Case No. 22-0774-EL-BLN Part 11 of 14

APPENDIX C Ohio Rapid Assessment Method for Wetlands Data Forms



Background Information

Name: Kristen Vonderwish		
Date:		
3/9/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road Suite 12	20 North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:	W017	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Depressional	de man address north arrow landmarke distances roads etc.	
Plass refer to the	attached project location man	
	allached project location map.	
Lot/Long or LITM Coordinate		
Lat/Long of O Thi Coordinate	40.147279, -82.077013	
USGS Quad Name	Trinway, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040204	
Site Visit	3/9/2022	
National Wetland Inventory N	Map X	
Ohio Wetland Inventory Map	Х	
Soil Survey	MbC2: Markland silty clay loam, 6 to 15 percent sl	
Delineation report/map	Χ	

Name of Wetland:	
Wetland Size (acres, hectares):	0.031633 acres
Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North Image: Comparison of the surface water in the surface water i	0.031633 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 15 Category:	1

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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.



last revised 1 February 2001 jjm



15

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	0	
-	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	15	Category based on score breakpoints 1

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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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		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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

News		
Name: Kristen Vonderwish		
Date:		
3/9/2022		
Affiliation:		
GAI Consultants, Inc.		
5399 Lauby Road. Suite 1	20. North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
K.vonderwisn@galconsulta	ants.com	
Name of Wetland	W018	
Vegetation Communit(ies) PEM		
HGM Class(es):		
Depressional	de man address north arrow landmarks distances roads etc	
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	40.147626, -82.077437	
USGS Quad Name	Trinway, OH	
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Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit		
National Wetland Inventory	3/9/2022	
	3/9/2022 ^{Map} X	
Ohio Wetland Inventory Map	3/9/2022 ^{Map} X ² X	
Ohio Wetland Inventory Map Soil Survey	3/9/2022 ^{Map} X ^O X MaB: Markland silt loam, 2 to 6 percent slopes	

Name of Wetland:	
Wetland Size (acres, hectares):	0.027909 acres
Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North Image: A state of the state	0.027909 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 19 Category:	1

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.

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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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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

Narrative Rating

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#	Question	Circle one	
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	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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.



last revised 1 February 2001 jjm



19

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

	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	0		
J	Metric 2. Buffers and surrounding land use	1		
	Metric 3. Hydrology	12		
	Metric 4. Habitat	10		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	-4		
	TOTAL SCORE	19	Category based on score breakpoints 1	

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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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		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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

News		
Name: Kristen Vonderwish		
Date:		
3/10/2022		
Affiliation:		
GAI Consultants, Inc.		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
k.vonderwisn@galconsulta		
Name of wetland:	W019	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Depressional	de men address nerth erreur lendmarks distances reads at	
Place rofor to the	attached project location map	
Lat/Long or UTM Coordinate	³ 40 15119 -82 080972	
USGS Quad Name		
	Trinway, OH	
County	Muskingum	
Township	Cass Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040204	
Site Visit	3/10/2022	
National Wetland Inventory	Map X	
Ohio Wetland Inventory Map	У X	
Soil Survey	CsD: Coshocton silt loam, 15 to 25 percent slopes	
Delineation report/map	X	

Name of Wetland:	
Wetland Size (acres, hectares):	0.184051 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
North	
Image: North	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 40Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	GO IO QUESIION 98
	. ,	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	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		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.



last revised 1 February 2001 jjm



40

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
-	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	40	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nomo				
Name: Kristen Vonderwish				
Date:				
3/14/2022				
Affiliation:				
GAI Consultants, Inc.				
5399 Lauby Road, Suite 12	20. North Canton, OH 44720			
Phone Number:				
234.203.0772				
e-mail address:	ante com			
Name of Wetland:				
Vogetation Communit/ios	· //024			
PEM				
HGM Class(es):				
Depressional	de man address north arrow landmarks distances roads etc			
Please refer to the	attached project location man			
Lat/Long or UTM Coordinate				
	40.144361, -82.074308			
USGS Quad Name	Trinway, OH			
County	Muskingum			
Township	Cass Township			
Section and Subsection	Х			
Hydrologic Unit Code	050400040201			
Site Visit	3/14/2022			
National Wetland Inventory I				
Chie Walter I have been Mar				
	́ Х			
Soil Survey	GuD: Guernsey silt loam, 15 to 25 percent slopes			
Delineation report/map	X			

Name of Wetland: W024	
Wetland Size (acres, hectares):	0.045041 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	
S036 (INT)	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 32Category	/: 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.	х	
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.	x	
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.	x	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\frown
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 <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	1 wetland	
	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.	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	
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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



last revised 1 February 2001 jjm



32

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	0	
-	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	32	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Kristen Vonderwish				
Date				
3/14/2022				
Affiliation:				
GAI Consultants, Inc.				
5399 Lauby Road, Suite 120, North Canton, OH 44720				
Phone Number:				
234.203.0772				
e-mail address:				
Name of Wetland: W025				
Vegetation Communit(ies): PUB				
HGM Class(es):				
Depressional				
Dease refer to the attached project legation map				
riease telef to the attached project location map.				
Lat/Lang or LITM Coordinate				
Lat/Long or UTM Coordinate 40.172429, -82.101021				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum				
Lat/Long or UTM Coordinate40.172429, -82.101021USGS Quad NameTrinway, OHCountyMuskingumTownshipPike Township				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum Township Pike Township Section and Subsection X				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201				
Lat/Long or UTM Coordinate40.172429, -82.101021USGS Quad NameTrinway, OHCountyMuskingumTownshipPike TownshipSection and SubsectionXHydrologic Unit Code050400040201Site Visit3/14/2022				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/14/2022 National Wetland Inventory Map X				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/14/2022 National Wetland Inventory Map X Ohio Wetland Inventory Map X				
Lat/Long or UTM Coordinate 40.172429, -82.101021 USGS Quad Name Trinway, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/14/2022 National Wetland Inventory Map X Ohio Wetland Inventory Map X Soil Survey CoE: Coshocton silt loam, 25 to 35 percent slopes				

Name of Wetland:	
Wetland Size (acres, hectares):	0.166245 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Sketch: include north arrow, relationship with other surface waters, vegetation zones, etc. North	
Final score : 39Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/14/2022





39

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
-	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	39	Category based on score breakpoints Mod 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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

News		
Name: Kristen Vonderwish		
Date:		
3/14/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 12	20 North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	ints.com	
Name of Wetland:	W026	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Location of Wetland: inclu	de man address north arrow landmarks distances roads etc	
Please refer to the	attached project location man	
Lat/Long or UTM Coordinate	[°] 40.17672682.105435	
USGS Quad Name		
County		
	Muskingum	
lownship	Pike Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040201	
Site Visit	3/14/2022	
National Wetland Inventory	^{Map} X	
Ohio Wetland Inventory Map	X	
Soil Survey	GuD: Guernsey silt loam 15 to 25 percent slopes	

Name of Wetland:	
Wetland Size (acres, hectares):	0.114958 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	-
North	
Comments, Narrative Discussion, Justification of Category Changes:	
Plant and a second	
Final score : 35 Category	Contract Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.

ORAM v. 5.0 Field Form Quantitative Rating Site: Millwood-Ohio Central Rater(s): Kristen Vonderwish Date: 3/14/2022 Metric 1. Wetland Area (size). 1 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) 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. 11 12 max 14 pts. subtotal Calculate average buffer width. Select only one and assign score. Do not double check. 2a. 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. 12 24 max 30 pts. Sources of Water. Score all that apply. subtotal Connectivity. Score all that apply. За. 3b. High pH groundwater (5) 100 year floodplain (1) 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) Seasonally inundated (2) <0.4m (<15.7in) (1) Х 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 Recovering (3) tile filling/grading Recent or no recovery (1) dike road bed/RR track dredging weir stormwater input other Metric 4. Habitat Alteration and Development. 10 34 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)





35

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
-	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	35	Category based on score breakpoints Mod 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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nomo				
Kristen Vonderwish				
Date:				
3/14/2022				
Affiliation:				
GAI Consultants, Inc.				
5399 Lauby Road, Suite 12	20, North Canton, OH 44720			
Phone Number:	· · ·			
234.203.0772				
e-mail address:				
Name of wetland:	W027			
Vegetation Communit(ies): PEM				
HGM Class(es):				
Depressional	da man addraga narth arrow landmarka diatanaga roada ata			
Plassa refer to the	attached project location man			
	allached project location map.			
Lat/Long or UTM Coordinate				
	40.178207, -82.106505			
USGS Quad Name	Trinway, OH			
County	Muskingum			
Township	Pike Township			
Section and Subsection	Х			
Hydrologic Unit Code	050400040201			
Site Visit	3/14/2022			
National Wetland Inventory Map X				
Ohio Wetland Inventory Map	X			
Soil Survey	Mg: Melvin silt loam, 0 to 3 percent slopes			
Delineation report/map	X			

Name of Wetland:	
Wetland Size (acres, hectares):	0.054227 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Sketch: include north arrow, relationship with other surface waters, vegetation zones, etc. North	
Final score : 24Category:	1

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/14/2022





24

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

	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	1	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	24	Category based on score breakpoints 1

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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.
Background Information

Kristen Vonderwish		
Date:		
3/15/2022		
Affiliation:		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:	note com	
Nome of Watland		
Name of Wetland	W027	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Depressional	ide man address north arrow landmarks distances roads at	
Plassa refer to the	attached project location man	
Lat/Long or UTM Coordinate	⁹ 40 192055 - 92 11201	
Lat/Long or UTM Coordinate	° 40.183955, -82.11291	
Lat/Long or UTM Coordinate USGS Quad Name	[°] 40.183955, -82.11291 Trinway, OH	
Lat/Long or UTM Coordinate USGS Quad Name County	[°] 40.183955, -82.11291 Trinway, OH Muskingum	
Lat/Long or UTM Coordinate USGS Quad Name County Township	[°] 40.183955, -82.11291 Trinway, OH Muskingum Pike Township	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection	^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X 050400040201	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory	^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Ma	^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X ^a X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Mar Soil Survey	 ^a 40.183955, -82.11291 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X ^a X Mg: Melvin silt loam, 0 to 3 percent slopes 	

Name of Wetland:	
Wetland Size (acres, hectares):	0.140836 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	
Final score : 35 Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



Date: 3/15/2022





35

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	35	Category based on score breakpoints Mod 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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nome]
Name: Kristen Vonderwish		
Date:		
3/15/2022		
Affiliation:		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:	ants com	
Name of Wetland		
	· W029	
Vegetation Communit(ies) PEM):	
HGM Class(es):		
Depressional	ide man address north arrow landmarks distances roads etc	
Please refer to the	attached project location man	
Lat/Long or UTM Coordinate	e 10 10 1100 - 00 110010	
	40.184189, -82.113218	
USGS Quad Name	Trinway, OH	
County	Muskingum	
Township	Pike Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040201	
Site Visit		
	3/15/2022	
National Wetland Inventory	3/15/2022 ^{Map} X	
National Wetland Inventory Ohio Wetland Inventory Map	3/15/2022 ^{Map} X ^p X	
National Wetland Inventory Ohio Wetland Inventory Map Soil Survey	3/15/2022 ^{Map} X ^p X Mg: Melvin silt loam, 0 to 3 percent slopes	



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/15/2022





35

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	35	Category based on score breakpoints Mod 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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish				
Date:				
3/15/2022				
Affiliation: GAI Consultants, Inc.				
Address:				
5399 Lauby Road, Suite 1	20, North Canton, OH 44720			
234.203.0772				
e-mail address:				
k.vonderwish@gaiconsulta	ints.com			
	W030			
Vegetation Communit(ies) PEM				
HGM Class(es):				
Depressional	de man address north arrow landmarks distances roads etc			
Please refer to the	attached project location map			
Lat/Long or UTM Coordinate	40 188489 -82 118475			
Lat/Long or UTM Coordinate	40.188489, -82.118475			
Lat/Long or UTM Coordinate	² 40.188489, -82.118475 Trinway, OH			
Lat/Long or UTM Coordinate	² 40.188489, -82.118475 Trinway, OH Muskingum			
Lat/Long or UTM Coordinate USGS Quad Name County Township	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X 050400040201			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Map	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X X			
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Map Soil Survey	² 40.188489, -82.118475 Trinway, OH Muskingum Pike Township X 050400040201 3/15/2022 ^{Map} X ² X CoD: Coshocton silt loam, 15 to 25 percent slopes			

Name of Wetland: W030	
Wetland Size (acres, hectares):	0.012972 acres
<text><text></text></text>	
Final score : 37Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



37

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	0	
-	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	37	Category based on score breakpoints Mod 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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

News			
Name: Kristen Vonderwish			
Date:			
3/15/2022			
Affiliation:			
Address:			
5399 Lauby Road, Suite 12	20, North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address:	ante com		
Name of Wetland:			
	• W031		
Vegetation Communit(ies) PEM			
HGM Class(es):			
Location of Wetland: inclu	de man address north arrow, landmarks, distances, roads, etc.		
Please refer to the	attached project location map.		
Lat/Long or UTM Coordinate	³ /0 190018 -82 120356		
LISGS Quad Name	40.190010, -02.120330		
	Trinway, OH		
County	Muskingum		
Township	Pike Township		
Section and Subsection	X		
Hydrologic Unit Code	050400040201		
Site Visit	3/15/2022		
National Wetland Inventory Map X			
Ohio Wetland Inventory Map	У X		
Soil Survey	Mg: Melvin silt loam, 0 to 3 percent slopes		
Delineation report/map	Х		

Name of Wetland:	
Vetland Size (acres, hectares):	1.320229 acres
<text></text>	
Final score : 23 Category:	1

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Ouestion 95
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	GO IO QUESIION 98
	. ,	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	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.	
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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: Millwood-Ohio Central



Date: 3/15/2022







23

End of Quantitative Rating. Complete Categorization Worksheets.

		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	2	
-	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	23	Category based on score breakpoints 1

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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Namo		
Kristen Vonderwish		
Date:		
3/15/2022		
GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:	W032	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Location of Wetland: inclu	de map. address. north arrow. landmarks. distances. roads. etc.	
Please refer to the	attached project location map.	
Lot/Long or LITM Coordinate		
Lat/Long of 01M Coordinate	40.197707, -82.129852	
USGS Quad Name	Perryton, OH	
County	Muskingum	
Township	Pike Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040201	
Site Visit	3/15/2022	
National Wetland Inventory N	Map X	
Ohio Wetland Inventory Map	Х	
Soil Survey	CoD: Coshocton silt loam, 15 to 25 percent slopes	
Delineation report/map	X	

Name of Wetland:		
Wetland Size (acres	s, hectares):	0.111507 acres
Wetland Size (acres Sketch: Include nor North	s, hectares): th arrow, relationship with other surface waters, vegetation zones, etc.	0.111507 acres
Comments, Narrativ	ve Discussion, Justification 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



32

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	0	
J	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	32	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category			
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Kanne: Kristen Vonderwish			
Date:			
3/16/2022			
Affiliation: GAI Consultants, Inc.			
Address:			
5399 Lauby Road, Suite 120, North Canton, OH 44720			
234.203.0772			
e-mail address:			
k.vonderwish@gaiconsultants.com			
Name of Wetland: W033			
Vegetation Communit(ies): PEM			
HGM Class(es):			
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.			
Please refer to the attached project location map.			
Lat/Long or UTM Coordinate 40.208114, -82.139477			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/16/2022			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/16/2022 National Wetland Inventory Map X			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/16/2022 National Wetland Inventory Map X Ohio Wetland Inventory Map X			
Lat/Long or UTM Coordinate 40.208114, -82.139477 USGS Quad Name Perryton, OH County Muskingum Township Pike Township Section and Subsection X Hydrologic Unit Code 050400040201 Site Visit 3/16/2022 National Wetland Inventory Map X Ohio Wetland Inventory Map X Soil Survey CoD: Coshocton silt loam, 15 to 25 percent slopes			

Name of Wetland: W033	
Wetland Size (acres, hectares):	0.007522 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 36 Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



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

36

End of Quantitative Rating. Complete Categorization Worksheets.

		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	0	
-	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	36	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

News		
Name: Kristen Vonderwish		
Date:		
3/16/2022		
Affiliation:		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	ants.com	
Name of Wetland:	W/034	
Vegetation Communit(ies)		
PSS		
HGM Class(es): Depressional		
Location of Wetland: inclu	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	[°] 40.21223582.142602	
USGS Quad Name	Perryton, OH	
County	Muskingum	
Township		
Operations and Option and in	Pike Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040201	
Site Visit	3/16/2022	
National Wetland Inventory I	Map X	
Ohio Wetland Inventory Map) Х	
Soil Survey	CoD: Coshocton silt loam, 15 to 25 percent slopes	
Delineation report/map	X	



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.







43

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
-	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	43	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Kristen Vonderwish		
Date:		
3/17/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 1	20 North Canton OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	ants.com	
Name of Wetland	W035	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Location of Wetland: inclu	de man address north arrow landmarks distances roads etc.	
Please refer to the	attached project location map	
Lat/Long or UTM Coordinate	[°] 40.221552, -82.150213	
Lat/Long or UTM Coordinate	[°] 40.221552, -82.150213 Perryton, OH	
Lat/Long or UTM Coordinate USGS Quad Name County	² 40.221552, -82.150213 Perryton, OH Muskingum	
Lat/Long or UTM Coordinate USGS Quad Name County Township	³ 40.221552, -82.150213 Perryton, OH Muskingum Pike Township	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection	² 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	² 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X 050400040102	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	² 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X 050400040102 3/16/2022	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory	^e 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X 050400040102 3/16/2022 ^{Map} X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Mag	^a 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X 050400040102 3/16/2022 ^{Map} X ² X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Mag Soil Survey	² 40.221552, -82.150213 Perryton, OH Muskingum Pike Township X 050400040102 3/16/2022 ^{Map} X ² X CoD: Coshocton silt loam, 15 to 25 percent slopes	

Name of Wetland:	
Wetland Size (acres, hectares):	0.06777 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 35Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central Rater(s): Kristen Vonderwish Date: 3/17/2022 Metric 1. Wetland Area (size). 1 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) 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. 11 12 max 14 pts. subtotal Calculate average buffer width. Select only one and assign score. Do not double check. 2a. 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. 12 24 max 30 pts. Sources of Water. Score all that apply. subtotal Connectivity. Score all that apply. За. 3b. High pH groundwater (5) 100 year floodplain (1) Other groundwater (3) Between stream/lake and other human use (1) Precipitation (1) Part of wetland/upland (e.g. forest), complex (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dbl check. 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) 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) Х 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) tile filling/grading Recent or no recovery (1) dike road bed/RR track dredging weir stormwater input other Metric 4. Habitat Alteration and Development. 10 34 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) mowina shrub/sapling removal ~ Recovering (3) grazing herbaceous/aquatic bed removal Х

clearcutting

selective cutting

toxic pollutants

woodv debris removal

~

sedimentation

nutrient enrichment

dredging

farming



Recent or no recovery (1)

last revised 1 February 2001 jjm



35

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

	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	1		
-	Metric 2. Buffers and surrounding land use	11		
	Metric 3. Hydrology	12		
	Metric 4. Habitat	10		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	1		
	TOTAL SCORE	35	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nome					
Name: Kristen Vonderwish					
Date:					
3/17/2022					
Affiliation:					
Address:					
5399 Lauby Road, Suite 12	20, North Canton, OH 44720				
Phone Number:					
234.203.0772					
e-mail address:	nte com				
Nome of Wotland					
Name of wetland:	W036				
Vegetation Communit(ies): PEM					
HGM Class(es):					
Depressional	do man addross north arrow landmarks distances roads ato				
Plassa refer to the	attached project location man				
	anached project location map.				
Lat/Long or UTM Coordinate					
	40.222365, -82.150724				
USGS Quad Name	Perryton, OH				
County	Muskingum				
Township	Pike Township				
Section and Subsection	Х				
Hydrologic Unit Code	050400040102				
Site Visit	3/17/2022				
National Wetland Inventory Map X					
Ohio Wetland Inventory Map	Х				
Soil Survey	CoD: Coshocton silt loam, 15 to 25 percent slopes				
Delineation report/map	Х				

Name of Wetland:	
Wetland Size (acres, hectares):	0.306041 acres
Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	0.306041 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 34 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central Rater(s): Kristen Vonderwish Date: 3/17/2022 Metric 1. Wetland Area (size). 1 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) 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. 11 12 max 14 pts. subtotal Calculate average buffer width. Select only one and assign score. Do not double check. 2a. 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. 13 25 max 30 pts. Sources of Water. Score all that apply. subtotal Connectivity. Score all that apply. За. 3b. High pH groundwater (5) 100 year floodplain (1) Other groundwater (3) Between stream/lake and other human use (1) Precipitation (1) Part of wetland/upland (e.g. forest), complex (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dbl check. 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) 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) Х 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) tile filling/grading Recent or no recovery (1) dike road bed/RR track dredging weir stormwater input other Metric 4. Habitat Alteration and Development. 10 35 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.







34

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
-	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	34	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category			
Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

News		
Name: Kristen Vonderwish		
Date:		
3/17/2022		
Affiliation:		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	ants.com	
Name of Wetland:	W037	
Vegetation Communit(ies)	:	
HGM Class(es):		
Depressional		
Location of Wetland: inclu	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.0000 00.457070	
	40.2303, -82.157079	
	Perryton, OH	
County	Coshocton	
Township	Pike Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040102	
Site Visit	3/17/2022	
National Wetland Inventory I	Map X	
Ohio Wetland Inventory Map	У X	
Soil Survey	Or: Orrville silt loam, 0 to 3 percent slopes	
Delineation report/map	X	



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



36

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	36	Category based on score breakpoints Modified 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	Vetland 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish		
Date:		
3/17/2022		
Affiliation: GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number: 234 203 0772		
e-mail address:		
k.vonderwish@gaiconsulta	ants.com	
Name of Wetland	W038	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Location of Wetland: inclu	de map. address. porth arrow. landmarks. distances. roads. etc.	
Please refer to the	attached project location map	
Lat/Long or UTM Coordinate	^³ 40.230616, -82.157128	
USGS Quad Name	Perryton, OH	
County	Coshocton	
Township	Pike Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040102	
Site Visit	3/17/2022	
National Wetland Inventory	^{Map} X	
Ohio Wetland Inventory Map	У X	
Soil Survey	Or: Orrville silt loam, 0 to 3 percent slopes	
	· · ·	

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central Rater(s): Kristen Vonderwish Date: 3/17/2022 Metric 1. Wetland Area (size). 1 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) 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. 11 12 max 14 pts. subtotal Calculate average buffer width. Select only one and assign score. Do not double check. 2a. 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. 13 25 max 30 pts. Sources of Water. Score all that apply. subtotal Connectivity. Score all that apply. За. 3b. High pH groundwater (5) 100 year floodplain (1) Х Other groundwater (3) Between stream/lake and other human use (1) Precipitation (1) Part of wetland/upland (e.g. forest), complex (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dbl check. 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) 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) Х 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) tile filling/grading Recent or no recovery (1) dike road bed/RR track dredging weir stormwater input other Metric 4. Habitat Alteration and Development. 10 35 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







31

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts
		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	1	
J	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date:		
3/17/2022		
Affiliation: GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	ants.com	
Name of Wetland	W039	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Location of Wetland: inclu	ide man address north arrow landmarks distances roads etc	
Please refer to the	attached project location map	
Lat/Long or UTM Coordinate	⁹ /0 231301 -82 157581	
USGS Quad Name	40.231301, -82.137381	
	Perryton, OH	
County	Coshocton	
Township	Pike Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040102	
Site Visit	3/17/2022	
National Wetland Inventory	Map X	
Obio Wetland Inventory Mar		
Chie Welland Inventory Ma	с Х	
Soil Survey	X Or: Orrville silt loam, 0 to 3 percent slopes	

ame of Wetland:	
/etland Size (acres, hectares):	0.149401 acres
Array And Arr	0.149401 acres
omments, Narrative Discussion, Justification 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



Date: 3/17/2022





27

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
J	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	27	Category based on score breakpoints 1

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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish			
Date:			
3/17/2022			
Affiliation:			
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5399 Lauby Road, Suite 1	20, North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address: k vonderwish@gaiconsulta	ants com		
Name of Wetland	: W040		
Vegetation Communit(ies)	:		
PEM	-		
HGM Class(es):			
Location of Wetland: inclu	Ide map, address, north arrow, landmarks, distances, roads, etc.		
Please refer to the	attached project location map.		
Lat/Long or UTM Coordinate	[°] 40.232296, -82.15819		
USGS Quad Name	Perryton, OH		
County	Coshocton		
Township	Pike Township		
Section and Subsection	v v		
Hvdrologic Unit Code	A		
	050400040102		
Site Visit	3/17/2022		
National Wetland Inventory Map X			
Ohio Wetland Inventory Map	° X		
Soil Survey	GnA: Glenford silt loam, 0 to 3 percent slopes		
Delineation report/map	X		

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/17/2022





22

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
J	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	22	Category based on score breakpoints 1

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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

[
Name: Kristen Vonderwish		
Date:		
3/17/2022		
Affiliation: GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number: 234 203 0772		
e-mail address:		
k.vonderwish@gaiconsulta	ants.com	
Name of Wetland	W041	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Depressional	ide man address north arrow landmarks distances roads etc	
Please refer to the	attached project location map	
Lat/Long or UTM Coordinate	³ 40 222527 02 450754	
USGS Quad Name	40.232537, -82.158751	
	Perryton, OH	
County	Coshocton	
Township	Pike Township	
Section and Subsection	X	
Hydrologic Unit Code		
Site Visit	050400040102	
	050400040102 3/17/2022	
National Wetland Inventory	050400040102 3/17/2022 ^{Map} X	
National Wetland Inventory Ohio Wetland Inventory Ma	050400040102 3/17/2022 ^{Map} X ^D X	
National Wetland Inventory Ohio Wetland Inventory Map Soil Survey	050400040102 3/17/2022 ^{Map} X ^D X GnA: Glenford silt loam, 0 to 3 percent slopes	

Wetland Size (acres, hectares): 0.25005 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North Image: Control of the surface waters is the surface water is the sur	Name of Wetland: V041	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	Vetland Size (acres, hectares):	0.225005 acres
	Watand Size (acres, hectares): ketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Image: Acres and the surface waters and the surface wa	0.225005 acres
	Final score :	ory: 4

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/17/2022





22

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
J	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	22	Category based on score breakpoints 1

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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Wetland Size (acres, hectares): 0.187227 acr Sketch: include north arrow, relationship with other surface waters, vegetation zones, etc. North Image: Comparison of the surface waters	me of Wetland:	
Sterch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface waters, vegetation zones, etc. Image: Arrow of the surface w	tland Size (acres, hectares):).187227 acres
	ments, Narrative Discussion, Justification 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.	х	
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.	x	
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.	x	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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 Obio, 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	
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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\frown
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 <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	1 wetland	
	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.	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	
<u>7</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	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 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:	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 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	
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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/21/2022





31

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category					
Choose one	Category 1	(Category 2)	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:		
Kristen vonderwish		
Date:		
3/21/2022		
Affiliation:		
GAI Consultants, Inc.		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:		
k.vonderwisn@galconsula		
Name of wetland	W043	
Vegetation Communit(ies) PEM	:	
HGM Class(es):		
Depressional	ide man address porth arrow landmarks distances reads at	
Place refer to the	attached project location man	
Lat/Long.or.LITM.Coordinat		
Lat/Long or UTM Coordinate	[°] 40.246997, -82.170898	
Lat/Long or UTM Coordinate	[°] 40.246997, -82.170898 Perryton, OH	
Lat/Long or UTM Coordinate USGS Quad Name County	² 40.246997, -82.170898 Perryton, OH Coshocton	
Lat/Long or UTM Coordinate USGS Quad Name County Township	² 40.246997, -82.170898 Perryton, OH Coshocton Perry Township	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection	^a 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	² 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X 050400040102	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	² 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X 050400040102 3/21/2022	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory	^a 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{Map} X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Mag	^a 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{Map} X X	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Ohio Wetland Inventory Ma Soil Survey	^a 40.246997, -82.170898 Perryton, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{Map} X X WhD: Westmoreland silt loam, 15 to 25 percent sl	

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



Date: 3/21/2022





42

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	42	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish		
Date:		
3/21/2022		
Affiliation:		
GAI Consultants, Inc.		
Address: 5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address: k.vonderwish@gaiconsulta	ants.com	
Name of Wetland	W044	
Vegetation Communit(ies)	:	
HGM Class(es):		
Depressional		
Location of Wetland: inclu	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	[°] 40.248605, -82.172124	
USGS Quad Name	Dresden, OH	
County	Coshocton	
Township	Perry Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040102	
Site Visit	3/21/2022	
National Wetland Inventory	^{Map} X	
Ohio Wetland Inventory Map	» Х	
Soil Survey	Or: Orrville silt loam, 0 to 3 percent slopes	
Delineation report/map	Х	

lame of Wetland: /044	
Vetland Size (acres, hectares):	0.499391 acres
Final score : 31 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/21/2022





31

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete 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 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 greater 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 <i>"gray zone"</i> 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:				
Kristen Vonderwish				
Date:				
3/21/2022				
Affiliation:				
GAI Consultants, Inc.				
Address: 5399 Lauby Road, Suite 120). North Canton, OH 44720			
Phone Number:				
234.203.0772				
e-mail address:				
k.vonderwish@gaiconsultan	its.com			
Name of Wetland:	W045			
Vegetation Communit(ies): PEM				
HGM Class(es):				
Depressional	o man addross north arrow landmarks distances roads etc.			
Plage refer to the a	e map, address, norm arrow, randmarks, distances, roads, etc.			
	inderied project location map.			
Lat/Long or UTM Coordinate				
	40 252563 -82 175605			
USGS Quad Name	40.252563, -82.175605			
USGS Quad Name	40.252563, -82.175605 Walhonding, OH			
USGS Quad Name County	40.252563, -82.175605 Walhonding, OH Coshocton			
USGS Quad Name County Township	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township			
USGS Quad Name County Township Section and Subsection	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X			
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X 050400040102			
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X 050400040102 3/21/2022			
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory M	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{ap} X			
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory M Ohio Wetland Inventory Map	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{ap} X X			
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory M Ohio Wetland Inventory Map Soil Survey	40.252563, -82.175605 Walhonding, OH Coshocton Perry Township X 050400040102 3/21/2022 ^{ap} X X CoD: Coshocton silt loam, 15 to 25 percent slopes			

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/21/2022





34

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

	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	1	
	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	34	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category						
Choose one	Category 1	(Category 2)	Category 3			

End of Ohio Rapid Assessment Method for Wetlands.
Background Information

Name: Kristen Vonderwish		
Date:		
3/21/2022		
Affiliation:		
GAI Consultants, Inc.		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:	nte com	
Name of Wetland:		
	W046	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Location of Wetland: inclu	de man address north arrow landmarks distances roads etc	
Please refer to the	attached project location man	
Lat/Long or UTM Coordinate		
	40.253568, -82.176285	
USGS Quad Name	Walhonding, OH	
County	Coshocton	
Township	Perry Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040102	
Site Visit	3/21/2022	
National Wetland Inventory N	Map X	
Ohio Wetland Inventory Map	Χ	
Soil Survey	CoD: Coshocton silt loam, 15 to 25 percent slopes	
Delineation report/map	Х	

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



last revised 1 February 2001 jjm



30

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	0	
-	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	30	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nome		
Kristen Vonderwish		
Date:		
3/22/2022		
Affiliation:		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:	nte com	
Nome of Watland		
Name of wetland:	W047	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Depressional	de man address north arrow landmarks distances reads at	
Place refer to the	attached project location man	
Lat/Long or LITM Coordinate		
Laveong of 0 nm coordinate	40.2707, -82.191227	
USGS Quad Name	Walhonding, OH	
County	Coshocton	
Township	Perry Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040102	
Site Visit	3/22/2022	
National Wetland Inventory N	^{Aap} X	
Ohio Wetland Inventory Map	Х	
Soil Survey	WhD: Westmoreland silt loam, 15 to 25 percent sl	
Delineation report/map	Х	

Name of Wetland: W047	
Wetland Size (acres, hectares):	0.044414 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	1
Index index index in the one of the index is the water, regulation zones, etc. Index index index index index is the water, regulation zones, etc.	
Final score : 38Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



38

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

	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	0		
-	Metric 2. Buffers and surrounding land use	13		
	Metric 3. Hydrology	12		
	Metric 4. Habitat	10		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	3		
	TOTAL SCORE	38	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

News		
Name: Kristen Vonderwish		
Date:		
3/22/2022		
GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:	W048	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Location of Wetland: inclue	de map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40 274687 -82 194623	
USGS Quad Name		
County	wainonding, OH	
County	Knox	
Township	Jackson Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040102	
Site Visit	3/22/2022	
National Wetland Inventory N	Map X	
Ohio Wetland Inventory Map	X	
Soil Survey	CxD: Coshocton-Rigley complex 15 to 25 percent	



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.







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

36

End of Quantitative Rating. Complete Categorization Worksheets.

		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	1	
	Metric 2. Buffers and surrounding land use	10	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	36	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish			
Date:			
3/22/2022			
Affiliation:			
GAI Consultants, Inc.			
5399 Lauby Road, Suite 12	20, North Canton, OH 44720		
Phone Number:	-, -, -,		
234.203.0772			
e-mail address:	ants com		
Name of Wetland			
Vegetation Communit(ico)	- 00049		
PEM	•		
HGM Class(es):			
Depressional	de man address north arrow landmarks distances reads at		
Plass rafar to the	attached project location map		
Lat/Long or UTM Coordinate	[°] 40.277193, -82.196945		
USGS Quad Name	Walhonding, OH		
County	Knox		
Township			
Castian and Cubacation	Jackson Township		
Section and Subsection	Х		
Hydrologic Unit Code	050400040102		
Site Visit	3/22/2022		
National Wetland Inventory Map			
Ohio Wetland Inventory Map	У X		
Soil Survey	WmD: Westmoreland silt loam 15 to 25 percent s		
Delineation report/map	v		
	Λ		

Name of Wetland: W049		
Wetland Size (acres, hectares):		0.035314 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation z North	ones, etc.	0.000014 acres
Final score : 34	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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Ouestion 95
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	GO IO QUESIION 98
	. ,	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	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.	
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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: Millwood-Ohio Central



last revised 1 February 2001 jjm



34

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	0	
J	Metric 2. Buffers and surrounding land use	13	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	34	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish		
Date:		
3/22/2022		
GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 1	20, North Canton, OH 44720	
234.203.0772		
e-mail address:		
Name of Wetland		
	• W050	
PEM).	
HGM Class(es):		
Depressional	Ide man address north arrow landmarks distances roads etc	
Please refer to the	attached project location map	
Lat/Long or UTM Coordinate	e 40 283006 -82 203036	
USGS Quad Name		
Country	vvalnonding, OH	
County	Knox	
Township	Jackson Township	
Section and Subsection	X	
Hydrologic Unit Code	050400040101	
Site Visit	3/22/2022	
National Wetland Inventory		
	X	
Onio vvetland Inventory Ma	^p X	
Soil Survey	TvC: Titusville silt loam, 6 to 12 percent slopes	
Delineation report/map	Х	

Name of Wetland:	
Wetland Size (acres, hectares):	0 123321 20105
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	0.123521 acres
North	
NORTH	
Occurrents Newsting Discussion, headification of Octoberry Observes	
Final score : 36 Category	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/22/2022





36

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	1	
-	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	36	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish			
Date:			
3/22/2022			
Affiliation:			
GAI Consultants, Inc.			
5399 Lauby Road, Suite 12	20, North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address:			
Name of wetland:	W051		
Vegetation Communit(ies) PEM			
HGM Class(es):			
Location of Wetland: inclu	de man address north arrow landmarks distances roads etc		
Please refer to the	attached project location map		
Lat/Long or UTM Coordinate	40.004005 00.0005		
	40.284365, -82.20325		
USGS Quad Name	Walhonding, OH		
County	Knox		
Township	Jackson Township		
Section and Subsection	X		
Hydrologic Unit Code	050400040101		
Site Visit	3/22/2022		
National Wetland Inventory Map X			
Ohio Wetland Inventory Map	У X		
Soil Survey	Or: Orrville silt loam, 0 to 3 percent slopes		
Delineation report/map	X		

Name of Wetland:		
Wetland Size (acres, hectares):		0.227976 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
North		
SOBS (INT) WOSO-PEM-CATWOD2 WOS1-PEM-CATU SOB4 (INT)		
Commente Newsting Discussion Institionation of Ostanow Observes		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score : 27 Catego	ory:	1

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/22/2022





27

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
J	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	27	Category based on score breakpoints 1

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 <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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish				
Date:				
3/23/2022				
Affiliation: GAI Consultants, Inc.				
Address:				
5399 Lauby Road, Suite 12	20, North Canton, OH 44720			
234.203.0772				
e-mail address:				
Name of Wetland				
	- W052			
Vegetation Communit(ies) PEM	:			
HGM Class(es):				
Location of Wetland: inclu	de map. address. north arrow. landmarks. distances. roads. etc.			
Please refer to the	attached project location map.			
Lat/Long or UTM Coordinate	[°] 40.28859, -82.207352			
USGS Quad Name	Walhonding, OH			
County	Knox			
Township	Jackson Townshin			
Section and Subsection				
	X			
Hydrologic Unit Code	050400040101			
Site Visit	3/23/2022			
National Wetland Inventory	Map X			
Ohio Wetland Inventory Map	X			
Soil Survey	GrB: Gresham silt loam, 2 to 6 percent slopes			
Delineation report/map	Х			

Name of Wetland:	
Wetland Size (acres, hectares):	0.031841 acres
Status of the party include y. Status of the party include y	U.031841 acres
Final score : 32Category:	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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

32

		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	0	
J	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	32	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish			
Date:			
3/23/2022			
Affiliation: GAI Consultants, Inc.			
Address:	20 North Conton OLI 11720		
Phone Number:			
234.203.0772			
e-mail address: k.vonderwish@gaiconsulta	ants.com		
Name of Wetland	W053		
Vegetation Communit(ies)	: :		
HGM Class(es):			
Depressional	ide man address north arrow landmarks distances roads at		
Location of wetland: include map, address, north arrow, landmarks, distances, roads, etc.			
	allaonea project location map.		
Lat/Long or UTM Coordinate	[°] ∕0 20253 -82 210262		
USGS Quad Name	40.29233, -02.210202		
County	wainonding, OH		
	Knox		
Township	Jackson Township		
Section and Subsection	X		
Hydrologic Unit Code	050400040101		
Site Visit	3/23/2022		
National Wetland Inventory Map X			
Ohio Wetland Inventory Map	° X		
Soil Survey	TvC: Titusville silt loam, 6 to 12 percent slopes		
Delineation report/map	X		
L			

Name of Wetland:	
Netland Size (acres, hectares):	0.057482 acres
Stech: Include north arrow, relationship with other surface waters, vegetation zones, etc. North Image: Constraint of the step in the step i	0.05/482 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 29 Category:	1
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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.



last revised 1 February 2001 jjm



29

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

	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	0	
J	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	29	Category based on score breakpoints 1

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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish			
Date:			
3/23/2022			
Affiliation:			
GAI Consultants, Inc.			
Address: 5399 Lauby Road. Suite 12	20. North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address:			
k.vonderwisn@gaiconsuita	nts.com		
Name of Wetland:	W054		
Vegetation Communit(ies): PEM			
HGM Class(es):			
Location of Wetland: inclu	de map, address, north arrow, landmarks, distances, roads, etc.		
Please refer to the	attached project location map.		
	40.293016, -82.210587		
USGS Quad Name	Walhonding, OH		
County	Knox		
Township	Jackson Township		
Section and Subsection	Х		
Hydrologic Unit Code	050400040101		
Site Visit	3/23/2022		
National Wetland Inventory Map X			
Ohio Wetland Inventory Map	X		
Soil Survey	TvB: Titusville silt loam, 2 to 6 percent slopes		
Delineation report/map	Х		

Name of Wetland: W054	
Wetland Size (acres, hectares):	0.165154 acres
Return use (acres, nectares): Stetch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	0.165154 acres
Comments, warranve Discussion, Justinication of Category Changes:	
Final score : 30Category	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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central



Date: 3/23/2022





30

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

	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	1	
-	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	30	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category					
Choose one	Category 1	(Category 2)	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Mana		
Name: Kristen Vonderwish		
Date:		
3/24/2022		
Affiliation: GAI Consultants, Inc.		
Address:		
5399 Lauby Road, Suite 12	20, North Canton, OH 44720	
Phone Number: 234.203.0772		
e-mail address:		
k.vonderwish@gaiconsulta	nts.com	
Name of Wetland:	W055	
Vegetation Communit(ies): PEM		
HGM Class(es):		
Location of Wetland: inclu	de map. address. north arrow. landmarks. distances. roads. etc.	
Please refer to the	attached project location map.	
Lat/Long or UTM Coordinate	40.297554, -82.213816	
USGS Quad Name	Walhonding, OH	
County	Knox	
Township	Jackson Township	
Section and Subsection	Х	
Hydrologic Unit Code	050400040101	
Site Visit	3/24/2022	
National Wetland Inventory	Map X	
Ohio Wetland Inventory Map	У X	
Soil Survey	FcB: Fitchville silt loam, 2 to 6 percent slopes	
Delineation report/map	X	



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



37

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	0	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	37	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish				
Date:				
3/24/2022				
Affiliation: GAI Consultants, Inc.				
Address:				
5399 Lauby Road, Suite 12	20, North Canton, OH 44720			
234.203.0772				
e-mail address:				
k.vonderwish@gaiconsulta	ints.com			
Name of Wetland:	W056			
Vegetation Communit(ies)				
HGM Class(es):				
Location of Wetland: inclu	de map. address. north arrow. landmarks. distances. roads. etc.			
Please refer to the	attached project location map.			
Lat/Long or UTM Coordinate	40.304557, -82.218731			
USGS Quad Name	Walhonding, OH			
County	Knox			
Township	Jackson Township			
Section and Subsection	Х			
Hydrologic Unit Code	050400040101			
Site Visit	3/24/2022			
National Wetland Inventory Map X				
	^{Map} X			
Ohio Wetland Inventory Map	Map X Y X			
Ohio Wetland Inventory Map Soil Survey	 Map X X TvB: Titusville silt loam, 2 to 6 percent slopes 			

Name of Wetland:	
Wetland Size (acres, hectares):	0.635269 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	
Final score : 33Category:	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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Rater(s): Kristen Vonderwish

Date: 3/24/2022

last revised 1 February 2001 jjm



33

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality
		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	1	
-	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	33	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish		
Date:		
3/24/2022		
Affiliation:		
Address		
5399 Lauby Road. Suite 12	20. North Canton, OH 44720	
Phone Number:		
234.203.0772		
e-mail address:	ints com	
Name of Wetland:		
Vegetation Communit(ies)		
PEM		
HGM Class(es):		
Depressional	de man address worth smarr barderales d'atanana and a sta	
Discation of wetland: Inclu	de map, address, north arrow, landmarks, distances, roads, etc.	
Lat/Long or UTM Coordinate		
USGS Quad Name	40.306848, -82.220476	
	² 40.306848, -82.220476 Walbonding, OH	
County	² 40.306848, -82.220476 Walhonding, OH	
County	² 40.306848, -82.220476 Walhonding, OH Knox	
County Township	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township	
County Township Section and Subsection	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X	
County Township Section and Subsection Hydrologic Unit Code	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101	
County Township Section and Subsection Hydrologic Unit Code Site Visit	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101 3/24/2022	
County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory I	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101 3/24/2022 ^{Map} x	
County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory I Ohio Wetland Inventory Mag	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101 3/24/2022 ^{Map} X	
County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory I Ohio Wetland Inventory Map	² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101 3/24/2022 ^{Map} X X	
County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory I Ohio Wetland Inventory Map Soil Survey	 ² 40.306848, -82.220476 Walhonding, OH Knox Jackson Township X 050400040101 3/24/2022 ^{Map} X X RgD: Rigley sandy loam, 12 to 18 percent slopes 	

Name of Wetland: W057	
Wetland Size (acres, hectares):	0.042767 acres
Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North Votorth Votor:PEM:CATMOD2	0.042767 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 38Category:	Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



last revised 1 February 2001 jjm



38

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	0	
-	Metric 2. Buffers and surrounding land use	13	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	38	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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

Nome				
Name: Kristen Vonderwish				
Date:				
3/25/2022				
Affiliation:				
GAI Consultants, Inc.				
5399 Lauby Road. Suite 1	20. North Canton, OH 44720			
Phone Number:				
234.203.0772				
e-mail address:				
k.vonderwisn@galconsulta	ants.com			
Name of wetland	W058			
Vegetation Communit(ies) PSS	:			
HGM Class(es):				
Depressional	de men address nerth erreur lendmerke distances reads at			
Place refer to the	attached project location man			
Lat/Long or UTM Coordinate	3 40 044047 00 00404			
	40.311947, -82.22421			
USGS Quad Name	Walhonding, OH			
County	Knox			
Township	Butler Township			
Section and Subsection	X			
Hydrologic Unit Code	050400040101			
Site Visit	3/25/2022			
National Wetland Inventory Map X				
Ohio Wetland Inventory Map	У X			
Soil Survey	Se: Sebring silt loam			
Delineation report/map	Х			

Name of Wetland:	
Wetland Size (acres, hectares):	0.721263 acres
	0.721263 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 42Category	C Modified 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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.



last revised 1 February 2001 jjm



42

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	2	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	42	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category				
Choose one	Category 1	(Category 2)	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish			
Date:			
3/25/2022			
Affiliation:			
GAI Consultants, Inc.			
5399 Lauby Road, Suite 12	20, North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address: k vonderwish@gaiconsulta	ants com		
Name of Wetland	W/059		
Vegetation Communit(ies)	:		
PEM			
HGM Class(es):			
Location of Wetland: inclu	de map, address, north arrow, landmarks, distances, roads, etc.		
Please refer to the	attached project location map.		
Lat/Long or UTM Coordinate	³ 40 312602 -82 224697		
USGS Quad Name			
Coupty	Walnonding, OH		
County	Knox		
Township	Butler Township		
Section and Subsection	X		
Hydrologic Unit Code	050400040101		
Site Visit	3/25/2022		
National Wetland Inventory Map			
Ohio Wetland Inventory Mar			
Soil Survey	X		
	Or: Orrville silt loam, 0 to 3 percent slopes		
Delineation report/map	Х		

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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.



last revised 1 February 2001 jjm



30

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

		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	0	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	30	Category based on score breakpoints 2

Complete 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 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 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

Final Category						
Choose one	Category 1	(Category 2)	Category 3			

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Kristen Vonderwish				
Date:				
3/25/2022				
Affiliation: GAI Consultants, Inc.				
Address:				
5399 Lauby Road, Suite 1	20, North Canton, OH 44720			
234.203.0772				
e-mail address:				
k.vonderwish@gaiconsulta	ants.com			
Name of Wetland	W060			
Vegetation Communit(ies) PSS	:			
HGM Class(es):				
Location of Wetland: inclu	ide map, address, north arrow, landmarks, distances, roads, etc.			
Please refer to the	attached project location map.			
Lot/Long or LITM Coordinate				
	[°] 40.31391, -82.225577			
USGS Quad Name	Walhonding, OH			
County	Knox			
Township	Butler Township			
Section and Subsection	X			
Hydrologic Unit Code	050400040101			
Site Visit	3/25/2022			
National Wetland Inventory Map X				
Ohio Wetland Inventory Map				
	X			
Soil Survey	 X Or: Orrville silt loam, 0 to 3 percent slopes 			



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.	х	
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.	x	
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.	x	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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 Obio, 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	
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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\frown
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 <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	1 wetland	
	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.	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	
<u>7</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	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 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:	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 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	
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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.	
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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: Millwood-Ohio Central







40

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

	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	2		
-	Metric 2. Buffers and surrounding land use	7		
	Metric 3. Hydrology	18		
	Metric 4. Habitat	11		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	2		
	TOTAL SCORE	40	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish			
Date:			
3/25/2022			
Affiliation:			
GAI Consultants, Inc.			
5399 Lauby Road. Suite 1	20. North Canton, OH 44720		
Phone Number:			
234.203.0772			
e-mail address:	anto com		
Name of Wetland			
Venetation Communit(ice)	• 00061		
PEM			
HGM Class(es):			
Depressional	ude man address parth arrow landmarks distances reads at		
Ploase refer to the	attached project location man		
	allached project location map.		
Lat/Long or UTM Coordinate	[°] 40.318042, -82.22835		
USGS Quad Name	Walhonding, OH		
County	Knox		
Township	Butler Township		
Section and Subsection			
	X		
Hydrologic Unit Code	050400040101		
Site Visit	3/25/2022		
National Wetland Inventory Map			
Ohio Wetland Inventory Map X			
Soil Survey	HwC: Homewood silt loam, 6 to 12 percent slopes		
Delineation report/map	X		
1	л Л		

Name of Wetland:	
Wetland Size (acres, hectares):	0.082866 acres
Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. North	0.082866 acres
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 32 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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	forest characterized by, but not limited to, the following characteristics:	YES	
	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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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.



last revised 1 February 2001 jjm



32

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	2	
J	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	32	Category based on score breakpoints 2

Complete 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 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? 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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: Kristen Vonderwish					
Date:					
3/30/2022					
Affiliation:					
GAI Consultants, Inc.					
5399 Lauby Road. Suite 1	20. North Canton, OH 44720				
Phone Number:					
234.203.0772					
e-mail address:	ante com				
Name of Wetland					
Venetation Communit(ice)	• W062				
PEM).				
HGM Class(es):					
Depressional	ude man address north arrow landmarks distances reads at				
Plassa refer to the	attached project location man				
	anached project location map.				
Lat/Long or UTM Coordinate	^e 40.325299, -82.233705				
USGS Quad Name	Walhonding, OH				
County	Knox				
Township	Butler Township				
Section and Subsection					
	X				
Hydrologic Unit Code	050400040101				
Site Visit	3/30/2022				
National Wetland Inventory Map					
Ohio Wetland Inventory Ma	^p X				
Soil Survey	LvD: Loudonville silt loam, 12 to 18 percent slopes				
Delineation report/map	X				
	••				



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.	х	
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.	x	
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.	X	
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.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
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.		х

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), <u>http://www.dnr.state.oh.us/dnap</u>. 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	YES Wetland should be	NO 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	
	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 an 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 guality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	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 bydrologically 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 2) an acidic pond created or excavated on mined lands that has little or	1 wetland	
	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,	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	
<u>7</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	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 8a
		Go to Question 8a	
8a	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 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	

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	Watland should be	Co to Question 95
	diameters greater than 45cm (17.7in) dbh?	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		
0	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is	1ES	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	
		Calegory 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	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	Does the wetland have a predominance of native species within its	YES	NO
•••	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	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 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.	
	several inches of the surface, and often with a dominance of the	On the Owner line 11	
	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	dominated by some or all of the species in Table 1. Extensive prairies	YES	
	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
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami	Calegory 3 status	Raung
	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 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: Millwood-Ohio Central



Date: 3/30/2022





36

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

		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	1	
-	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	36	Category based on score breakpoints Mod 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		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 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 fall within the scoring range of a Category 1, 2, or 3 wetland?	VES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> 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 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.

APPENDIX D Primary Headwater Habitat Evaluation Data Forms



Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	21
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S024 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 197.00 LAT 40.161011 LONG -82.090374 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-024 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BUDDER (>256 mm) [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B COBBLE (65-256 mm) [12 pts] 15 Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B COBBLE (65-256 mm) [12 pts] 15 Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B FINE DETRITUS [3 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B GRAVEL (2-64 mm) [9 pts] 20 Image: Significant substrate types found (R) SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 16 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 0 Bankfull Width Max=30 5
This information mustalso 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) L R L Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	rop 1 — ent)
None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE □ Flat (0.5 %/100 %) □ Flat to Moderate Moderate (2 %/100 %) □ Moderate to Severe □ Severe (10 %)	100 ft)

May 2020 Revision

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
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

SITE NAMELOCATION Wakatomika-West Trinway SITE NUMBER SO25 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mF) <1 LENGTH OF STREAM REACH (II) 385.00 LAT 40.15873 LONG -82.088437 RIVER MLE	Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	62
1. SUBSTRATE (Estimate percent of every type present). Check ONLY Ywo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 3). Final metric score is sum of boxes A & B HHEI YPE BLOR SLABS (16 pts) PERCENT YPE PERCENT Substrate Max = 40 YPE BLOR SLABS (16 pts) 15 CLAY or HARDPAN (10 pt) 10 Substrate Max = 40 YERCENT GRAVEL (2.24 mm) (5 pts) 15 CLAY or HARDPAN (10 pt) 17 A + B Scoree OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5 Poil Depth * Bur Slabs, Boulder, Cobble, Bedrock 15 (A) 12 S cm (16 pts) 25 Poil Depth * Or Law Continueter S(20 pts) 5 S cm (16 pts) 5 S cm (16 pts) 25 25 * 22 - 30 on (30 pts) S cm (16 pts) S cm (16 pts) 25 25 26 26 26 26 26 26 26 26 26 26 27 27 <td< td=""><td>SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S025 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 385.00 LAT 40.15873 LONG -82.088437 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-025 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR</td><td><1 tructions</td></td<>	SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S025 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 385.00 LAT 40.15873 LONG -82.088437 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-025 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 25 > 22.5 - 30 cm [30 pts] \$ 5 cm - 10 cm [15 pts] 25 > 22.5 - 30 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 25 COMMENTS MAXIMUM POOL DEPTH (centimeters): 15 3. BANK FULL WIDTH (Measuredas 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] 20 20 COMMENTS AVERAGE BANKFULL WIDTH (meters) 7' 20 COMMENTS AVERAGE BANKFULL WIDTH (meters) 7' 20 COMMENTS FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream* RIPARIAN WIDTH L R L R (Per Bank) L R L R Urban or industrial Moderate 5-10m Mature Forest, Shrub or Old Field Urban or industrial O	1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Sill of Percent substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Sill of Percent substrate types found (Max of 8). Final metric score is sum of boxes A & B COBBLE (65-256 mm) [12 pts] 15 Image: Sill of Percent substrate types found (Max of 8). Final metric score is sum of boxes A & B MUCK [0 pts] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 17 A + B
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) L R (Per Bank) L R L R V Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 15 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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)	Pool Depth Max = 30 25 Bankfull Width Max=30 20
Stream Flowing Moist Channel, isolated pools, no flow (intermittent) 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): None 1.0 2.0 3.0 0.5 1.5 2.5 3 STREAM GRADIENT ESTIMATE Nedeeste per service Nedeeste per service Service	This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R (Per Bank) L R L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Urban or Industrial Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Open Pasture, Row C Narrow <5m Residential, Park, New Field Open Pasture, Row C Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (intermitting Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS 1.0 2.0 3.0 <	rop 1 ent)

May 2020 Revision

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Eross or Tadpoles Observed (//N) N Species observed (if known):
riogs of Taupoles Observed? (T/N) N Species observed (If known).
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
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





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	41
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S026 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 57.00 LAT 40.158905 LONG -82.088228 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-026 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instance STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 10 10 BULDER (>256 mm) [16 pts] 15 16 10 COBBLE (65-256 mm) [12 pts] 15 15 16 10 COBBLE (65-256 mm) [19 pts] 20 MUCK [0 pts] 10 10 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 21 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	Pool Depth Max = 30 5 Bankfull Width Max=30 15
COMMENTS AVERAGE BANKFULL WIDTH (meters) 4	
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) L R Pre Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	rop n — ent)
Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	/100 ft)

May 2020 Revision

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <.025"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): N Canopy (% open): 50
Were samples collected for water chemistry?(Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N). N Species observed (if known):
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





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	55
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S027 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 176.00 LAT 40.158337 LONG -82.087891 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-027 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for In STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT O	<1 estructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] 15 BOULDER (>256 mm) [16 pts] SILT [3 pt] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] 10 COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] MAXIMUM POOL DEPTH (centimeters): 10 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (≤ 3' 3")[5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] AVERAGE BANKEULL WIDTH (meters)	Pool Depth Max = 30 15 Bankfull Width Max=30 20
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstread RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	n* Crop ion ittent)
Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	≜/100 ≜)

May 2020 Revision

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek 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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
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

SITE NAME/LOCATION Wakatomika-West Trinway
SITE NUMBER S028 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi ²) <1
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 30 BLDR SLABS [16 pts] Image: Complex of the start o
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 0 > 22.5 - 30 cm [30 pts] 5 cm [5pts] 0 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 0 COMMENTS MAXIMUM POOL DEPTH (centimeters): 0 0 3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONL Y one box): 0 > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Bankfull > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]
This information mustalso 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) L R R Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m

May 2020 Revision
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile	
CWH Name: Distance from Evaluated Stream	
EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:	
County: Muskingum Township/City: CASS TWP	
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"	
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>	
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
Is the sampling reach representative of the stream (Y/N) Y f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):	
Comments Regarding Biology:	





SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S029 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 195.00 LAT 40.155217 LONG -82.084878 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-029 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY 1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32) Add total number of significant substrate types found (Max of 8) Final metric score is sum of boxes A & B HHEI
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32) Add total number of significant substrate types found (Max of 8). Final metric, score is sum of boxes A & B
TYPE PERCENT TYPE PERCENT Metric BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] Substrate Max = 40 Image: Comparison of Biddrown [6 pts] 30 ARTIFICIAL [3 pts] BEDROCK [16 pts] BEDROCK [16 pts] BEDROCK [15 pts] BEDROCK [15 pts] BEDROCK [16 pts] SUBSTRATE [15 pts] CLAY or HARDPAN [0 pt] BEDROCK [16 pts] SUBSTRATE [15 pts] 20 BEDROCK [16 pts] BEDROCK [16 pts] BEDROCK [16 pts] BEDROCK [16 pts] EARTIFICIAL [3 pts] BEDROCK [16 pts] EARTIFICIAL [15 pts] EARTIFICIAL
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 3. So centimeters (> 13°) [30 pts] So tentimeters (> 13°) [30 pts] So tentimeters (> 13°) [30 pts] 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): So tentimeters): So tentimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): Bankfull Width Max=30 So tentimeters (> 13°) [30 pts] So tentimeters): So tentimeters): So tentimeters (> 13°) [30 pts] So tentimeters (> 13°) [25 pts] So tentimeters): So tentimeters): So tentimeters (> 13°) [30 pts] So tentimeters (> 3° 3°) [5 pts] So tentimeters): So tentimeters): So tentimeters (> 13°) [20 pts] So tentimeters (> 3° 3°) [5 pts] So tentimeters): So tentimeters): So tentimeters): So tentimeters (> 13°) [30 pts] So tentimeters (> 3° 3°) [5 pts] So tentimeters): So tentimeters): So tentimeters): So tentimeters): So tentimeters): So tentimeters (> 13°) [30 pts] So tentimeters (> 3° 3°) [5 pts] So tentimeters): So tentimeters): So tentimeters):<
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Noderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):		
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)		
DOWNSTREAM DESIGNATED USE(S)		
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile		
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:		
County: Muskingum Township/City: CASS TWP		
MISCELLANEOUS		
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"		
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>		
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):		
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)		
Is the sampling reach representative of the stream (Y/N) Y f not, explain:		
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N) N Species observed (if known):		
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):		
Salamanders Observed? (Y/N) N Species observed (if known):		
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):		
Comments Regarding Biology:		





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 22	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S030 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²) <1	= - - s
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B B HHE TYPE PERCENT TYPE PERCENT BEDROEK [16 pts] 30 30 30 10 Boulder (S > 256 mm) [16 pts] 30 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Percenter Percent Percent Percent Betrict (S = 256 mm) [16 pts] 30 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Percenter Percent Percent Percent Percent Percent Percent Percent Point Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Percenter Point Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Percenter Point Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Percenter Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Point Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metric Point Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE <td>ic ts rate 40</td>	ic ts rate 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool De Max = 0 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] 0 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 0 COMMENTS MAXIMUM POOL DEPTH (centimeters): 0 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Bankt > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4" 8")[15 pts] Widtt > 3. m - 4.0 m (> 9' 7" - 13') [25 pts] Y ≤ 1.0 m (< 3' 3")[5 pts]	≥pth 30 full h 30
This information mustalso 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) L R (Per Bank) L R Moderate 5-10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):		
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)		
DOWNSTREAM DESIGNATED USE(S)		
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile		
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:		
County: Muskingum Township/City: CASS TWP		
MISCELLANEOUS		
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"		
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>		
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):		
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)		
Is the sampling reach representative of the stream (Y/N) Y f not, explain:		
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N) N Species observed (if known):		
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):		
Salamanders Observed? (Y/N) N Species observed (if known):		
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):		
Comments Regarding Biology:		



FLOW

Chio Environmental Protection Agency 55
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S031 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²) <1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 15 10 Percent Points Substrate Substrate Max = 40 Max = 40 Quercent Querc
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 3. So contimeters (>120 pts] So contineters (>100 meters); 10 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box); 10 Bankfull 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box); 10 Bankfull 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box); Bankfull Width Max=30 2. > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] 20 2. > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] AVERAGE BANKFULL WIDTH (meters) 6'
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) L R (Per Bank) L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek 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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Muskingum Township/City: CASS TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3	37
SITE NAME/LOCATION Millwood-Ohio Central SITE NUMBER S032 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 158.00 LAT 40.149308 LONG -82.079148 RIVER MILE DATE 03/10/2022 SCORER KLV COMMENTS SOH-KLV-032 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERING RECENT OF	<1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] PERCENT TYPE BOULDER (>256 mm) [16 pts] Image: Comparison of the state of the s	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] > 0 WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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]	Pool Depth Max = 30 15 Bankfull Width Max=30 5
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreed RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R V Wide >10m Immature Forest, Wetland Immature Forest, Shrub or Old Field Urban or Industrial Moderate 5-10m V Residential, Park, New Field Open Pasture, Row Narrow <5m	am * e v Crop tion nittent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 %100 ft) Flat to Moderate Moderate (2 %100 ft) Moderate to Severe (10 Seve	10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):		
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)		
DOWNSTREAM DESIGNATED USE(S)		
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile		
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: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:		
County: Muskingum Township/City: CASS TWP		
MISCELLANEOUS		
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"		
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>		
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):		
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)		
Is the sampling reach representative of the stream (Y/N) Y f not, explain:		
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N) N Species observed (if known):		
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):		
Salamanders Observed? (Y/N) N Species observed (if known):		
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):		
Comments Regarding Biology:		





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 22	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S033 RIVER BASIN 050400040204 RIVER CODE DRAINAGE AREA (mi²) <1	= - - s
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B B HHE TYPE PERCENT TYPE PERCENT BEDROEK [16 pts] 30 3	il ric ts rate 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Detter (Max = 1000 meters (20 pts)) > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts]	epth 30 full h 30
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) L R Per Bank) L Moderate 5-10m Immature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):		
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)		
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile		
CWH Name: Distance from Evaluated Stream		
EWH Name: Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.		
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:		
County: Muskingum Township/City: CASS TWP		
MISCELLANEOUS		
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"		
Photo-documentation Notes:		
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>		
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):		
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)		
Is the sampling reach representative of the stream (Y/N) Y f not, explain:		
Additional comments/description of pollution impacts:		
BIOLOGICAL OBSERVATIONS (Record all observations below)		
Fish Observed? (Y/N) N Species observed (if known):		
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):		
Salamanders Observed? (Y/N) N Species observed (if known):		
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):		
Comments Regarding Biology:		





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	42
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S034 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 358.00 LAT 40.16646 LONG 82.09537 RIVER MILE DATE 03/14/2022 SCORER KLV COMMENTS SOH-KLV-034 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Slape state stat	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13") [30 pts] > 1.0 m - 1.5 m (> 3" 3" - 4" 8")[15 pts] > 3.0 m - 4.0 m (> 9" 7" - 13") [25 pts] > 1.0 m (≤ 3" 3") [5 pts] > 1.5 m - 3.0 m (> 4" 8" - 9" 7") [20 pts] AVERAGE BANKEUL L WIDTH (meters)	Pool Depth Max = 30 5 Bankfull Width Max=30 20
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 (Most Predominant per Bank) L R Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	* n — ent)
	/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream 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: <u>Trinway</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	52
SITE NAME/LOCATION Millwood-Ohio Central SITE NUMBER S035 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 207.00 LAT 40.166807 LONG -82.095956 RIVER MILE DATE 03/14/2022 SCORER KLV COMMENTS SOH-KLV-035 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECOVERING	<1 structions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] 25 BEDROCK [16 pts] 15 CLAY or HARDPAN [0 pt] 15 COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt] 12 Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15 (A) 12 TOTAL NUMBER OF SUBSTRATE TYPEs: 5	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): > 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]	Pool Depth Max = 30 15 Bankfull Width Max=30 20
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
This information mustalso 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) L R Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	* n — ent)
STREAM GRADIENT ESTIMATE	/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run Distance from Evaluated Stream 1 mile CWH Name: Distance from Evaluated Stream 1
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/09/2022 Quantity:<0.25''
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	40
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S036 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 134.00 LAT 40.169844 LONG -82.098753 RIVER MILE DATE 03/14/2022 SCORER KLV COMMENTS SOH-KLV-036 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instr STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 15 BOULDER (>256 mm) [16 pts] SILT [3 pt] 10 BEDROCK [16 pts] FINE DETRITUS [3 pts] 10 COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 30 ARTIFICIAL [3 pts] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 5 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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)	Pool Depth Max = 30 15 Bankfull Width Max=30 5
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) L R L Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m)p - 1t)
Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #/10	10 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream 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: <u>Trinway</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S037 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) <1	= 15
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HH TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 30 30 10 BLEAF PACK/WOODY DEBRIS [3 pts] 10 Subs Subs Subs Subs Subs Max of 90 Subs Subs <t< td=""><td>El ric nts trate = 40 B</td></t<>	El ric nts trate = 40 B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (NO WATER OR MOIST CHANNEL [0pts] 20 COMMENTS Maximum pool depth (Measure das the average of 3 - 4 measurements) (Check ONLY one box): Bank Wid 20 > 1.0 m - 1.5 m (< 3' 3") [30 pts])epth = 30 cfull th =30
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 * NOTE: River Left (L) and Right (R) as looking downstream* L R (Per Bank) L R L R Wide >10m Imature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: Trinway NRCS Soil Map Page: - NRCS Soil Map Stream Order:-	
County: Coshocton Township/City: PIKE TWP	
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: Quantity: Quantity: > Quantity: www.com"/>> Quantity: > Q	
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>75</u>	
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
Is the sampling reach representative of the stream (Y/N) Y f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):	
Comments Regarding Biology:	





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	34
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S038 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 770.00 LAT 40.17867 LONG -82.107089 RIVER MILE DATE 03/14/2022 SCORER KLV COMMENTS SOH-KLV-038 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instance of the stream channel Recovered Recovering Recent or	<1 structions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 30 BUDR SLABS [16 pts] Image: score s	HHEI Metric Points Substrate Max = 40 14 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] > NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (≤ 3' 3")[5 pts]	Pool Depth Max = 30 5 Bankfull Width Max=30 15
COMMENTSAVERAGE BANKFULL WIDTH (meters)	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	* Crop n tent)
Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	u'100 ≜)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>80</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S039 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi²) <1 LENGTH OF STREAM REACH (ft) 194.00 LAT 40.184101 LONG -82.112993 RIVER MILE
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 20 BLDR SLABS [16 pts] SILT [3 pt] 20 15 Substrate Max = 40 BEDROCK [16 pts] 15 CLAY or HARDPAN [0 pt] 15 Substrate Max = 40 COBBLE (65-256 mm) [12 pts] 25 ARTIFICIAL [3 pts] 20 20 Bidr Slabs, Boulder, Cobble, Bedrock 15 (A) 15 TOTAL NUMBER OF SUBSTRATE TYPEs: 5
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 25 > 22.5 - 30 cm [30 pts] 5 cm [5pts] 25 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 25 COMMENTS MAXIMUM POOL DEPTH (centimeters): 20 Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3. BANK FULL WIDTH (Measuredas 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] Bankfull > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] AVERAGE BANKFULL WIDTH (meters) 8'
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) L R (Per Bank) L Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>75</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	<u> </u>
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S040 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) <1	ions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B H TYPE PERCENT TYPE PERCENT Su Su<	HEI etric bints bstrate ix = 40 20 + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): S cm - 10 cm [15 pts] Maximum Pool Depth (Depth (Depth depth	I Depth Ix = 30 5 Inkfull /idth ax=30 5
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Noderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: 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: <u>Trinway</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/09/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	64
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S041 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 133.00 LAT 40.189278 LONG -82.119488 RIVER MILE DATE 03/15/2022 SCORER KLV COMMENTS SOH-KLV-041 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] SILT [3 pt] 20 BEDROCK [16 pts] BEDROCK [16 pts] DEDROCK [16 pts] DEDROCK [16 pts] DEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] 30 DEDROCK [0 pts] DEDROCK [0 pts] DEDROCK [0 pts] MUCK [0 pts] 30 DEDROCK [16 pts] DEDROCK [0 pts] DEDROCK [0 pts] Fildr Slabs, Boulder, Cobble, Bedrock 0 (A) TOTAL NUMBER OF SUBSTRATE TYPEs: 4	HHEI Metric Points Substrate Max = 40 19 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 15 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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]	Pool Depth Max = 30 25 Bankfull Width Max=30 20
This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial V Narrow <5m	rop 1 =- ent)
□ 0.5 □ 1.5 □ 2.5 >3 STREAM GRADIENT ESTIMATE □ Flat (0.5 №100 №) □ Flat to Moderate □ Moderate (2 №100 №) □ Moderate to Severe □ Severe (10 №)	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run Distance from Evaluated Stream OWH Name:
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Trinway NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/15/2022 Quantity:<0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>90</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	56
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S043 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 195.00 LAT 40.195361 LONG -82.127138 RIVER MILE DATE 03/15/2022 SCORER KLV COMMENTS SOH-KLV-043 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 10 BEDROCK [16 pts] 15 ELAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] 15 CLAY or HARDPAN [0 pt] 10 GRAVEL (2-64 mm) [9 pts] 25 MUCK [0 pts] 10 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 21 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 20
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 (Most Predominant per Bank) L R R Wide >10m Imature Forest, Wetland Moderate 5-10m Imature Forest, Shrub or Old Field Narrow <5m	op ent)
STREAM GRADIENT ESTIMATE	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S044 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 48.00 LAT 40.197499 LONG -82.129392 RIVER MILE DATE 03/15/2022 SCORER KLV COMMENTS SOH-KLV-044 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR MILE	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 30 BUDDER (>256 mm) [16 pts] Image: Common test of tes	HHEI Metric Points Substrate Max = 40 14 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]	Pool Depth Max = 30 5 Bankfull Width Max=30 5
Interact Entrie of Eveluation Interact Entrie of Eveluati	op -
Stream Flowing Moist Channel, isolated pools, no flow (intermitted Subsurface flow with isolated pools (interstitial) COMMENTS Dry channel, no water (ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 0.5 1.5 STREAM GRADIENT ESTIMATE Flat (0.5 fw100 ft) Flat to Moderate	ent)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: Quantity: Quantity: > Quantity: > Quantity: > Quantity: <a href="https://www</td>
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>70</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Child Environmental Protection Agency HHEI Score (sum of metrics 1+2+3) 29
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S045 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mP) <1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY Ywo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT Metric Points BUDR SLABS [16 pts] Image: Common present present present present percent per
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] 0 > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] 0 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 0 COMMENTS MAXIMUM POOL DEPTH (centimeters): 0 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Bankfull > 3. m - 4.0 m (> 9' 7" - 13') [25 pts] 1.0 m (< 3' 3")[5 pts]
This information mustalso 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) L R Per Bank) L R Repartment Moderate 5-10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Fivemile Run Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream	
EVVH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: Perryton NRCS Soil Map Page: - NRCS Soil Map Stream Order: -	
County: Coshocton Township/City: PIKE TWP	
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/15/2022 Quantity:<0.25"	
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>70</u>	
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
Is the sampling reach representative of the stream (Y/N) Y f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):	
Comments Regarding Biology:	





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	56
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S046 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 130.00 LAT 40.203306 LONG -82.135648 RIVER MILE DATE 03/16/2022 SCORER KLV COMMENTS SOH-KLV-046 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instrumentation STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NOTE	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 15 BUDR SLABS [16 pts] 15 LEAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] 15 CLAY or HARDPAN [0 pt] 10 GRAVEL (2-64 mm) [9 pts] 20 MUCK [0 pts] 10 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 21 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): > 4.0 meters (> 13") [30 pts] > 1.0 m - 1.5 m (> 3" 3" - 4" 8")[15 pts] > 3.0 m - 4.0 m (> 9" 7"-13") [25 pts] > 1.0 m (< 3" 3") [5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 20
Interfere data of 2 time of 2 tim	3p - nt)
L Flat (0.5 \$100 ft) Flat to Moderate Moderate Moderate (2 \$100 ft) Moderate to Severe Severe (10 \$10	10 衔)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Nickel Valley Run Distance from Evaluated Stream <1 mile Distance from Evaluated Stream
Distance noncvaluated stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Perryton NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	22
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S047 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 171.00 LAT 40.205596 LONG -82.137454 RIVER MILE DATE 03/16/2022 SCORER KLV COMMENTS SOH-KLV-047 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR MILE	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY Ywo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Slape state	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 0 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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 BANKEUUL WIDTH (meters)	Pool Depth Max = 30 0 Bankfull Width Max=30 5
Interaction must also be completed 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) L R (Per Bank) L R L R V Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m V V Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	op
COMMENTS	
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
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QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Nickel Valley Run Distance from Evaluated Stream <1 mile	
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: Perryton NRCS Soil Map Page: NRCS Soil Map Stream Order:	
County: Coshocton Township/City: PIKE TWP	
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"	
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>	
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
Is the sampling reach representative of the stream (Y/N) Y f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N)_N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):	
Comments Regarding Biology:	





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) ²³	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S048 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (miP) <1	= - - s
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B B HHE TYPE PERCENT TYPE PERCENT Much BLDR SLABS [16 pts] Image: Common state	ic ts rate 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Dem Max = 100000000000000000000000000000000000	≥pth 30 full h 30
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) L R (Per Bank) L Moderate 5-10m Mature Forest, Wetland Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Nickel Valley Run Distance from Evaluated Stream <1 mile
Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N):N Canopy (% open):50
Were samples collected for water chemistry?(Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) ²³	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S049 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) <1	= ns
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HH TYPE PERCENT TYPE PERCENT HH BUDR SLABS [16 pts] Image: score is sum of boxes A & B PERCENT HH BUDR SLABS [16 pts] Image: score is sum of boxes A & B PERCENT PERCENT PERCENT BUDDER (>256 mm) [16 pts] Image: score is sum of boxes A & B HH Met BEDROCK [16 pts] Image: score is sum of boxes A & B HH BEDROCK [16 pts] Image: score is sum of boxes A & B HH BEDROCK [16 pts] Image: score is sum of boxes A & B HH GRAVEL (2-64 mm) [9 pts] 20 Image: score is size is score is size is score is size is score	El ric its trate = 40 B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool II Max: > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] 5 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 5 COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	cfull
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) L R (Per Bank) L Moderate 5-10m Mature Forest, Wetland Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Nickel Valley Run Distance from Evaluated Stream <1 mile
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: Perryton NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N), N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 52]
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S050 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (miP) <1	ons
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B B HH TYPE PERCENT TYPE PERCENT BEDROEK [16 pts] 30 30 10 BeDROEK [16 pts] 10 Sub Sub <td< td=""><td>HEI etric ints estrate x = 40 7 + B</td></td<>	HEI etric ints estrate x = 40 7 + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool > 30 centimeters [20 pts] S cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] NO WATER OR MOIST CHANNEL [0pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 10 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): Bar > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Wi > 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONL Y one box): Bar > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Wi > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] AVERAGE BANKFULL WIDTH (meters) 5'	Depth c = 30 5 5 6 6 6 7 7 8 10 10 10 10 10 10 10 10 10 10
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Nickel Valley Run Distance from Evaluated Stream <1 mile
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: Perryton NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	47
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S051 RIVER BASIN 050400040201 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 148.00 LAT 40.213799 LONG -82.143897 RIVER MILE DATE 03/16/2022 SCORER KLV COMMENTS SOH-KLV-051 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY Ywo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 30 BUDDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] I5 CLAY or HARDPAN [0 pt] II GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] III SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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)	Pool Depth Max = 30 15 Bankfull Width Max=30 15
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Urban or Industrial Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	op - nt)
Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #/1	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Nickel Valley Run Distance from Evaluated Stream 0
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Perryton NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S052 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (m²) LENGTH OF STREAM REACH (ft) 76.00 LAT 40.222038 LONG -82.150653 RIVER MILE DATE 03/17/2022 SCORER KLV COMMENTS SOH-KLV-052 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instrument Channel RECOVERED RECOVERING RECENT O	<1 structions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: SILT [3 pt] 30 BOULDER (>256 mm) [16 pts] Image: SILT [3 pt] 30 BEDROCK [16 pts] Image: SILT [3 pt] 10 BEDROCK [16 pts] Image: SILT [3 pt] Image: SILT [3 pt] COBBLE (65-256 mm) [12 pts] 15 Image: CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] 15 Image: MUCK [0 pts] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 14 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 5 Bankfull Width Max=30 5
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstread RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	n* Crop on ttent)
Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	θ/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Oxley Run CWH Name: Distance from Evaluated Stream 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: Perryton NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_N Date of last precipitation:03/15/2022 Quantity:<0.25''
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	26
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S053 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mi²) LENGTH OF STREAM REACH (ft) 36.00 LAT 40.222052 LONG -82.150566 RIVER MILE DATE 03/17/2022 SCORER KLV COMMENTS SOH-KLV-053 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 cructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BUDDER (>256 mm) [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B BEDROCK [16 pts] Image: Significant substrate types found (Max of 8). Final metric score is sum of boxes A & B Image: Score of two Most PREDOMINATE SUBSTRATE TYPEs: Image: Significant substrate types found (A) Image: Score of two Most PREDOMINATE SUBSTRATE types: Image: Significant substrate types: Image: Score of two Most PREDOMINATE substrate types: Image: Significant substrate types: Image: Score of two Most predominant substrate types: Image: Sim	HHEI Metric Points Substrate Max = 40 16 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]	Pool Depth Max = 30 5 Bankfull Width Max=30 5
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 (Most Predominant per Bank) L R L R Wide >10m Mature Forest, Wetland Moderate 5-10m Mature Forest, Shrub or Old Field Narrow <5m	op :nt)
None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 №100 %) Flat to Moderate Moderate (2 №100 %) Moderate to Severe Severe (10 №1	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Winding Fork Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream
EVVH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Perryton NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PIKE TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/15/2022 Quantity:<0.25''
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N), N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	39
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S055 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mi²) LENGTH OF STREAM REACH (ft) 26.00 LAT 40.246659 LONG -82.170617 RIVER MILE DATE 03/21/2022 SCORER KLV COMMENTS SOH-KLV-055 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] PERCENT SILT [3 pt] 50 BOULDER (>256 mm) [16 pts] PERCENT SILT [3 pt] 50 BEDROCK [16 pts] PERCENT CLAY or HARDPAN [0 pt] 30 COBBLE (65-256 mm) [12 pts] 20 CLAY or HARDPAN [0 pt] PINE GRAVEL (2-64 mm) [9 pts] 20 CLAY or HARDPAN [0 pt] PINE BIdr Slabs, Boulder, Cobble, Bedrock 20 ARTIFICIAL [3 pts] PINE Score OF TWO MOST PREDOMINATE SUBSTRATE TYPEs: 6 TOTAL NUMBER OF SUBSTRATE TYPEs: 3	HHEI Metric Points Substrate Max = 40 9 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] 4/	Pool Depth Max = 30 15 Bankfull Width Max=30 15
This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	rop 1 ent)
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >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)	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Oxley Run Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PERRY TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>35</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	39
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S056 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 44.00 LAT 40.24675 LONG -82.170665 RIVER MILE DATE 03/21/2022 SCORER KLV COMMENTS SOH-KLV-056 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instance STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: SLT [3 pt] 50 BULDER (>256 mm) [16 pts] Image: SLT [3 pt] 50 BEDROCK [16 pts] Image: SLT [3 pt] 30 BEDROCK [16 pts] Image: SLT [3 pt] 30 BEDROCK [16 pts] Image: SLT [3 pt] 30 BEDROCK [16 pts] Image: SLT [3 pt] Image: SLT [3 pt] BEDROCK [16 pts] Image: SLT [3 pt] Image: SLT [3 pt] BEDROCK [16 pts] Image: SLT [3 pt] Image: SLT [3 pt] BEDROCK [16 pts] Image: SLT [3 pt] Image: SLT [3 pt] BEDROCK [16 pts] Image: SLT [3 pt] Image: SLT [3 pt] BEDROCK [20 mm] [9 pts] Image: SLT [3 pt] Image: SLT [3 pt] SAND (<2 mm] [6 pts]	HHEI Metric Points Substrate Max = 40 9 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONL Y one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] 1.0 m (≤ 3' 3") [5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 15
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	* n — ent)
Image: Structure of Defines per of in (200 ft) of chainer) (check ONE f one box). Image: None 1.0 2.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Defines per of in (200 ft) of chainer) (check ONE f one box). 3.0 3.0 Image: Of Define per of the box of the	/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Oxley Run Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>
County: Coshocton Township/City: PERRY TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/15/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>35</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	47
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S057 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 132.00 LAT 40.247118 LONG -82.17098 RIVER MILE DATE 03/21/2022 SCORER KLV COMMENTS SOH-KLV-057 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 structions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] 30 10 BEDROCK [16 pts] Image: score is sum of boxes A & B SILT [3 pt] 30 COBBLE (65-256 mm) [12 pts] 15 CLAY or HARDPAN [0 pt] 10 FINE DETRITUS [3 pts] Image: score is	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 15
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) L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	* Crop n
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 1.5 2.5 >3 STREAM GRADIENT ESTIMATE ✓ Flat (0.5 №100 %) Flat to Moderate Moderate (2 №100 %) Moderate to Severe Severe (10 #	/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)	
DOWNSTREAM DESIGNATED USE(S) WWH Name: Oxley Run Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.	
USGS Quadrangle Name: <u>Perryton</u> NRCS Soil Map Page: <u>-</u> NRCS Soil Map Stream Order: <u>-</u>	
County: Coshocton Township/City: PERRY TWP	
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Y Date of last precipitation: 03/19/2022 Quantity: 0.25"	
Photo-documentation Notes:	
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>40</u>	
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):	
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)	
Is the sampling reach representative of the stream (Y/N) Y f not, explain:	
Additional comments/description of pollution impacts:	
BIOLOGICAL OBSERVATIONS (Record all observations below)	
Fish Observed? (Y/N) N Species observed (if known):	
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):	
Salamanders Observed? (Y/N) N Species observed (if known):	
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):	
Comments Regarding Biology:	





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 25
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S059 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 514.00 LAT 40.252748 LONG -82.17573 RIVER MILE DATE 03/21/2022 SCORER KLV COMMENTS SOH-KLV-059 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT	<1 Instructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & & & TYPE Image: teal structure PERCENT TYPE PERCENT TYPE Image: teal structure PERCENT TYPE PERCENT SILT [3 pt] 50 Image: teal structure BOULDER (>256 mm) [16 pts] Image: teal structure SILT [3 pt] 50 Image: teal structure BEDROCK [16 pts] Image: teal structure SILT [3 pt] 50 Image: teal structure BEDROCK [16 pts] Image: teal structure SILT [3 pt] 50 Image: teal structure Structure COBBLE (65-256 mm) [12 pts] Image: teal structure 50 Image: teal structure COBBLE (65-256 mm) [12 pts] Image: teal structure SILT [3 pt] Image: teal structure Image: teal structure GRAVEL (2-64 mm) [9 pts] Image: teal structure Image: teal structure Image: teal structure Image: teal structure GRAVEL (2-64 mm) [9 pts] Image: teal structure Image: teal structure Image: teal structure Image: teal structure Structure Image: teal structure Image: teal st	B HHEI Metric Points Substrate Max = 40 15 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 5 Bankfull Width Max=30 5
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstree RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	am. e w Crop ction mittent)
□ 1.0 2.0 3.0 □ 0.5 □ 1.5 2.5 >3 STREAM GRADIENT ESTIMATE	
Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe	10 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Oxley Run 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: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Coshocton Township/City: PERRY TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/19/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): 70
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:



FLOW

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 39	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S060 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mP) <1	= 1S
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HH TYPE PERCENT TYPE PERCENT Metric score is sum of boxes A & B HH BUDR SLABS [16 pts] Image: score is sum of boxes A & B PERCENT TYPE PERCENT PERCENT Metric score is sum of boxes A & B HH BUDDER (>256 mm) [16 pts] Image: score is sum of boxes A & B Image: score is sum of boxes A & B HH BEDROCK [16 pts] Image: score is sum of boxes A & B Percent Subs BEDROCK [16 pts] Image: score is sum of boxes A & B HH GRAVEL (2-64 mm) [9 pts] 15 Image: score is score is sum of boxes A & B Metric score is score is score is sum of boxes A & B MICK [0 pts] Image: score is score	El ric its trate = 40 B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool II Max > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] 5 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 5 COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	epth = 30 cfull th =30
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) L R (Per Bank) L Moderate 5-10m Mature Forest, Wetland Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Winding Fork 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: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Coshocton Township/City: PERRY TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/19/2022 Quantity:0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	25
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S061 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 129.00 LAT 40.270575 LONG -82.191114 RIVER MILE DATE 03/22/2022 SCORER KLV COMMENTS SOH-KLV-061 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 20 BUDDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10 COBBLE (65-256 mm) [12 pts] 10 CLAY or HARDPAN [0 pt] 10 GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] MUCK [0 pts] 10 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 0 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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 BANKEUUL WIDTH (meters)	Pool Depth Max = 30 0 Bankfull Width Max=30 5
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) L R R Wide >10m Auture Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	op ent)
STREAM GRADIENT ESTIMATE	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Winding Fork CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order:-
County: Coshocton Township/City: PERRY TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/19/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 50	<u>ן</u>
SITE NAME/LOCATION Waktatomika-West Trinway SITE NUMBER S062 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mP) <1	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HI TYPE PERCENT TYPE PERCENT 20 0 BUDR SLABS [16 pts] 0 SILT [3 pt] 20 0 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B Max BUDR SLABS [16 pts] 0 EAF PACK/WOODY DEBRIS [3 pts] 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B Max BEDROCK [16 pts] 0 EAF PACK/WOODY DEBRIS [3 pts] 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B Max COBBLE (65-256 mm) [12 pts] 20 1 EAF PACK/WOODY DEBRIS [3 pts] 10 Substrate types found (Max GRAVEL (2-64 mm) [9 pts] 25 0 MUCK [0 pts] 0 10 Substrate types found (B) 20	HEI etric ints ostrate x = 40 20 + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool > 30 centimeters [20 pts] S cm - 10 cm [15 pts] S cm [5pts] > 22.5 - 30 cm [30 pts] S cm [5pts] NO WATER OR MOIST CHANNEL [0pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 5 COMMENTS MAXIMUM POOL DEPTH (centimeters): 5 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Ba > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] W > 3.0 m - 4.0 m (> 9' 7*- 13') [25 pts] ≤ 1.0 m (≤ 3' 3")[5 pts] W MAXIMUNTS AVERAGE BANKFULL WIDTH (meters) 4'	I Depth x = 30 5 nkfull /idth ix=30
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Winding Fork CWH Name: Distance from Evaluated Stream 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: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/19/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	52
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S063 RIVER BASIN 050400040102 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 177.00 LAT 40.277102 LONG -82.196855 RIVER MILE DATE 03/22/2022 SCORER KLV COMMENTS SOH-KLV-063 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: SILT [3 pt] 30 BUDDER (>256 mm) [16 pts] Image: SILT [3 pt] 30 BEDROCK [16 pts] Image: SILT [3 pt] 10 BEDROCK [16 pts] Image: SILT [3 pt] 10 COBBLE (65-256 mm) [12 pts] 15 Image: CLAY or HARDPAN [0 pt] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 17 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 20
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Urban or Industrial Open Pasture, Row Critical Narrow <5m	op - nt) -

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Winding Fork CWH Name: Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/19/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	34
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S064 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 99.00 LAT 40.283898 LONG -82.202969 RIVER MILE DATE 03/22/2022 SCORER KLV COMMENTS SOH-KLV-064 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERING RECENT OR N	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Sile of the state	HHEI Metric Points Substrate Max = 40 14 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] ✓ 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓ 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] ✓ NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 5 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ✓ > 1.0 m (< 3' 3") [5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	5
This information mustalso 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) L R (Per Bank) L R H (Per Bank) L R L R H Wide >10m H Mature Forest, Wetland Conservation Tillage H Moderate 5-10m H Mature Forest, Shrub or Old Field Urban or Industrial H Narrow <5m	op - nt) -
Plat (0.5 #/100 #) Plat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #/1	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name:
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/19/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>100</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S065 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) <1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 20 BUDR SLABS [16 pts] Image: Sill T [3 pt] 20 15 Substrate BUDDER (>256 mm) [16 pts] Image: Sill T [3 pt] Substrate COBBLE (65-256 mm) [12 pts] 15 Image: Sill T [3 pt] Substrate MUCK [0 pts] 25 Image: Sill T [16 pts] Image: Sill T [1
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] 15 > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] 15 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 15 MAXIMUM POOL DEPTH (centimeters): 10 BankK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] Bankfull > 3. 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] Bankfull > 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts] S 1.0 m (≤ 3' 3")[5 pts] 5 COMMENTS
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) L R Image: Predom term Image: Predom term

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/19/2022 Quantity: 0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>80</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	5
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S066 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mP) <	tions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B H TYPE PERCENT TYPE PERCENT PERCENT SILT [3 pt] 55 20 N BUDR SLABS [16 pts] Image: Common structure of the struc	IHEI letric oints ubstrate lax = 40 15
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Po > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	ol Depth lax = 30 5 ankfull Width lax=30 15
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 * NOTE: River Left (L) and Right (R) as looking downstream* L R (Per Bank) L R L R Image: Display the state of the state	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream
USGS Quadrangle Name: <u>Walhonding</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/23/2022 Quantity:<0.25''
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>100</u>
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N), N Species observed (if known):
Comments Regarding Biology:





SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S067 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi²) <1 116 00 40.28647 02.205200
LENGTH OF STREAM REACH (ft) 116.00 LAT 40.28647 LONG -82.205288 RIVER MILE DATE 03/23/2022 SCORER KLV COMMENTS SOH-KLV-067 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 40 BLDR SLABS [16 pts] Image: Comparison of the problem of the problem of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI BUDR SLABS [16 pts] Image: Comparison of the problem of the proble
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Depth (Max = 30 > 30 centimeters [20 pts] S cm - 10 cm [15 pts] S cm [5pts] > 22.5 - 30 cm [30 pts] S cm [5pts] 15 > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] 15 COMMENTS MAXIMUM POOL DEPTH (centimeters): 10 Bankfull > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]
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) L R Wide >10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Wide >10m Residential, Park, New Field Narrow <5m
ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:03/23/2022 Quantity:<0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>100</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N), N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	50
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S068 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 135.00 LAT 40.288701 LONG -82.207266 RIVER MILE DATE 03/23/2022 SCORER KLV COMMENTS SOH-KLV-068 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 15 BEDROCK [16 pts] 15 CLAY or HARDPAN [0 pt] 10 FINE GRAVEL (2-64 mm) [9 pts] 30 ARTIFICIAL [3 pts] 6 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 15
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstreams RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R Wide >10m Mature Forest, Wetland Moderate 5-10m Mature Forest, Shrub or Old Field Narrow <5m	rop 1 — ent)
COMMENTS	100 ඬ)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>40</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	61
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S069 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 126.00 LAT 40.293195 LONG -82.210658 RIVER MILE DATE 03/23/2022 SCORER KLV COMMENTS SOH-KLV-069 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1 ructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] SILT [3 pt] 40 BEDROCK [16 pts] BEDROCK [16 pts] CLAY or HARDPAN [0 pt] 10 GRAVEL (2-64 mm) [9 pts] 30 MUCK [0 pts] MUCK [0 pts] SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 16 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (< 3' 3") [5 pts]	Pool Depth Max = 30 25 Bankfull Width Max=30 20
Interaction must also be completed 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 * NOTE: River Left (L) and Right (R) as looking downstream* L R (Per Bank) L R L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial V Narrow <5m	op - nt)
Image: None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE □ Flat (0.5 №100 №) □ Flat to Moderate □ Moderate (2 №100 №) □ Moderate to Severe □ Severe (10 №1)	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
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: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>100</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	40
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S070 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mP) LENGTH OF STREAM REACH (ft) 182.00 LAT 40.297726 LONG -82.213907 RIVER MILE DATE 03/24/2022 SCORER KLV COMMENTS SOH-KLV-070 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instance of the stream channel RECOVERED RECOVERING RECENT OR	<1 structions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] SILT [3 pt] 15 BUDR SLABS [16 pts] Image: score s	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm [5pts] > 10 - 22.5 cm [25 pts] > NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (≤ 3' 3")[5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 5
COMMENTS AVERAGE BANKFULL WIDTH (meters)	
Inits information musical aso 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) L R Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	* Crop n — tent)
COMMENTS	ν'100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	24
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER SO71 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi²) LENGTH OF STREAM REACH (ft) 56.00 LAT 40.297652 LONG -82.213883 RIVER MILE DATE 03/24/2022 SCORER KLV COMMENTS SOH-KLV-071 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] Image: Single content of every type present). Check ONLY two predominant substrate TYPE boxes. PERCENT BLDR SLABS [16 pts] Image: Single content of every type present). Check ONLY two predominant substrate TYPE boxes. PERCENT BLDR SLABS [16 pts] Image: Single content of every type present). Check ONLY two predominant substrate TYPE boxes. PERCENT BLDR SLABS [16 pts] Image: Single content of every type present. BLDR SLABS [16 pts] Image: Single content of every type present. Image: Single content of every type present. Single conte	HHEI Metric Points Substrate Max = 40 14 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): <5	Pool Depth Max = 30 5 Bankfull Width Max=30 5
COMMENTS AVERAGE BANKFULL WIDTH (meters) 2'	
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) L R (Per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	rop 1 — ent)
None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #)	(100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: South Run Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: <0.25"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	40
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S072 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi²) LENGTH OF STREAM REACH (ft) LAT 40.304277 LONG -82.218773 RIVER MILE DATE 03/24/2022 SCORER KLV COMMENTS SOH-KLV-072 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for I	<1
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	R NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] SILT [3 pt] BEDROCK [16 pts] D LEAF PACK/WOODY DEBRIS [3 pts] 10 FINE DETRITUS [3 pts] CLAY or HARDPAN [0 pt] D D GRAVEL (2-64 mm) [16 pts] 25 D ARTIFICIAL [3 pts] D Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 20 (A) 15 Total of percentages of Bidr Slabs, Boulder, Cobble, Bedrock 5	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts]	Pool Depth Max = 30
COMMENTS MAXIMUM POOL DEPTH (centimeters): 5	
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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
COMMENTS AVERAGE BANKFULL WIDTH (meters) 3'	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY + NOTE: River Left (L) and Right (R) as looking, downstrea	m*
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank) L R L R L R Vide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	Crop
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (interm Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS ONMENTS	ittent)
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 3 STREAM GRADIENT ESTIMATE	
Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (1	0 ft/100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: 2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Rebotic all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N)_N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S073 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (miP) <1	ERY
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B HHEI TYPE PERCENT TYPE PERCENT 20 BUDR SLABS [16 pts] SILT [3 pt] 20 10 Points BEDROCK [16 pts] 25 CLAY or HARDPAN [0 pt] 10 Substrate 44 GRAVEL (2-64 mm) [9 pts] 20 MUCK [0 pts] MICK [0 pts] 23 Total of Percentages of 25 ARTIFICIAL [3 pts] 5 4 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPEs: 18 TOTAL NUMBER OF SUBSTRATE TYPEs: 5	c site 0
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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 max = 30 methods) > 30 centimeters [20 pts] S cm - 10 cm [15 pts] S cm [5pts] 15 > 22.5 - 30 cm [30 pts] S cm [5pts] NO WATER OR MOIST CHANNEL [0pts] 15 Some terms COMMENTS MAXIMUM POOL DEPTH (centimeters): 5 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): Bankfu > 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] > 1.0 m (< 3' 3")[5 pts]	oth 0
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) L R Wide >10m Mature Forest, Wetland Moderate 5-10m Mature Forest, Shrub or Old Field Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: 2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N). N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3) 27	
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S074 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (miP) <1	= - - s
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B B HHE TYPE PERCENT TYPE PERCENT 25 10 Substrate types found (Max of 8). Final metric score is sum of boxes A & B HHE Metri BUDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] D SILT [3 pt] 25 10 Substr Substr Max = - Max = - Max = - 17 Max = 20 D ARTIFICIAL [3 pts] D ARTIFICIAL [3 pts] 17 17 Total of Percentages of 20 ARTIFICIAL [3 pts] 5 5 4 + B 5 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 5 5 4 + B	ic ts rate 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): Pool Dem Max = 100000000000000000000000000000000000	≥pth 30 full h 30
This information mustalso 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) L R (Per Bank) L R Moderate 5-10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek Distance from Evaluated Stream 1 mile
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: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/23/2022 Quantity: 2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	65
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S075 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 133.00 LAT 40.307033 LONG -82.220612 RIVER MILE DATE 03/24/2022 SCORER KLV COMMENTS SOH-KLV-075 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Ins STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR INF	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] 20 BOULDER (>256 mm) [16 pts] D LEAF PACK/WOODY DEBRIS [3 pts] 10 BEDROCK [16 pts] 20 CLAY or HARDPAN [0 pt] 10 GRAVEL (2-64 mm) [9 pts] 25 D MUCK [0 pts] D SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
 Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] COMMENTS BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 10 - 1.5 m (> 3' 3" - 4' 8")[15 pts] 	Pool Depth Max = 30 25 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] COMMENTS	Max=30
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 (Most Predominant per Bank) L R L R L R V Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	rop 1
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Moist Channel, isolated pools, no flow (intermitted pools flow with isolated pools (interstitial) Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral) COMMENTS	
Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe Severe (10 %	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
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: Walhonding NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Knox Township/City: JACKSON TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_N Date of last precipitation: 03/23/2022 Quantity: 2"
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>50</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	65
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S077 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 786.00 LAT 40.313988 LONG -82.225554 RIVER MILE DATE 03/25/2022 SCORER KLV COMMENTS SOH-KLV-077 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONL Y two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] 20 BEDROCK [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] 10 FINE DETRITUS [3 pts] 10 FINE DETRITUS [3 pts] 10 GRAVEL (2-64 mm) [9 pts] 25 10 MUCK [0 pts] 10 SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 20 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7"- 13') [25 pts] 21.0 m (< 3' 3")[5 pts]	Pool Depth Max = 30 25 Bankfull Width Max=30 20
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) L R Wide >10m Immature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	rop 1 ent)
None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE □ Flat (0.5 %/100 %) □ Flat to Moderate □ Moderate (2 %/100 %) □ Moderate to Severe □ Severe (10 %)	100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream 0
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: BUTLER TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_N Date of last precipitation: 03/24/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS
(Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	51
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S078 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (miP) LENGTH OF STREAM REACH (ft) 122.00 LAT 40.325261 LONG -82.233713 RIVER MILE DATE 03/30/2022 SCORER KLV COMMENTS SOH-KLV-078 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR N	<1
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] PERCENT TYPE BUDDER (>256 mm) [16 pts] SILT [3 pt] 45 BEDROCK [16 pts] Image: Complexity of the state of the	HHEI Metric Points Substrate Max = 40 16 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] S cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] S cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 10 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 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]	Pool Depth Max = 30 15 Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (meters) 5'	20
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) L R (Per Bank) L Wide >10m Mature Forest, Wetland Conservation Tillage Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial Narrow <5m	op :nt)
Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #/	00 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: BUTLER TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/30/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): <u>N</u> Canopy (% open): <u>100</u>
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N)_N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:





Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	51
SITE NAME/LOCATION Wakatomika-West Trinway SITE NUMBER S079 RIVER BASIN 050400040101 RIVER CODE DRAINAGE AREA (mi ²) LENGTH OF STREAM REACH (ft) 140.00 LAT 40.330231 LONG -82.237234 RIVER MILE DATE 03/30/2022 SCORER KLV COMMENTS SOH-KLV-079 NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Inst STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR	<1 tructions
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] SILT [3 pt] 45 BEDROCK [16 pts] D FINE DETRITUS [3 pts] 10 COBBLE (65-256 mm) [12 pts] 20 CLAY or HARDPAN [0 pt] D GRAVEL (2-64 mm) [9 pts] 25 D MUCK [0 pts] D SAND (<2 mm) [6 pts]	HHEI Metric Points Substrate Max = 40 16 A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm [5pts] > 10 - 22.5 cm [25 pts] > NO WATER OR MOIST CHANNEL [0pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): 3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.0 m (≤ 3' 3") [5 pts]	Pool Depth Max = 30 15 Bankfull Width Max=30 20
COMMENTSAVERAGE BANKFULL WIDTH (meters)	
Inits mornation mission becompleted RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH L R Per Bank) L R Per Bank) L R Wide >10m Immature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Field Narrow <5m	rop n — ent)
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0 0.5 1.5 2.5 >3 STREAM GRADIENT ESTIMATE Flat (0.5 #/100 #) Flat to Moderate Moderate (2 #/100 #) Moderate to Severe Severe (10 #)	(100 ft)

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED?
DOWNSTREAM DESIGNATED USE(S) WWH Name: Wakatomika Creek Distance from Evaluated Stream <1 mile
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER SHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Walhonding NRCS Soil Map Page: - NRCS Soil Map Stream Order: -
County: Knox Township/City: BUTLER TWP
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation: 03/30/2022 Quantity: 0.25
Photo-documentation Notes:
Elevated Turbidity?(Y/N): _N Canopy (% open):50
Were samples collected for water chemistry? (Y/N): <u>N</u> Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) Y f not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) N Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) N Species observed (if known):
Salamanders Observed? (Y/N) N Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known):
Comments Regarding Biology:



FLOW

APPENDIX E ODNR and USFWS Correspondence



Ohio Department of Natural Resources



MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621 Fax: (614) 267-4764

June 13, 2022

Joshua Noble GAI Consultants, Inc. 5399 Lauby Road, Suite 120 North Canton, OH 44720

Re: 22-0521; AEP Wakatomika Switch-Trinway 138kV

Project: The proposed project involves rebuilding an approximately 16.0-mile portion of the Philo-Howard 138kV transmission line along the current transmission right-of-way and removal of the existing steel lattice tower structures.

Location: The proposed project is located in Butler, Jackson, Perry, Pike, Washington, and Cass Townships, Knox, Coshocton, and Muskingum Counties, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Cerulean Warbler (Setophaga cerulea), state species of concern

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that Best Management Practices be utilized to minimize erosion and sedimentation. The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (Perimyotis subflavus), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with $DBH \ge 20$ if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE *CLEARING*". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "<u>Range-wide Indiana Bat Survey Guidelines</u>." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species. <u>Federally Endangered</u> clubshell (*Pleurobema clava*) purple cat's paw (*Epioblasma o. obliquata*) rayed bean (*Villosa fabalis*) sheepnose (*Plethobasus cyphyus*) fanshell (*Cyprogenia stegaria*) pink mucket (*Lampsilis orbiculata*) snuffbox (*Epioblasma triquetra*)

<u>Federally Threatened</u> rabbitsfoot (*Quadrula cylindrica cylindrica*)

<u>State Endangered</u> long solid (*Fusconaia maculata maculata*) Ohio pigtoe (*Pleurobema cordatum*) pocketbook (*Lampsilis ovata*)

<u>State Threatened</u> black sandshell (*Ligumia recta*) threehorn wartyback (*Obliquaria reflexa*) fawnsfoot (*Truncilla donaciformis*) This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2020), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the 2022 <u>Ohio Mussel Survey Protocol.</u>

The project is within the range of the following listed fish species. <u>State Endangered</u> spotted darter (*Etheostoma maculatum*) northern madtom (*Noturus stigmosus*)

<u>State Threatened</u> American eel (*Anguilla rostrata*) mountain madtom (*Noturus eleutherus*) Tippecanoe darter (*Etheostoma tippecanoe*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis* alleganiensis), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The <u>local floodplain administrator</u> should be contacted concerning the possible need for any floodplain permits or approvals for this project.

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at <u>mike.pettegrew@dnr.ohio.gov</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator

From:	Ohio, FW3 <ohio@fws.gov></ohio@fws.gov>
Sent:	Tuesday, June 14, 2022 1:32 PM
То:	Joshua Noble
Cc:	nathan.reardon@dnr.state.oh.us
Subject:	AEP Wakatomika Switch-Trinway Station 138 kV Transmission Line
	Rebuild Coshocton Knox and Muskingum Counties Obio

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UNITED STATES DEPARTMENT OF THE INTERIOR U.S. Fish and Wildlife Service Ecological Services Office 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / Fax (614) 416-8994



Project Code # 2022-0045155

Dear Mr. Noble,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (Myotis sodalis) and threatened northern long-eared bat (Myotis septentrionalis) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees \geq 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3

inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <u>http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</u>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

<u>Mussel Species</u>: The proposed project lies within the range of the **round hickorynut mussel** (Obovaria subrotunda), a species currently proposed for listing as federally threatened. This freshwater mussel is known to occur in Wakatomika Creek, which is crossed by the project in Knox County. The round hickorynut inhabits areas with sand and gravel in riffle and run habitats in streams and rivers, but also may be found in sandy mud. Should the proposed project directly or indirectly impact any of the habitat types described above, we recommend that a survey be conducted to determine the presence or probable absence of the round hickorynut in the vicinity of the proposed site. Any survey should be designed and conducted in coordination with the Ohio Field Office.

<u>Section 7 Coordination</u>: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

<u>Stream and Wetland Avoidance</u>: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (<u>https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf</u>). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical

habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at <u>mike.pettegrew@dnr.state.oh.us</u>.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <u>ohio@fws.gov</u>.

Sincerely,

Patrice M. Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

8/17/2022 5:36:45 PM

in

Case No(s). 22-0774-EL-BLN

Summary: Correspondence Letter of Notification part 11 of 14 electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company, Inc.