servations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
ish Observed? (Y/N) Voucher? (Y/N)	Salamanders Observed? (Y/N)Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher?	? (Y/N) Aquatic Macronvenebrates Observed (1/N) Voucier: (1/N)
Frogs or Tadpoles Observed? (Y/N) Voucher?	? (Y/N) Aquatic Macronvenebrates Observed (1/N) Voucier: (1/N)
rogs or Tadpoles Observed? (Y/N) Voucher?	? (Y/N) Aquatic Macronvenebrates Observed (1/N) Voucier: (1/N)
Frogs or Tadpoles Observed? (Y/N) Voucher?	? (Y/N) Aquatic Macronvenebrates Observed (1/N) Voucier: (1/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology:	? (Y/N) Aquatic Macronvertebrates Observed / (Y/N) Voucilei ? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	? (Y/N) Aquatic Macronvenebrates Observed (1/N) Voucier: (1/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): tures of interest for site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): tures of interest for site evaluation and a narrative description of the stream's location
Frogs or Tadpoles Observed? (Y/N) Voucher? Comments Regarding Biology: DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): tures of interest for site evaluation and a narrative description of the stream's location
DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location SAMP CE 501 NT (EV)
DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location SAMP CE 501 NT (EV)
DRAWING AND NARRATIVE	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location SAMP CE 501 NT (EV)
DRAWING AND NARRATIVE Include important landmarks and other feat	DESCRIPTION OF STREAM REACH (This must be completed): tures of interest for site evaluation and a narrative description of the stream's location SAMP (E 50 DEAN) POINT (E-) SECTION

S/M_145 10-31-2018

SHEET 4

ChoFFA Primary Headwater Habitat Evaluation Form

		El Score (sum of me		
SITE NAME/LOCATION _APEX _A3520	000/ 5114 -1	4 5 no	AINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	AT LONG	RIVER CODE	RIVER MILE	
DATE 10/31/18 SCORER JAF	COMMENTS			
NOTE: Complete All Items On This Form	- Refer to "Field Evaluation	n Manual for Ohio's PHW	'H Streams" for Instri	uctions
STREAM CHANNEL ONONE / NATU MODIFICATIONS:	JRAL CHANNEL	RED RECOVERING	RECENT OR NO RECO	VERY
SUBSTRATE (Estimate percent of every (Max of 40). Add total number of significar	/ type of substrate present. Ch	eck ONLY two predominant s	ubstrate TYPE boxes of boxes A & B.	HHEI
	RCENT TYPE 🖊		PERCENT	Metric Points
☐ ☐ BLDR SLABS [16 pts] ☐ ☐ BOULDER (>256 mm) [16 pts]		3 pt] PACKWOODY DEBRIS [3 pt		
BEDROCK [16 pt]		DETRITUS [3 pts] or HARDPAN [0 pt]		Substrate Max = 40
☐ ☐ COBBLE (65-256 mm) [12 pts]	• • TOTAL TO	or HARDPAN [U pt] ([O pts]		12
SAND (<2 mm) [6 pts]		ICIAL [3 pts]		
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTI		OTAL NUMBER OF SUBSTR	(B) 3	A + B
Maximum Pool Depth (Measure the max)		1 meter (200 ft) evaluation re	ach at the time of	Pool Depth
evaluation. Avoid plunge pools from road	culverts or storm water pipes)	(Check ONLY one box): m - 10 cm [15 pts]		Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	☐ <5¢	m [5 pts]		25
Ø > 10 - 22.5 cm [25 pts]	F15.1. Visual - 10.1.	VATER OR MOIST CHANNE	2 1 2 2 2	
comments 15, 10,	15	MAXIMUM POOL DEPTH (c	centimeters):	
3. BANK FULL WIDTH (Measured as the a	verage of 3-4 measurements)	(Check ONLY one b m - 1.5 m (> 3' 3" - 4' 8") [15 p	ox): tsl	Bankfuli Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9'7' - 13') [25 pts] > 1.5 m - 3.0 m (> 4'8' - 9'7') [20 pts]		m (≤ 3' 3") [5 pts]		Max=30
> 1.5 m - 3.0 m (> 4' 8"- 9' 7") [20 pts]		AND AND DESIGNATION AND DESIGNATION OF THE PARTY OF THE P	251	20
comments 2.5	6,5 6,5	_AVERAGE BANKFULL WIL	TH (meters)	
	This information <u>must</u> als	o be completed		
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH	AIN QUALITY	ver Left (L) and Right (R) as lo	oking downstream	
L R (Per Bank)	L R (Most Predominant		Cananation Tillage	
☐ ☐ Wide >10m	Mature Forest, Wetli		Conservation Tillage Urban or Industrial	
☐ ☐ Moderate 5-10m	Fleid	da/	Open Pasture, Row	
☐ ☑ Narrow <5m	Residential, Park, N Fenced Pasture	ew Field 4.59 4.79	Crop Mining or Construction	
☐ None COMMENTS	Penced Pasitire		Maning of Content on the	
FLOW REGIME (At Time of Evalue) Stream Flowing Subsurface flow with isolated pools COMMENTS	Ä	Moist Channel, isolated po Dry channel, no water (Ep		
SINUOSITY (Number of bends per	r 61 m (200 ft) of channel) (Ch	eck ONLY one box):		
None 0.5	1.0	2.0 □	3.0 >3	• •
STREAM GRADIENT ESTIMATE Flat (0.5 17/100 n) Flat (0.5 17/100 n)	☐ Moderate (2 №100 ft)	☐ Moderate to Severe	Severe (10 ñ/10	O It)

WILL LEKLOKMED! - DY	res No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATE	
WWH Name:	Distance from Evaluated Street
	Distance from Evaluated Stream
DEWH Name:	Distance from Evaluated Stream
	OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
	Township / City:
MISCELLANEOUS	Tomorphism (Control of the Control o
	ALCOHOLOGICA TARANCE
	Date of last precipitation: Quantity:
hotograph Information:	1-145-018, SIM-145-02 SUBS
,	Canopy (% open):
ere samples collected for water chemis	stry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
	Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of th	he stream (Y/N) If not, please explain:
BIOTIC EVALUATION	
ID number. h Observed? (Y/N) Voucher?	ecord all observations. Voucher collections optional. NOTE; all voucher samples must be labeled with the site r. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If Yes, Re ID number.	r. Include appropriate held data sheets from the Primary Headwater Habitat Assessment Manual)
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N)	(Y/N) Salamanders Observed? (Y/N) Volvebor? (X/N)
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N)	(Y/N) Salamanders Observed? (Y/N) Volvebor? (X/N)
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology;	Y(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vouche
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	Y(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vouche
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vouche
orformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	RATIVE DESCRIPTION OF STREAM REACH (This must be completed): other features of interest for site evaluation and a narrative description of the stream's location
rformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? togs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include Important landmarks and of	RATIVE DESCRIPTION OF STREAM REACH (This must be completed): other features of interest for site evaluation and a narrative description of the stream's location
erformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include important landmarks and of the control of the	(Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vouche
erformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include important landmarks and of the control of the	Sorbeads Sorbea
erformed? (Y/N): (If Yes, Re ID number. sh Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology:	Sorbeads Sorbea
erformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? ogs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include important landmarks and of the control of the	RATIVE DESCRIPTION OF STREAM REACH (This must be completed): other features of interest for site evaluation and a narrative description of the stream's location
rformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? togs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include Important landmarks and of	RATIVE DESCRIPTION OF STREAM REACH (This must be completed): other features of interest for site evaluation and a narrative description of the stream's location
rformed? (Y/N): (If Yes, Re ID number. th Observed? (Y/N) Voucher? rgs or Tadpoles Observed? (Y/N) mments Regarding Biology: DRAWING AND NARR. Include Important landmarks and o	Sorbeads Sorbea

SIM-146

11-2-2018 SHEET I HANSON PROPERTY

ChieFA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

C STATE OF S	42
ı.	

ENAME/LOCATION 4/0EX	4382000/	DDA1	NACE AREA (~12)	
SITE NUMBER	RIVER BASIN	DRAI	NAGE AKEA (MI")	
IGTH OF STREAM REACH (ft)LAT.	LONG.	RIVER CODE	RIVER WILE	
E 11-2-18 SCORER J4F	COMMENIS	- LE- Objet - DUMU	Strooms" for Instru	etions
OTE: Complete All Items On This Form - R				
EAM CHANNEL ONONE / NATURA DIFICATIONS:	L CHANNEL D RECOVERED	RECOVERING D	RECENT OR NO RECO	VERY
SUBSTRATE (Estimate percent of every type (Max of 40). Add total number of significant su	pe of substrate present. Check (ONLY two predominant sub	strate TYPE boxes	HHĒI
(Max of 40). Add total number of significant su PERCE		IN MENIC SCORE IS SUM OF	PERCENT	Metric Points
BLDR SLABS [16 pts]	SILT [3 pt]	MANAGON DEDDIS 12 mtcl	60	Pomis
BOULDER (>256 mm) [16 pts]		(WOODY DEBRIS [3 pts] ITUS [3 pts]		Substrate
COBBLE (65-256 mm) [12 pts]		ARDPAN [0 pt]		Max = 40
GRAVEL (2-64 mm) [9 pts]	_ Q MUCK (0 p		20	7
SAND (<2 mm) [6 pts]		[3 pts]		
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A) 3		(B)	A + B
DRE OF TWO MOST PREDOMINATE SUBSTRAT	E TYPES: TOTAL	NUMBER OF SUBSTRA	TE TYPES:	
Maximum Pool Depth (Measure the maximu	um pool depth within the 61 me	er (200 ft) evaluation read	h at the time of	Pool Depth
evaluation. Avoid plunge pools from road culv	erts or storm water pipes) (Che	CK ONLY one box):		Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]	_ [≸ >5 cm +1 ☐ <5 cm [5			100
> 10 - 22.5 cm [25 pts]	☐ NO WATE	R OR MOIST CHANNEL	0 pts]	
COMMENTS 7 5 6	MA	IMUM POOL DEPTH (ce	ntimeters):	
BANK FULL WIDTH (Measured as the avera	age of 3-4 measurements)	(Check ONLY one box	():	Bankfuli
> 4.0 meters (> 13') [30 pts]	☐ >1.0 m -:	.5 m (> 3' 3" - 4' 8") [15 pts		Width Max=30
> 3.0 m - 4.0 m (> 9'.7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4'.8" - 9'.7") [20 pts]		3' 3") [5 pts]		
COMMENTS 2 - 2 2	4 2 . 3 AVE	PACE BANKFIII WIDT	H (meters)	20
COMMENTS	AVE	RAGE BANKI OLL WIDT	ri (motors)	
	This information must also be	completed		
RIPARIAN ZONE AND FLOODPLAIN RIPARIAN WIDTH FL	QUALITY &NOTE: River Le	ft (L) and Right (R) as look	ing downstreamur	
L R (Per Bank) L	R (Most Predominant per B	ank) LR	. ,	
	Mature Forest, Wetland		Conservation Tillage	
	- Immeture Forest Shriib o			
	Immature Forest, Shrub of Field	ر بات	Irban or Industrial	
☐ Moderate 5-10m			Jrban or Industrial Open Pasture, Row Crop	
Moderate 5-10m Narrow <5m None	Field	eld D	Open Pasture, Row	
Moderate 5-10m Narrow <5m	Field Residential, Park, New Fi	eld D	Open Pasture, Row Crop	
Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation	Field Residential, Park, New Fi Fenced Pasture (Check ONLY one box):		Open Pasture, Row Crop Mining or Construction	
Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing	Field Residential, Park, New Fi Fenced Pasture (Check ONLY one box): Merstilial) Field Residential, Park, New Fi	ist Channel, isolated pools	Open Pasture, Row Crop Mining or Construction	las <i>Q</i> 7
Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing	Field Residential, Park, New Fi Fenced Pasture (Check ONLY one box):	ist Channel, isolated pools	Open Pasture, Row Crop Mining or Construction	w A7
Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (Int	Field Residential, Park, New Fi Fenced Pasture (Check ONLY one box): Gratitial m (200 ft) of channel) (Check C	ist Channel, isolated pools	Open Pasture, Row Crop Mining or Construction s, no flow (Intermittent) meral)	WAT
Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools (light	Field Residential, Park, New Fi Fenced Pasture (Check ONLY one box): erstitial) m (200 ft) of channel) (Check Could be could	ist Channel, isolated pools	Open Pasture, Row Crop Mining or Construction	WAT

SIM_146

	ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
	QHEI PERFORMED? - Yes KINO QHEI Score(If Yes, Attach Completed QHEI Form)
	DOWNSTREAM DESIGNATED USE(S)
	WWH Name:
	Distance from Evaluated Stream
	EWH Name: Distance from Evaluated Stream
	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
	County: Township / City:
	MISCELLANEOUS
	Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
	Photograph Information: 31M-146-0/E, SIM-146-02-50/BS
	Elevated Turbidity? (Y/N): Canopy (% open): Z 5
	.Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
	Field Measures: Temp /°C\ Disselved Course (with all all all all all all all all all al
	Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
	Is the sampling reach representative of the stream (Y/N) If not, please explain:
	Additional comments/description of pollution impacts:
	BIOTIC EVALUATION
	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
	에게 하는데 그렇게 되는데 그렇게 되었다. 그는데 하는데 그런데 그런데 그런데 그렇게 되었다. 그런데 그런데 그런데 그런데 그런데 이렇게 되었다. 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런데 그런데
	Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N
	Comments Regarding Biology
	DRAWING AND NARRATIVE DESCRIPTION OF STREAM BEACH (T)
	DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
	Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
	SHRUB/U
	M CORN SHRUB/W BUFFER
	BUTTO
	FLOW TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE TOTAL TO THE T
CUARR	DRY STREAM STALLOW INUNDATED - SEEP
	DRY STREAM STURN INUNDATED -> SEE
P	SERM I
RUARR B	CORN

SIM=147

11-2-18 SHEET 12

Chieff Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

62	62	
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SITE NAME LOCATION AREX A332.0	100 Z			
SITE NUMBER	RIVER BASIN	DR	AINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT. LONG	RIVER CODE	RIVER MILE	
DATE 11-2-18 SCORER JAF	COMMENTS			
NOTE: Complete All Items On This Form	- Refer to "Field Evaluatio	n Manual for Ohio's PHW	'H Streams" for Instru	ıctions
STREAM CHANNEL ONONE/NATI	URAL CHANNEL RECOVE	RED RECOVERING	RECENT OR NO RECO	VERY
BLDR SLABS [16 pts]	nt substrate types found (Max of IRCENT TYPE SILT SILT LEAF CLAY CLAY MUCI	neck ONLY two predominant s 8). Final metric score is sum [3 pt] PACKWOODY DEBRIS [3 pt DETRITUS [3 pts] or HARDPAN [0 pt] ([0 pts] FICIAL [3 pts]	PERCENT SI (B)	HHEI Metric Points Substrate Max = 40
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	ximum pool depth within the 6 culverts or storm water pipes)	(Check ONLY one box): im - 10 cm [15 pts] im [5 pts] WATER OR MOIST CHANNE	_[0 pts]	Pool Dept Max = 30
3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	verage of 3-4 measurements)	(Check <i>ONLY</i> one b m -1.5 m (> 3' 3" - 4' 8") [15 p) m (≤ 3' 3") [5 pts]	ox): [s]	Bankfull Width Max=30
	This information must als	o be completed ver Left (L) and Right (R) as lo	oking downstream	
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m	AIN QUALITY TANOTE: RI FLOODPLAIN QUALITY L R (Most Predominant Mature Forest, Wetl Immature Forest, SI Field Residential, Park, N	per Bank) L R and	Conservation Tillage Urban or Industrial Open Pasture, Row	
None COMMENTS	Fenced Pasture	۵٥	Crop Mining or Construction	
Stream Flowing Subsurface flow with isolated pools COMMENTS	Ц	Moist Channel, isolated po Dry channel, no water (Ep		
SINUOSITY (Number of bends pe	r 61 m (200 ft) of channel) (Ch 1.0 1.5	eck <i>ONLY</i> one box): 2.0 2.5	3.0 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate	☐ Moderate (2 ft/100 ft)	☐ Moderate to Severe	Severe (10 ft/100) ft)

SIM-147 11-2-18

THOM IN	nis Information Must Also be Complete	d):	
	No QHEI Score(If Yes,		
DOWNSTREAM DESIGNATED U	SE(S)		_
J WWH Name:	20.75	Distance from Evaluated Stream	
D EWH Name:		Distance from Evaluated Stream	
Part College Brown and Charles Server		Distance from Evaluated Stream	
		HED AREA. CLEARLY MARK THE SITE LOCATION	
		ap Page: NRCS Soll Map Stream Order	3
MISCELLANEOUS	Township / City;		-
ase Flow Conditions? (Y/N): Date	of last precipitation:	0	
hotograph Information: SIM I U	7 015 511	Quantity:	NTI
Elevated Turbidity? (Y/N): Car		1-14/020400110	510
	The state of the s		
		d. and attach results) Lab Number;	
ield Measures: Temp (°C) Disso	olved Oxygen (mg/l) pH (S.U.)	Conductivity (µmhos/cm)	
the sampling reach representative of the str	ream (Y/N) Y If not, please explain:		
dditional comments/description of pollution in	macts: RECENT L	FEANY RAIN, WATE	-0
ESTIMATED UP	70 30 0	DITAL DITAL	2 RC
BIOTIC EVALUATION			
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option in the land of the second section with the land of the second section with the section with the second section with the second section with the section w	nal. NOTE: all voucher samples must be labeled with the site of stream of the site of the	-
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option inde appropriate field data sheets from the land of the second of the	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCACE	-
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option dude appropriate field data sheets from the land of the l	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCACE	
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option inde appropriate field data sheets from the land of the second of the	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCACE	
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option dude appropriate field data sheets from the land of the l	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCACE	
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option dude appropriate field data sheets from the land of the l	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCACE	
BIOTIC EVALUATION erformed? (Y/N):	all observations. Voucher collections option dude appropriate field data sheets from the land of the second of the	TREACH (This must be completed): and a narrative description of the stream's location NOT TO SCALE A N	

SIM_149 11-2-2018

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

		SITE NUM	IBER	RIVER B	ASIN		DR/	AINAGE AREA (mi²)	
LENGT	TH OF STREAM	M REACH (ft)	LAT	LC	NG	RIVER	CODE	RIVER MILE	
DATE	11 - 2-1	SCORER	1 <i>71</i> +	_COMMENTS			iala DUM	'Ll Ctroame" for Instr	uctio
NOT	E: Complete							'H Streams" for Instr	
	EAM CHANNE DIFICATIONS:		NE/NATURAL	channel O	RECOVERE	ED TRECOV	ERING 🔀	RECENT OR NO REC	OVER
1.	(Max of 40). A BLDR SL BOULDE BEDROC COBBLE GRAVEL	E (Estimate percer Add total number of ABS [16 pts] R (>256 mm) [16 p CK [16 pt] (65-256 mm) [12 p (2-64 mm) [9 pts] 2 mm) [6 pts]	f significant sub PERCEN ots] ts]	strate types found	I (Max of 8) SILT [3 LEAF PA FINE DE CLAY OF	, Final metric sco pt] ACKWOODY DE ETRITUS [3 pts HARDPAN [0 p	ore is sum o EBRIS [3 pt	<u>PERCENT</u> 	H Me Po Sut Ma
	Total o Bldr Slabs, B	of Percentages of coulder, Cobble, Bea ST PREDOMINATI	drock O	(A) 9		TAL NUMBER C	F SUBSTR	(B)	A
2.	evaluation. A > 30 centimete > 22.5 - 30 cm		rom road culver	ts or storm water	pipes) (C > 5 cm < 5 cm NO WA	:heck <i>ONLY</i> one - 10 cm [15 pts] [5 pts] ATER OR MOIST	i dox): CHANNE!	_ [0 pts]	Poo Ma
3. OOB	BANK FULL > 4.0 meters (> > 3.0 m - 4.0 n	WIDTH (Measured	d as the averag	e of 3-4 measure	ements) } >1.0 m } ≤1.0 m	(Check 0 - 1.5 m (> 3' 3" - ı (≤ 3' 3") [5 pts]	<i>NLY</i> one b 4'8") [15 p	ox): ts]	Ba W Ma
	RIP	RIAN ZONE AND F ARIAN WIDTH er Bank)	FLOODPLAIN G FLO L	ODPLAIN QUAL R (Most Pred	IOTE: River I <u>TY</u> ominant pe	· Left (L) and Rig r Bank)	ht (R) as lo	oking downstream☆	
		ide >10m oderate 5-10m		Immature F				Urban or Industrial	
		arrow <5m one MENTS <u>(4A)S</u>	⊡ (□(ER)1_4-776		sture	Field		Open Pasture, Row Crop Mining or Construction	EN
		N REGIME (At Time in Flowing irface flow with Isola MENTS			one box):	Moist Channel, Dry channel, no	isolated po water (Ep	ols, no flow (Intermittent) hemeral)) -
	. SIMIT	OSITY (Number of	bends per 61 m	n (200 ft) of chann	el) (Checl	k ONLY one box):	3.0	

OHEI PERFORMED? - Yes SAND QHEI Score (If Yes, Altach Completed QHEI Form) DOWNSTREAM DESIGNATED USE(S) WWH Name: Distance from Evaluated St Distance from Evaluated St Distance from Evaluated St Distance from Evaluated St MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA CLEARLY MARK THE USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map P	Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream RSHED AREA. CLEARLY MARK THE SITE LOCATION I Map Page: NRCS Soil Map Stream Order Quantity: YM_LYG_OZ_SUBSTRAT or Id. and attach results) Lab Number: U.) Conductivity (µmhos/cm) in: THEANK RAIN polional. NOTE: all voucher samples must be labeled with the site the Primary Headwater Habitat Assessment Manual) NOUCHER? (Y/N) Lebrates Observed? (Y/N) AM REACH (This must be completed):	OHELBEREORMEDS CIV Ed.	
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Primary Headwater Habitat Evaluation Form

	HHEI Score (sum of metrics 1, 2, 3): 2/
SITE NAME/LOCATION	
SITE NUMBER 3/19 - / 3 RIVER E LENGTH OF STREAM REACH (ft) LAT. LC	ASIN DRAINAGE AREA (mi²) DNG. RIVER CODE RIVER MILE
DATE 1-5-18 SCORER JAF COMMENTS	
	valuation Manual for Ohio's PHWH Streams" for Instructions
	RECOVERED RECOVERING RECENT OF NO RECOVERY
MODIFICATIONS:	
SUBSTRATE (Estimate percent of every type of substrate pro (Max of 40). Add total number of significant substrate types found	I (Max of 8). Final metric score is sum of boxes A.& B.
TYPE PERCENT TYPE PERCENT TYPE UP BLOR SLABS [16 pts] TYPE	
	LEAF PACKWOODY DEBRIS [3 pts] / O Substrate
OBBLE (65-256 mm) [12 pts]	CLAY or HARDPAN [0 pt] 60
□ □ GRAVEL (2-64 mm) [9 pts] □ □ □ SAND (<2 mm) [6 pts] □ □ □	MUCK [0 pts] 7
Total of Percentages of . (A)	(B) 4 A+B
Bidr Slabs, Boulder, Cobble, Bedrock	TOTAL NUMBER OF SUBSTRATE TYPES:
2. Maximum Pool Depth (Measure the maximum pool depth with	nin the 61 meter (200 ft) evaluation reach at the time of Pool Depth
evaluation. Avoid plunge pools from road culverts or storm water > 30 centimeters [20 pts] > 22.5 - 30 cm (30 pts)	> 5 cm = 10 cm [15 pts]
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	< 5 cm [5 pts] NO:WATER OR MOIST CHANNEL [0 pts]
comments 3, 8, 4	MAXIMUM POOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the average of 3-4 measure	ments) (Check ONLY one box): Bankfull Sankfull Width
> 4.0 meters (> 13°) [30 pts] > 3.0 m - 4.0 m (> 9° 7° - 13°) [25 pts] > 1.5 m + 3.0 m (> 4° 8° + 9° 7°) [20 pts]	≤ 1.0 m (≤ 3°3") [5 pts] Max=30
COMMENTS / 1 7 /	AVERAGE BANKFULL WIDTH (meters)
,	
RIPARIAN ZONE AND FLOODPLAIN QUALITY かい	nust also be completed DTE: River Left (L) and Right (R) as looking downstream ம்
3. U.Z. V. 11 - 1111 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1	minant per Bank) L R
	ist, Wetland
	Park New Field Open Pasture, Row
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Nairrow <5m Residential, None Penced Pas	Park, New Field Crop fure Mining or Construction
Nairrow <5m Residential, None Fenced Pas COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY or	Park, New Field Crop ture Mining or Construction The box): Moist Channel, isolated pools, no flow (Intermittent)
Nairrow <5m Residential, None GOMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY or	Park, New Field Crop ture Mining or Construction The box):
Nairow <5m Residential, None Fenced Pas COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY or Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel	Park, New Field Crop fure Crop Mining or Construction The box): Moist Channel, isolated pools, no flow (Infermittent) Dry channel, no water (Ephemeral) I) (Check ONLY one box):
Nairow <5m Residential, None Fenced Pas COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY or Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS	Park, New Field Crop fure Mining or Construction The box): Moist Channel, isolated pools, no flow (infermittent) Dry channel, no water (Ephemeral)

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	QHEI PERFORMED? - Yes ANO QHEI Score(If Yes, Attach Completed QHEI Form)
	DOWNSTREAM DESIGNATED USE(S)
	☐ WWH Name: Distance from Evaluated Stream
	☐ CWH Name: Distance from Evaluated Stream ☐ EWH Name: Distance from Evaluated Stream
	MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
	County: HURON TOWNShip/City: FLAT RUCK T3N R24
	MISCELLANEOUS
	Base Flow Conditions? (Y/N): Date of last precipitation: 11-5-18 Quantity:
	Photograph Information: SIM-151-01W, SIM-151-02 SUBSTRAT
	Elevated Turbidity? (Y/N): Canopy (% open): 50
	Were samples collected for water chemistry? (Y/N): Note lab sample no. or id. and attach results) Lab Number:
	Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
	Is the sampling reach representative of the stream (Y/N) If not, please explain:
	Additional comments/description of pollution impacts:
	BIOTIC EVALUATION
F	Cerformed? (Y/N): (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y
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F	(If Yes, Record all observations, Voucher collections optional, NOTE; all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
F	(If Yes, Record all observations, Voucher collections optional, NOTE; all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
F	(If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic MacroInvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
F	(If Yes, Record all observations, Voucher collections optional, NOTE; all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology:
F	Cerformed? (Y/N): (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/
F	Cerformed? (Y/N): (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
F	Cerformed? (Y/N): (If Yes, Record all observations, Voucher collections optional, NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/
F F C C	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed): Include Important landmarks and other features of interest for site evaluation and a narrative description of the stream's location \[\int \text{W00DCANS} \] \[\int \text{W00DCANS} \]
F	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
F	Performed? (Y/N): (If Yes, Record all observations, Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N)
F	Performed? (Y/N): (If Yes, Record all observations, Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N)
F	Performed? (Y/N): (If Yes, Record all observations, Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N)

SIM_154 11-6-18

Chief A Primary Headwater Habitat Evaluation Form

	HHEI Score (sum of	metrics 1, 2, 3):
SITE NAME/LOCATION APEX 438200	0/	
SITE NUMBER	RIVER BASIN	DRAINAGE AREA (mi²)
LENGTH OF STREAM REACH (II) 200 LAT. DATE 11-6-18 SCORER JAF	LONG. RIVER CODE	RIVER MILE
DATE 11-0-18 SCORER 377	COMMENTS 44 WSON TAKEE	INVIII Chile and all their traditions
NOTE: Complete All Items On This Form - Refe		
STREAM CHANNEL ONO NOTURAL C	HANNEL IRECOVERED A RECOVERING	☐ RECENT OR NO RECOVERY
MODIFICATIONS:		
1. SUBSTRATE (Estimate percent of every type of (Max of 40). Add total number of significant substrates and the substrate of	substrate present. Check ONLY two predomina ate types found (Max of 8). Final metric score is substrate present. If principle is the process of the process	m of boxes A & B. PERCENT LA C 3 pts] / O Substrate
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE T	PES: TOTAL NUMBER OF SUBS	STRATE TYPES: 2
DANK FULL MEDTH Mississed on the inversion	Storm water pipes (Check ONLY one box):	Max = 30 ZS
	information must also be completed	Ladia da matara ma
RÍPARIAN ZONE AND FLOODPLAIN QUA RIPARIAN WIDTH FLOOD	LITY &NOTE: River Left (L) and Right (R) as PLAIN QUALITY	TOOKING DOWNSTIESSULFA
L R (Per Bank) L R	(Most Predominant per Bank) L R Mature Forest, Wetland	Conservation Tillage
☐ Wide >10m ☐ ☐ Moderate 5-10m ☐ ☐	Immature Forest, Shrub or Old	Urban or Industrial
	Field	Open Pasture, Row
☐	Residential, Park, New Field	Crop Mining or Construction
COMMENTS	reliceu rastule	maning of Constitution
FLOW REGIME (At Time of Evaluation) (Control Stream Flowing Subsurface flow with isolated pools (Interstiting COMMENTS	Moist Channel, isolated p	pools, no flow (Intermittent) Ephemeral)
SINUOSITY (Number of bends per 61 m (20 None 1.5	0 ft) of channel) (Check ONLY one box): 2.0 2.5	□ 3.0 □ >3
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Mod	erate (2 1/100 ft) Moderate to Severe	Severe (10 m/100 m)

	ORMATION (This Information Must Also be Completed):
QHEI PERFORME	ED? - Tyes No QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM D	DESIGNATED USE(S)
WWH Name:	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
	H COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
	Township / City: NRCS Soil Map Stream Order
MISCELLANEOUS	
Base Flow Conditions? (Y/N):	Date of last precipitation:Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N):	N Caniopy (% open): 40
	ater chemistry? (Y/N):N (Note lab sample no. or id. and attach results) Lab Number:
	Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
	ntative of the stream (Y/N) If not, please explain:
1.4 C. S. COMM. COMM. COMM. Services	Thou, plouds explain.
Fish Observed? (Y/N) Frogs or Tadpoles Observed? ((If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Vou
	D NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
DRAWING AN	
 Include important landm 	narks and other features of interest for site evaluation and a narrative description of the stream's location
	SOYBEANS SAMPLE POINT SHEUTE
Include important landm	SOYBEANS SAMPLE POINT SHEUTE
 Include important landm 	Monet
Include important landm	SOYBEANS SAMPLE POINT SHEUTE
Include important landm	SOYBEANS SAMPLE POINT SHEUTE
Include important landm	SOYBEANS SAMPLE POINT SHEUTE

Charles Primary	Headwater Hab I	HEI Score (sum of met	rics 1, 2, 3): 46
SITE NAME/LOCATION APEX AS87			
SITEMIMBER	RIVER BASIN	DRA	INAGE AREA (mi²)
LENGTH OF STREAM REACH (#) DATE 11-7-18 SCORER T4F	LAT. LONG.	RIVER CODE	RÎVER MÎLE
DATE 11-7-18 SCORER <u>J4F</u>	COMMENTS A	DRAIN	
NOTE: Complete All Items On This For	and the second s		en en en en en en en en en en en en en e
STREAM CHANNEL INONE/NA	TURAL CHANNEL RECO	vered 🗆 recovering 🔊	RECENT OR NO RECOVERY
MODIFICATIONS;			
SUBSTRATE (Estimate percent of every state)	ery type of substrate present.	Check ONLY two predominant sub	ostrate TYPE boxes
(Max of 40). Add total number of signific	ant substrate types found (Max	of 8). Final metric score is sum of	boxes A & B. HHI
TYPE BLDR SLABS [16 pts]	PERCENT TYPE SIL	T [3 pt]	PERCENT
☐ ☐ BOULDER (>256 mm) [16 pts] _		AF PACKWOODY DEBRIS [3 pts]	Substr
☐ ☐ BEDROCK [16 pt] ☐ ☐ COBBLE (65-256 mm) [12 pts] _		IE DETRITUS [3 pts] AY or HARDPAN [0 pt]	65 Max =
GRAVEL (2-64 mm) [9 pts] _	Sharr	CK [0 pts]	= 116
☐ ☐ SAND (<2 mm) [6 pts] _		TIFICIAL [3 pts]	- ILE
Total of Percentages of) (A) 7		(B) 2 A+B
Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES:	TOTAL NUMBER OF SUBSTRA	TE TYPES:
2. Maximum Pool Depth (Measure the m	avimum nool denth within the	61 meter (200 ft) evaluation read	n at the time of Pool De
evaluation. Avoid plunge pools from roa	culverts or storm water pipes)	(Check ONLY one box):	Max =
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts]		5 cm = 10 cm [15 pts] 5 cm [5 pts]	25
> 10 - 22.5 cm [25 pts]		WATER OR MOIST CHANNEL [pts]
COMMENTS		MAXIMUM POOL DEPTH (cer	itimeters):
3. BANK FULL WIDTH (Measured as the		(Check ONLY one box	
> 4.0 meters (> 13°) [30 pts] > 3.0 m = 4.0 m (> 9°7" - 13°) [25 pts]		.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] I.0 m (≤ 3' 3") [5 pts]	
> 1.5 m - 3.0 m (> 4' 8" + 9' 7") [20 pts]			13 1 15
COMMENTS 1, 2, 1.	2,1.4	AVERAGE BANKFULL WIDTH	(meters)
•	•		
RIPARIAN ZONE AND FLOODP	This information <u>must</u> a LAIN QUALITY	Iso be completed River Left (L) and Right (R) as looki	ng downstream; ☆
RIPARIAN WIDTH.	FLOODPLAIN QUALITY		
L R (Per Bank) □ □ Wide >1.0m	L R (Most Predominan ☐ ☐ Mature Forest, We		onservation Tillage
☐ ☐ Moderate 5-10m	☐☐ Immature Forest, \$	Shrub of Öld 🔲 📮 Ur	bañ or Industrial
☐ ☐ /Narrow <5m	Residential, Park,	New Field (ATI)	oen Pasture, Row
None.	Fenced Pasture		op ning or Construction
COMMENTS			
FLOW REGIME (At Time of Evalu):	
Stream Flowing Subsurface flow with isolated pools	☐ (Interstitial)	Moist Channel, isolated pools, Dry channel, no water (Ephen	no flow (intermittent) neral)
COMMENTS	. ,	-	-
SINUOSITY (Number of bends pe			
SINUOSITY (Number of bends per	1.0	2.0	3.0 >3
SINUOSITY (Number of bends pe		2,0	

. *			
116	SoyBe	T TO SCALE	Sim_154
~	W		
→ — — wo	Jum	m-n-	
January	200	SOYBEAN	FIELD
SAMPLE			22.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2
DRAWING AND NARRA Include Important landmarks and of		STREAM REACH (This mu	
HANSON PROPERT			
MANCAN 10 1050	RECE,	UT HEAUG	RAIN.
gs or Tadpoles Observed? (Y/N) mments Regarding Biology:	Voucher? (Y/N) Aquatic Ma	acroinvertebrates Observed? (Y/N)_	Voucher? (Y/N)
h Observed? (Y/N) Voucher? (Y/N) Salamanders Obser	ved? (Y/N) Voucher? (Y/N)	
formed? (Y/N): (If Yes, Rec	cord all observations. Voucher coll	ections optional. NOTE; all voucher of ets from the Primary Headwater Habi	samples must be labeled with the site
BIOTIC EVALUATION		*	
ditional comments/description of pollution	on Impacts:		
eld Measures: Temp (°C) D			
ere samples collected for water chemist			
evated Turbidity? (Y/N):	the state of the s		
notograph Information:S			2 SUBSTRATE
ase Flow Conditions? (Y/N):		Quantity:	
MISCELLANEOUS		7.0	
		/ City:	
SGS Quadrangle Name:			
		E WATERSHED AREA. CLEARLY	
DEWH Name:		Distance from E	valuated Streamvaluated Stream
J CWH Name:			
DOWNSTREAM DESIGNATE WWH Name: CWH Name:		Distance from F	valuated Stream

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Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 33

Stream & Location:	VM-1559		ricia officer	RM:	Date: 12	1141)
Division in the second			ame & Affiliation:	140755	N. MSE	i the
River Code:	STORET #:_	(NAD 83-	Long.: decimal*)	/8	Office	location [
BEST TYPES p BLDR /SLABS [10] D BOULDER [9] D GRAVEL [7] D SAND [6] BEDROCK [5]	ONLY Two substrate TYPE BOX ite % or note every type present OTHER TY HARDPAI HARDPAI MUCK [2] SILT [2] ARTIFICIA (Score na YPES: 4 or more [2] sludg	PES POOL RIFFLE N [4] IS [3] AL [0] AL [0]	Check CORIGIN ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] RIP/RAP [0] LACUSTURINE [0] SHALE [-1] COAL FINES [-2]	SILT O	QUALITY HEAVY [-2] MODERATE [-1] NORMAL [0] ERFE [1]	Substrat 5 Maximur 20
quality: 3-Highest quality in	GETATION [1] D ROOTW	but not of highest qual e.g., very large boulde o / fast water, or deep, v > 70cm [2]O NADS [1]A	ity or in small amounts	of highest Chec large Chec pools EX	AMOUNT k ONE (Or 2 & av. TENSIVE >75% [1 DDERATE 25-75% ARSE 5-<25% [3] ARLY ABSENT < Cove. Maximum. 2	[7] [7] 5% [1]
3] CHANNEL MORPH	OLOGY Check ONE in each of	category (Or 2 & avera	ge)			
☐ HIGH [4] ☐ E3 ☐ G4 ☐ LOW [2] ☐ F4	XCELLENT [7] NONE [6] OOD [5] RECOVER AIR [3] RECOVER	RED [4]	STABILITY HIGH [3] MODERATE [2] LOW [1]		Channe Maximur 2	-
River right looking downstrear EROSION NONE / LITTLE [3] MODERATE [2] HEAVY / SEVERE [1]	MD RIPARIAN ZONE Che RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3) RIPARIAN (3)	FLOO FOREST, SI SHRUB OR RESIDENTIA FENCED PA	OD PLAIN QUALI WAMP [3] OLD FIELD [2] AL PARK, NEW FIELD	TY CONS	ERVATION TILLA N OR INDUSTRIA G / CONSTRUCTI ominant land use(s	ON [0]
Comments					Maximum 1	
MAXIMUM DEPTH Check ONE (ONLY/) ☐ > 1m [6] ☐ 0.7-<1m [4]	D RIFFLE / RUN QUALITY CHANNEL WIDTH Check ONE (Or 2 & avera ☐ POOL WIDTH > RIFFLE WID ☐ POOL WIDTH < RIFFLE WID ☐ POOL WIDTH < RIFFLE WID	CUR age) Ch TH [2] CH TORRENT TH [1] CH FAST [1] MODERAT	RENT VELOCITY neck ALL that apply IAL [-1] SLOW [1] ST [1] INTERSTIT INTERMIT IE [1] DEDDIES [1] for reach - pools and rif	TAL [-1] TENT [-2]	creation Poter Primary Conta condary Conta te one and comment on Pool Currer Maximum	ct tact back)
Indicate for functi of riffle-obligate s RIFFLE DEPTH BEST AREAS > 10cm [2] BEST AREAS 5-10cm [1] BEST AREAS < 5cm [metric=0]	RUN DEPTH MAXIMUM > 50cm [2] MAXIMUM < 50cm [1]	RIFFLE / RUN SI STABLE (e.g., Cobbl	erage). JBSTRATE RIFF e, Boulder) [2] Large Gravel) [1]	FLE / RUN EN	NO RIFFLE BEDDEDNES [2]	[metric=0
Comments					* Maximu	8
DRAINAGE AREA	mi2) VERY LOW - LOW MODERATE [6-10] HIGH - VERY HIGH	0	%POOL:(100) %RUN:	%GLIDE: %RIFFLE:	Gradie Maximu	- V)

Sheeter ROAD	Stream Drawing:	CLARITY 1stsample pass 2nd	MAL DESCRIPTION OF THE PROPERTY OF THE PROPERT
KOM CROPS	Pow	BJ AESTHETICS NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN OIL SHEEN TRASH / LITTER NUISANCE ODOR SLUDGE DEPOSITS CSOS/SSOS/OUTFALLS TION AREA DEPTH POOL: >100ft2 >3ft	omment KE. Keach consistency.
Sylvania of Bunk	GCOPS	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	s reach typical of steam?, <i>Recreatio</i>
SHRUB SHRUBS		Circle some & COMMENT	n/ Observed - Interred, Othe
NEW CIENSS		WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Comment NE. Reach consistency, is reach typical of steam?, Recreation/Observed - Interred, Other/Sampling observations, Concerns, Access directions, etc.
The state of the s		F] MEASUREMENTS x width x depth max, depth x bankfull width bankfull x depth WID ratio bankfull max, depth floodprone x² width entrench, ratio Legacy Tree:	cess directions, etc.

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

00 cells	. /	~	
Sec. 17.00	Ч	1	1
٠.			_

SITE NAME/LOCATION APICY A 35	£7 0001	
SITE NAME/LOCATION APEX A 38	[7 - (6 RIVER BASIN DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) LA	ATLONGRIVER CODERIVER MÎLE COMMENTS RECENT_HEAVY_RAINS	
DATE 12-27-18 SCORER	COMMENTS RECENT HEAVY RAINS	
NOTE: Complete All Items On This Form -	- Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	ictions
STREAM CHANNEL NONE/NATUR	ral channel	VERY
SUBSTRATE (Estimate percent of every	type of substrate present. Check ONLY two predominant substrate TYPE boxes t substrate types found (Max of 8). Final metric score is sum of boxes A & B.	HHEL
TYPE PER	RCENT TYPE PERCENT	Metric Points
☐ ☐ BLDR SLABS [16 pts] ☐ ☐ BOULDER (>256 mm) [16 pts]	SILT [3 pt] 70 70 70 70 70 70 70 70	
☐☐ BEDROCK [16 pt]	FINE DETRITUS [3 pts]	Substrate Max = 40
☐ ☐ COBBLE (65-256 mm) [12 pts]	CLAY or HARDPAN [0 pt]	
SAND (<2 mm) [6 pts]	REED CANARY GRASS	
Total of Percentages of	(A) (B) 2	A + B
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRA	ATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
2. Maximum Pool Depth (Measure the maxi.		Pool Depth
> 30 centimeters [20 pts]	ulverts or storm water pipes) (Check <i>ONLY</i> one box):	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	☐ < 5 cm [5 pts] ☐ NO:WATER OR MOIST CHANNEL [0 pts] ☐ ☐	25
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the ave	erage of 3-4 measurements) (Check ONLY one box):	Bankfull Width
3. BANK FULL WIDTH (Measured as the ave > 4.0 meters (> 13') [30 pts]		
3. BANK FULL WIDTH (Measured as the average of the street	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the street	erage of 3-4 measurements) (Check <i>ONLY</i> one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check <i>ONLY</i> one box):	Width
3. BANK FULL WIDTH (Measured as the average of the street	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the ave > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPLA RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the street of 13) [30 pts] > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPLA RIPARIAN WIDTH. L R (Per Bank) Wide > 10m Moderate 5-10m Moderate 5-10m	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width
3. BANK FULL WIDTH (Measured as the average of the second	erage of 3-4 measurements) (Check ONLY one box):	Width

DOMAIGNATA	Tres Marko OHEI Scor	e(If Yes, Att	ach Completed QHEI Form)
DOWNSTREAM DESIGN	IATED USE(S)		
WWH Name:			Distance from Evaluated Stream
GWH Name:			Distance from Evaluated Stream Distance from Evaluated Stream
			AREA: CLEARLY MARK THE SITE LOCATION
			Page: NRCS Soil Map Stream Order
County:		Township / City:	
MISCELLANEOUS			RECENT HEAVY RAIN
Base Flow Conditions? (Y/N):	Date of last precipitatio	n: 12-77-18	Quantity:
Photograph Information: 5/19	1-161-0/	N, SIM	-161-02 SUBSTRAT
Elevated Turbidity? (Y/N):			
		, ,	
			nd attach results) Lab Number:
Field Measures: Temp (°C)	Dissolved Oxygen (mg/	1) pH (S.U.) _	Conductivity (µmhos/cm)
is the sampling reach representative	of the stream (Y/N)	If not, please explain:	
BIOTIC EVALUATION Performed? (Y/N): (If Ye	s. Record all observations. V	/oucher collections optional	NOTE: all transfer complete mind be led and with the site.
Performed? (Y/N): (If Ye ID null	mber. Include appropriate fie her? (Y/N) Salamano	eld data sheets from the Printers Observed? (Y/N)	NOTE: all voucher samples must be labeled with the site mary Headwater Habitat Assessment Manual) Voucher? (Y/N) so Observed? (Y/N) Voucher? (Y/N)
Performed? (Y/N): (If Ye ID null properties of the ID null prop	her? (Y/N) Salamand Noucher? (Y/N) ARRATIVE DESCRIP*	eld data sheets from the Prinders Observed? (Y/N)Aquatic MacroInvertebrate	nary Headwater Habitat Assessment Manual)
Performed? (Y/N): (If Ye ID null properties of the ID null prop	her? (Y/N) Salamand Noucher? (Y/N) ARRATIVE DESCRIP*	eld data sheets from the Prinders Observed? (Y/N) Aquatic Macroinvertebrate TION OF STREAM Rest for site evaluation and	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) voucher? (Y/N) See Completed:
Performed? (Y/N): (If Ye ID null properties of the ID null prop	her? (Y/N) Salamand Noucher? (Y/N) ARRATIVE DESCRIP*	eld data sheets from the Prinders Observed? (Y/N) Aquatic Macroinvertebrate TION OF STREAM Rest for site evaluation and	nary Headwater Habitat Assessment Manual) Voucher? (Y/N) voucher? (Y/N) See Completed:
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Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): APEX A3820001 SITE NAME/LOCATION SITE NUMBER_ _ DRAINAGE AREA (mi²) __ RIVER BASIN ____ LAT. LONG. RIVER CODE RIVER MILE LENGTH OF STREAM REACH (ft) DATE 12.27-18 SCORER JAF COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions ☐ NONE/NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY STREAM CHANNEL MODIFICATIONS: SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEL (Max of 40), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE PERCENT TYPE PERCENT **Points** SILT [3 pt] BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] Substrate BEDROCK [16 pt] ПП FINE DETRITUS [3 pts] 10 Max = 40ПП COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] 40 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] ARTIFICIAL [3 pts] SAND (<2 mm) [6 pts] (B) Total of Percentages of A + B Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] $\bar{\mathbf{x}}$ > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts] RECENT HEAVY RAIN MAXIMUM POOL DEPTH (centimeters): COMMENTS BANK FULL WIDTH (Measured as the average of 3-4 measurements) Bankfull (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] Max=30 > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] RECENT HEAVY RAINS _ AVERAGE BANKFULL WIDTH (meters) This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆ RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) (Per Bank) Mature Forest, Wetland Wide >10m Conservation Tillage Immature Forest, Shrub or Old Moderate 5-10m Urban or Industrial MAILROAD Open Pasture, Row O O Residential, Park, New Field Narrow <5m Crop Fenced Pasture None Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box); Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

2.0

2.5

☐ Moderate to Severe

3:0

>3

Severe (10 ft/100 ft)

1.0

1.5

☐ Moderate (2 ft/100 ft)

7 Flat (0.5 ft/100 ft)

None

STREAM GRADIENT ESTIMATE

☐ Flat to Moderate

0.5

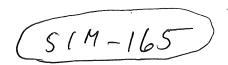
SIM-159 5/M-162

QHEI PERFORMED? - Ye	No QHEI Score	(If Yes, Attach Completed QHEI Fo	rm)	
DOWNSTREAM DESIGNATED	USE(S)			
J WWH Name:	THE VENCY	Distance from Evalu	ated Stream	
CWH Name:				
J EWH Name:				
THE RESERVE TO SERVE		WATERSHED AREA. CLEARLY MAR		
JSGS Quadrangle Name:				
	Township			
MISCELLANEOUS		RE	CENT HEAVY	RAIN
ase Flow Conditions? (Y/N):	ate of last precipitation: 12-2	7-18 Quantity:		
hotograph Information: 5 M	-159-01E,	517-159-	OZ SUBSTRA	TE
levated Turbidity? (Y/N):	A T IN THE STATE OF THE STATE O			
/ere samples collected for water chemist		ple no. or id. and attach results) Lab N	lumber:	
ield Measures: Temp (°C)				
the sampling reach representative of the	stream (Y/N) If not, pleas	e explain:		
dditional comments/description of polluti	on impacts:			
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Re	oord all observations. Voucher colle	ctions optional. NOTE: all voucher sam	oles must be labeled with the site	
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Re	ord all observations. Voucher colle Include appropriate field data she	ctions optional. NOTE: all voucher sam ts from the Primary Headwater Habitat A	oles must be labeled with the site	
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Charles Primary Headwater Habitat Evaluation Form

SITE NAMER OCATION AFE'S A 38 2 90 0 SITE NAMER ASIA OF SITE NAMER ASI		111	HEI Score (sum of m		
LENGTH OF STREAM REACH (ft) ATE 1-27-18 SCORES COMMENTS COMMENTS STREAM CHANNEL IN ONE KNATURAL CHANNEL RECOVERY MODIFICATIONS STREAM CHANNEL IN ONE KNATURAL CHANNEL RECOVERY MODIFICATIONS 1. SUBSTRATE (Estimate percent of every type of substrate present, Check ONLY two predominant substrate TYPE boxes (Max of 40), Add total number of significant substrate types found (Max of 9). Final metric score is sum of boxes A & B, PERCENT PERCE	SITE NAME/LOCATION APEX A3	82000	- in	TAININGE AREA (ini2)	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohjo's PHWH Streams" for Instructions STREAM CHANNED None ANATURAL CHANNEL Recevered Rece	SITE NUMBER	RIVER BASIN	RIVER CODE	RIVER MILE	
NOTE: Complète All Items On This Form - Refer to "Field Evaluation Manual for Ohjo's PHWH Streams" for Instructions STREAM CHANNED	DATE 12-27-18 SCORER JA	Ecomments			
SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types found (Max of 40), Add total number of significant substrate types for the process for the substrate types for the process for the substrate types for the	NOTE: Complete All Items On This Form	n - Refer to "Field Evaluation	on Manual for Ohio's PHV	/H Streams" for Insti	ructions
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY Year predominant substrate TYPE boxes (Max of 40). Add (total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A& B. PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE BLOR SLABS (16 pts) PERCENT TYPE SLABS (16 pts) PERCENT SLABS (16 pts) PERCENT TYPE SLABS (16 pts) PERCENT SLABS	STREAM CHANNEL DINONE / NAI	ural channel	RED RECOVERING	RECENTION NO REC	OVERY
(Max of 40). Add (total number of significant substrate types (ound (Max of 8). Final metric score is sum of boxes A& B. Mitting Type	MODIFICATIONS:				
(Max of 40). Add total number of significant substrate types (ound (Max of 8). Final metric score is sum of boxes AA B. Mitter Type	1 SUBSTRATE (Estimate percent of ever	v type of substrate present. Cl	heck ONLY two predominants	substrate <i>TYPE</i> boxes	Ī
BEDRS DASS PIECTS	(Max of 40). Add total number of significa	int substrate types found (Max of	f 8). Final metric score is sum	of boxes A.&.B.	Metric
BEDROCK: [16 pt]	BLDR SLABS [16 pts]			60	Points
COBBLE (65-256 mm) (12 pts]		11 (180 m 25) (18)		1.0	
SAND (<2 mm) [6 pts] ZO			or Hardpan [0 pt]	\$	
Total of Percentages of Bitd slass, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE. SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road activerts or storm water pipes) (Check ONLY one box):	2015年1月1日 - 1915年1日 - 191				
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road activerts or storm water pipes) (Check ONLY one box):	Total of Percentages of	1) (A) Q		(B) /	parameter and the second
evaluation. Avoid plungle pools from road cultiverts or storm water pipes) (Check ONLY one box): 30 centimeters (20 pts)	SCORE OF TWO MOST PREDOMINATE SUBST		OTAL NUMBER OF SUBSTR	ATE TYPES:	
evaluation. Avoid plungle pools from road cultiverts or storm water pipes) (Check ONLY one box): 30 centimeters (20 pts)	Maximum Pool Depth (Measure the ma	ximum pool depth within the 6	11 meter (200 ft) evaluation re	ach at the time of	
COMMENTS Comments Comments Check ONLY one box): Bankfull width Max=30 Same store	evaluation. Avoid plunge pools from road	culverts or storm water pipes)	(Check ONLY one box):		Max = 30
COMMENTS Comments Comments Check ONLY one box): Bankfull width Max=30 Same store	> 22.5 - 30 cm [30 pts]	☐ <5°c	m [5 pts] NATER OR MOIST CHANNE	[0 pts]	25
Bank FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONEY one box): > 4.0 meters (< 13) [30 pts]					
3.0 m		werage of 3-4 measurements)	(Check ONLY one b	oxi:	Bankfull ·
AVERAGE BANKFULL WIDTH (meters) This information must also be completed RiPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY R (Per Bank) R (Per Bank) Mature Forest, Wetland Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field Narrow <5m Residential, Park, New Field None COMMENTS FLOW REGIME (At Time of Evaluation) COMMENTS Moist Channel, isolated pools, no flow (Intermittent) COMMENTS SINUOSITY (Number of bends per 64 m (200 ft) of channel) Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): SINUOSITY (Number of bends per 64 m (200 ft) of channel)	> 4.0 meters (> 13) [30 pts]	2 ≥ 1.0	m - 1.5 m (> 3' 3" - 4' 8") [15 p	S	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH. FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R Wide > 1.0 Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Urban or Industrial Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) Sinuosity (Number of bends per 64 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3-0	>1.5 m = 3.0 m (> 4' 8" = 9' 7") [20 pts]	Professional Control of the Control	oli (1- <u>a meta de 22a a te</u> perden una general de cara en estado en entre en estado en entre en estado en		1
RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH RI	COMM ENTS		_AVERAGE BANKFÜLL WID	TH (meters)	
RIPARIAN WIDTH RIPARIAN WIDTH			, , , , , , , , , , , , , , , , , , ,		•
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Moderate 5-10m		L R (Most Predominant p	per Bank) <u>L</u> R		
Narrow <5m		Immoture Caract Ch	611		
None Fenced Pasture Mining or Construction	• •	Field		· ·	
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STREAM. GRADIENT ESTIMATE Flat (0.5. ft/100 ft)		☐ Modèrate:(2° fv100 ft)	☐ Moderate to Severe	Severe (10.ft/100	ft-)

QHEI PERFORMED? - Yes KNO QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
J WWH Name:	Distance from Evaluated Stream
J CVVH Name:	Distance from Evaluated Stream
J EWH Name:	Distance from Evaluated Stream
Mapping: Attach copies of Maps, including the <u>en</u>	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name:	NRCS Soil Map Page;NRCS Soil Map Stream Order
county:Towns	
MISCELLANEOUS /	RECENT HEAVY RAINS
ase Flow Conditions? (Y/N): Date of last precipitation:	
	SIM-163 -OZ SUBSTRATE
evated Turbidity? (Y/N): N Canopy (% open): 100	02 3402
/ere samples collected for water chemistry? (Y/N): (Note lab	
eld Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N) If not, p	please explain:
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data	collections optional. NOTE; all voucher samples must be labeled with the sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION If Yes, Record all observations. Voucher ID number. Include appropriate field data with Observed? (Y/N) Voucher? (Y/N) Salamanders Observed?	sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION If Yes, Record all observations. Voucher ID number. Include appropriate field data in the Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic	sheets from the Primary Headwater Habitat Assessment Manual)
BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data set observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic	sheets from the Primary Headwater Habitat Assessment Manual)
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BIOTIC EVALUATION erformed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data set observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic	sheets from the Primary Headwater Habitat Assessment Manual)
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BIOTIC EVALUATION rformed? (Y/N): (If Yes, Record all observations. Voucher ID number. Include appropriate field data so the Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Aquatic mments Regarding Biology. DRAWING AND NARRATIVE DESCRIPTION Conclude important landmarks and other features of interest for some conclusions.	sheets from the Primary Headwater Habitat Assessment Manual) served? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) OF STREAM REACH (This must be completed): site evaluation and a narrative description of the stream's location
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ChieEPA

Primary Headwater Habitat Evaluation Form AFE X HHEI Score (sum of metrics 1, 2, 3):

Z	The state of the second second second	7
	_	Į
H	70	1
H.	<i></i>	

SIŢĒ NĀMĒZLOCATION	01			
SITE NUMBER_	RIVER BASIN		DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (11)	LAT. LONG	RIVER CODE_	RÎVER MÎLE	
DATE 12-28-18 SCORER	COMMENTS			
NOTE: Complete All Items On This Fo	orm - Refer to "Field Evaluation N	Tanual for Ohio's PH	WH Streams" for Insti	uctions
STREAM CHANNEL INONE/N	ATURAL CHANNEL - 🗍 REGOVERE	D X RECOVERING	RECENT OR NO REC	9VERY
(Max of 40). Add total number of signif	very type of substrate present. Check ficant substrate types found (Max of 8).	<i>ONLY</i> <u>two</u> predominan Final metric score is sur	n of boxes A.& B.	HHEI Metric
TYPE BLDR SLABS[16:pts]		<u>u</u>		Points
☐ ☐ B@ULDER (>256 mm) [16 pts] ☐ ☐ BEDROCK [16 pt]		CK/WOODY DEBRIS [3 FRITUS [3 pts]	pts] ·	Substrate
☐ ☐ BEDROCK [16 pt] ☐ ☐ COBBLE (65-256 mm) [12 pts]	2U □□ CLAY or I	HARDPAN [0 pt]		Max = 40
☐ ☐ GRAVEL (2-64 mm) [9 pts] ☐ ☐ SAND (<2 mm) [6 pts]	20 ☐ MUCK [B	pts] Al: [3.pts]	<u>''</u>	20
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUB	STRATE TYPES: 15	AL NUMBER OF SUBS	(B) 5	A+B
2. Maximum Pool Depth (Measure the i	maximum pool depth within the 61 m	eter (200 ft) evaluation i	each at the time of	Pool Depti
	ad cúlverts or storm water pipes) (Ch ☐ >5cm=	eck ONLY one box): 10 cm [15 pts]		Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	☐ <5 cm [6			25
COMMENTS	MA			
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts]. S4 > 3.0 m = 4.0 m (> 9'.7"= 13') [25 pts]. >1.5 m = 3.0 m (> 4'.8"= 9'.7") [20 pts].	□>40m -	(Check <i>ONLY</i> one 1.5 m (> 3 3' - 4',8") [45 ≲ 3 3") [5 pts]	pts]	Bankfull Width Max=30
COMM ENTS.	AV	ERAGE BANKFÜLL WI	DTH (meters)	23
	This information must also be	completed		•
RÍ PARIAN ZONE AND FLOOD RIPARIAN WIDTH	PLAIN QUALITY ANOTE: River L	eff (L) and Right (R) as I	ooking downstream to	
L R (Per Bank)	L R (Most Predominant per B	rank) L R		•
☐ ☑ . Wide >1.0m	Mature Forest, Wetland Immature Forest, Shrub		Conservation Tillage	
	Field		Urban or Industrial	
☐ ☐ Narrow <5m	Residential, Park, New F		Open Pasture, Row Crop	
	Fenced Pasture		Mining or Construction	
☐ ☐ None. COMMENTS				
COMMENTS	uluation) (Check ONLY one box):	oist Channel, isolated po y channel, no wäter (Ep	ols, no flow (Intermittent) hemeral)	
FLOW REGIME (At Time of Eva Stream Flowing Subsurface flow with isolated poor	uluation) (Check ONLY one box):	y channel, no water (Ep		

QHEI PERFORMED? - Yes ANG	QHEI Score(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USES	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
J EWH Name;	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS,	INCLUDING THE ENTIRE WATERSHED AREA: CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
county:	Township / City:
MISCELLANEOUS	RECENT HEAVY RAIN.
Base Flow Conditions? (Y/N): Date of la	st precipitation: 12-28-18 Quantity:
Photograph Information: 519-	1650/ SW SIM-165-025UBS
Elevated Turbidity? (Y/N): Canopy	
):(Note lab sample no. or id. and attach results) Lab Number:
	Oxygen (mg/l) pḤ (S.U.) Conductivity (μmhos/cm)
the sampling reach representative of the stream	(Y/N) If not, please explain:
BIOTIC EVALUATION	
ish Observed? (Y/N) Voucher? (Y/N)	oservations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) Voucher? (Y/N) Vou
erformed? (Y/N): (If Yes, Record all ob ID number. Include: Ish Observed? (Y/N) Voucher? (Y/N) rogs or Tadpoles Observed? (Y/N) Voucher	appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
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Chief Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

SITE NUMBER_	71 71M-16	RIVER BASIN	·	RAINAGE AREA (mi²)	
SITE NUMBER,	LAT	LONG	RIVER CODE _	RIVER MILE	
DATE 12/28/18 SCORER JAH , S	MS co	DMMENTS			
NOTE: Complete All Items On This Fo	orm - Refer	to "Field Evaluation M	anual for Ohio's PH	WH Streams" for Instru	uction
STREAM CHANNEL NONE / N MODIFICATIONS:	ATURAL CHA	ANNEL RECOVERED	RECOVERING	RECENT OR NO RECO	OVERY
SUBSTRATE (Estimate percent of e (Max of 40). Add total number of signi	ficant substra	te types found (Max of 8).	ONLY <u>two</u> predominan Final metric score is sur	t substrate <i>TYPE</i> boxes n of boxes A & B. PERCENT	HH Met
TYPE BLDR SLABS [16 pts]	PERCENT	TYPE SILT [3 pi		30	Poi
☐ ☐ BOULDER (>256 mm) [16 pts] ☐ ☐ BEDROCK [16 pt]			CK/WOODY DEBRIS [3 [RITUS [3 pts]	pts]	Subs
COBBLE (65-256 mm) [12 pts]		CLAY or I	HARDPAN [0 pt]	70	Max
GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]		☐ ☐ MUCK [0	pts] AL [3 pts]		b
Located State Common C		(A)	C P-31	(B) 1	A +
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock CORE OF TWO MOST PREDOMINATE SUB		PES: TOTA	AL NUMBER OF SUBS	1 2	A+
Maximum Pool Depth (Measure the	maximum po	ool depth within the 61 m	neter (200 ft) evaluation	reach at the time of	Pool
evaluation. Avoid plunge pools from re	oad culverts o	r storm water pipes) (Ch	neck ONLY one box): 10 cm [15 pts]		Max
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		☐ <5 cm [☐ NO WA]	<mark>5 pts]</mark> FER OR MOIST CHANN	IEL [0 pts]	4.
COMMENTS PROPERTY VOLV	is		AXIMUM POOL DEPTH	3	
BANK FULL WIDTH (Measured as to > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	ne average o	f 3-4 measurements)	(Check <i>ONLY</i> one - 1.5 m (> 3' 3" - 4' 8") [1: (≤ 3' 3") [5 pts]	5 pts]	Bani Wid Max
COMMENTS		A	VERAGE BANKFULL V	VIDTH (meters)	
RIPARIAN ZONE AND FLOO		s information <u>must</u> also b ALITY &NOTE: River	e completed Left (L) and Right (R) as	s looking downstream்☆	
	FLOOD	PLAIN QUALITY			
RIPARIAN WIDTH	L R	(Most Predominant per		4	
		Mature Forest, Wetland		Conservation Tillage	
L R (Per Bank)		Mature Forest, Wetland Immature Forest, Shrub Field		Conservation Tillage Urban or Industrial	
L R (Per Bank) Wide >10m		immature Forest, Shrub	or Old	Urban or Industrial Open Pasture, Row	
L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None		immature Forest, Shrub Field	or Old	Urban or Industrial	
L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS	00	Immature Forest, Shrub Field Residential, Park, New Fenced Pasture	or Old	Urban or Industrial Open Pasture, Row Crop	-
L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None	Cvaluation) ((Immature Forest, Shrub Field Residential, Park, New Fenced Pasture Check ONLY one box):	Field	Urban or Industrial Open Pasture, Row Crop Mining or Construction	- ,
L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of E) Stream Flowing Subsurface flow with isolated p	Evaluation) ((Immature Forest, Shrub Field Residential, Park, New Fenced Pasture Check ONLY one box):	or Old	Urban or Industrial Open Pasture, Row Crop Mining or Construction	-

SIM-166

	No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED US	
	Distance from Evaluated Stream
J CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream
	APS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date	of last precipitation: 12/28/108 Quantity:
Photograph Information: SIM-144	-01,02
Elevated Turbidity? (Y/N): Ca	
	(Y/N): (Note lab sample no. or id. and attach results) Lab Number:
·	
Field Measures: Temp (°C) Disso	olved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the sl	ream (Y/N) If not, please explain:
BIOTIC EVALUATION	d all about tions. Valueber collections optional. NOTE: all valueber samples must be labeled with the sil
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Primary Headwater Habitat Evaluation Form HHEL Score (sum of metrics 1, 2, 3):

SITE NAME/LOCATION APEX A38	f Z 0001			
SITE NUMBER_S	1M-168RIVER BASIN		RAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft)	LAT. LONG.	RIVER CODE	RIVER MILE_	
DATE 1-3-19 SCORER JAF	COMMENTS			
NOTE: Complete All Items On This Form	n - Refer to "Field Evaluati	on Manual for Ohio's PH	IWH Streams" for Instr	uctions
	TURAL CHANNEL			
SUBSTRATE (Estimate percent of eve	ry type of substrate present.	Check ONLY two predominan	t substrate <i>TYPE</i> boxes	
(Max of 40). Add total number of significa	and the second s	of 8). Final metric score is sur	, .	HHEI Metric
TYPE P. P. P. P. P. P. P. P. P. P. P. P. P.	ERCENT TYPE SIL	[3 pt]	PERCENT 60	Points
BOULDER (>256 mm) [16 pts]		F PACK/WOODY DEBRIS [3		Substrate
BEDROCK [16 pt]		E DETRITUS [3 pts]	10	Max = 40
☐ ☐ COBBLE (65-256 mm) [12 pts] _ ☐ ☐ _ GRAVEL (2-64 mm) [9 pts] _		Y or HARDPAN [0 pt] CK [0 pts]		1
		TFICIAL [3 pts]		13
Total of Percentages of	(A) (A)	. 1992 - 1993-1994 - 1994 - 1906-1992 - 1906-1993 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 Indiana - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906-1994 - 1906	(B)	A+B
Bldr Slabs, Boulder, Cobble, Bedrock			14	ATD
SCORE OF TWO MOST PREDOMINATE SUBS	TRATE TYPES:	TOTAL NUMBER OF SUBS	TRATE TYPES:	
Maximum Pool Depth (Measure the ma	aximum pool depth within the	61 meter (200 ft) evaluation	reach at the time of	Pool Depth
evaluation. Avoid plunge pools from road	d culverts or storm water pipes)	(Check ONLY one box): cm = 10 cm [15 pts]		Max = 30
 > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] 		i cm [5 pts]		15
		WATER OR MOIST CHANN	EL [0 pts]	
COMMENTS				Commence of the late of the la
		MAXIMUM POOL DEPTH	(centimeters):	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts]	average of 3-4 measurements) (Check <i>ONLY</i> one .0 m - 1.5 m (> 3'.3" - 4'.8") [15	box): pts]	Bankfull Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	average of 3-4 measurements) (Check ONLY one	box): ptsl	
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	average of 3-4 measurements) (Check <i>ONLY</i> one .0 m - 1.5 m (> 3'3" - 4'.8") [15 .0 m (≤ 3' 3") [5 pts]	box): ptsl	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	average of 3-4 measurements) (Check <i>ONLY</i> one .0 m - 1.5 m (> 3'3" - 4'.8") [15 .0 m (≤ 3' 3") [5 pts]	box): ptsl	Width
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3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMM ENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank)	average of 3-4 measurements) (Check ONLY one .0 m - 1.5 m (> 3' 3" - 4' 8") [15 .0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL W Iso be completed Ever Left (L) and Right (R) as	box): ptsI IDTH (meters)	Width
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3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Narrow < 5 m	This information must a LAIN QUALITY ANOTE: F FLOODPLAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, S Field Residential, Park, J	(Check ONEY one 0 m - 1.5 m (> 3' 3" - 4' 8") [15 0 m (> 3' 3") [5 pts] AVERAGE BANKFULL W Iso be completed River Left (L) and Right (R) as t per Bank) L R tland Dhrub or Old New Field	box): ipts] IDTH (meters) looking downstream Conservation Tillage Urban or industrial Open Pasture, Row Crop	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMM ENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m	This information must a LAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, \$ Field	(Check ONLY one On -1.5 m (> 3' 3" - 4' 8") [15	box): pts] IDTH (meters) looking downstream Conservation Tillage Urban or Industrial Open Pasture, Row	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMM ENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide > 10 m Moderate 5-10 m Moderate 5-10 m Narrow < 5 m None COMMENTS	This information must a LAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, We Immature Forest, We Field Residential, Park, Fenced Pasture	(Check ONLY one On -1.5 m (> 3' 3" - 4' 8") [15	box): ipts] IDTH (meters) looking downstream Conservation Tillage Urban or industrial Open Pasture, Row Crop	Width
3. BANK FULL WIDTH (Measured as the > 4.0 meters (> 13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide > 1.0 m Moderate 5-10 m Narrow < 5 m None	This information must a LAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, We Immature Forest, We Field Residential, Park, Fenced Pasture) (Check ONLY one 0 m - 1.5 m (> 3' 3" - 4'8") [15 0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL W Iso be completed Ever Left (L) and Right (R) as t per Bank) t land □ Shrub or Old New Field	box): ipts] IDTH (meters) looking downstream Conservation Tillage Urban or industrial Open Pasture, Row Crop	Width
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BANK FULL WIDTH (Measured as the 24.0 meters (>13) [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10 m Moderate 5-10 m Narrow <5 m None COMMENTS FLOW REGIME (At Time of Evaluation Subsurface flow with isolated pools COMMENTS SINUOSITY (Number of bends per	This information must a LAIN QUALITY ANOTE: F FLOODPLAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, We Residential, Park, I Renced Pasture Vation) (Check ONLY one box) s (Interstitial)	(Check ONEY one 0.0 m - 1.5 m (> 3' 3" - 4' 8") [15 .0 m (< 3' 3") [5 pts] AVERAGE BANKFULL We liso be completed diver Left (L) and Right (R) as tiper Bank) tiper Bank) L R tiland Shrub or Old New Field Moist Channel, isolated p Dry channel, no water (E theck ONLY one box):	box): pts] IDTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction ools, no flow (Intermittent) phemeral)	Width
BANK FULL WIDTH (Measured as the 24.0 meters (>13) [30 pts] > 3.0 m - 4.0 m (>9 7"-13) [25 pts] > 1.5 m - 3.0 m (> 4 8"-9 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Subsurface flow with isolated pools COMMENTS	This information must a LAIN QUALITY ANOTE: F FLOODPLAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, We Residential, Park, I Fenced Pasture (Check ONLY one box) s (Interstitial)	(Check ONEY one 0 m - 1.5 m (> 3' 3" - 4' 8") [15 0 m (> 3' 3") [5 pts] AVERAGE BANKFULL W Iso be completed River Left (L) and Right (R) as t per Bank) L R tland Dhrub or Old Rew Field Moist Channel, isolated p Dry channel, no water (E	IDTH (meters) IOOking downstream Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	Width
BANK FULL WIDTH (Measured as the 24.0 meters (2-13) [30 pts] > 4.0 meters (2-13) [30 pts] > 3.0 m - 4.0 m (2-9' 7" - 13) [25 pts] > 1.5 m - 3.0 m (2-4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of Evaluation Stream Flowing Subsurface flow with isolated pools COMMENTS SINUOSITY (Number of bends per None)	This information must a LAIN QUALITY ANOTE: F FLOODPLAIN QUALITY L R (Most Predominan Mature Forest, We Immature Forest, We Residential, Park, Fenced Pasture uation) (Check ONLY one box s (Interstitial)	(Check ONLY one 0.0 m - 1.5 m (> 3' 3" - 4' 8") [15	box): pts1 IDTH (meters) Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction ools, no flow (Intermittent) phemeral)	Width

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in

Case No(s). 18-1607-EL-BGN

Summary: Application - Part 16 of 17 electronically filed by Christine M.T. Pirik on behalf of Firelands Wind, LLC