# **APPENDIX M**

# AQUATIC RESOURCE REPORT

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# WETLAND AND STREAM DELINEATION REPORT KINGWOOD SOLAR PROJECT GREENE COUNTY, OHIO



Prepared for: Kingwood Solar I LLC

Prepared by: Haley & Aldrich, Inc.

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HALEY & ALDRICH, INC. 200 TOWN CENTRE DRIVE. SUITE 2 ROCHESTER, NY 14623 585.359.9000

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## **SIGNATURE PAGE FOR**

# WETLAND AND STREAM DELINEATION REPORT KINGWOOD SOLAR PROJECT GREENE COUNTY, OHIO

### **PREPARED FOR** KINGWOOD SOLAR I LLC

PREPARED BY:

Michael S. Martin Senior Scientist Haley & Aldrich, Inc.

**REVIEWED AND APPROVED BY:** 

James B. Pippin Senior Wetland Biologist Haley & Aldrich, Inc.

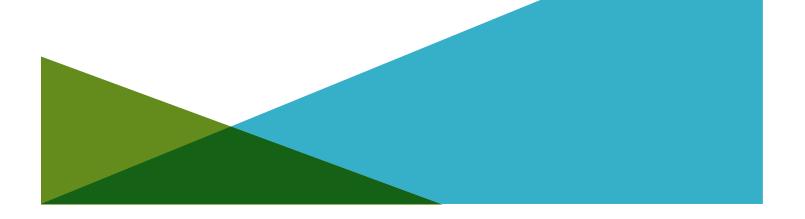
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Lynn Gresock Principal Consultant Haley & Aldrich, Inc.

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# 1. Introduction

This Wetland and Stream Delineation Report summarizes the results of field work performed by Haley & Aldrich, Inc. (Haley & Aldrich) to locate and identify wetlands and streams in support of the Kingwood Solar Project (Project), a 175-megawatt (MW) solar photovoltaic facility proposed in Cedarville, Miami, and Xenia Townships, Greene County, Ohio (Figure 1).

Approximately 1,600 acres, located between Clifton Road and State Route 72 (the Study Area), was included in the field delineation effort conducted on behalf of Kingwood Solar I LLC. Most of the land is actively farmed, primarily in row crops (soybean and corn) and areas of livestock pasture. Small areas of forest, scrub shrub, and herbaceous land cover are also scattered throughout the Study Area. In addition to the numerous roadways, there are existing electric transmission and distribution lines that cross the Study Area.



# 2. Regulatory Authorities

#### 2.1 WATERS OF THE UNITED STATES

As defined by the U.S. Army Corps of Engineers (USACE), Waters of the United States include lakes, ponds, streams (intermittent and perennial), and wetlands, which are regulated under Sections 401 and 404 of the Clean Water Act. Federally jurisdictional wetlands are defined as "those that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

The USACE also regulates navigable waters under Section 10 of the Rivers and Harbor Act (33 U.S.C. 401 et seq.), which requires a permit from the USACE to construct any structure in or over any navigable water of the United States, as well as any proposed action that would alter or disturb (such as excavation/dredging or deposition of materials) these waters. If the proposed structure or activity affects the course, location, condition or capacity of the navigable water, even if the proposed activity is outside the boundaries of the water body, a permit from the USACE is required.

#### 2.2 OHIO WETLANDS AND STREAMS

The Ohio Environmental Protection Agency (Ohio EPA) Division of Surface Water regulates wetlands pursuant to Section 401 of the federal Clean Water Act. Section 401 of the Clean Water Act requires that State agencies evaluate projects that will result in the discharge of dredged or fill material into Waters of the United States to determine whether the discharge will violate the State's water quality standards. Section 401 Water Quality Certifications are issued for the discharge of dredge and fill materials to Waters of the State.

"Waters of the State" are those waters within the jurisdiction of the Ohio EPA. They are generally defined as surface and underground water bodies, which extend through or exist wholly within the State; these include, but are not limited to, streams and both isolated and non-isolated wetlands. Private ponds, or any pond, reservoir or facility built for reduction of pollutants prior to discharge are not included in this definition.

In addition to Waters of the United States, the Ohio EPA also regulates, and issues permits for isolated wetland impacts under Chapter 6111.21 of the Ohio Revised Code (ORC). The State relies on the USACE jurisdictional authority regarding wetland determinations and delineations including whether a wetland is isolated or non-isolated.



# 3. Methodology

Prior to initiating field investigations, Haley & Aldrich conducted a desktop review of publicly available data to evaluate the presence of mapped wetlands and streams within the Study Area. Data consulted included:

- United States Geological Survey (USGS) topographic quadrangle maps;
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps;
- Natural Resources Conservation Service (NRCS) Web Soil Survey;
- Federal Emergency Management Agency (FEMA) Flood Insurance maps;
- the National Hydrography Dataset (NHD);
- Ohio Wetlands Inventory; and
- Recent aerial photography.

The wetland and stream delineation field survey was performed in accordance with criteria set forth in the *Corps of Engineers Wetland Delineation Manual* [(Environmental Laboratory, 1987) (Manual)] and the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* [(Version 2.0) (USACE, 2010) (Supplement)]. Data was collected from one or more sample plots in each delineated wetland (depending on the size of the delineated area) and were recorded on USACE Wetland Determination Data forms. The boundaries of wetlands were demarcated with pink survey ribbon (flagging) and located with a Trimble TDC150 GPS unit with reported sub-meter accuracy.

Hydrology was evaluated based on indicators that are divided into two categories: primary and secondary. The 1987 Manual and 2010 Supplement define hydrology as present when at least one primary indicator or two secondary indicators are identified. One primary indicator is sufficient to evaluate whether hydrology is present; however, if primary indicators are absent, two or more secondary indicators are required to evaluate hydrology. If other potential hydrology evidence was found (e.g., moss trim lines or microtopographic relief), then this was subsequently documented on the Wetland Determination Data Form.

Hydrophytic vegetation was assessed by identifying plant species and their assigned wetland indicator rating of obligate, facultative wet, facultative, facultative upland or upland, according to the 2018 National Wetland Plant List (USACE, 2016). Vegetation in both upland and wetland communities was characterized using the areal dominance method, with a 30-feet radius around the soil sample location for trees, a 15-feet radius for saplings/shrubs, and a five feet radius for herbaceous plants.

Hydric soil indicators were evaluated using soil characteristics, as defined in *Field Indicators of Hydric Soils in the United States (Version 8.0)* (NRCS, 2016). Evidence of hydric soil indicators were recorded based on the presence of color matrix, hue, and redoximorphic features, such as saturation, gleyed matrix, mottling, hydrogen sulfide odor, and organic/peat layers. Soil test pits were dug using a shovel to a depth of approximately 18 inches, or refusal due the presence of hard pan layer, rock or hard fill materials. Soil color was described using the Munsell Color book; soil texture was determined using USDA hand-texture methods and the presence/absence of redoximorphic features, including depletions and concentrations.



Wetlands were classified based on the Cowardin classification system (Cowardin, *et al.*, 1979). This system includes classifications for Palustrine Emergent (PEM), Palustrine Scrub-Shrub (PSS), and Palustrine Forested (PFO) wetlands. Within PEM wetlands, emergent plants make up at least 30 percent aerial coverage and are the tallest life form. Within PSS wetlands, woody plants less than 20-feet tall are the dominant life form. PFO wetlands are dominated by woody plants at least 20-feet tall.

Wetlands were also evaluated using the *Ohio Rapid Assessment Method (ORAM) for Wetlands v. 5.0* (Mack, 2001). The ORAM process focuses on an assessment of delineated wetlands, as opposed to the boundary of wetlands. The ORAM assessment utilizes scoring forms to determine the ecological and functional value of a particular wetland. The ORAM was developed to provide a relatively fast and easy method for determining the appropriate category of a wetland under the Wetland Anti-Degradation Rule, Ohio Administrative Code (OAC) Rule 3745-1-54. These regulations specify three wetland categories: Category 1, Category 2, and Category 3, which correspond to low-, medium-, and high-quality wetlands, respectively.

Additional surface waters, including stream channels and drainage ways, found during field work were investigated, flagged, and located with GPS. Delineated streams were characterized on the Stream Inventory Data Form, as well as the Primary Headwater Habitat Evaluation Form (Ohio EPA, 2012) and Qualitative Habitat Evaluation Index and Use Assessment Field Sheet, as necessary. To the extent practicable, these surface waters were investigated to evaluate drainage patterns and potential connections to other Waters of the United States.

Streams were classified as either ephemeral, intermittent, or perennial. A perennial stream has flowing water year-round during a typical year and they are generally identified as solid blue lines on the USGS topographic maps. An intermittent stream has flowing water during certain times of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Intermittent streams are generally identified as dashed blue lines on the USGS topographic maps. An ephemeral stream has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral streams are not identified on USGS topographic maps. These desktop classifications were refined based on observed conditions on site (e.g., flowing water unrelated to recent precipitation in an unmapped stream would be classified as intermittent).



# 4. Site Setting

#### 4.1 PHYSIOGRAPHY AND SOILS

The Study Area is located in the Till Plains section of the larger Central Lowlands physiographic province. This region generally consists of a gently rolling landscape with major changes in relief in areas along streams, in small areas of terraces, and moraines. Elevation within the Study Area ranges from approximately 920 feet above mean sea level (amsl) in the western portion of the Study Area to approximately 1,080 feet amsl along Harbison Road in the southeastern portion of the Study Area (USGS, 2021). A topographic map of the Study Area and surrounding region is provided as Figure 2.

Based on NRCS data (NRCS 2021), soil series units, drainage class, hydric classification identified by the NRCS web soil survey are listed in Table 1, in order of prevalence within the Study Area, and provided as Figure 2.

Soil Map Unit Symbol	Soil Map Unit Name	Percentage of Study Area	Drainage Class	Hydric Classification <sup>1</sup>
XeB	Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	17.5	Moderately well drained	Not Hydric
Ra	Ragsdale silty clay loam, 0 to 2 percent slopes	15.6	Poorly drained	Hydric
FnA	Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes	8.8	Somewhat poorly drained	Not Hydric
RvB	Russell-Miamian silt loams, 2 to 6 percent slopes	8.1	Well drained	Not Hydric
RtA	Rush silt loam, 0 to 2 percent slopes	4.4	Well drained	Not Hydric
EmB	Eldean silt loam, 2 to 6 percent slopes	3.8	Well drained	Not Hydric
So	Sloan silty clay loam	3.3	Very poorly drained	Hydric
Bs	Brookston silty clay loam, fine texture, 0 to 2 percent slopes	3.1	Poorly drained	Hydric
RtB	Rush silt loam, 2 to 6 percent slopes	3.0	Well drained	Not Hydric
MtB	Milton silt loam, 2 to 6 percent slopes	3.0	Well drained	Not Hydric
MtC2	Milton silt loam, 6 to 12 percent slopes, moderately eroded	2.8	Well drained	Not Hydric
CeB	Celina silt loam, 2 to 6 percent slopes	2.6	Moderately well drained	Not Hydric
OcB	Ockley silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	2.6	Well drained	Not Hydric
RvB2	Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	2.4	Well drained	Not Hydric
MhC2	Miamian silt loam, 6 to 12 percent slopes, moderately eroded	2.2	Well drained	Not Hydric
EmC2	Eldean silt loam, 6 to 12 percent slopes, moderately eroded	1.6	Well drained	Not Hydric
Ee	Eel loam	1.4	Moderately well drained	Hydric
ThA	Thackery silt loam, 0 to 2 percent slopes	1.2	Moderately well drained	Not Hydric
XeA	Xenia silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	1.2	Moderately well drained	Not Hydric
CcD2	Casco-Eldean loams, 12 to 18 percent slopes, moderately eroded	1.1	Well drained	Not Hydric
Ms	Millsdale silty clay loam, 0 to 2 percent slopes	1.1	Very poorly drained	Hydric
Ag	Algiers silt loam	1.0	Somewhat poorly drained	Not Hydric
ReA	Reesville silt loam, 0 to 2 percent slopes	1.0	Somewhat poorly drained	Not Hydric
RhD	Ritchey silt loam, 12 to 18 percent slopes	0.9	Well drained	Not Hydric
OcA	Ockley silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	0.9	Well drained	Not Hydric
EmA	Eldean silt loam, 0 to 2 percent slopes	0.8	Well drained	Not Hydric
MhB2	Miamian silt loam, 2 to 6 percent slopes, eroded	0.8	Well drained	Not Hydric
BbB	Birkbeck silt loam, 1 to 4 percent slopes	0.7	Moderately well drained	Not Hydric
CrA	Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	0.7	Somewhat poorly drained	Hydric
MtA	Milton silt loam, 0 to 2 percent slopes	0.4	Well drained	Not Hydric
RhE2	Ritchey silt loam, 18 to 25 percent slopes, moderately eroded	0.4	Well drained	Not Hydric
SIA	Sleeth silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	0.4	Somewhat poorly drained	Not Hydric
CdE2	Casco-Rodman loams, 18 to 50 percent slopes, moderately eroded	0.3	Well drained	Not Hydric

#### Table 1. Study Area Soils



Soil Map Unit Symbol	Soil Map Unit Name	Percentage of Study Area	Drainage Class	Hydric Classification <sup>1</sup>
MoC2	Miamian-Eldean silt loams, 6 to 12 percent slopes, moderately eroded	0.2	Well drained	Not Hydric
ThB	Thackery silt loam, 2 to 6 percent slopes	0.2	Moderately well drained	Not Hydric
RuA	Russell silt loam, 0 to 2 percent slopes	0.1	Well drained	Not Hydric
MhB	Miamian silt loam, 2 to 6 percent slopes	0.1	Well drained	Not Hydric
RdA	Raub silt loam, 0 to 2 percent slopes	0.1	Somewhat poorly drained	Not Hydric
RbA	Randolph silt loam, 0 to 2 percent slopes	0.1	Somewhat poorly drained	Not Hydric
MUF	Milton soils, channery variant, 25 to 50 percent slopes	0.1	Well drained	Not Hydric
RhB	Ritchey silt loam, 2 to 6 percent slopes	<0.1	Well drained	Not Hydric
OcB2	Ockley silt loam, 2 to 6 percent slopes, moderately eroded	<0.1	Well drained	Not Hydric
RhC	Ritchey silt loam, 6 to 12 percent slopes	<0.1	Well drained	Not Hydric
EmB2	Eldean silt loam, 2 to 6 percent slopes, moderately eroded	<0.1	Well drained	Not Hydric
Ws	Westland silty clay loam, Southern Ohio Till Plain, 0 to 2 percent slopes	<0.1	Poorly drained	Hydric
MID3	Miamian clay loam, shallow to dense till substratum, 12 to 18 percent slopes, severely eroded	<0.1	Well drained	Not Hydric

Note:

<sup>1</sup> Soils mapping source: USDA, Natural Resource Conservation Service (NRCS) Web Soil Survey (accessed March 30, 2021).

Descriptions of each soil series comprising at least five percent of the Study Area, in order of prevalence, are provided below. See Figure 2 for mapping of all soil map units located within the Study Area.

- Xenia Series: The Xenia series consists of nearly level to gently sloping, moderately well drained soils located on uplands. These soils have a seasonal high-water table for short periods in the winter and spring. These soils are well suited to farming and are not classified as hydric.
- **Ragsdale Series**: The Ragsdale series consists of deep, nearly level, poorly drained soil that is mainly found in upland depressions. These soils are saturated with water for a significant period in winter and spring, and they are slow to dry out unless they are artificially drained. These soils are classified as hydric.
- **Russell Series**: The Russell series consists of deep, nearly level to gently sloping, well drained soils located on uplands. Water rarely ponds on the surface for extended periods. These soils are typically farmed and are not classified as hydric.
- **Fincastle Series:** The Fincastle series consists of nearly level, somewhat poorly drained soils located on uplands. Runoff is slow and water ponds on some more level areas for short periods. These soils have a high water table for long periods in winter and early in spring. They are slow to dry out in spring unless they are drained. These soils are mostly used for cultivated crops and are not classified as hydric.
- **Rush Series**: The Rush series consists of deep, nearly level to gently sloping, well drained soils located on outwash plains and terraces. Runoff is slow to medium but water rarely ponds on these soils for extended periods. These soils are used for cultivated crops and are not classified as hydric.
- **Eldean Series**: The Eldean series consists of nearly level to moderately steep, well drained soils. These soils are found along drainageways on stream terraces and on gravel knolls on uplands. Eldean soils dry out early in spring. These soils are commonly used for cultivated crops and are not classified as hydric.
- **Milton Series**: The Milton series consists of nearly level to sloping, well drained, moderately deep soils over limestone bedrock at a depth of 20 to 40 inches. The underlying bedrock is fractured and water moves rapidly through it. These soils are used mostly for crops, pasture, or woodland and are not classified as hydric.



#### 4.2 HYDROLOGY

The Study Area is located in the Little Miami Watershed (USGS HUC 05090202). The major streams located in this watershed include the Little Miami River, Massies Creek, Caesar Creek, O'Bannon Creek, and East Fork Little Miami River. The Little Miami River flows southwest to its confluence with the Ohio River.

The majority of surface hydrology within the Study Area is generated by precipitation and surface water sheet flow from adjacent areas at higher elevations. The Study Area has an average annual precipitation of 41.84 inches, as measured in nearby Xenia, Ohio (NCDC, 2021).

There are three NWI wetlands mapped within the Study Area: one freshwater emergent wetland (NWI code: PEM1A) and two riverine wetlands (NWI codes: R4SBC and R5UBH). The riverine wetlands coincide with Clark Run.

The Ohio Wetlands Inventory indicates the potential presence of numerous, relatively small wetlands throughout the Study Area. These include Woods on Hydric Soil, Scrub/Shrub Wetland, and Wet Meadow. Most of these areas occur within active cropland, small woodlots or are associated with Clark Run. State and federally mapped aquatic resources within the Study Area are summarized in Table 2 and depicted on Figure 3.

Code	Wetland Type	Status
PEM1A	Freshwater Emergent Wetland	No official state or federal status
R4SBC	Riverine	No official state or federal status
R5UBH	Riverine	No official state or federal status
34 (20 occurrences)	Woods on Hydric Soil	No official state or federal status
37 (6 occurrences)	Scrub/shrub Wetland	No official state or federal status
38 (16 occurrences)	Wet Meadow	No official state or federal status

Table 2. State and Federally Mapped Wetland and Streams within Study Area



# 5. Results

Field investigations to delineate wetlands and streams within the Study Area were completed by Haley & Aldrich wetland scientists on October 13 – 21, 2020; November 17 – 18, 2020; and March 8 – 11, 2021. A total of six wetlands and 27 stream segments were identified. Delineated wetlands and streams are summarized in Tables 3 and 4, respectively, and are depicted on Figure 4.

#### 5.1 DELINEATED WETLANDS

Five palustrine emergent (PEM) wetlands were delineated within the Study Area (Wetlands MMC, MMD, MMG, MMH, and MMI). The observed indicators of wetland hydrology in these wetlands included Surface Water (A1), Water-Stained Leaves (B9), Oxidized Rhizospheres on Living Roots (C3), Geomorphic Position (D2), and Drainage Patters (B10). The dominant vegetation in these areas included reed canary grass (*Phalaris arundinacea*), pink smartweed (*Persicaria pensylvanica*), shoreline sedge (*Carex hyalinolepis*), lakebank sedge (*Carex lacustris*), common boneset (*Eupatorium perfoliatum*), and cursed crowfoot (*Ranunculus sceleratus*). The observed hydric soil indicators included Depleted Matrix (F3), Depleted Below Dark Surface (A11), and Redox Dark Surface (F6).

One palustrine forested (PFO) wetland was delineated within the Study Area (Wetland MME). The observed indicators of hydrology in this wetland included Water-Stained Leaves (B9) and Oxidized Rhizospheres on Living Roots (C3). The dominant vegetation included green ash (*Fraxinus pennsylvanica*), black willow (*Salix nigra*), eastern cottonwood (*Populus deltoides*), arrowwood viburnum (*Viburnum dentatum*), slippery elm (*Ulmus rubra*), poison ivy (*Toxicodendron radicans*), and common red raspberry (*Rubus idaeus*). The observed hydric soil indicator was Depleted Matrix (F3).

Table 3 contains the complete inventory of wetlands delineated in the Study Area. Representative photos of each wetland are included in Appendix A; a brief description of each delineated wetland is included in Appendix B; and all completed Wetland Determination Data Forms are provided in Appendix C. Wetland community type was classified according to the Cowardin classification (Cowardin, *et al.*, 1979).

Wetland ID	Wetland	Delineated Area <sup>2</sup>	ORAM	Presumed
wettanuid	Community <sup>1</sup>	(acres)	Category	Jurisdiction <sup>3</sup>
Wetland MMC	PEM	0.04	1	USACE
Wetland MMD	PEM	0.13	1	Ohio EPA
Wetland MME	PFO	0.88	2	Ohio EPA
Wetland MMG	PEM	0.29	2	USACE
Wetland MMH	PEM	0.06	1	USACE
Wetland MMI	PEM	0.12	2	USACE

#### Table 3. Delineated Wetlands

Notes:

<sup>1</sup> Wetland classifications are based on the Cowardin classification system whereby: P = Palustrine; EM = Emergent; SS = Shrub Scrub; FO = Forested.

<sup>2</sup> Area of delineated wetlands presented on Figure 4 represent the entire wetland area identified during field investigations and may include small areas outside of the actual Study Area limits.

<sup>3</sup> If necessary, final federal and state jurisdiction can only be confirmed through consultation with USACE and Ohio EPA staff.



#### 5.2 DELINEATED STREAMS

Fourteen ephemeral streams were delineated within the Study Area (Streams MM2, MM3, MM7, MM8, MM9, MM10, MM11, MM12, MM13, MM15, MM16, MM17, MM26, and MM27). These channels were generally observed to be 2 to 3 feet wide with no flow at the time of field investigations. Channel substrates included silt, cobble, and clay.

Nine intermittent streams were delineated within the Study Area (Streams MM4, MM5, MM6, MM19, MM20, MM22, MM23, MM24, and MM25). These streams were generally observed to be 3 to 6 feet wide with depths ranging from no flow to 5 inches deep. Channel substrates included cobble, boulder, and silt.

One perennial stream (Clark Run) was delineated within the Study Area (four separate reaches delineated as MM1, MM14, MM18, and MM21). This stream flows through pasture and was approximately 7 to 10 feet wide and 8 to 24 inches deep. Channel substrates included cobble, boulder, and silt.

Table 4 below contains a summary of streams delineated within the Study Area. Representative photos of each stream are included in Appendix A; a brief description of each delineated stream is included in Appendix B; and all completed Stream Data Inventory Forms are provided in Appendix C.

Stream ID	Stream Type <sup>1</sup>	Delineated Length (feet) <sup>2</sup>	HHEI Score	Presumed Jurisdiction <sup>3</sup>
Stream MM1 (Clark Run)	Perennial	2,405	73	USACE
Stream MM2	Ephemeral	325	37	Ohio EPA
Stream MM3	Ephemeral	490	22	Ohio EPA
Stream MM4	Intermittent	930	56	USACE
Stream MM5	Intermittent	755	38	USACE
Stream MM6	Intermittent	1,670	63	USACE
Stream MM7	Ephemeral	70	17	Ohio EPA
Stream MM8	Ephemeral	60	17	Ohio EPA
Stream MM9	Ephemeral	1,675	27	Ohio EPA
Stream MM10	Ephemeral	190	37	Ohio EPA
Stream MM11	Ephemeral	1,535	33	Ohio EPA
Stream MM12	Ephemeral	210	22	Ohio EPA
Stream MM13	Ephemeral	390	33	Ohio EPA
Stream MM14 (Clark Run)	Perennial	2,435	68	USACE
Stream MM15	Ephemeral	220	32	Ohio EPA
Stream MM16	Ephemeral	305	25	Ohio EPA
Stream MM17	Ephemeral	356	10	Ohio EPA
Stream MM18 (Clark Run)	Perennial	317	64	USACE
Stream MM19	Intermittent	435	61	USACE
Stream MM20	Intermittent	580	55	USACE

#### Table 4. Delineated Streams



StreamID	Stream Type <sup>1</sup>	Delineated Length (feet) <sup>2</sup>	HHEI Score	Presumed Jurisdiction <sup>3</sup>
Stream MM21 (Clark Run)	Perennial	1,240	76	USACE
Stream MM22	Intermittent	317	31	USACE
Stream MM23	Intermittent	692	60	USACE
Stream MM24	Intermittent	78	21	USACE
Stream MM25	Intermittent	133	22	USACE
Stream MM26	Ephemeral	100	37	Ohio EPA
Stream MM27	Ephemeral	374	32	Ohio EPA

Notes:

<sup>1</sup> Stream type includes perennial, intermittent and ephemeral. A perennial stream has flowing water year-round during a typical year. Perennial streams are generally identified as solid blue lines on the USGS Topographic maps. An intermittent stream has flowing water during certain times of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Intermittent streams are generally identified as dashed blue lines on the USGS Topographic maps. An ephemeral drain has flowing water only during and for a short duration after, precipitation events in a typical year. Ephemeral drains are not identified on USGS Topographic maps.

<sup>2</sup> Length of delineated wetlands presented on Figure 4 represent the entire stream length identified during field investigations and may include small areas outside of the actual Study Area limits.

<sup>3</sup> If necessary, final federal and state jurisdiction can only be confirmed through consultation with USACE and Ohio EPA.



# 6. Conclusions

A total of six wetlands and 27 stream segments were delineated during the field investigations conducted by Haley & Aldrich in October and November 2020 and March 2021. Haley & Aldrich's analysis suggests the Wetlands MMD and MME appear to be isolated and, as such, are likely to be considered jurisdictional by the Ohio EPA. The remaining wetlands appear likely to have hydrological connections to other Waters of the United States and would likely be considered jurisdictional by the USACE. The delineated intermittent and perennial streams are also likely to be considered jurisdictional by the USACE. The ephemeral streams identified within the Study Area are unlikely to be considered jurisdictional by the USACE; however, the Ohio EPA would likely take jurisdiction of these streams. If necessary, it is recommended that a final determination of jurisdictional status be made through consultation with the USACE and Ohio EPA.



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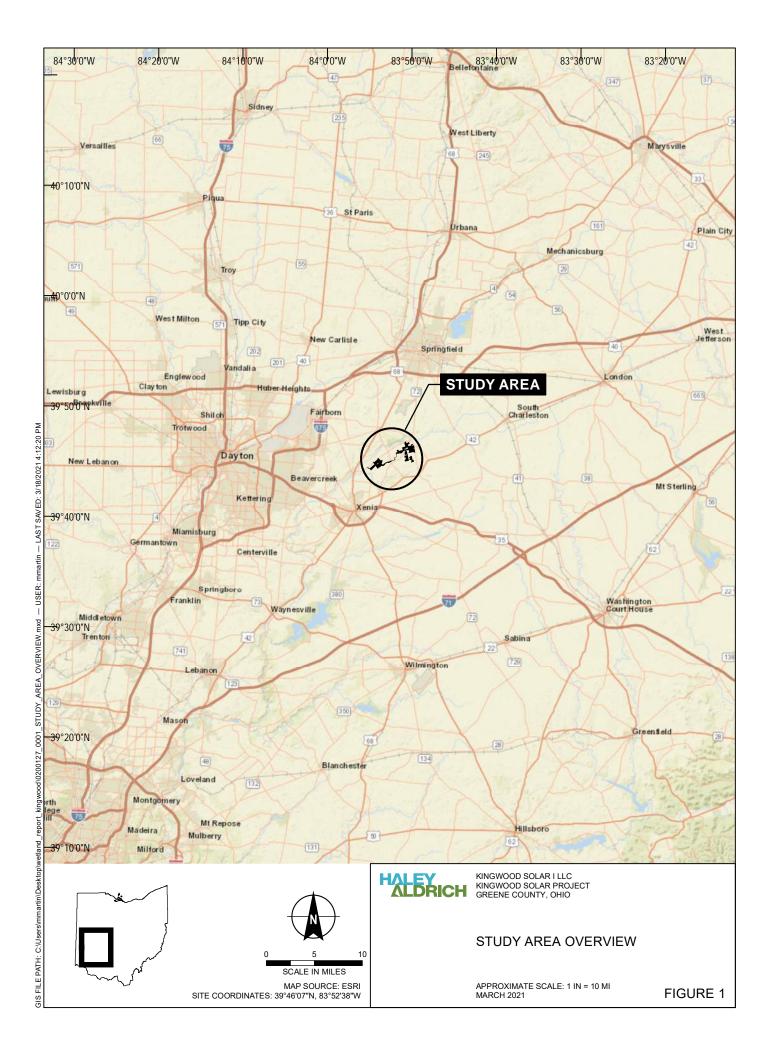
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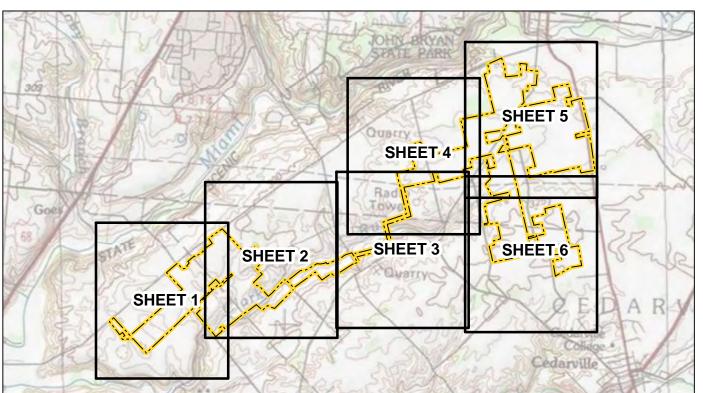
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#### STUDY AREA SOILS

#### - Ag - Algiers silt loam

- BbB Birkbeck silt loam, 1 to 4 percent slopes
- Bs Brookston silty clay loam, fine texture, 0 to 2 percent slopes
- ° CcD2 Casco-Eldean loams, 12 to 18 percent slopes, moderately eroded
- CdE2 Casco-Rodman loams, 18 to 50 percent slopes, moderately eroded
- · CeB Celina silt loam, 2 to 6 percent slopes
- CrA Crosby silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes
   Ee Eel loam
- · Le Lei Ioain
- EmA Eldean silt loam, 0 to 2 percent slopes
- EmB Eldean silt loam, 2 to 6 percent slopes
- EmB2 Eldean silt loam, 2 to 6 percent slopes, moderately eroded
- . EmC2 Eldean silt loam, 6 to 12 percent slopes, moderately eroded
- FnA Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes
- MUF Milton soils, channery variant, 25 to 50 percent slopes
- MhB Miamian silt loam, 2 to 6 percent slopes
- MhB2 Miamian silt loam, 2 to 6 percent slopes, eroded
- MhC2 Miamian silt loam, 6 to 12 percent slopes, moderately eroded
- MID3 Miamian clay loam, shallow to dense till substratum, 12 to 18 percent slopes, severely eroded
- <sup>°</sup>MoC2 Miamian-Eldean silt loams, 6 to 12 percent slopes, moderately eroded
- Ms Millsdale silty clay loam, 0 to 2 percent slopes
- . MtA Milton silt loam, 0 to 2 percent slopes
- MtB Milton silt loam, 2 to 6 percent slopes
- MtC2 Milton silt loam, 6 to 12 percent slopes, moderately eroded

#### LEGEND

STUDY AREA



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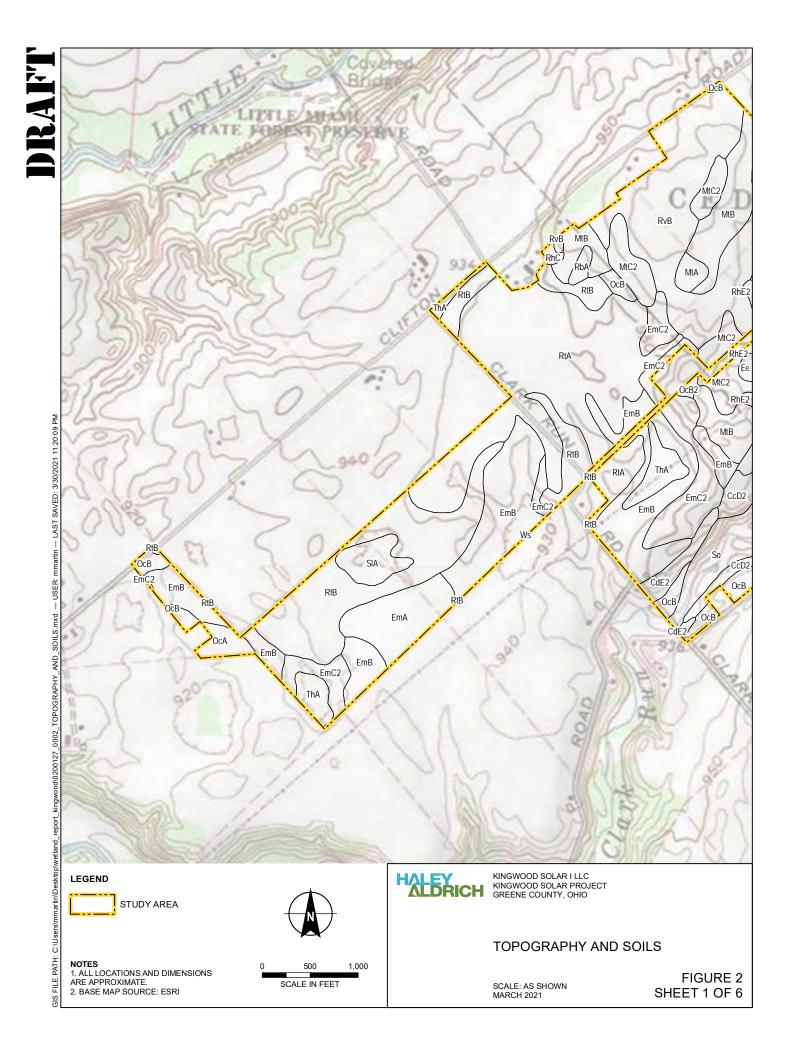
NOTES 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. 2. BASE MAP SOURCE: ESRI

- OcA Ockley silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes
- OcB Ockley silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes
- OcB2 Ockley silt loam, 2 to 6 percent slopes, moderately eroded
- Ra Ragsdale silty clay loam, 0 to 2 percent slopes
- RbA Randolph silt loam, 0 to 2 percent slopes
- RdA Raub silt loam, 0 to 2 percent slopes
- ReA Reesville silt loam, 0 to 2 percent slopes
- RhB Ritchey silt loam, 2 to 6 percent slopes
- RhC Ritchey silt loam, 6 to 12 percent slopes
- RhD Ritchey silt loam, 12 to 18 percent slopes
- RhE2 Ritchey silt loam, 18 to 25 percent slopes, moderately eroded
- RtA Rush silt loam, 0 to 2 percent slopes
- RtB Rush silt loam, 2 to 6 percent slopes
- RuA Russell silt loam, 0 to 2 percent slopes
- RvB Russell-Miamian silt loams, 2 to 6 percent slopes
- "RvB2 Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded
- $_{\circ}$  SIA Sleeth silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes
- So Sloan silty clay loam
- $_{\circ}$  ThA Thackery silt loam, 0 to 2 percent slopes
- ThB Thackery silt loam, 2 to 6 percent slopes
- "Ws Westland silty clay loam, Southern Ohio Till Plain, 0 to 2 percent slopes
- $\ensuremath{\,{\ensuremath{\scriptstyle \circ}}}$  XeA Xenia silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes
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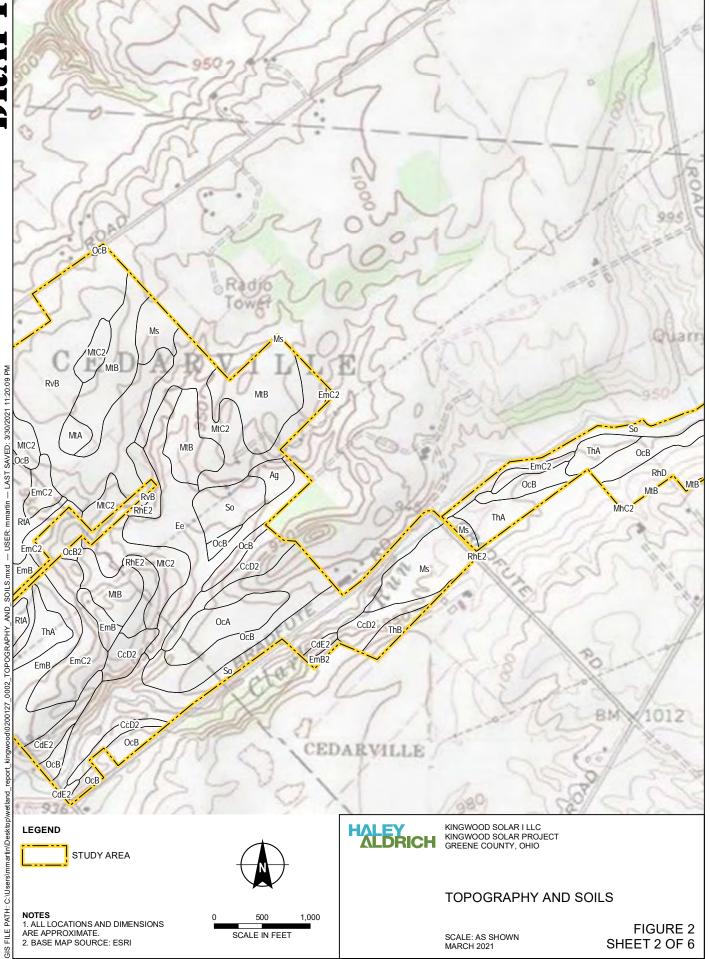
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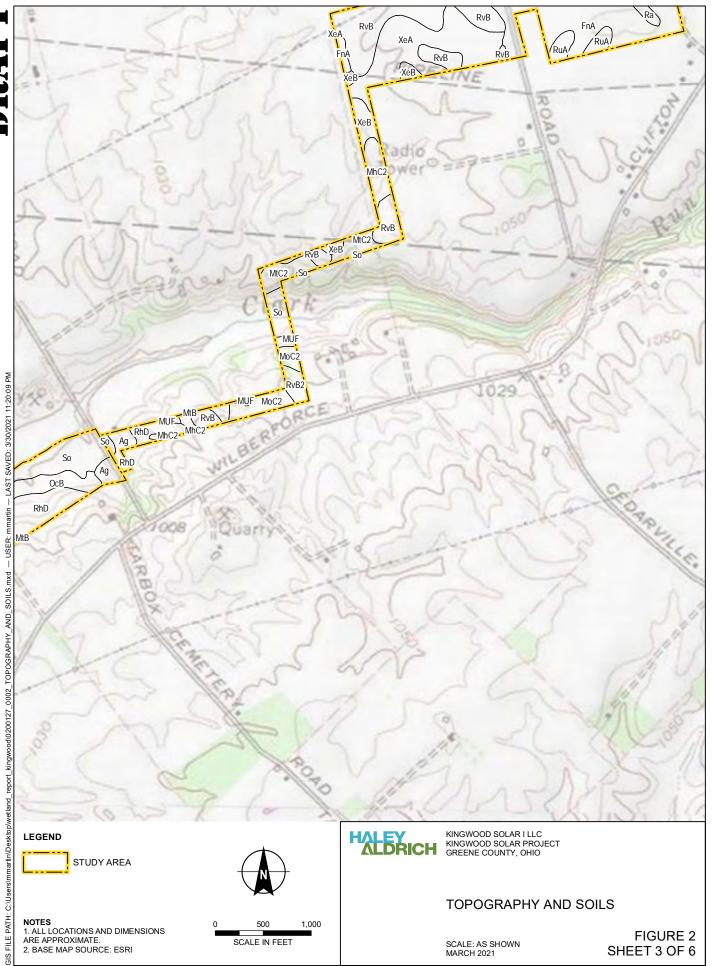
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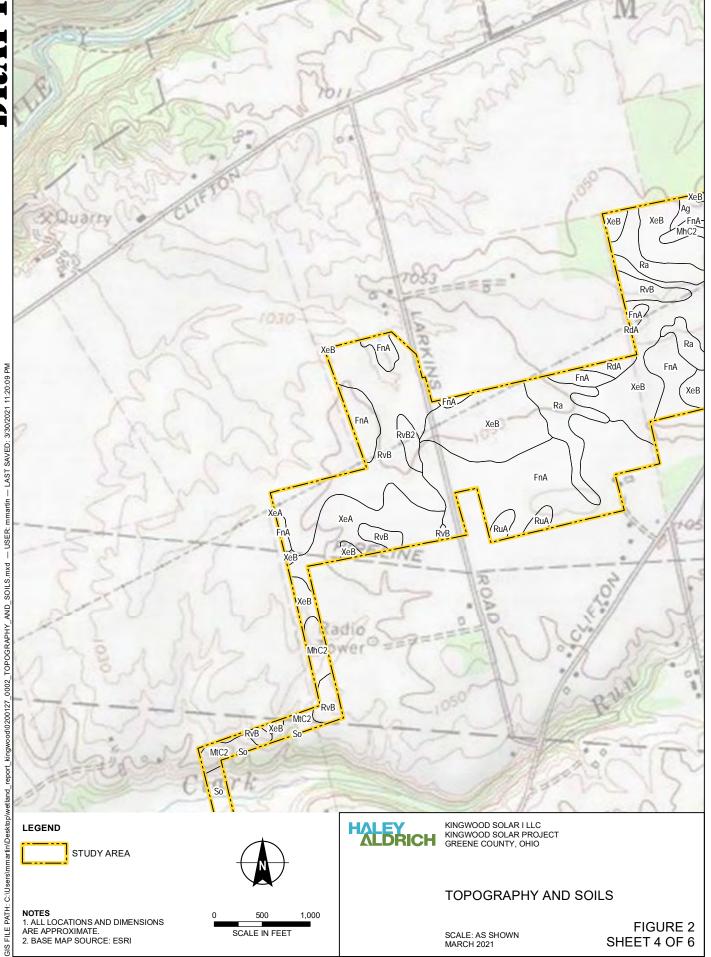




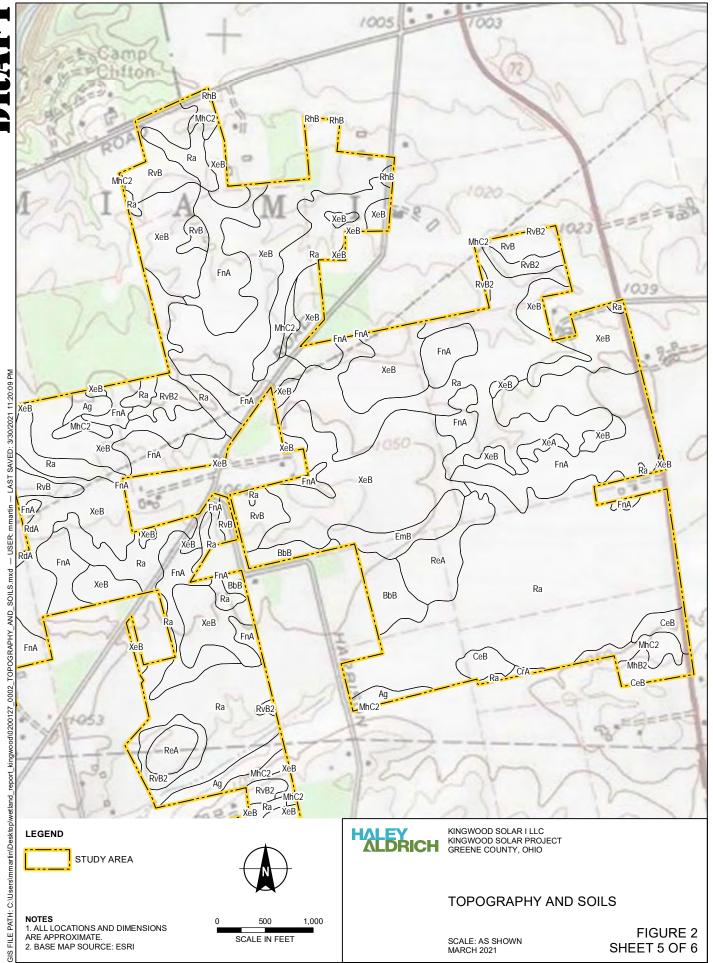






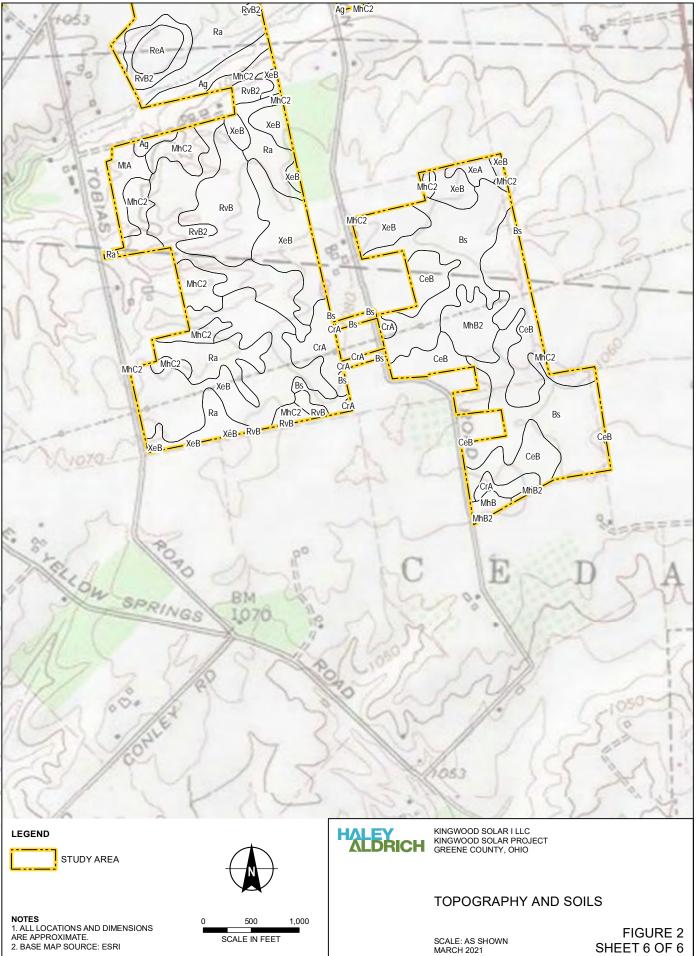




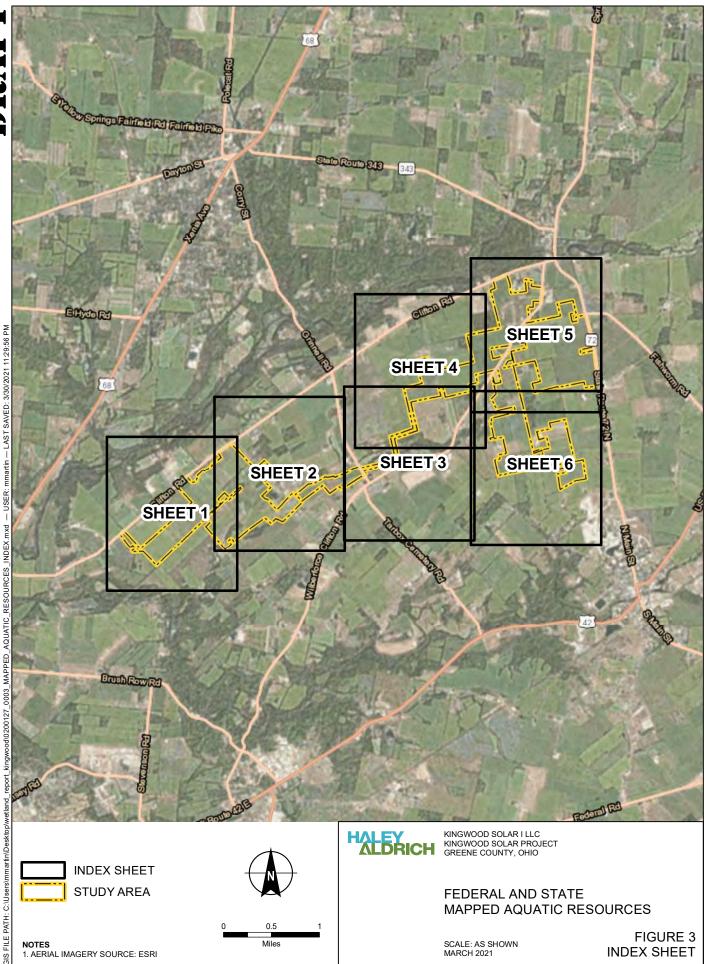










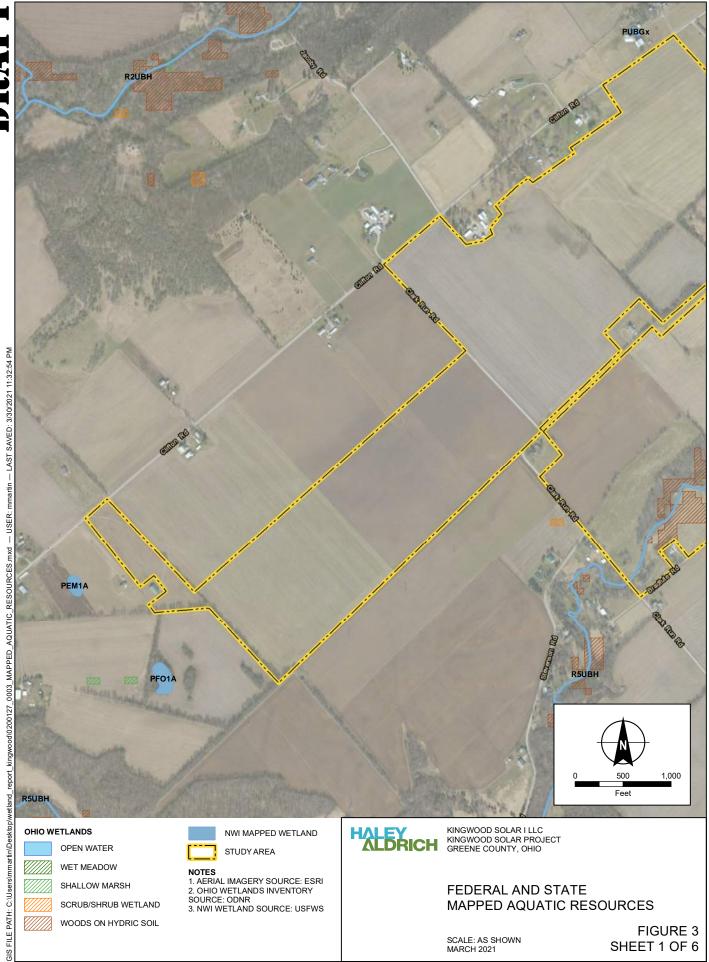


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**FIGURE 3** SHEET 1 OF 6







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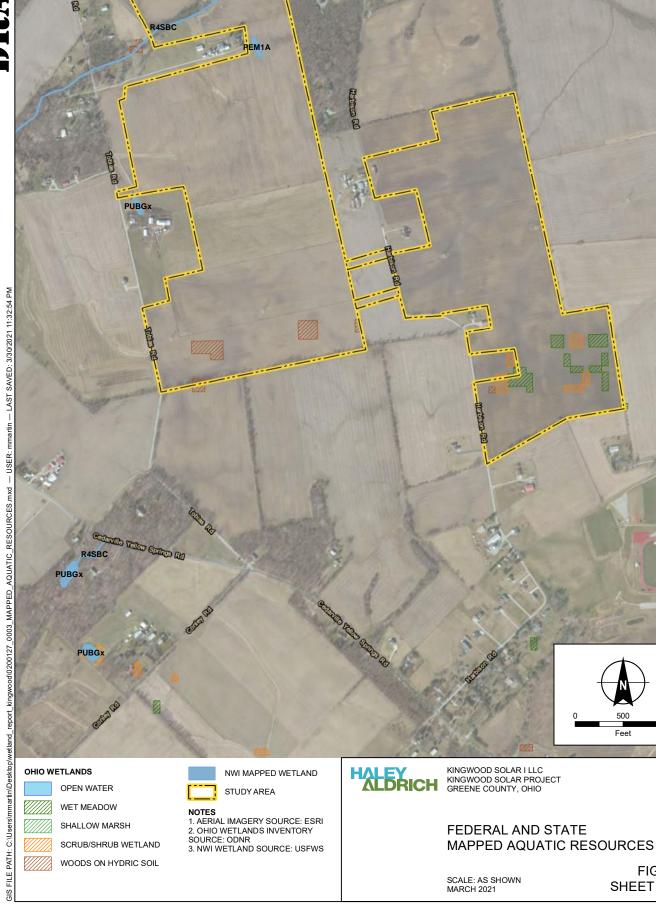
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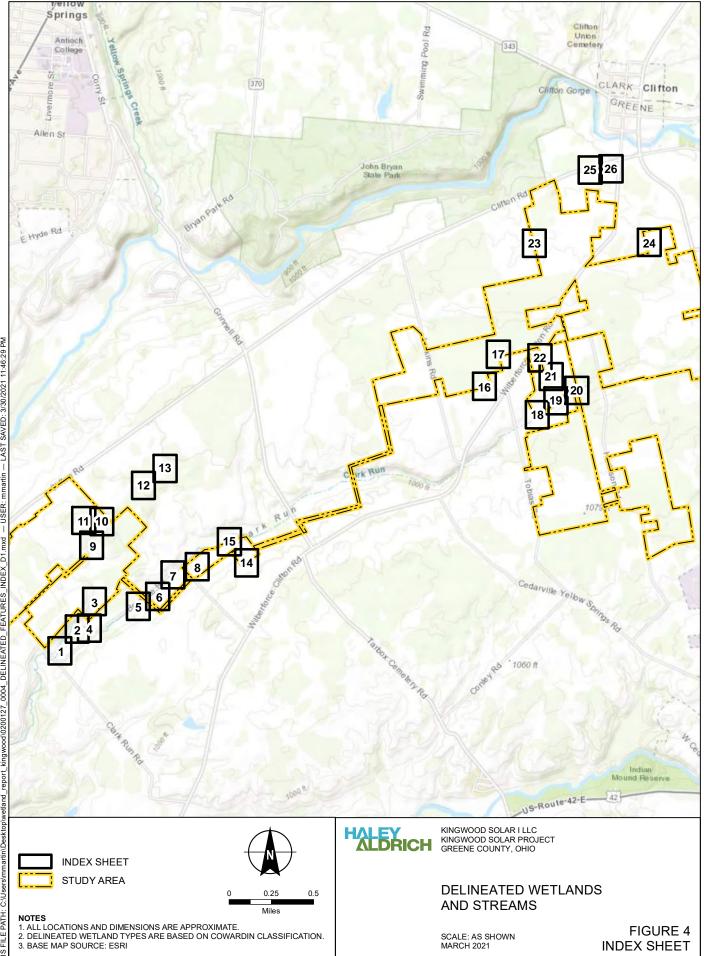


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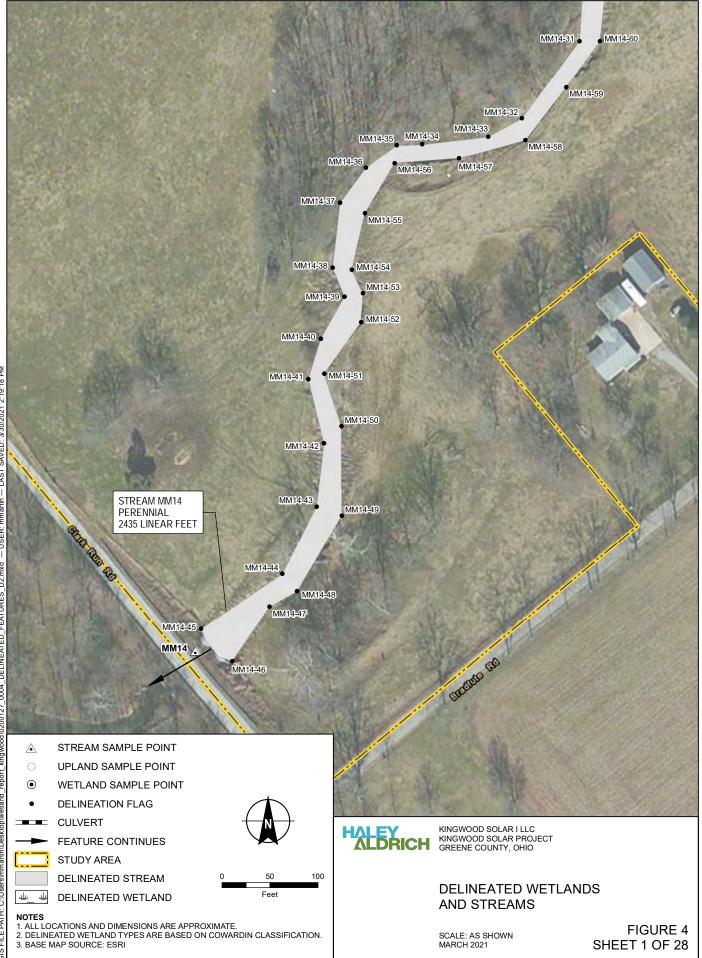
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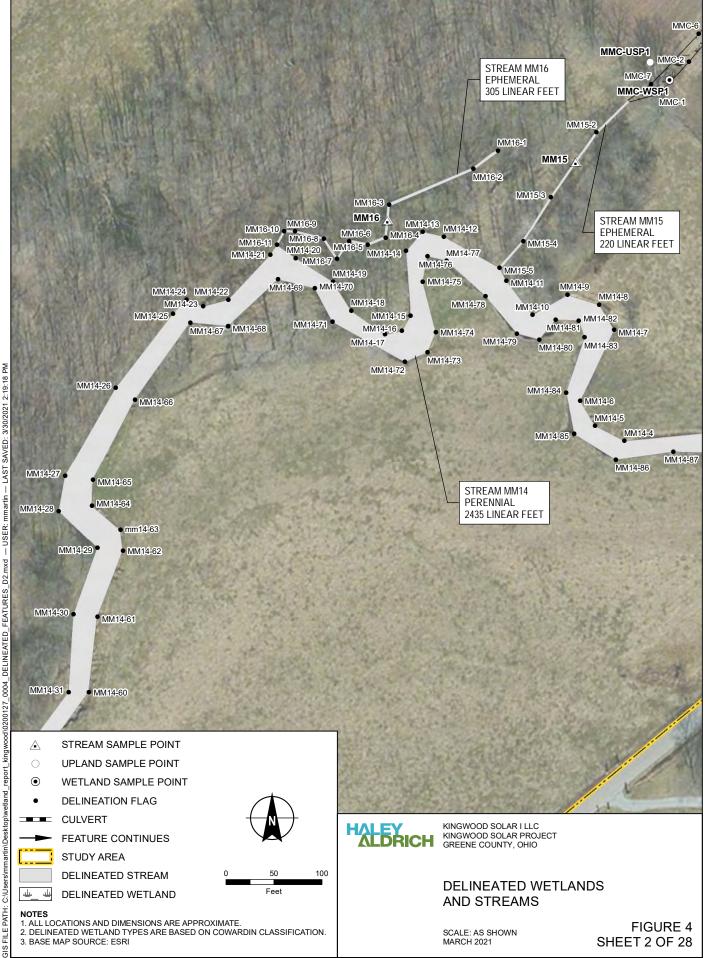
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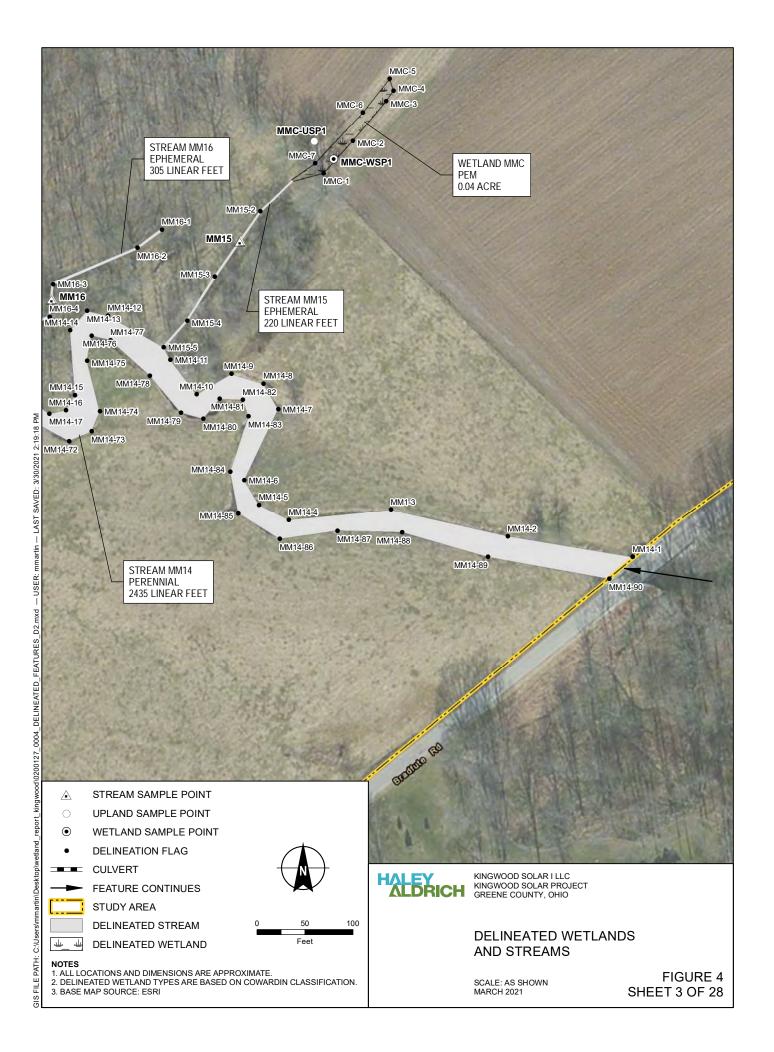


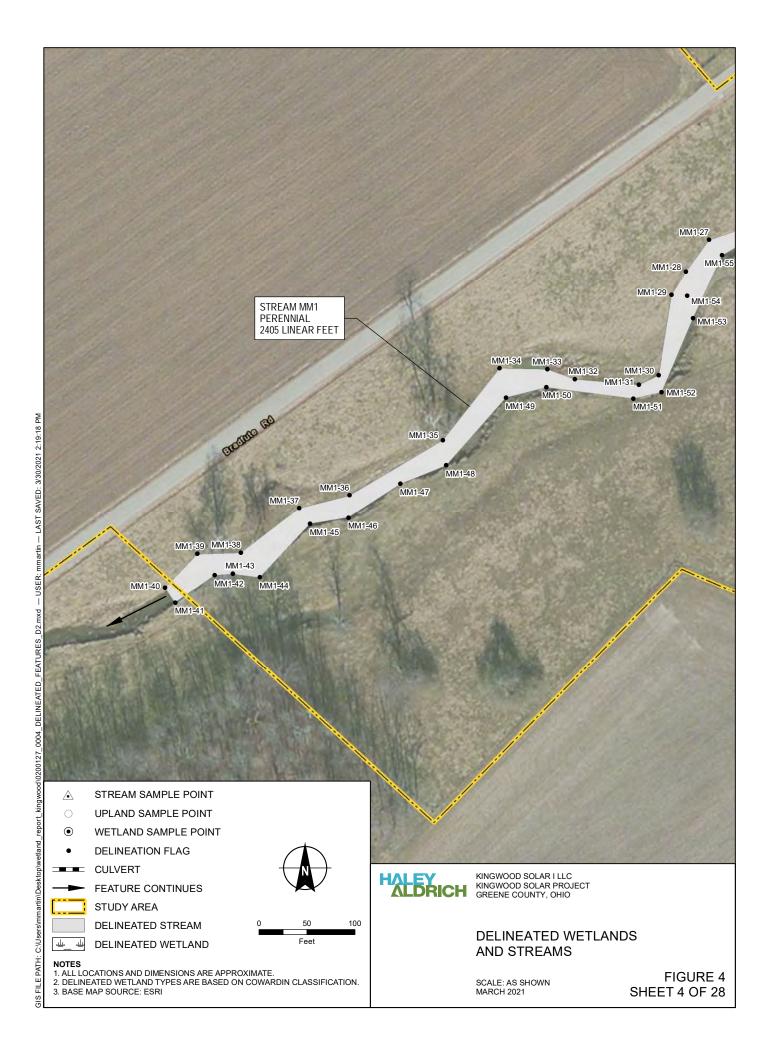
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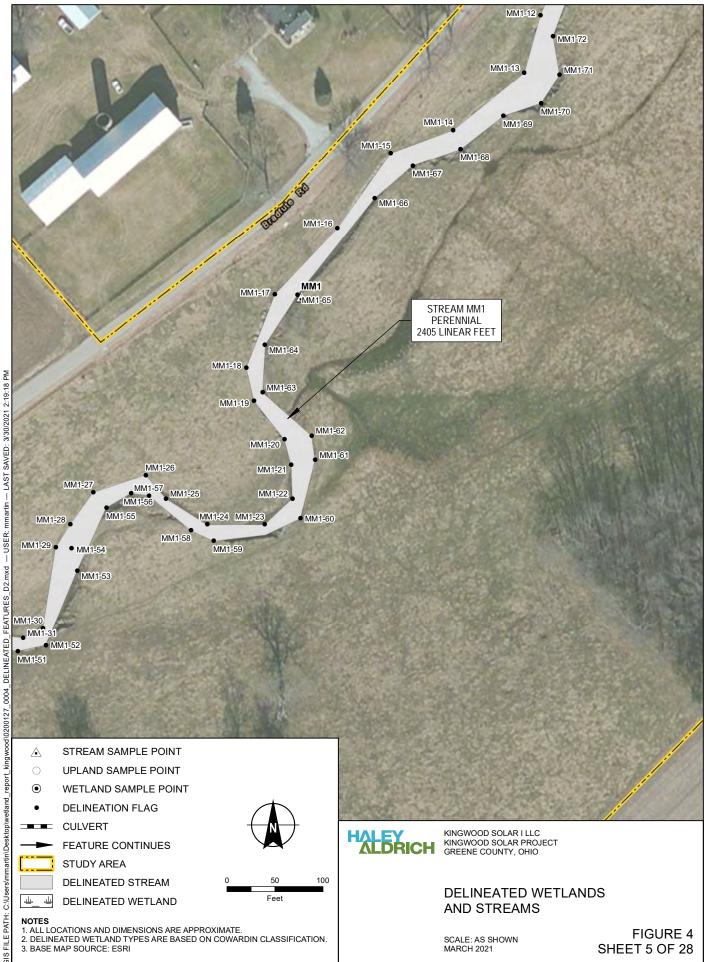




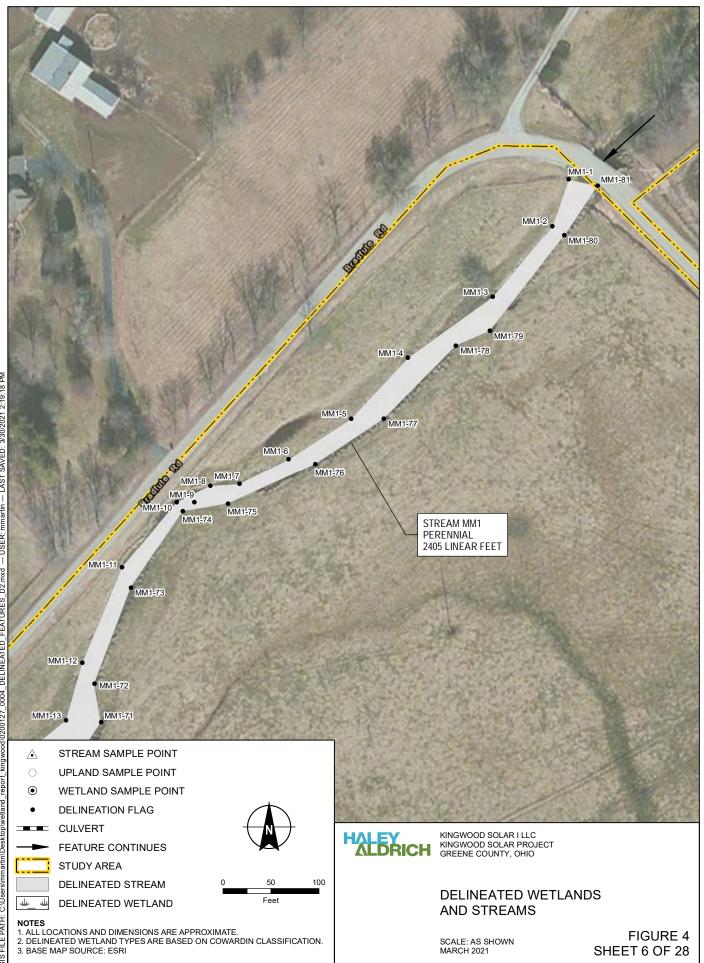
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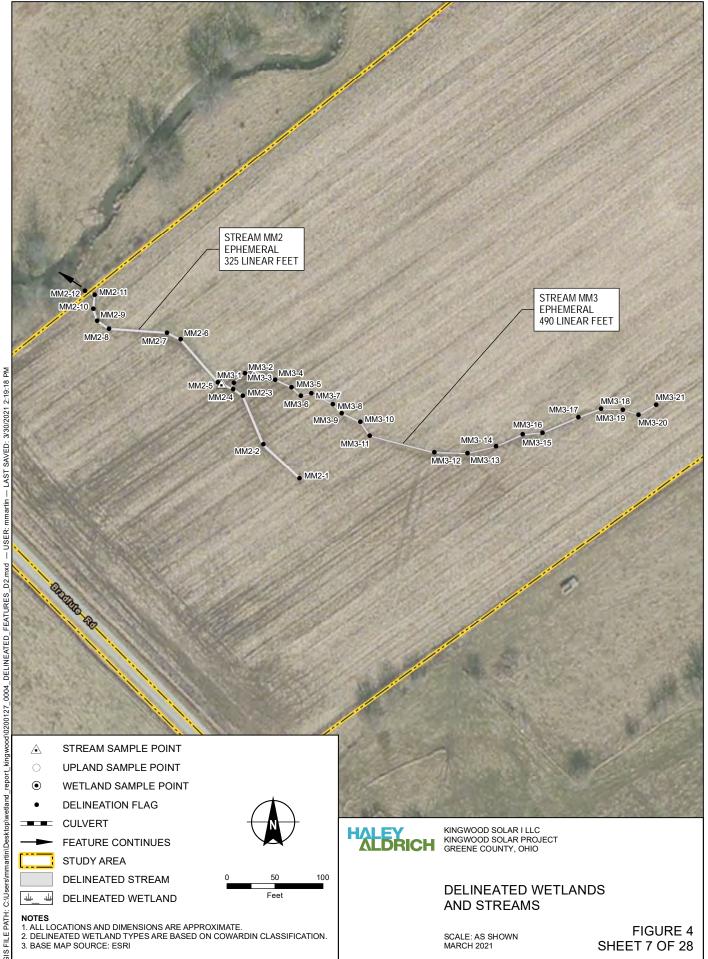




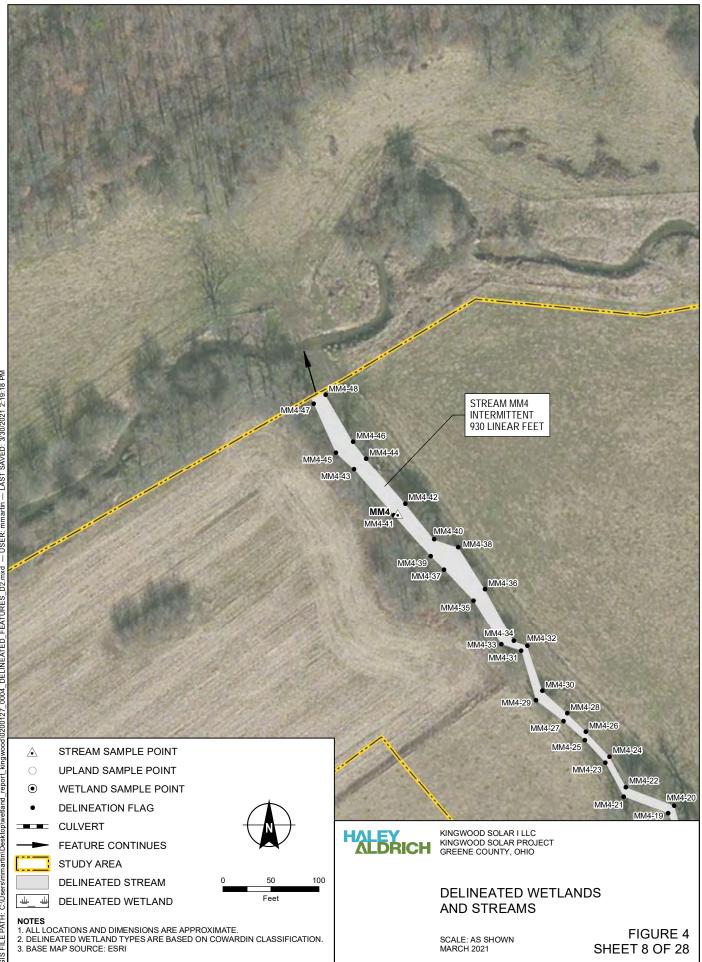


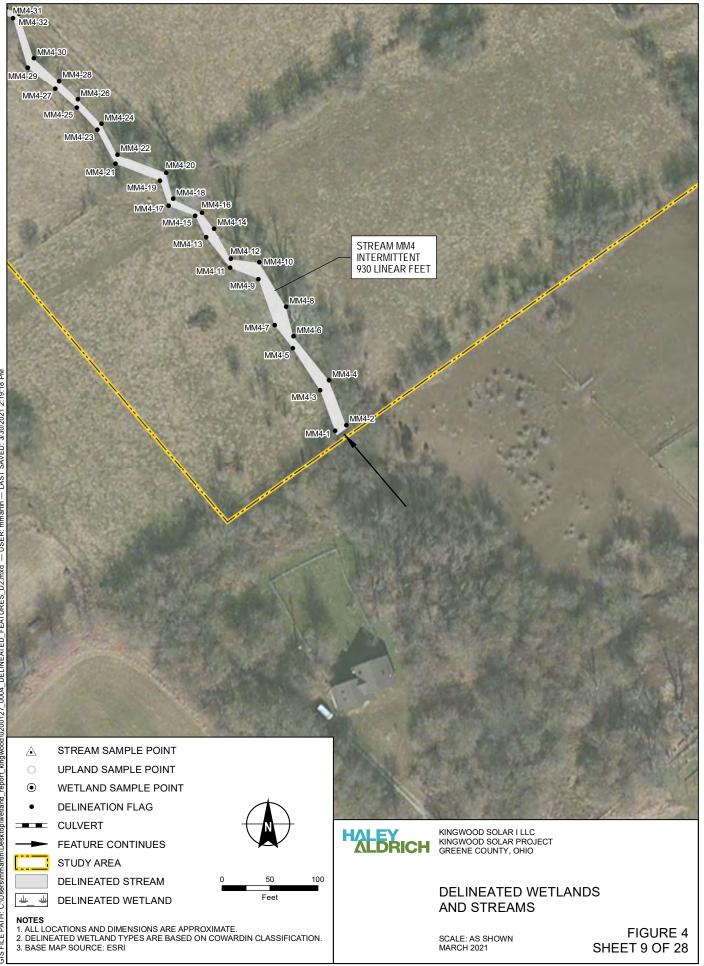
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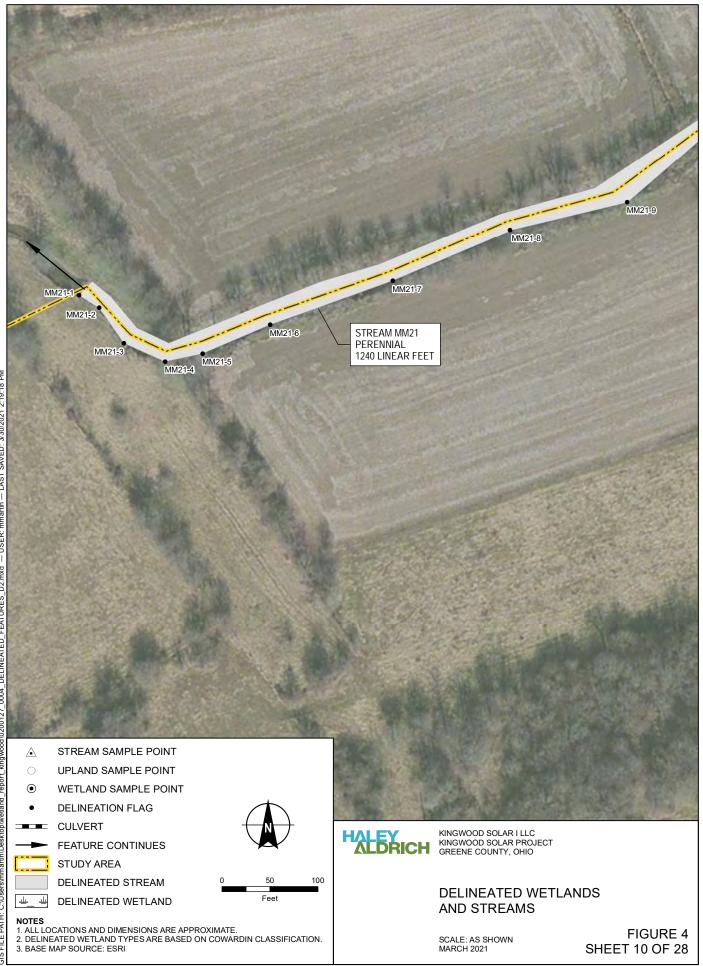


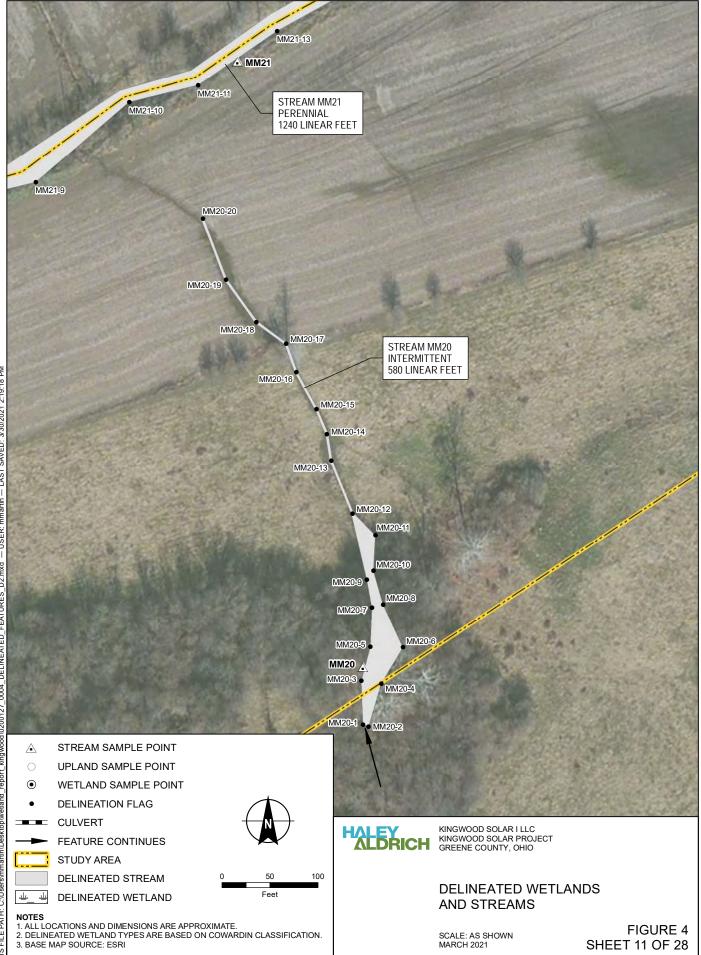


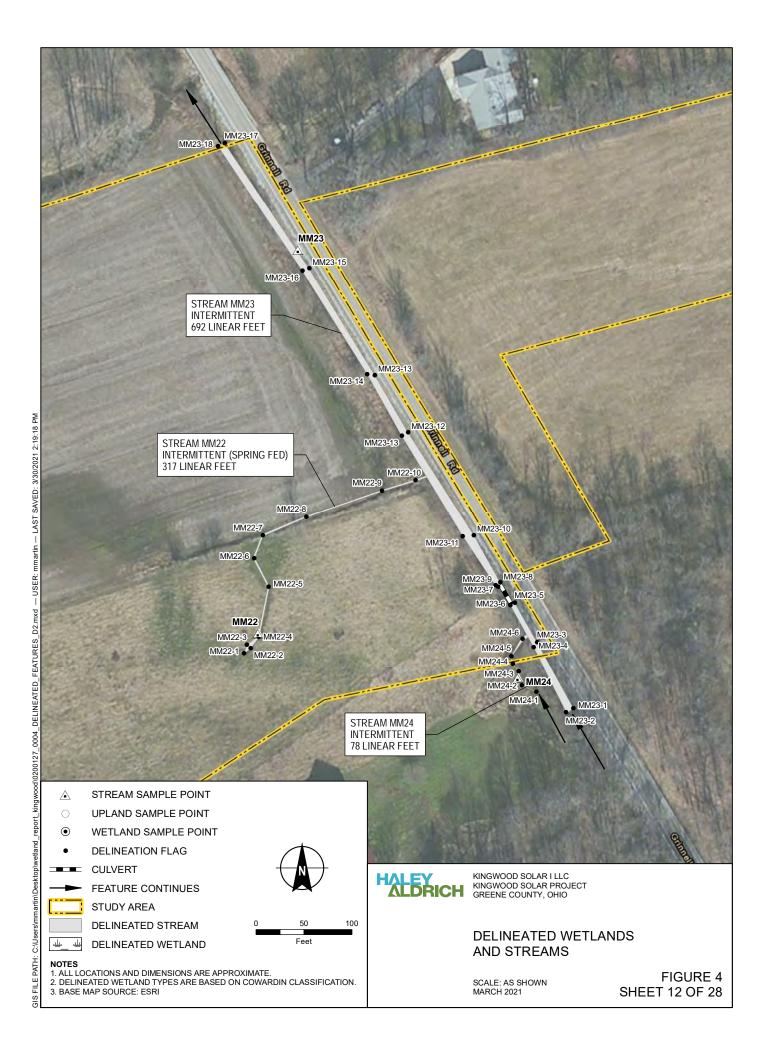
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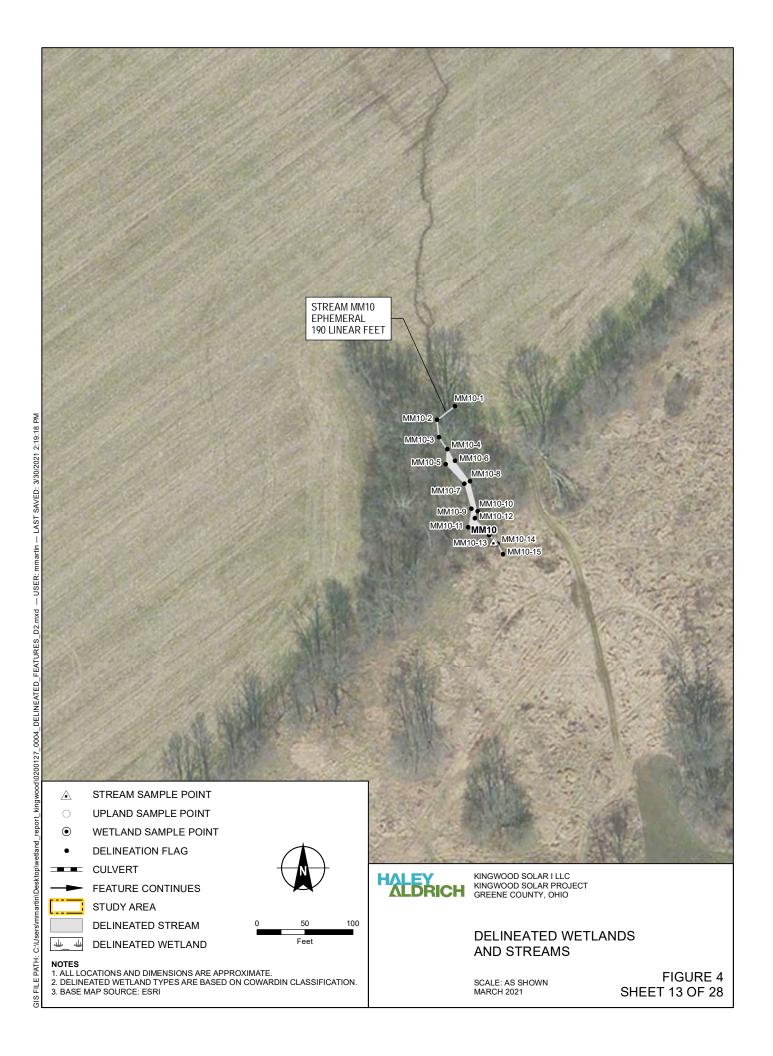


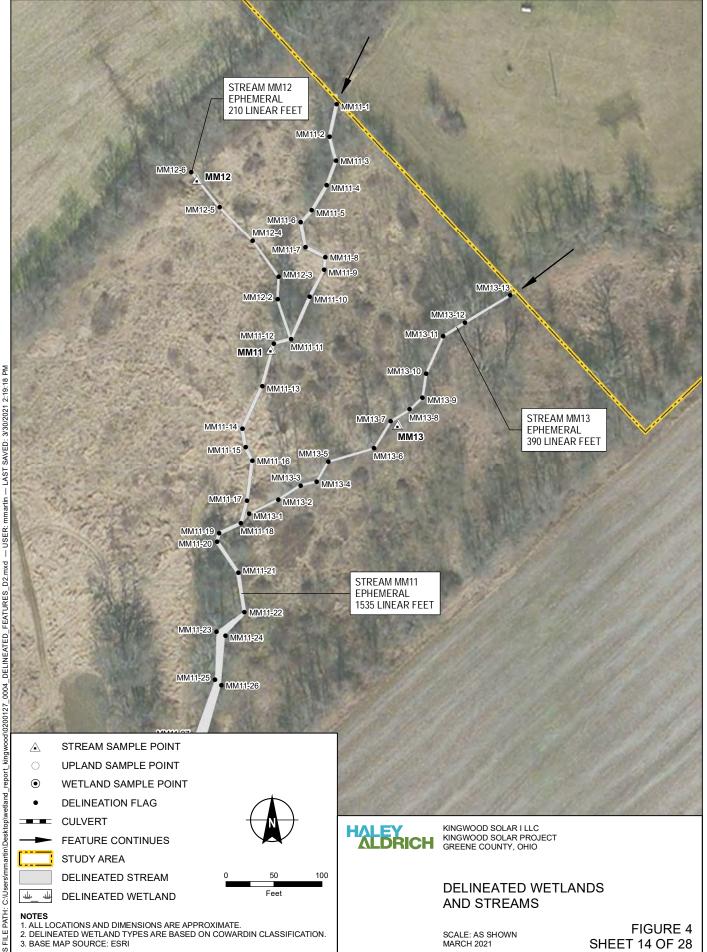


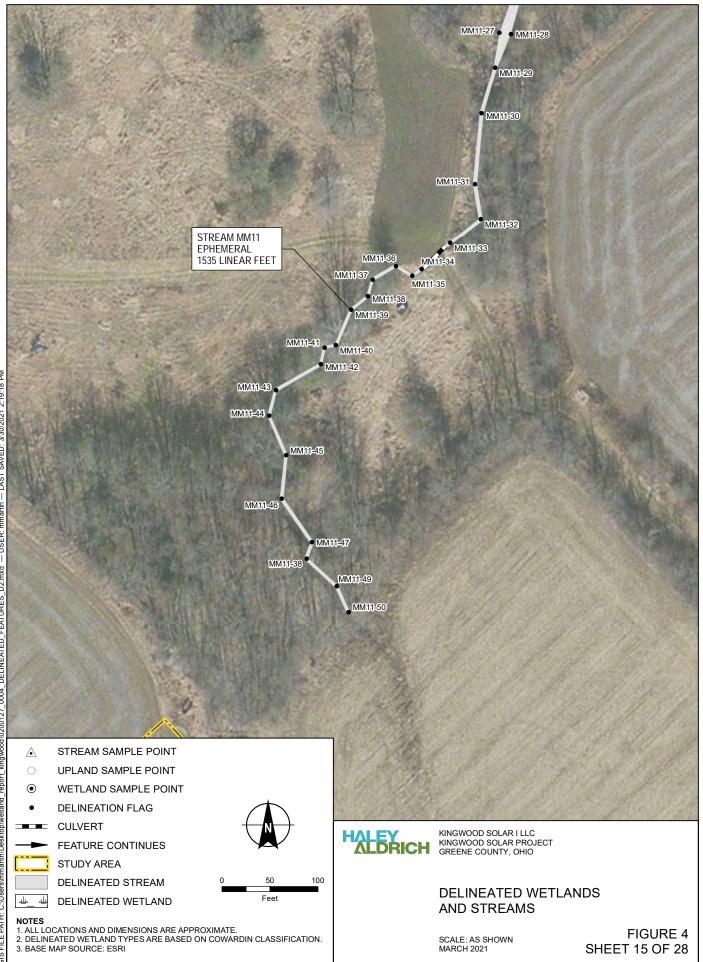




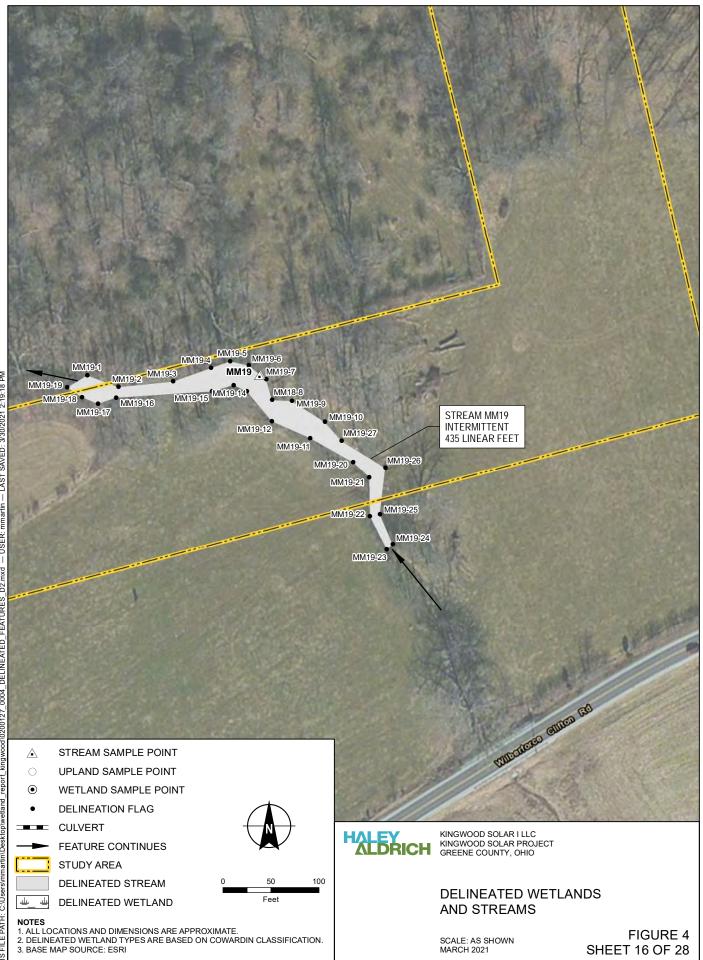


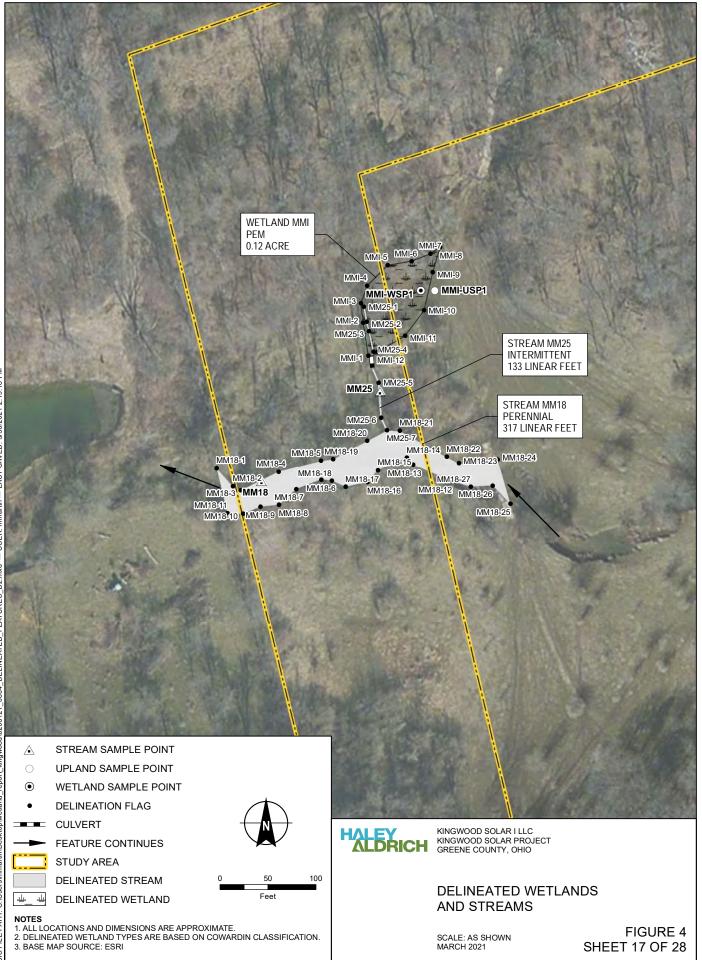






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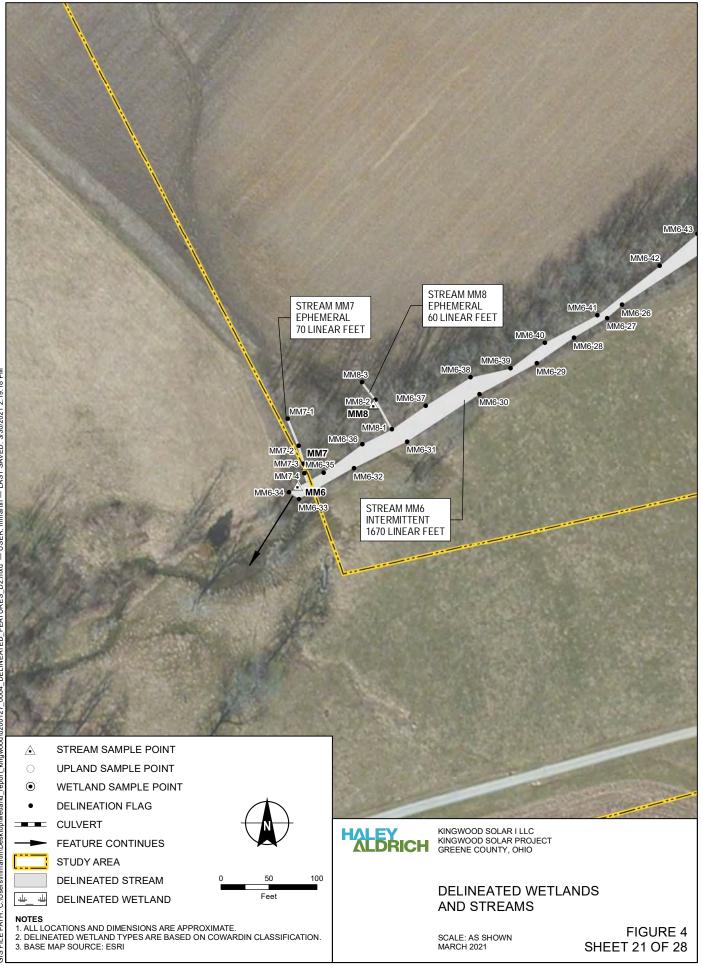
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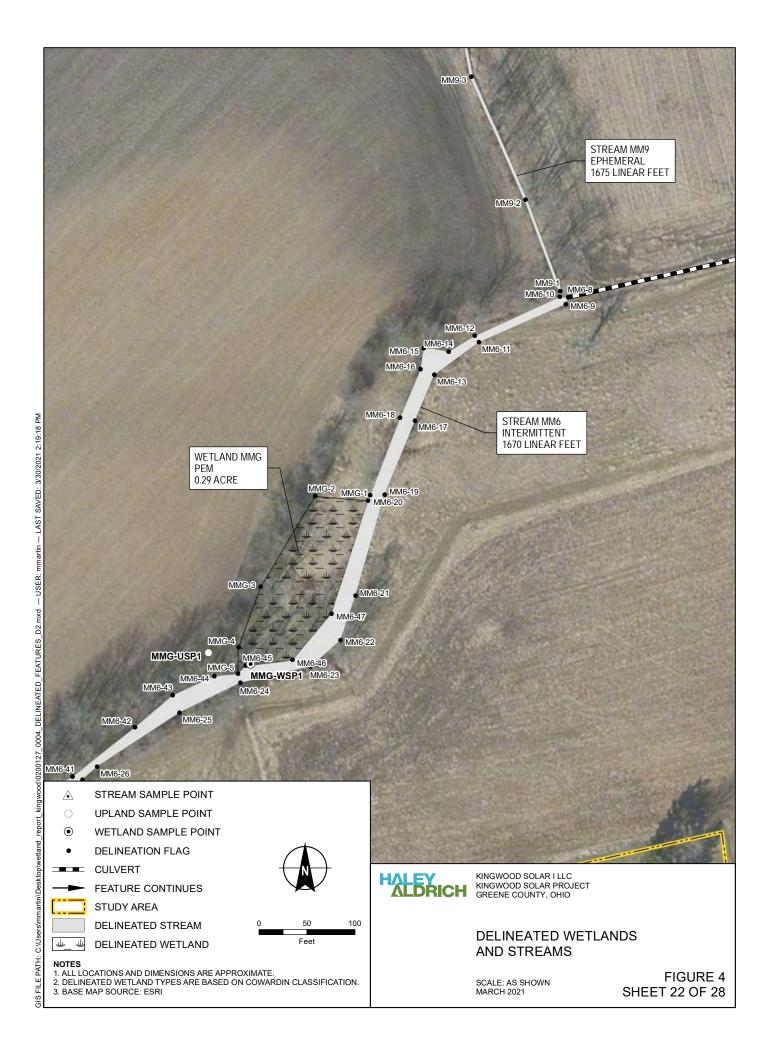


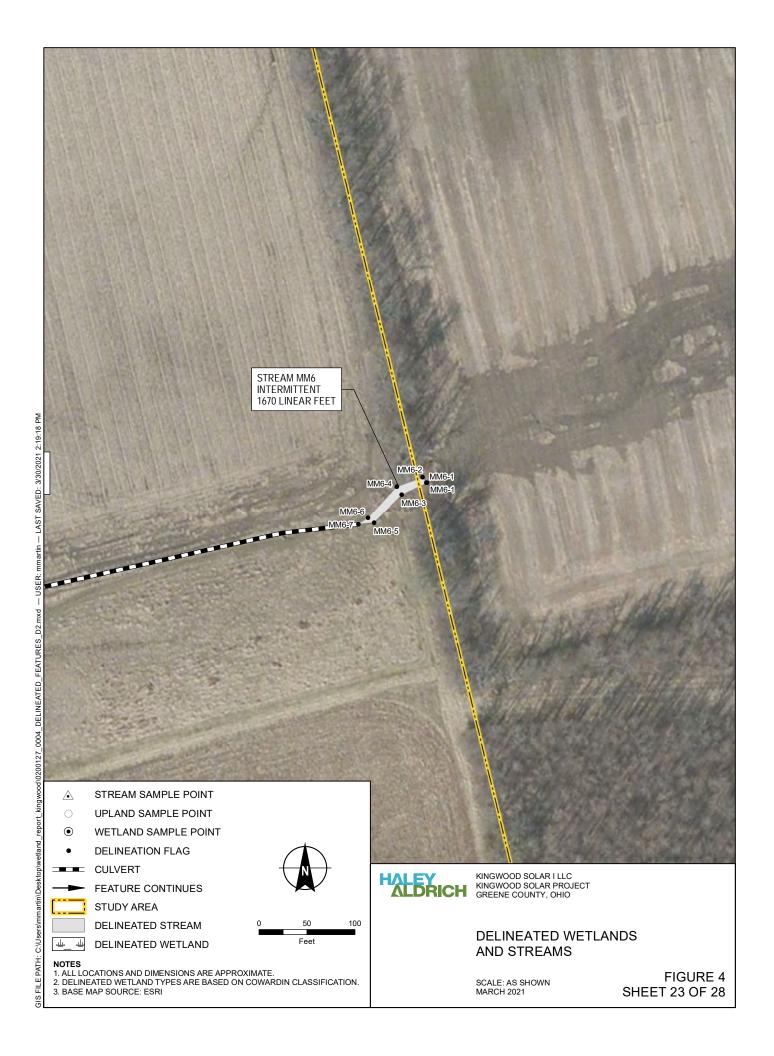


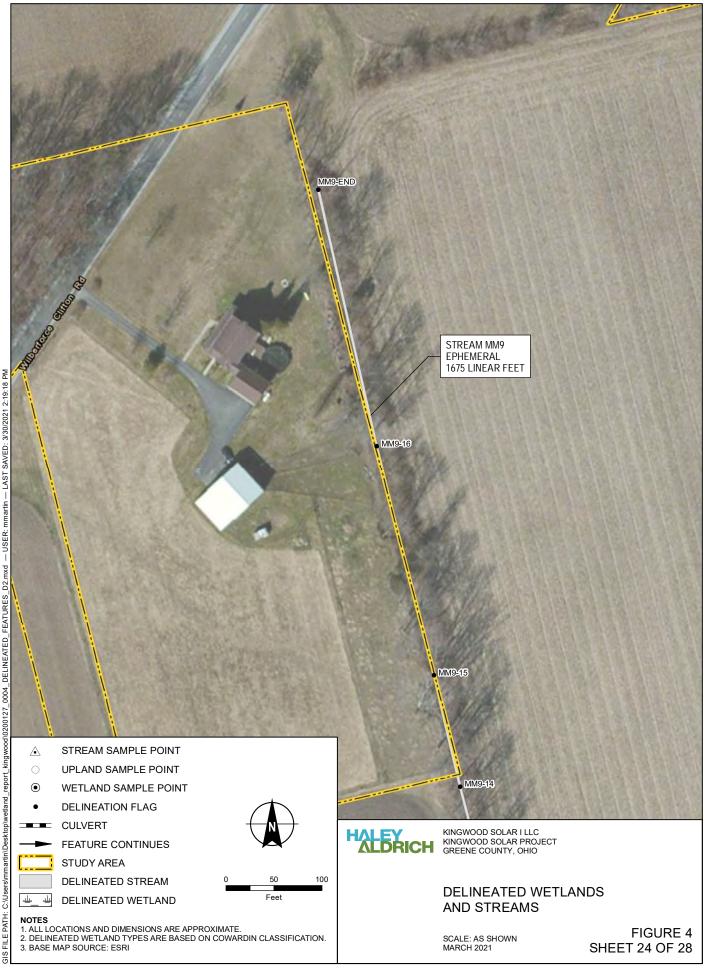
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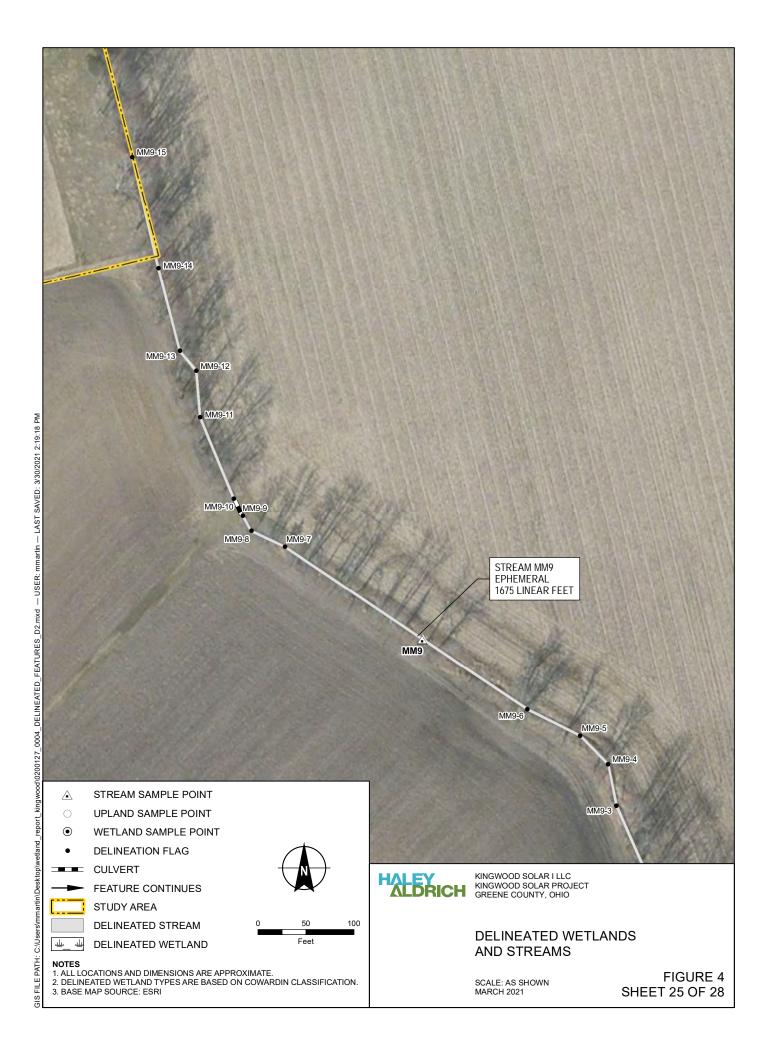


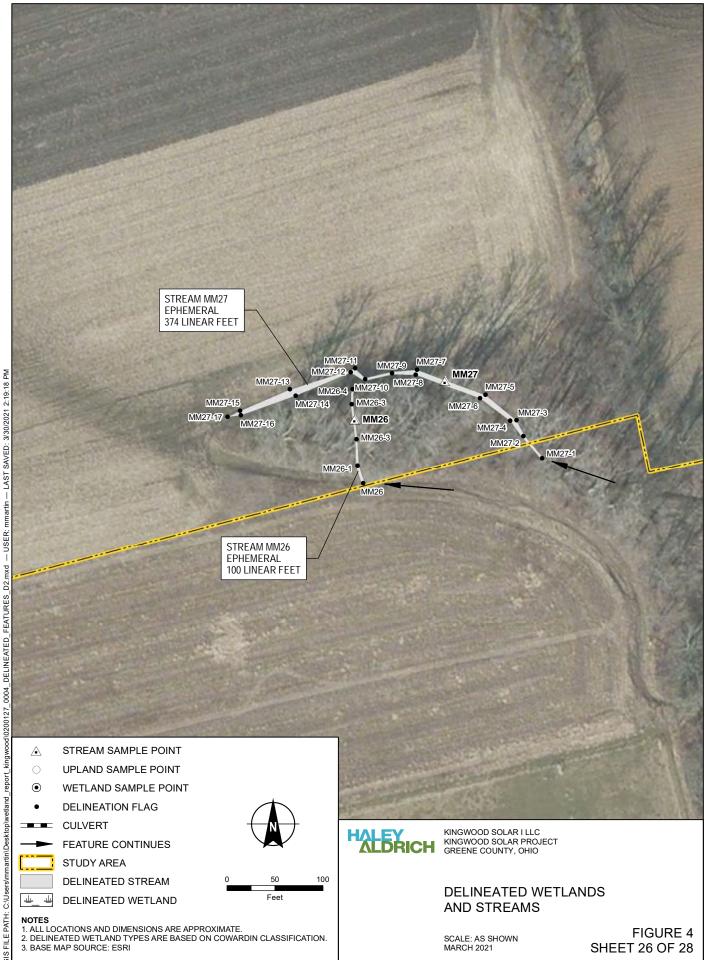
















**APPENDIX A** 

Photo Log





Photo 1: View looking northeast within Wetland MMC (PEM) near sample point MMC-WSP1.



Photo 2: View looking southwest within Wetland MMC (PEM) near sample point MMC-WSP1.



Photo 3: View looking northeast within Wetland MMD (PEM) near flag MMD-4.



Photo 4: View looking southwest within Wetland MMD (PEM) near sample point MMD-WSP1.



Photo 5: View looking southwest within Wetland MME (PFO) near sample point MME-WSP1.



Photo 6: View looking east within Wetland MME (PFO) near sample point MME-WSP1.



Photo 7: View looking east within Wetland MMG (PEM) near flag MMG-2.



Photo 8: View looking north within Wetland MMG (PEM) near sample point MMG-WSP1.



Photo 9: View looking southeast within Wetland MMH (PEM) near flag MMH-1.



Photo 10: View looking north within Wetland MMH (PEM) near sample point MMH-WSP1.



Photo 11: View looking northeast within Wetland MMI (PEM) near flag MMI-2.



Photo 12: View looking west within Wetland MMI (PEM) near sample point MMI-WSP1.



Photo 13: View looking east (upstream) at Stream MM1 (Perennial) near flag MM1-35.



Photo 14: View looking west (downstream) at Stream MM1 (Perennial) near flag MM1-35.



Photo 15: View looking east (upstream) at Stream MM2 (Ephemeral) near flag MM2-5.



Photo 16: View looking west (downstream) at Stream MM2 (Ephemeral) near flag MM2-1.



Photo 17: View looking east (upstream) at Stream MM3 (Ephemeral) near flag MM3-13.



Photo 18: View looking west (downstream) at Stream MM3 (Ephemeral) near flag MM3-13.



Photo 19: View looking southeast (upstream) at Stream MM4 (Intermittent) near flag MM4-23.



Photo 20: View looking northwest (downstream) at Stream MM4 (Intermittent) near flag MM4-23.



Photo 21: View looking south (upstream) at Stream MM5 (Intermittent) near flag MM5-22.



Photo 22: View looking north (downstream) at Stream MM5 (Intermittent) near flag MM5-22.



Photo 23: View looking east (upstream) at Stream MM6 (Intermittent) near flag MM6-25.



Photo 24: View looking west (downstream) at Stream MM6 (Intermittent) near flag MM6-25.



Photo 25: View looking northwest (upstream) at Stream MM7 (Ephemeral) near flag MM7-3.



Photo 26: View looking south (downstream) at Stream MM7 (Ephemeral) near flag MM1-1.



Photo 27: View looking northwest (upstream) at Stream MM8 (Ephemeral) near flag MM8-1.



Photo 28: View looking southeast (downstream) at Stream MM8 (Ephemeral) near flag MM8-3.



Photo 29: View looking northwest (upstream) at Stream MM9 (Ephemeral) near flag MM9-5.



Photo 30: View looking southeast (downstream) at Stream MM9 (Ephemeral) near flag MM9-5.



Photo 31: View looking northwest (upstream) at Stream MM10 (Ephemeral) near flag MM10-6.



Photo 32: View looking southeast (downstream) at Stream MM10 (Ephemeral) near flag MM10-6.



Photo 33: View looking northeast (upstream) at Stream MM11 (Ephemeral) near flag MM11-10.



Photo 34: View looking south (downstream) at Stream MM11 (Ephemeral) near flag MM11-10.



Photo 35: View looking northwest (upstream) at Stream MM12 (Ephemeral) near flag MM12-3.



Photo 36: View looking southeast (downstream) at Stream MM12 (Ephemeral) near flag MM12-3.



Photo 37: View looking northeast (upstream) at Stream MM13 (Ephemeral) near flag MM13-13.



Photo 38: View looking southwest (downstream) at Stream MM13 (Ephemeral) near flag MM13-13.



Photo 39: View looking southest (downstream) at Stream MM14 (Perennial) near flag (at intersection with MM15).



Photo 40: View looking northwest (upstream) at Stream MM14 (Perennial) near flag (at intersection with MM15).



Photo 41: View looking northeast (upstream) at Stream MM15 (Ephemeral) near flag MM15-5.



Photo 42: View looking southwest (downstream) at Stream MM15 (Ephemeral) near flag MM15-2.



Photo 43: View looking northeast (upstream) at Stream MM16 (Ephemeral) near flag MM16-2.



Photo 54: View looking northwest (downstream) at Stream MM16 (Ephemeral) near flag MM16-7.



Photo 55 View looking northeast (upstream) at Stream MM17 (Ephemeral) near flag MM17-3.



Photo 56: View looking southwest (downstream) at Stream MM17 (Ephemeral) near flag MM17-3.



Photo 55 View looking northwest (upstream) at Stream MM18 (Perennial) near flag MM18-7.



Photo 56: View looking west (downstream) at Stream MM18 (Perennial) near flag MM18-7.



Photo 55 View looking east (upstream) at Stream MM19 (Intermittent) near flag MM19-3.



Photo 56: View looking west (downstream) at Stream MM19 (Intermittent) near flag MM19-3.



Photo 55 View looking south (upstream) at Stream MM20 (Intermittent) near flag MM20-3.



Photo 56: View looking north (downstream) at Stream MM20 (Intermittent) near flag MM20-3.



Photo 55 View looking northeast (upstream) at Stream MM21 (Perennial) near flag MM21-14.



Photo 56: View looking west (downstream) at Stream MM21 (Perennial) near flag MM21-14.



Photo 55 View looking south (upstream) at Stream MM22 (Intermittent) near flag MM22-5.



Photo 56: View looking east (upstream) at Stream MM22 (Intermittent) near flag MM22-9.



Photo 55 View looking southeast (upstream) at Stream MM23 (Intermittent) near flag MM23-5.



Photo 56: View looking northwest (downstream) at Stream MM23 (Intermittent) near flag MM23-7.



Photo 55 View looking southeast (upstream) at Stream MM24 (Intermittent) near flag MM24-3.



Photo 56: View looking northwest (upstream) at Stream MM24(Intermittent) near flag MM24-3.



Photo 55 View looking south (downstream) at Stream MM25 (Intermittent) near flag MM25-5.



Photo 56: View looking north (upstream) at Stream MM25(Intermittent) near flag MM25-6.



Photo 55 View looking south (upstream) at Stream MM26 (Ephemeral) near flag MM26-3.



Photo 56: View looking north (downstream) at Stream MM26 (Ephemeral) near flag MM26-3.



Photo 55 View looking southeast (upstream) at Stream MM27 (Ephemeral) near flag MM27-2.



Photo 56: View looking northwest (downstream) at Stream MM27 (Ephemeral) near flag MM27-4.

**APPENDIX B** 

Description of Delineated Wetlands and Streams



**Wetland MMC** is a 0.73-acre PEM wetland. The observed indicators of wetland hydrology included Drainage Patterns (B10), Geomorphic Position (D2), FAC-Neutral Test (D5). The dominant vegetation included reed canary grass and pink smartweed (*Persicaria pensylvanica*). The observed hydric soil indicators were Depleted Below Dark Surface (A11), Depleted Matrix (F3), Redox Dark Surface (F6).

**Wetland MMD** is a 0.13-acre PEM wetland. The observed indicators of wetland hydrology were Oxidized Rhizospheres on Living Roots (C3). The dominant vegetation included eastern cottonwood (*Populus deltoides*), black willow, honey locust, southern arrowwood (*Viburnum dentatum*), green ash, silver maple, calico aster, and shoreline sedge. The observed hydric soil indicator was Depleted Matrix (F3).

**Wetland MME** is a 0.88-acre PFO wetland. The observed indicators of wetland hydrology were Water-Stained Leaves (B9) and Oxidized Rhizospheres on Living Roots (C3). The dominant vegetation included black willow, eastern cottonwood, green ash, southern arrowwood, slippery elm (*Ulmus rubra*), poison ivy (*Toxicodendron radicans*), and raspberry (*Rubus idaeus*). The observed hydric soil indicator was Depleted Matrix (F3).

**Wetland MMG** is a 0.29-acre PEM wetland. The observed indicators of wetland hydrology included Saturation (A3) and Oxidized Rhizospheres on Living Roots (C3). The dominant vegetation included green ash, Amur honeysuckle, and lake sedge (*Carex lacustris*). The observed hydric soil indicator was Depleted Matrix (F3).

**Wetland MMH** is a 0.06-acre PEM wetland. The observed indicators of wetland hydrology were Drainage Patterns (B10) and Geomorphic Position (D2). The dominant vegetation included pink smartweed, common boneset (*Eupatorium perfoliatum*), and fall panicum (*Panicum dichotomiflorum*). The observed hydric soil was Redox Dark Surface (F6).

**Wetland MMI** is a 0.12-acre PEM wetland. The observed indicators of wetland hydrology were Surface Water (A1), Algal Mat or Crust (B4), and Water-Stained Leaves (B9). The dominant vegetation included cursed crowfoot (*Ranunculus sceleratus*), common boneset, and spotted touch-me-not (*Impatiens capensis*). The observed hydric soil indicator was Depleted Matrix (F3). This wetland has been heavily impacted from use as cow pasture.

**Stream MM1 (Clark Run)** is a perennial stream that flows west through a livestock pasture. The stream was approximately 7 feet wide and had a cobble, boulder, and silt substrate. The water was turbid and approximately 8 inches deep at the time of observation.

**Stream MM2** is an ephemeral drainage channel within a soybean field that was not flowing at the time of observation. The stream width was approximately 3 feet and the channel substrate was silt and cobble.

**Stream MM3** is an ephemeral drainage channel within a soybean field that was not flowing at the time of observation. The stream width was approximately 2 feet and the channel substrate was silt.

**Stream MM4** is an intermittent stream within pasture and soybean fields that was not flowing at the time of observation. The stream width was approximately 6 feet and the channel substrate was cobble, boulder, and silt.

**Stream MM5** is an intermittent stream within a soybean field that was not flowing at the time of observation. The stream width was approximately 3 feet and the channel substrate was silt, cobble, and boulder.

**Stream MM6** is an intermittent stream that flows southwest though areas of pasture and forest. The stream was approximately 5 feet wide and had a silt and cobble substrate. The water was turbid and approximately 5 inches deep at the time of observation.

**Stream MM7** is an ephemeral drainage channel within corn field and forest areas that flows southeast. The stream width was approximately 3 feet and the channel substrate was silt. The water was slightly turbid and approximately 2 inches deep at the time of observation.

**Stream MM8** is an ephemeral drainage channel within a forested area that flows south. The stream width was approximately 3 feet and the channel substrate was silt. The water was turbid and approximately 2 inches deep at the time of observation.

**Stream MM9** is an ephemeral drainage channel that flows south through areas of corn, soybean, and scrub shrub. The stream width was approximately 2 feet and the channel substrate was slit. The water was slightly turbid and approximately 2 inches deep at the time of observation.

**Stream MM10** is an ephemeral drainage channel within a forested area that was not flowing at the time of observation. The stream width was approximately 4 feet and the channel substate was cobble and silt.

**Stream MM11** is an ephemeral drainage channel within forest and scrub/shrub areas that was not flowing at the time of observation. The stream width was approximately 3 feet and the channel substrate was cobble, silt, and clay.

**Stream MM12** is an ephemeral drainage channel within a scrub shrub area that was not flowing at the time of observation. The steam width was approximately 2 feet and the channel substrate was cobble and silt.

**Stream MM13** is an ephemeral drainage channel within areas of forest and scrub shrub that was not flowing at the time of observation. The stream width was approximately 3 feet and the channel substrate was cobble, silt, and clay.

**Stream MM14 (Clark Run)** is a perennial stream that flows southwest through areas of pasture and woodland. The stream width was approximately 10 feet and the channel substrate was silt and cobble. The waster was turbid and approximately 2 feet deep.

**Stream MM15** is an ephemeral drainage channel within a forested area that was not flowing at the time of observation. The stream width was approximately 2 feet and the channel substrate was cobble and silt.

**Stream MM16** is an ephemeral drainage channel within areas of pasture and forest that was not flowing at the time of observation. The stream width was approximately 2 feet and the channel substrate was silt and clay.

**Stream MM17** is an ephemeral drainage channel within areas of pasture and forest that was not flowing at the time of observation. The stream width was approximately 2 feet and the channel substrate was silt, clay and cobble.

**Stream MM18** is a perennial stream (Clark run) that flows west through a cow pasture. The stream width was approximately 20 feet and the substrate was primarily cobble, gravel, silt and sand. The water was slightly turbid and approximately 1 foot deep at the time of observation.

**Stream MM19** is an intermittent stream that flows west through a cow pasture. The stream width was approximately 10 feet and the substrate was primarily bedrock, cobble and silt. There was no flow at the time of observation though pools were still holding several inches of water.

**Stream MM20** is an intermittent stream that flows north through a scrub shrub area into an agricultural field. There appears to be remnants of an old stacked stone dam on part of the stream. The stream appears to dissipate as it flows through the agricultural field and no channel could be observed that connects to Clark Run, though aerial imagery indicates flow likely reaches Clark Run during high water events. The stream width was approximately 10 feet in the southern portion and the substrate was primarily cobble. Approximately 1 inch of slightly turbid water was flowing in the southern portion at the time of observation.

**Stream MM21** is a perennial stream (Clark Run) that flows west through an agricultural field. The stream width was approximately 20 feet and the substrate was primarily cobble, silt and sand. The water was clear and approximately 8 inches deep at the time of observation.

**Stream MM22** is an intermittent stream that originates from a stream at the base of a small hill. The stream width was approximately 2 feet and the substrate was primarily silt and sand. The water was clear and approximately 3 inches deep at the time of observation. Stream flow dissipated before reaching a swale that proceeds east to Stream MM23.

**Stream MM23** is an intermittent stream that has been channelized along the shoulder of Grinnell Road. The stream width was approximately 10 feet and the substrate was primarily cobbles. The water was clear and approximately 2 inches deep at the time of observation. The stream flows northwest into Clark Run just north of the Study Area.

**Stream MM24** is an intermittent stream that flows north into Stream MM23. The stream width was approximately 1 foot and the substrate was primarily sand and silt. The water was clear and approximately 1 inch deep at the time of observation.

**Stream MM25** is an intermittent stream that flows south out of Wetland MMI through a cow pasture into Clark Run (Stream MM18). The stream width was approximately 2 feet and the substrate was primarily silt and cobble. The water was clear and approximately 1 inch deep at the time of observation.

**Stream MM26** is an ephemeral drainage channel that flows north into an agricultural drainage system. The natural hydrology of the area appears to be heavily impacted by drainage installed in the adjacent agricultural fields. The stream width was approximately 3 feet and the substrate was primarily silt and cobble. The water was clear and approximately 2 inches deep at the time of observation.

**Stream MM27** is an ephemeral drainage channel that flows west along the edge of agricultural field and was dry at the time of observation. This stream appears to be impacted by the same drainage system described above for MM26. The stream width was approximately 6 feet and the substrate was primarily silt and silt loam.

**APPENDIX C** 

Wetland Determination Data and Stream Inventory Data Forms



## WETLAND DETERMINATION DATA FORM -- Midwest Region

Project/Site: KINGWOOD SOLAR	Sity/County: (-(ee	Ne Sampling Date: 10/16/21
Applicant/Owner: Lend Lease		State: OH Sampling Point: MME-USPI
Investigator(s): K LODGE + M MARTIN S	Section Township Ban	10'
		oncave, convex, none): <u>NONE</u>
Landform (hillstope, terrace, etc.): <u>FLAT</u> Stope (%): Lat: <u>39.71234023</u> 1		253 WIGE SH
Slope (%): Lat:11	.ong:	Datum W05 87
Soll Map Unit Name: FINCASTLE SILT LOAM, SOUTHER	NOH TILL PLA	\N,U <sup>-2</sup> Ń₩I classification:
Are climatic / hydrologic conditions on the site typical for this time of year	ur? Yes No	🗶 (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly of		
Are Vegetation, Soil, or Hydrology naturally pro		
SUMMARY OF FINDINGS – Attach site map showing		
Hydrophytic Vegetation Present? Yes No		
Hydric Soil Present? Yes No	Is the Sampled /	
Wetland Hydrology Present? Yes No	within a Wetland	1? Yes No
Remarks:		
DROUGHT CONDITIONS		0
VEGETATION – Use scientific names of plants.	27	
Absolute		Dominance Test worksheet:
	Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1		
2	I	Total Number of Dominant () Species Across All Strata: (B)
3	1	
4		Percent of Dominant Species
5	= Total Cover	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size:)		Prevalence Index worksheet:
1		Total % Cover of: Multiply by:
2		OBL species x 1 =
3		FACW species x 2 =
4		FAC species x 3 =
5.		FACU species x 4 =
	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size:		Column Totals: (A) (B)
	Y UPL	D Luce Islan - DM -
2 INDIAN TOBACIO (Labelia inflata) 30	Y EACU	Prevalence Index = B/A =
3. GOLDENROD (Solidage altissima) 10	N FACU	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation
4. RASPBERRY (Rubus) idaeks) 15	N FALU	2 - Dominance Test is >50%
5. PANIC ZIGZAG GRASS (PS: Enotomitica) O	N FACY	$2 \cdot \text{Dominance restricts > 50 %}$ 3 - Prevalence Index is $\leq 3.0^1$
6. FESCUE (Festuce sp.) 5	N FACU	4 - Morphological Adaptations <sup>t</sup> (Provide supporting
7		data in Remarks or on a separate sheet)
8	· · · ·	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		
10	"	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	= Total Cover	be present, unless disturbed or problematic.
		Hydrophytic
1		Hydrophytic Vegetation
2	= Total Cover	Present? Yes No X
Remarks: (Include photo numbers here or on a separate sheet.)		<u>I</u>
Soybean field		
		4 2

## SOIL

Profile Description: (Describe to the depth	needed to document the indicator or confirm	the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	Tauture Demode
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
	2.54 5/6 10 C M	SILTLOAM
10-16 101R 414 100 _		SILTLOAM
		05. *
		· · · · · · · · · · · · · · · · · · ·
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=R	educed Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
— Histic Epipedon (A2)	Sandy Redox (S5)	Dark Surface (S7)
Black Histic (A3)	Stripped Matrix (S6)	Iron-Manganese Masses (F12)
Hydrogen Sulfide (A4)	Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12) Other (Explain in Remarks)
Stratified Layers (A5)	Loamy Gleyed Matrix (F2) Depleted Matrix (F3)	
2 cm Muck (A10) Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	
Thick Dark Surface (A12)	Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	wetland hydrology must be present,
5 cm Mucky Peat or Peat (S3)		unless disturbed or problematic
Restrictive Layer (if observed):		
Туре:		Hydric Soil Present? Yes No 🗡
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		
Active soybean field	4	
	-	
HYDROLOGY		

Primary Indicators (minimum of one is required; che	ck all that apply)	Secondary Indicators (minimum of two required)
High Water Table (A2)     Saturation (A3)     Water Marks (B1)     Sediment Deposits (B2)     Drift Deposits (B3)     Algal Mat or Crust (B4)     Iron Deposits (B5)     Inundation Visible on Aerial Imagery (B7)	Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Gauge or Well Data (D9) Other (Explain in Remarks)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Water Table Present? Yes No 🔨		nd Hydrology Present? Yes No available:

Wetland Hydrology Indicators:

## WETLAND DETERMINATION DATA FORM - Midwest Region

roject/Site: KINGWOUD SOLAR City/County: Core	Sampling Date ULL (= WE
anticantiOwner: Devod Lesse	State Sampling Form
nvestigator(s): K LODOE + M. MARTIN Section, Township, Ran	ge:
Local relief (	concave, convex, none): <u>NON H</u>
-65.8338	기억석 Dalum. <u> </u>
CORE SILTYCLAY LOAN D-270 CLORE	NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly disturbed? Are *N	Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? 1/10 (If nee	eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point lo	ocations, transects, important features, etc.
Hudenshutte Vegetation Brospot? Yes X No	
Hydric Soil Present? Yes X No	
Wetland Hydrology Present? Yes No within a Wetlan	
Remarks:	
FLOOD PLAIN OF STREAM RAINY CONDITIONS	
VEGETATION – Use scientific names of plants.	
Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30) Absolute Dominant Indicator 1. GREEN ASH (Frax: 25 Pennsylving) Status	Number of Dominant Species ( (A)
2	Total Number of Dominant () Species Across All Strata: (B)
3	
4	Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15') 5 V ()PL	Prevalence Index worksheet: Total % Cover of:Multiply by:
1. HONEYSUCKUE (Losicera magelin) 5 Y UPL	OBL species         x1 =
2	FACW species x 2 =
3	FAC species x 3 =
4	FACU species x 4 =
55 = Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5)	Column Totals: (A) (B)
I TENTETINE EN (Impatiens capensis) IV _/V_ MEM	Prevalence Index = B/A =
2. LAKEBANK SEDGE, CAREX, LACUSTRIS 40 Y OBL	Hydrophytic Vegetation Indicators:
13 REED CANARY GRASS ( Arunding) 10 N FRC	/1 - Rapid Test for Hydrophytic Vegetation
4. (AUCD ASTER SYMPTX Frictum) 5 N FACM	2 - Dominance Test is >50%
5. FOWL MINNIA GRISS (Glycerin strink) 35 Y OBL	3 - Prevalence Index is ≤3.0 <sup>1</sup>
6	<ul> <li>4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)</li> </ul>
8	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9	•
10. <u><math>90</math></u> = Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	- Hydrophytic
1	Venetation
2 = Total Cover	Present? Yes <u>No</u>

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## SOIL

epth	ription: (Describe to Matrix		Redox	<b>Features</b>				Remarks
iches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	
-6	104R MI	<u>90</u>	012-16	10	<u> </u>		SILTY CLE	
-16	2.51 4/1	40 1	107.5tR416	20	<u>(</u>	MIPL	SILLY CL	A+
			<u> </u>					
mer C=C	Concentration, D=Dep	letion, RM=R	educed Matrix, MS	=Masked	Sand G	ains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix
dric Soil	Indicators:							or Problematic Hydric Soils <sup>3</sup> :
Histoso	il (A1)			leyed Ma				rairie Redox (A16)
-	pipedon (A2)		Sandy R					irface (S7) nganese Masses (F12)
	listic (A3)			Matrix (S				allow Dark Surface (TF12)
	en Sulfide (A4)			•	neral (F1) atrix (F2)			Explain in Remarks)
	ed Layers (A5) fuck (A10)		Depleter					
	ed Below Dark Surfac	:e (A11)		ark Surfa				
	Dark Surface (A12)		Deplete	d Dark Su	urface (Fi	)		of hydrophytic vegetation and
_	Mucky Mineral (S1)		Redox [	epressio)	ns (F8)			hydrology must be present,
5 cm M	lucky Peat or Peat (S	3)					uniess	disturbed or problematic
estrictive	E Layer (if observed)	):						
Туре:			_				Hydric Soil 1	Present? Yes 🔀 No
Depth (i	inches):							
lemarks:								
	OGY							
Vetland H	lydrology indicators		ed: check all that a					
Vetland F Primary In	lydrology Indicators dicators (minimum of		ed: check all that a Water-Sta	ined Lea	ves (B9)		Surf	ary Indicators (minimum of two require face Soil Cracks (B6)
Vetland F Primary In Surface	Hydrology Indicators dicators (minimum of ce Water (A1)		ed: check all that a Water-Sta Aquatic F	ined Lea			Surf Drai	ace Soil Cracks (B6) inage Patterns (B10)
Vetland F Primary In Surfac High V	lydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2)		Water-Sta	iined Lea auna (B1	3)		Surf Drai Dry-	iace Soil Cracks (B6) Inage Patterns (B10) -Season Water Table (C2)
Vetland F Primary In Surfac High V X Satura	lydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3)		Water-Sta Aquatic F True Aqua Hydrogen	ined Lea auna (B1 atic Plant Sulfide (	3) s (B14) Odor (C1)		Surf Drai Dry- Cray	ace Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8)
Vetland F Primary In Surfac High V X Satura Water	lydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1)		Water-Sta Aquatic F True Aqua Hydrogen	ined Lea auna (B1 atic Plant Sulfide (	3) s (B14) Odor (C1)	iving Roots	Surf Drai Dry- Cray (C3) Satu	iace Soil Cracks (B6) Inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Vetland F Primary In Surfac High V X Satura Water Sedin	lydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2)		Water-Sta Aquatic F True Aqua Hydrogen X Oxidized	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1) seres on I ced Iron (	iving Roots C4)	Surf Drai Dry- Cray (C3) Satu Stu	ace Soil Cracks (B6) inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1)
Vetland F Primary In Surfac High V X Satura Water Sedin Drift I	Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)		Water-Sta Aquatic F True Aqua Hydrogen X Oxidized	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc	3) s (B14) Odor (C1) seres on I ced Iron (	iving Roots	Surf Drai Dry- Cray (C3) Satu Stur (6) Geo	ace Soil Cracks (B6) Inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)
Vetland F Primary In Surfac High \ X Satura Water Sedin Drift I Algal	Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3) Mat or Crust (B4)		Water-Sta Aquatic F True Aqua Hydrogen X Oxidized Presence Recent In Thin Muc	ined Lea auna (B1 atic Plant Sulfide ( Rhizosph of Reduc on Reduc k Surface	3) s (B14) Ddor (C1) beres on I ced Iron ( ction in Ti e (C7)	iving Roots C4)	Surf Drai Dry- Cray (C3) Satu Stur (6) Geo	iace Soil Cracks (B6) Inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) nted or Stressed Plants (D1)
Primary In Surface High \ X Satura Water Sedin Drift I Algal	Hydrology Indicators dicators (minimum of ce Water (A1) Water Table (A2) ation (A3) r Marks (B1) nent Deposits (B2) Deposits (B3)	<u>one is requir</u>	Water-Sta Aquatic F True Aqua Hydrogen X Oxidized Presence Recent In Thin Muc	ined Lea auna (B1 sulfide ( Rhizosph of Reduc on Reduc k Surface Well Dat	3) s (B14) Ddor (C1) teres on I ced Iron ( ction in Ti e (C7) ta (D9)	iving Roots C4)	Surf Drai Dry- Cray (C3) Satu Stur (6) Geo	ace Soil Cracks (B6) Inage Patterns (B10) -Season Water Table (C2) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) inted or Stressed Plants (D1) omorphic Position (D2)

 Yes
 No
 X
 Depth (inches);

 Yes
 No
 X
 Depth (inches);

 Yes
 X
 Depth (inches);
 \_\_\_\_\_\_

 Yes
 X
 Depth (inches);
 \_\_\_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Field Observations:

Saturation Present? (includes capillary fringe)

Remarks:

Surface Water Present? Water Table Present?

Wetland Hydrology Present? Yes X No

WET	LAND DETERMINATION	ON DATA FORM -	<ul> <li>Midwest Region</li> </ul>	a) al a
ecusite: KINGWOOD SC	ນມ <b>4</b> -0 ຕ	ity/County GREET	NE	_ Sampling Date: 10/19/20
ect/Site: KINGNOUS ST			State: 04	Sampling Point: <u>MMG-USP1</u>
icant/Owner: LendLease stigator(s): K. LUDGEFM	10000		<b>*•</b> <sup>•</sup>	
stigator(s): <u>K. LUD(; F. M</u> dform (hillslope, terrace, etc.): <u>FLA</u> T		Local relief (	concave, convex, none	NONE
dform (hillslope, terrace, etc.): <u>FLAT</u> be (%): <u>C</u> Lat: <u>31.77</u>	004506	ong - 83.83-10	5246	_ Datum: <u>W6S_87</u>
xe (%): Lat: Lat: Map Unit Name: Ra - Rog sde	To the day been	1-2% 5100r 5	NWI classi	fication:
	elemiticantly (			
Vegetation, Soil, or H	/drology significantly	blematic? NO (If ne	eded, explain any ans	wers in Remarks.)
Vegetation, Soil, or H	yarology hatarany pro	ting point k	ocations, transec	ts, important features, etc.
Vegetation, Soil, of H	ach site map showing			
ydrophytic Vegetation Present?	Yes No _X	Is the Sampled	Area	~
vdric Soil Present?	Yes No X	within a Wetla		NoX
Vetland Hydrology Present?	Yes No			
temarks:				
	emen of plants	······································		
EGETATION - Use scientific r		Dominant Indicator	Dominance Test w	
Tree Stratum (Plot size: 30	N % Cover	<u>Species?</u> Status	Number of Dominal	nt Species
WICHON COM MA COM		- Y FACU		
		- N FACU FACU	Total Number of Do Species Across All	Strata: (B)
3. OSAGE ORAMOF (M	acture pomters 1	- N FACL		
4 HONEY INUSTICI	editsia Triacantal		Percent of Domina	nt Species $40$ (A/B)
5		= Total Cover	1	
Sapling/Shrub Stratum (Plot size:	15",		Prevalence Index Total % Cover	
+ HONEJENCHLE LONIC	era magickii	Y FACH		x1=
2 104-100 V- SIUNIC		- N FACI		x2=
3. HICKORT (Carya con	<u>zitornis) 5</u>	- N FACH	*. I	
4 ELM (DImus rubr	<u>&gt;)</u> _/_		FACU species	x 4 =
5		) = Total Cover	UPL species	× 5 = (D)
Herb Stratum (Plot size; 5			Column Totals: _	(A)(B)
Herb Stratum (Plot size, ) 1. HORSETAL (Equise	tum arvense) 5	Y FACL	스   Prevalence	Index = B/A =
2			Hydrophytic Veg	etation indicators:
3			- 1 - Rapid Tes	st for Hydrophytic Vegetation
4			2 - Dominant	ce Test is >50%
5.			3 - Prevalence	ce index is ≤3.01
6			4 - Morpholo	gical Adaptations <sup>1</sup> (Provide supportin emarks or on a separate sheet)
7			- data in Ki	Hydrophytic Vegetation <sup>1</sup> (Explain)
8				The children is a second se
9,			- Indicators of hvo	dric soil and wetland hydrology must
		> = Tolal Cover	be present, unles	ss disturbed or problematic.
Woody Vine Stratum (Plot size:	<u> 30 ) 1 ) 20</u>	Y UP	Hydrophytic	
1. WINTER CREEDER (	Everymus tortune ) CL		Vegetation	Yes No X
2		D = Total Cover	Present?	Yes No
	1			
Received the shake numbers				
Remarks: (Include photo numbers				

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and the standard and

	th needed to document the indicator or confirm Redox Features	Texture Remarks
pth <u>Matrix</u> ches) <u>Color (moist)</u> %	Color (moist) % Type' Loc	SILTY CLAY LOAM
-7 INVR 31, 100		SIGILON CONTRACTOR
(10, 15, 0, 1, 0, 1)		SILTY CLAY LOAM
2-18 101R 712 100		
		<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
ype: C=Concentration, D=Depletion, RN	I=Reduced Matrix, MS=Masked Sand Grains.	Indicators for Problematic Hydric Soils <sup>3</sup> :
dric Soil Indicators:	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histosol (A1)	Sandy Redox (S5)	Dark Surface (S7)
Histic Epipedon (A2)	Stripped Matrix (S6)	Iron-Manganese Masses (F12)
_ Black Histic (A3)	Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Stratified Layers (A5)	Depleted Matrix (F3)	
2 cm Muck (A10) Depleted Below Dark Surface (A11)	Redox Dark Surface (F6)	<sup>3</sup> Indicators of hydrophytic vegetation and
Depleted Below Dark Surface (A17)	Depleted Dark Surface (F7)	wetland hydrology must be present,
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Depressions (F8)	unless disturbed or problematic
5 cm Mucky Peat or Peat (S1)		
Restrictive Layer (if observed):		
		Hydric Soll Present? Yes No
Туре:		
Depth (inches):		
Remarks:	2	
Remarks: IYDROLOGY Wolland Hydrology Indicators:	4	Secondary Indicators (minimum of two requ
Remarks: IYDROLOGY Wolland Hydrology Indicators:	equired; check all that apply)	
Remarks:	equired; check all that apply) Water-Stained Leaves (B9)	Surface Soll Cracks (B6)
Remarks: IYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1)	equired; check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13)	Surface Soll Cracks (86) Drainage Patterns (810)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2)	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14)	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3)	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1)	Surface Soll Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R	Surface Soli Cracks (86)     Drainage Patterns (810)     Dry-Season Water Table (C2)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery (C
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4)	Surface Soll Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol	Surface Soll Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1) lls (C6) Geomorphic Position (D2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R — Presence of Reduced Iron (C4) — Recent Iron Reduction in Titled Sol — Thin Muck Surface (C7)	Surface Soll Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9)	Surface Soll Cracks (86)     Drainage Patterns (810)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1) lls (C6) Geomorphic Position (D2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R — Presence of Reduced Iron (C4) — Recent Iron Reduction in Titled Sol — Thin Muck Surface (C7) — Gauge or Well Data (D9)	Surface Soll Cracks (86)     Drainage Patterns (810)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1) lls (C6) Geomorphic Position (D2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9) face (B8) Other (Explain in Remarks)	Surface Soll Cracks (86)     Drainage Patterns (810)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1) lls (C6) Geomorphic Position (D2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations:	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9) face (B8) Other (Explain in Remarks)	Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8)     Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)     Geomorphic Position (D2)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Yes	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R — Presence of Reduced Iron (C4) — Recent Iron Reduction in Titled Sol — Thin Muck Surface (C7) Hy (B7) — Gauge or Well Data (D9) ace (B8) — Other (Explain in Remarks) No X — Depth (inches):	Surface Soli Cracks (86) Drainage Patterns (810) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3)Saturation Visible on Aerial Imagery (C Stunted or Stressed Plants (D1) Stunted or Stressed Plants (D1) FAC-Neutral Test (D5)
Remarks:         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is regeneration of a stress)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Image         Sparsely Vegetated Concave Surface         Field Observations:         Surface Water Present?       Yes         Water Table Present?       Yes	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R — Presence of Reduced Iron (C4) — Recent Iron Reduction in Titled Sol — Thin Muck Surface (C7) iny (B7) — Gauge or Well Data (D9) face (B8) — Other (Explain in Remarks) — No X Depth (inches):	Surface Soli Cracks (86) Drainage Patterns (810) Dry-Season Water Table (C2) Crayfish Burrows (C8) Roots (C3)Saturation Visible on Aerial Imagery (C Stunted or Stressed Plants (D1) Stunted or Stressed Plants (D1) FAC-Neutral Test (D5)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9) face (B8) No X Depth (inches): No X Depth (	Surface Soli Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)     Geomorphic Position (D2)     FAC-Neutral Test (D5)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9) face (B8) No X Depth (inches): No X Depth (	Surface Soli Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)     Geomorphic Position (D2)     FAC-Neutral Test (D5)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	equired: check all that apply) — Water-Stained Leaves (B9) — Aquatic Fauna (B13) — True Aquatic Plants (B14) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres on Living R — Presence of Reduced Iron (C4) — Recent Iron Reduction in Titled Sol — Thin Muck Surface (C7) iny (B7) — Gauge or Well Data (D9) face (B8) — Other (Explain in Remarks) — No X Depth (inches):	Surface Soli Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)     Geomorphic Position (D2)     FAC-Neutral Test (D5)
Remarks: HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of one is re Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surf Field Observations: Surface Water Present? Yes Water Table Present? Yes Saturation Present? Yes	equired: check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living R Presence of Reduced Iron (C4) Recent Iron Reduction in Titled Sol Thin Muck Surface (C7) Gauge or Well Data (D9) face (B8) No X Depth (inches): No X Depth (	Surface Soli Cracks (B6)     Drainage Patterns (B10)     Dry-Season Water Table (C2)     Crayfish Burrows (C8) toots (C3) Saturation Visible on Aerial Imagery (C     Stunted or Stressed Plants (D1)     Geomorphic Position (D2)     FAC-Neutral Test (D5)

Midwest Region - Version 2.0

WETLAND DETERMINATION DATA FO	RM - Midwest Region
Project/Site: Kingwood Solac City/County:	Sampling Date: (0-20-20
City/County:	State: OH Sampling Point: MMH-WSP
Investigator(s): M. Martin, K. Lodge Loca	ip, Range:
Landform (hillslope, terrace, etc.): dro. ne. 9 depleter. en Loca	8363391 Datum PEM
Slope (%): 3 Lat. 31. 104 011 00 100 0-2% 51	000 S NWI classification.
	No (If no, explain in remainer) Are "Normal Circumstances" present? Yes No
Are climatic / hydrologic conditions on the story significantly disturbed?	Are "Normal Circumstances" pro-
Are Vegetation, Soil, or Hydrology naturally problematic? //c	(If needed, explain any enclose important features, etc.
Are Vegetation, Soil, or Hydrology naturally problematic? /// Are Vegetation, Soil, or Hydrology naturally problematic? /// SUMMARY OF FINDINGS - Attach site map showing sampling	point locations, transceto, a -
SUMMARY OF FINDINGS - Attended to the Summary of Findings - Attended to the Summary of Summary	Sampled Area
Hydrophytic Vegetation Present	a Wetland? Yes No
Hydric Soil Present?     YesNo     within       Wetland Hydrology Present?     YesNo     No	
Remarks	
ignific names of plants.	Indicator   Dominance Test worksheet:
VEGETATION Use scientific names of plants. Absolute Dominant % Cover Species?	Outline Last Company Species <
Tree Stratum (Plot size:) % Cover Specier	That Are OBL, FACW, OF FAC
	Total Number of Dominant (B) Species Across All Strata:
1 2 3	
3	Percent of Dominant Species (A/B) That Are OBL, FACW, or FAC:
4 = Total Co	Prevalence Index worksheet: Multiply by:
Sapling/Shrub Stratum (Plot size:)	
	Total % Cover or
	X3-
2	
4 = Total (	LIPI species
	FACW Column Totals: FA
Herb Stratum (Piol size: 51 1. Smart urped (Persiceria pensylvance) 40 Y 2. Doneset (Eupatorium pertoliatium) 20 Y	Drevalence index - Crrc
2 Boneset (Eupatorium pertoliatum) 20-	FACW Hydrophytic Vegetation
2. Doneset (Eupator.un fertoritorum) 20 - 1 3. Fall paricum Paricum dichotomitlorum) 20 - N	F a Dominance Test is >50%
A Rouble aklebur lastinger 16	
5. Unidentified grass	4 - Morphological Adaptations (interesting a separate sheet)
6	data in Remarks of on Level — — — — — Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9	al Cover be present, unless disturbed or problematic.
9	
Woody Vine Stratum (Plot size:)	Hydrophytic Vegetation
1	Present? Tes
2= To	tal Cover
2= To Remarks: (Include photo numbers here or on a separate sheet.) Appears to be maintained in low vi activities.	eretation because at adjacent interes
Appears to be maintained in 1000	J
activities.	Midwest Region - Version 2

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\* e .....

#### SOIL

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	ndicator o	r confi	irm the abs	ence of indi	cators.)		
Depth	Matrix		Redox	Features			_			emarks	
(inches)	Color (moist)	_%	Color (moist)	%	Type'	Loc <sup>2</sup>	<u>Textu</u> →}⊥			511ICI 1/3	
0-4	2.512.51	90_	7.5YR410	10	<u> </u>	M					
4-8	2.542.5/1	40	7,5YR4/10	20_		M	Sarry s	High			
	2544	40	9				<u> </u>				
0 18	2.5X 2.5/		7,5YR4/6	20	C	M	silf-1	Xm			
8-18	7.51-171	<u>_xo</u>	1210		<u> </u>	<u> </u>	<u> </u>				
						1.1					
	_										
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=F	Reduced Matrix, M	S=Masked	Sand Gra	ains.	²Lo	cation: PL=I	ore Linin	g. M=Matrix.	
Hydric Soil	Indicators:							ators for Pr			
Histosol	(A1)		-	Gleyed Ma				Coast Prairie		16)	
Histic E	pipedon (A2)			Redox (S5			\	Dark Surface ron-Mangan	(57) ana Massi	e (E12)	1
Black H	istic (A3)			d Matrix (S			'	very Shallow	Dark Sud	ace (TF12)	
	en Sulfide (A4)			Mucky Mil Gleyed M				Other (Expla			-
	d Layers (A5)			d Matrix (						,	
	uck (A10) d Below Dark Surfac	a /A11\	Redox								
	ark Surface (A12)	ω (· · · · /		d Dark St		)		icators of hy			
	Mucky Mineral (S1)			Depressio				wetland hydr			•
	ucky Peat or Peat (S	3)						unless distur	bed or pro	blematic	
	Layer (if observed)		4								
Type:							Hude	ic Soil Pres	ont? Ye	s	No
	nches):		<u> </u>				Tiyu				
Remarks:											
									<u>.</u>		
HYDROL	DGY										
	ydrology Indicators						-		lientere (n	ainimum of t	wo required)
Primary Inc	licators (minimum of	one is requi					2				WO TEQUICOT
	e Water (A1)			ained Lea			-	Drainage	Soil Cracks		
High V	Vater Table (A2)			auna (81			2			Table (C2)	
Satura	ition (A3)			atic Plant			-	Dry-Sea: Crayfish			
Water	Marks (B1)		Hydroge			i dana 🗖				on Aerial Ima	agery (C9)
	ent Deposits (B2)						oots (C3) _			d Plants (D1	
	leposits (B3)			e of Redu			- le (C6) - 1	Geomory			,
	Mat or Crust (B4)			ron Reduc		eu aun		FAC-Nei			
	eposits (B5)		Thin Mu	or Well Da			-				
	ation Visible on Aeria		• —•	xplain in F							
	ely Vegetated Conca	ve Sunace (			(annal Ka)						
	ervations:	Maa		inches):							
	ater Present?	res	No <u>Depth</u> (	inches)							
	ble Present?	Yes		alcies)		—	Wotland H	vdrology Pr	esent? \	res /	No
Construction of	Present?		No Depth					_			
(includes capillary fringe) / Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks: Rece	ives rund	ffiom	adjacen	fag	Field	U.					

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## WETLAND DETERMINATION DATA FORM - Midwest Region

incrusion King wood Salar	City/	County: Gree	Sampling Date: 10-20-20
- I all pace			State: <u>OU</u> Sampling Point: <u>MMH-DJT</u>
Which Minchie Kilder	Sec	ion, Township, Rang	1e:
	ה ומסו		
ppe (%): Lat: L to		29, slope.	> NWI classification:
il Map Unit Name: Kassaale Dilty Cla	V DAA V	Yor No	(If no explain in Remarks.)
e climatic / hydrologic conditions on the site typical fo	r this time of year	res no	lormal Circumstances" present? Yes No
e Vegetation, Soil, or Hydrology		Inded ? Ale to	adad eveloin any answers in Remarks )
e Vegetation, Soil, or Hydrology	naturally probler	naucy ND (II nee	
UMMARY OF FINDINGS – Attach site m	ap showing sa	mpling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	_ No	Is the Sampled	Area
Hydric Soil Present? Yes		within a Wetlan	
Wetland Hydrology Present? Yes			
EGETATION - Use scientific names of pla			Dominance Test worksheet:
Tree Stratum (Plot size:)	Absolute D	ominant Indicator pecies? Status	Number of Dominant Species
1			That Are OBL, FACW, or FAC: (A)
2			Total Number of Dominant
3			Species Across All Strata: (B)
4			Percent of Dominant Species
5			That Are OBL, FACW, or FAC: (A/B)
	=	Total Cover	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size:			Total % Cover of: Multiply by:
2			OBL species x 1 =
3			FACW species x 2 =
4			FAC species x 3 =
5			FACU species x 4 =
	=	Total Cover	UPL species x 5 = (8)
Herb Stratum (Plot size: 51) 1. Czrowad we (Glechama hederad	$\sum c$	N FACU	Column Totals: (A) (B)
1. (2round we (Glechoma neceral	100_	YUPL	Prevalence Index = B/A =
2. Soyboan (Colycine max)			Hydrophytic Vegetation Indicators:
3			1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			3 - Prevalence Index is ≤3.0 <sup>1</sup>
7			4 - Morphological Adaptations' (Provide supportin data in Remarks or on a separate sheet)
8			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9			
10		Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic,
Woody Vine Stratum (Plot size:	.)		ue present, unicus distansia er presentation
1			- Hydrophytic
			Vegetation Present? Yes No _ X
2		- Total Cover	

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#### SOIL

Profile Desc	ription: (Describe	to the dept	h needed to docum	nent the indicator	or confirm	the absence of indic	ators.)		
Depth	Matrix		Redo	y Features	Loc	Texture	Remarks		
(inches)	Color (moist)	<u>%</u> .	Color (moist)						
6.4	2,5143	100							
4-12	INYR42	100			·				
12-18	164R31_	100				<u>Elty day loon</u>			
	164R4/2	46_			. <u> </u>				
	· · · · · · · · · · · · · · · · · · ·								
	oncentration, D=De			S=Masked Sand G	rains	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix.		
Type: C=C	Indicators:	pletion, raw	Treduced man int in				blematic Hydric Soils <sup>3</sup> :		
Histoso			Sandy	Gleyed Matrix (S4)		Coast Prairie			
	pipedon (A2)			Redox (S5)		Dark Surface			
	listic (A3)			d Matrix (S6)		Iron-Mangane	ese Masses (F12) Dark Surface (TE12)		
Hydrogen Sulfide (A4) Stratified Layers (A5)					Dark Surface (TF12) n in Remarks)				
			Gleyed Matrix (F2	)	Other (Explain	( In Remarks)			
2 cm N	luck (A10)			ed Matrix (F3)					
	Depleted Below Dark Surface (A11)		Redox Dark Surface (F6)			<sup>3</sup> Indicators of hydrophytic vegetation and			
Thick (	Dark Surface (A12)			ed Dark Surface (F	wetland hydro	wetland hydrology must be present,			
Sandy	Mucky Mineral (S1)		Redox	Depressions (F8)			ped or problematic		
	lucky Peat or Peat (								
	Layer (if observed								
Type:						Hydric Soil Prese	nt? Yes No		
	inches):								
Remarks:	C	11							
Act	ve ag fie	le.							
	J								
			<u></u>	<u></u>					
HYDROL									
	Hydrology Indicator		<ul> <li>totale and all the states</li> </ul>	analu)		Secondary Ind	licators (minimum of two required)		
Primary In	dicators (minimum c	of one is req	uired; check all that						

Primary Indicators (minimum of one is required; check all that apply)	Secondary indicators (minimuli) or two requires?
Primary Indicators (minimum of one is required, criticit an indice prime)         Surface Water (A1)       Water-Stained Leaves (B9)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Sediment Deposits (B2)       Oxidized Rhizospheres on Li         Drift Deposits (B3)       Presence of Reduced Iron (C         Algal Mat or Crust (B4)       Recent Iron Reduction in Tille         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)	iving Roots (C3) Saturation Visible on Aerial Imagery (C9) C4) Stunted or Stressed Plants (D1)
Field Observations:         Surface Water Present?       Yes NoX Depth (inches):         Water Table Present?       Yes NoX Depth (inches):         Saturation Present?       Yes NoX Depth (inches):         Saturation Present?       Yes NoX Depth (inches):         Saturation Present?       Yes NoX Depth (inches):         Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous in Remarks:         Active ag field	Wetland Hydrology Present? Yes No

### WETLAND DETERMINATION DATA FORM - Midwest Region

V. I Cher			Sampling Date: 3-10-21
pject/Site: [	(		State: 6H Sampling Point: MMI-W:
esligator(s): M, Martin	9	Section, Township, Ran	oe:
estigator(s):			concave, convex, none): <u>ທຸລາ ຕ</u>
diorm (millsiope, terrade, etc.). <u>STOPL</u>		-83855	237 Datum: 126584
Map Unit Name: <u>Sloan sitty clay locn</u>			NWI classification: PEM
Map Unit Name:		No No	(If no explain in Remarks.)
climatic / hydrologic conditions on the site typical for this			Normal Circumstances" present? Yes No
Vegetation, Soil, or Hydrology s			eded, explain any answers in Remarks.)
Vegetation, Soil, or Hydrology n			
		sampling point lo	ocations, transects, important features, etc.
Jerehulten unstanden in der einen de	o	is the Sampled	Area
vdric Soil Present? Yes N		within a Wetlan	
Velland Hydrology Present? Yes <u>N</u> emarks.	0		
GETATION – Use scientific names of plants	•		
	Absolute	Dominant Indicator	Dominance Test worksheet:
ree Stratum (Plot size:)		Species? Status	Number of Dominant Species (A)
			Total Number of Dominant (B)
			Percent of Dominant Species (A/B)
		= Total Cover	Prevalence Index worksheet:
apling/Shrub Stratum (Plot size:)			Total % Cover of: Multiply by:
			OBL species         x1 =
			FACW species x 2 =
			FAC species x 3 =
			FACU species x 4 =
		= Total Cover	UPL species x 5 =
erb Stratum (Plot size:)	1	V OBL	Column Totals: (A) (B)
Kursed Buttercup (Ranusculus) Baneset (Eupitorium Derfoliatum)		OBL	Prevalence index = B/A =
Demetweed (Impatiens capensis)		Y FACW	Hydrophytic Vegetation Indicators:
Jeweine es (Impaliens capensis)	/		1 - Rapid Test for Hydrophylic Vegetation
			2 - Dominance Test is >50%
• • • • • • • • • • • • • • • • • • •			3 - Prevalence Index is ≤3.0 <sup>1</sup>
•			4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
·			
0	75	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Noody Vine Stratum (Plot size:)			Hydrophytic
2			Vegetation
۵۰ <u></u>		_ = Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate Veg impacted by use of the	e sheet.) e q(e	a as con	pasture.

#### SOIL

	ription: (Describe to	o the depth			dicator o	r contiim	n ine abs	ience or	Indicate	015.)	
Depth (inches)	Color (moist)		Color (moist)	x Features %	Type'	Loc <sup>2</sup>	Textu	ire		Remarks	
6	104R4/2	$\frac{n}{100}$	00101-11101017	· ·				losm			
10-18	INVPUL	$\frac{100}{26}$	NP 5/1	10		44	14				
618	IUYK42	<u>  10</u>	UIN G		<u> </u>	<u></u>		lagn			
								<u> </u>			
					·						
<u> </u>											
							2			Linine MeMo	
	encentration, D=Depl	etion, RM=R	educed Matrix, M	S=Masked	Sand Gra	แกร.				Lining, M=Ma matic Hydric	
Hydric Soil			Sandu	Gleyed Mat	riy (SA)					lox (A16)	
Histosol	(A1) bipedon (A2)		-	Redox (S5)				Dark Sur			
Black Hi				d Matrix (S						, Masses (F12)	
	en Sulfide (A4)			Mucky Min			- <u> </u>	Very Sha	llow Da	k Surface (TF	12)
	d Layers (A5)			Gleyed Ma			_	Other (E:	xplain in	Remarks)	
	Jck (A10)			ed Matrix (F	-						
	d Below Dark Surface	(A11)		Dark Surfa	-		1.		6 ha	h	
	ark Surface (A12)			ed Dark Su						hytic vegetatio	
	Aucky Mineral (S1)		Redox	Depression	is (F8)					y must be pres or problematic	
	ucky Peat or Peat (S3	)					·	-	Isturbed	or problemade	<u></u>
	Layer (if observed):									/	
Type:			_				Hydri	c Soil P	resent?	Yes 🦯	No
Depth (in Remarks:	cries):										
HYDROLO					-						
	drology Indicators:			<u> </u>							
	cators (minimum of o	na is raquiza	d check all that a	nolv)			S	econdary	/ Indicate	ors (minimum o	of two required)
	Water (A1)	ie is require		ained Leave	es (89)					racks (86)	
	ater Table (A2)			auna (B13)			_			erns (B10)	
Z Saturati			<u> </u>	atic Plants				_	-	/ater Table (Ca	2)
_	Aarks (B1)		····· ·	Sulfide Oc	. ,					ws (C8)	•
	nt Deposits (B2)			Rhizosphe		ing Roots	. (C3)			ible on Aerial I	magery (C9)
	posits (B3)			of Reduce			0.0	Stunte	ed or Str	essed Plants (	D1)
	at or Crust (B4)			on Reductio			;6)	_ Geom	iorphic F	osition (D2)	
-	posits (B5)			k Surface (				_ FAC-I	Neutral 1	fest (D5)	
	ion Visible on Aerial I	magery (B7)	Gauge of	Well Data	(D9)						
Sparse	y Vegetated Concave	Surface (Bl	3) Other (E:	oplain in Re	marks)						
Field Obse	rvations:			80	A						
Surface Wa	ter Present? Y	es N	o Depth (i	nches):	25	_					
Water Table	Present? Y	es N	o Depth (i	nches):	0	_					/
Saturation F (includes ca	millary fringe)			nches):	0		tland Hyd		Present	? Yes	No
Describe Re	ecorded Data (stream	gauge, mon	itoring well, aeria	i photos, pr	evious ins	pections)	), it availa	ole:			
Domest		<u> </u>									
Remarks:											

#### WETLAND DETERMINATION DATA FORM - Midwest Region

	City/C	ounty: <u>Coreal</u>	Sampling Date: 3-16-21
policant/Owner: LendLease		s	tate: Sampling Point:
ndform (hillslope, terrace, etc.):			e, convex, none): <u>CONVEX</u>
	751 1000	- 83 855 184	Datum: WGSR4
pe (%): Lat:			
			NWI classification:
climatic / hydrologic conditions on the site typic	al for this time of year? Y	es No (I	f no, explain in Remarks.)
			Circumstances" present? Yes No
Vegetation, Soil, or Hydrology _	naturally problem	atic? MG (If needed, as	xplain any answers in Remarks.)
IMMARY OF FINDINGS - Attach site	map showing san	pling point location	ns, transects, important features, etc
	No	to the Complete Appendix	
ydric Soil Present? Yes		Is the Sampled Area	Yes No
Atland Hydrology Present? Yes	No	within a Wetland?	
GETATION – Use scientific names of	·		
		-t0 Cintus	nance Test worksheet:
ree Stratum (Plot size:)		(Value	er of Dominant Species (A)
			Number of Dominant (B)
· · · · · · · · · · · · · · · · · · ·			
-		Perce	nt of Dominant Species
	= To		Are OBL, FACW, or FAC: (A/B)
apling/Shrub Stratum (Plot size:	)	Preva	lence Index worksheet:
			otal % Cover of: Multiply by:
			pecies x 1 =
			/ species x 2 =
			pecies x 3 =
••••••••••••••••••••••••••••••••••••••			species x 4 =
FI I	= To	tal Cover UPL s	pecies x5=
erb Stratum (Plot size: 51) Red claper (Trifolium prat	encol 50 1	Y FALU Colun	nn Totals: (A) (B)
Ner Clape ( Interium pili	<u> </u>	Y FACU	Prevalence Index = B/A =
Grasses			ophytic Vegetation Indicators:
		1	- Rapid Test for Hydrophylic Vegelation
			Dominance Test is >50%
		1 3	<ul> <li>Prevalence Index is ≤3.0<sup>1</sup></li> </ul>
		A	- Morphological Adaptations' (Provide supportin data in Remarks or on a separate sheet)
•		P	roblematic Hydrophytic Vegetation <sup>1</sup> (Explain)
·		<u> </u>	
0	= To	Indic	ators of hydric soil and wetland hydrology must esent, unless disturbed or problematic.
Voody Vine Stratum (Plot size:			in the second
•			ophytic tation
		i teAe	
,,,,,,,	= Ta	Prese	ent? Yes <u>No</u>

#### SOIL

							annihing t a	
Profile Desc	ription: (Describe t	o the depth	needed to document		onfirm the	absence of in	dicators.)	
Depth	Matrix		Redox Fea		<u> </u>	exture	Demed	
(inches)	Color (moist)	<u> </u>	Color (moist) 9	<u>6 Type' L</u>			Remark	5
0-1		160 _			<u> </u>	It losm		
2-18	10YR44	100 -			انک	Florin		
· · · · · · · · · · · · · · · · · · ·	+	<u> </u>	<u> </u>					
		<u> </u>						
					<u> </u>	<u> </u>		
	a minute construction of the second se	etion, RM=R	educed Matrix, MS=Ma	sked Sand Grains.			=Pore Lining, M=N	
Hydric Soil	Indicators:				In	dicators for F	Problematic Hydr	ic Solls':
Histosol			Sandy Gleye		_	_	ie Redox (A16)	
	pipedon (A2)		Sandy Redox		_	_ Dark Surfac	•••	
Black Hi			Stripped Mat	rix (S6) / Mineral (F1)	_		nese Masses (F12	-
	n Sulfide (A4) I Layers (A5)		Loamy Gleye				w Dark Surface (T ain in Remarks)	F12)
	ick (A10)		Depleted Mai		_			
	f Below Dark Surface	(A11)	Redox Dark \$					
	ark Surface (A12)		Depleted Dar	k Surface (F7)	3	Indicators of h	ydrophytic vegetat	ion and
Sandy M	lucky Mineral (S1)		Redox Depre	ssions (F8)		wetland hyd	rology must be pre	esent,
	icky Peat or Peat (S3)	)				unless distu	urbed or problemat	ic.
Restrictive I	ayer (if observed):							
Туре:			_		u.	dele Coli Pros	ent? Yes	No
Depth (in	ches):		_		ny	dric Soll Pres	ient/ res	
Remarks:			· · · · · · · · · · · · · · · · · · ·					
HYDROLO	GY							
					<u></u> .			
•	drology Indicators:		A (also also all Also A annuls)			Consideration		of how on weight all
	19	ie is require	I: check all that apply)				dicators (minimum	or two required)
	Water (A1)		Water-Stained L			_	Soil Cracks (B6)	
	ter Table (A2)		Aquatic Fauna (	-			Patterns (B10)	
Saturatio			True Aquatic Pla				ion Water Table (C	72)
	arks (B1)		Hydrogen Sulfid		D (00)		Burrows (C8)	
	nt Deposits (B2)			pheres on Living F	Roots (C3)		n Visible on Aerial	
	posits (B3)		Presence of Re	• •			or Stressed Plants	(10)
	it or Crust (B4)			Juction In Tilled So	nis (€0)	—	hic Position (D2)	
	osits (85) on Visible on Aerial In	107)	Thin Muck Surfa			FAC-Neu	itral Test (D5)	
	on Visible on Aerial In Vegetated Concave		Gauge or Well [ Cther (Evolution is					
Field Obser	_	Surrace (Do	) Other (Explain i	in remains)	r			
			Doubh fination					
Surface Wate	er Present? Ye	ະສ INC	Depth (inches)	·				

Yes \_\_\_\_\_ No \_\_\_\_ Depth (inches):

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available;

Yes \_\_\_\_\_ No \_

Depth (inches): \_\_\_\_

Water Table Present?

(includes capillary fringe)

Saturation Present?

Remarks:

No

Wetland Hydrology Present? Yes

PROJECT INFORMATION					
PROJECT NAME: Kingword	DATE: 10-15-20				
PROJECT NUMBER: 620012	7	COUNTY/STATE: Griene, OH			
OBSERVER NAME: M. Martin	, K. Lodge	WEATHER: 50° Cloudy			
STREAMINFORMATION	, J	/			
H&A STREAMID: MM	NEAREST FLAG #: MMI-65	WATER WIDTH: 7 '			
STREAM NAME: Clark		STREAM WIDTH: 7			
FLOW TYPE: D PERENNIAL		BANKFULL WIDTH: 121			
PERCEPTIBLE FLOW: 🛛 YES 🗆		PROBED STREAM DEPTH:			
OBSERVED WATER QUALITY:	bid/Low (pasture) CHANNEL	SUBSTRATE: cobble, boulder, silt			
AQUATICHABITAT	GING 🗹 COBBLE RIFFLES 🛛 N	IUD BAR 🛛 TREES/SHRUBS			
SAND BAR	SAND/GRAVEL AQUATIC	DEEP OTHER: HOLES			
WILDLIFE OBSERVED Ø WATER		INVERTEBRATES FISH			
		OTHER:			
OBSERVED USE DRINKING					
		D'OTHER: Com pasture			
LEFT BANK HEIGHT: 3	RIGHT BANKHEIGHT: 2.5'	BANK SUBSTRATE: Silt logn			
LEFT BANKSLOPE: 40%	RIGHT BANK SLOPE: 40%	EROSION POTENTIAL:			
MEANDER: moderate	GRADIENT:	% CANOPY CLOSURE:			
ADJACENT COMMUNITY TYPES:	Pasture				
DOMINANT TREES:					
DOMINANT SHRUBS:					
	nd grasps, clover, foxtail,	bedstren,			
NOTES SKETCH					
		Pasture Pasture Pasture			

DATE: 10/15/20					
COUNTY/STATE: Greene, OH					
WEATHER: drizzle, 500					
WATER WIDTH:					
STREAM WIDTH: 31					
BANKFULL WIDTH: 5					
PROBED STREAM DEPTH:					
SUBSTRATE: SUF. Cobble					
UD BAR					
DEEP OTHER: HOLES					
□ INVERTEBRATES □ FISH					
□ OTHER:					
BANK SUBSTRATE: Silt Gam					
EROSION POTENTIAL:					
% CANOPY CLOSURE:					
· · · · · · · · · · · · · · · · · · ·					
DOMINANT SHRUBS:					
aur, Eutal, sorrel					
K					
lack Run Ag					

Con Sano

PROJECT INFORMATION		
PROJECT NAME: Kingwood S	DATE: 10/15/20	
PROJECT NUMBER: 020012	7	COUNTY/STATE: Greene, OFF
OBSERVER NAME: M. Martin	K. Lodes	WEATHER: Drizzle, 50°
STREAMINFORMATION	1.01	
H&ASTREAMID: MM 3	NEAREST FLAG #: MM3-3	WATER WIDTH:
STREAM NAME:		STREAM WIDTH:
FLOW TYPE: D PERENNIAL D I		BANKFULL WIDTH: 3'
PERCEPTIBLE FLOW: VES Y		PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHANNEL	SUBSTRATE: Silt
SAND E BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED 🛛 WATERFO		
		OTHER:
OBSERVED USE DRINKING		
		OTHER:
LEFT BANK HEIGHT: 6,5	RIGHT BANK HEIGHT: $0,5'$	BANK SUBSTRATE: Silt Gan
LEFT BANK SLOPE: 207	RIGHT BANK SLOPE: 2076	EROSION POTENTIAL:
MEANDER: mod high	GRADIENT:	% CANOPY CLOSURE:
ADJACENT COMMUNITY TYPES:	Whean Field	
DOMINANT TREES:	/	
DOMINANT SHRUBS:		
DOMINANT HERBACEOUS: SOY,	junson weed fortail. volv	+ laf
NOTES	SKETCH	121
2	N N	Rus Ag
		Ag mm3 k Bradfute RJ

PROJECT INFORMAT	ION		
PROJECT NAME: Kingwood Solar			DATE: 0-15-20
PROJECT NUMBER: 0200127			COUNTY/STATE: Greene, OH
OBSERVER NAME:	M.Mart.	K, Lpoap	WEATHER: 50° Tain
STREAM INFORMAT		2	
H&A STREAM ID:	MML	NEAREST FLAG #: MM4-42	WATER WIDTH:
STREAM NAME:	NA		STREAM WIDTH:
FLOW TYPE: 🗆 PE			BANKFULL WIDTH: 9
PERCEPTIBLE FLOW:		O FLOW DIRECTION: NW	PROBED STREAM DEPTH:
OBSERVED WATER C	UALITY:	CHANNELS	UBSTRATE: cobble boulder, s.//
AQUATICHABITAT			UD BAR 🛛 TREES/SHRUBS
	SAND E	SAND/GRAVEL AQUATIC	DEEP OTHER: HOLES
WILDLIFE OBSERVE			□ INVERTEBRATES □ FISH
			OTHER:
OBSERVED USE			
LEFT BANK HEIGHT:	3!	RIGHT BANK HEIGHT: 3	BANK SUBSTRATE: SI Handelay
LEFT BANK SLOPE:	7096	RIGHT BANKSLOPE:	EROSION POTENTIAL:
MEANDER:	Imod	GRADIENT: moderate steen	% CANOPY CLOSURE:
ADJACENT COMMU	NITY TYPES:	acture, souberma	
DOMINANT TREES:	1	camp extended block	walnet
DOMINANT SHRUBS	. )	selle malberry priv	reas tree
DOMINANT HERBAG	AS .	Dereta jan Alexandri Inzana	
NOTES		SKETCH	
		$\wedge$	
			12 Me
		N	ncen D.
		NEI	are Pasture
		N	Pasture Pasture
		NCI	mas Pasture
		NCI	And Pasture
		NCI	As Pasture
		NCI	As Pasture Pasture Pasture

PROJECT INFORMATION	PROJECT INFORMATION				
PROJECT NAME: KINGWOOD SOL	DATE: 10/17/20				
PROJECT NUMBER: 135134 /01	COUNTY/STATE: GREENE/OH				
OBSERVER NAME: K. LODGE +	WEATHER: SUNNY 505				
STREAMINFORMATION					
H&ASTREAMID: MM5	NEAREST FLAG #: 26	WATER WIDTH:			
STREAM NAME:		STREAM WIDTH: 3			
FLOW TYPE: 🗆 PERENNIAL 🖳 I		BANKFULL WIDTH: 5			
PERCEPTIBLE FLOW: 🗆 YES 💢 N		PROBED STREAM DEPTH:			
OBSERVED WATER QUALITY:	CHANNEL	SUBSTRATE: SILT, COBBLE, BOULDER			
	ING COBBLE RIFFLES N	1UD BAR 🗍 TREES/SHRUBS			
SAND SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES			
WILDLIFE OBSERVED 🛛 WATERFO		□ INVERTEBRATES □ FISH			
	SALAMANDERS	□ OTHER:			
OBSERVED USE DRINKING					
🗆 FISHING					
LEFT BANK HEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE: SILT LOAM			
LEFT BANK SLOPE: 1:2	RIGHT BANK SLOPE: 1:2	EROSION POTENTIAL: MOD-HIGH			
MEANDER: MINOR	GRADIENT: FLAT	% CANOPY CLOSURE: 80-90 7.			
ADJACENT COMMUNITY TYPES: AC	TIVE CULTIVATED SON BEA	N			
DOMINANT TREES:					
DOMINANT SHRUBS:					
DOMINANT HERBACEOUS: SOYBEA	N, REED CANARY GRASS, COCI	LEBUR, FOXTAIL GRASS, CATIAIL			
NOTES GIANT RAGWEED, PANK Z	GZAG GRASS SKETCH				
AGRICULTURAL DRAINA	GE NT	2 1 1			
ACTIVE SOUBEAN		EA			
		S 1 2			
		EA SO			
		ACTIVE SOYBEAN MM5 ~> VE SOYBEAN			
		MM5 Suy			
		Ш			
		ACTIVE SOYBEAN			
		AC			

PROJECT INFORMATION		
PROJECTNAME: Kingwood So	lar	DATE: 10/19/20 10/14
PROJECT NUMBER: 0100127	COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Martin	K. Lodge	WEATHER: 40°, vain
STREAMINFORMATION		
H&A STREAMID: MM 6	NEAREST FLAG #: 3니	WATER WIDTH: 5
STREAM NAME: Clark Ru.	<u></u>	STREAM WIDTH: 5
FLOW TYPE: D PERENNIAL 🛱 🛙		BANKFULL WIDTH: 6
PERCEPTIBLE FLOW: QYES DN	D FLOW DIRECTION: SW	PROBED STREAM DEPTH: 5
OBSERVED WATER QUALITY: TURE	CHANNELS	SUBSTRATE: SILT + COBBLE
		IUD BAR 🖾 TREES/SHRUBS 🦾
SAND BAR	SAND/GRAVEL AQUATIC	DEEP OTHER:
WILDLIFE OBSERVED UWATERFO		□ INVERTEBRATES □ FISH
📈 FROGS		□ OTHER:
		□ OTHER:
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	-BANK SUBSTRATE: SILT SILT LOAM
	RIGHT BANK SLOPE:	EROSION POTENTIAL: MOD
MEANDER: MINOR	GRADIENT: FLAT	% CANOPY CLOSURE: 40
ADJACENT COMMUNITY TYPES:	ASTURE, FOREST	
DOMINANT TREES: WILLOW	ACH MAPLE	
DOMINANT SHRUBS: HACK BI	ERRY, HONEYSUCICLE	
DOMINANT HERBACEOUS: GOLDE	NROD, MINT, ROSE	ASTER
NOTES	SKETCH N T	Ag
		Forest
	process of the state of the sta	
	E	Forest MMG
		Pasture

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511		
ROJECTINFORMATION		DATE: 10/19/20
ROJECTNAME: Kingwood Saar	COUNTY/STATE: Greene, OH	
PROJECT NUMBER: 0100127	WEATHER: 40°, Rain	
OBSERVER NAME: M. Martin, K	Lodge	
STREAMINFORMATION	NEAREST FLAG #: 4 3	WATER WIDTH: 2
H&A STREAM ID: MM7	NEARED I LIGHT	STREAM WIDTH: 3
STREAM NAME:		BANKFULLWIDTH: 3
		PROBED STREAM DEPTH: 2"
PERCEPTIBLE FLOW: VES INO		LSUBSTRATE: SILT
OBSERVED WATER QUALITY: SLIGH	TLA TREE	MUD BAR TREES/SHRUBS
SAND 🖸	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	
BAR		INVERTEBRATES FISH
OBSERVED USE		OTHER:
	RIGHT BANK HEIGHT:	BANK SUBSTRATE: SILT SILT LAAM
LEFT BANKHEIGHT:		EROSION POTENTIAL: LOW-MOD
LEFT BANKSLOPE: \.\	RIGHT BANKSLOPE:	% CANOPY CLOSURE: 90-90
MEANDER: MINOR	GRADIENT: 570	
ADJACENT COMMUNITY TYPES: FC	REST, ORN FIFLE	)
	Nett	
HANTSHPLIPS: HONELS	SUIVLE FUN IOLIVE	E, DOGWOOD
DOMINANT HERBACEOUS: WIN	FR CREEPER, ASTER	R. ROSE
NOTES	SKETCH	A
		Fig
	N	M7 Forest E
	1	A MININ RUD
	$\times$	MM7 Farest & V Clark Run
3		2 Pasture
	ά.	
1		<u></u>

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PROJECT INFORMATION	ww.			
PROJECT NAME: Kingwood Salar			DATE: 10/19/20	
PROJECT NUMBER: ()200127			COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Mar		( Lodge		WEATHER: 40 vai
STREAMINFORMATION	1			
H&A STREAM ID: MM8		NEAREST FLAG #:	MM8-2	WATER WIDTH: 3 /
STREAM NAME:				STREAM WIDTH: 5 '
FLOW TYPE: D PERENNIAL	11		PHEMERAL	BANKFULL WIDTH: 3
PERCEPTIBLE FLOW: VES		D FLOW DIRECTIO	N: 5	PROBED STREAM DEPTH: 2
OBSERVED WATER QUALITY:	tu	ibid	CHANNELS	SUBSTRATE: Silf
	IANGI			UD BAR ITREES/SHRUBS
. SAND BAR		SAND/GRAVEL 🛛 BEACH BAR	AQUATIC VEGETATION	DEEP OTHER: HOLES
	TERFO		S	INVERTEBRATES FISH
	OGS		ANDERS	
			ING	
	IG		IG	
LEFT BANK HEIGHT:		RIGHT BANK HEIGH	T: /	BANK SUBSTRATE: Silty des
LEFT BANK SLOPE: 400		RIGHT BANK SLOPE:	407	EROSION POTENTIAL: moderate
		GRADIENT:	evet 1	% CANOPY CLOSURE: 80
ADJACENT COMMUNITY TYPE	S:	Forest		
DOMINANT TREES: SUBNIC	MANG		Nevry	
DOMINANT SHRUBS:		E/e	1	1
	1.1	er creadly		N
NOTES			<b>БКЕТСН</b>	
			T	HS
		N	Forest	
		$\sim$	N Martin and	
				Youk Run
			12	Clark Run Posture
4			2-	1 as
10 J K				

PROJECT INFORMATION	3	DATE: 10/19/20
PROJECT NAME: Kingwood So		
PROJECT NUMBER: 0100127	COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Martin	KLade	WEATHER: 40°, Rain
STREAMINFORMATION		
H&A STREAMID: MM	NEAREST FLAG #: MM9-6	
STREAM NAME:		STREAM WIDTH:
FLOW TYPE: D PERENNIAL D IN		BANKFULL WIDTH: 4
PERCEPTIBLE FLOW: VES ON	FLOW DIRECTION: S	PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	ight he turked CHANNEL	SUBSTRATE: Silf
SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER:
WILDLIFE OBSERVED WATERFO		INVERTEBRATES FISH
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE: Clay bam
LEFT BANKSLOPE: 26%	RIGHT BANK SLOPE: 20%	EROSION POTENTIAL:
MEANDER:	GRADIENT: Jow moderate	% CANOPY CLOSURE:
	orn. Sov. Scrub	
DOMINANT TREES:		
DOMINANT SHRUBS:		
DOMINANT HERBACEOUS: Ceed	consist rice cutareas	avoind iny
NOTES	SKETCH	Ag Mmg Clark Run Clark Run

PROJECT INFORMATION			
PROJECT NAME: Kingwood Solar			DATE: 10-20-20
PROJECT NUMBER: 02 GO 127			COUNTY/STATE: OH
OBSERVER NAME: M. Mar	tin K. Lode	sp	WEATHER: rain, 500
STREAMINFORMATION			
H&ASTREAMID: MM10	NEAREST FLAG #	#: MM10-13	WATER WIDTH: NA
STREAM NAME:			STREAM WIDTH: 4
FLOW TYPE: 🛛 PERENNIAL		EPHEMERAL	BANKFULL WIDTH: 🦕
PERCEPTIBLE FLOW: VES	Z NO FLOW DIRECT	TION: SE	PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	-	CHANNELS	SUBSTRATE: Cobble, silt
			IUD BAR
SAND BAR	SAND/GRAVEL BEACH BAR	AQUATIC VEGETATION	DEEP OTHER: HOLES
		TLES .	INVERTEBRATES FISH
	SS 🗆 SALA	MANDERS	
OBSERVED USE DRINKI		MMING	
		TING	□ OTHER:
	RIGHTBANKHEIG	бнт: 🤍 '	BANK SUBSTRATE: Claylogm
LEFT BANK SLOPE: 2576	RIGHT BANK SLOP	PE: 40%	EROSION POTENTIAL: moderate
MEANDER: Moderate	GRADIENT:	dente	% CANOPY CLOSURE: 6576
ADJACENT COMMUNITY TYPES:	Forest	· · · · · · · · · · · · · · · · · · ·	
DOMINANT TREES: black	walnut, hackb	perry, honey	, locuts
	honeysudde	/ /	
	Darst		
NOTES		SKETCH NAS	tends Moured Area

PROJECT INFORMATION		
PROJECTNAME: Kingwood So	DATE: (0-20-00	
PROJECT NUMBER: 020012	COUNTY/STATE: Greene/OH	
OBSERVER NAME: M. Marti	K. Lodge	WEATHER: cloudy 50°
STREAM INFORMATION	, ,	
H&A STREAMID: MM)	NEAREST FLAG #: MM11-12	WATER WIDTH:
STREAM NAME:		STREAM WIDTH: 31
FLOW TYPE: D PERENNIAL I		BANKFULL WIDTH: 4
PERCEPTIBLE FLOW: 🛛 YES 🖓 N		PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHANNEL	SUBSTRATE: colode, silt, clay
	ING 🔲 COBBLE RIFFLES 🔲 M	1UD BAR D TREES/SHRUBS
SAND C	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED 🛛 WATERFO		INVERTEBRATES IF FISH
		□ OTHER:
OBSERVED USE		
	BOATING	OTHER:
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT: 21	BANK SUBSTRATE: Jay lacm
LEFT BANKHEIGHT: 2 LEFT BANKSLOPE: 40%	RIGHT BANK HEIGHT: 21 RIGHT BANK SLOPE: 276	BANK SUBSTRATE: Jay lacm EROSION POTENTIAL: moderate
×.	RIGHT BANK SLOPE: 20%	Clay loam
LEFT BANK SLOPE: 40%	RIGHT BANKSLOPE: 20% GRADIENT: Maderate	EROSION POTENTIAL: moderate
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Scrub shrub,	EROSION POTENTIAL: moderate
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton up	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Srcub shrub, ad, honey boust	EROSION POTENTIAL: moderate
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amor W	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Scrub shrub, ad, honey locust poney syxke	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75%
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: Cotton wo DOMINANT SHRUBS: Amur 6	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Scrub shrub, ad, honey locust poney syxke	EROSION POTENTIAL: moderate
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Scrub shrub, ad, have bocust honey bocust honey with	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75%
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Scrub shrub, ad, have bocust honey bocust honey with	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75%
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Sroub shrub, ad, honey boust honey boust honey boust honey boust sketch N	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75975
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Moderate prest, Scrub shrub, od, haney boust honey boust honey sykk a dearweed, butterweed, a SKETCH	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75975
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Sroub shrub, ad, honey boust honey boust honey boust honey boust sketch N	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75975
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Sroub shrub, ad, honey boust honey boust honey boust honey boust sketch N	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 7592
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Sroub shrub, ad, honey boust honey boust honey boust honey boust sketch N	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 7592
LEFT BANK SLOPE: 40% MEANDER: Moderate ADJACENT COMMUNITY TYPES: 6 DOMINANT TREES: cotton wo DOMINANT SHRUBS: Amur k DOMINANT HERBACEOUS: Canad	RIGHT BANKSLOPE: 20% GRADIENT: Maderate prest, Sroub shrub, ad, honey boust honey boust honey boust honey boust sketch N	EROSION POTENTIAL: moderate % CANOPY CLOSURE: 75%

PROJECT INFORMATION		
PROJECT NAME: King word	DATE: (0-)0-20	
PROJECT NUMBER: 020012	COUNTY/STATE: Greene/OH	
OBSERVER NAME: M. Mactin.	K. Lodge	WEATHER: Closely, 50
STREAMINFORMATION	J	
H&ASTREAMID: MM	NEAREST FLAG #: MM12-6	WATER WIDTH:
STREAM NAME:		STREAM WIDTH:
FLOW TYPE: D PERENNIAL I		BANKFULL WIDTH: 31
PERCEPTIBLE FLOW: 🗆 YES 🗹 N	O FLOW DIRECTION: SE	PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHANNEL	SUBSTRATE: Cobble, silt
		MUD BAR C TREES/SHRUBS
SAND E	SAND/GRAVEL AQUATIC	DEEP OTHER: HOLES
WILDLIFE OBSERVED 🛛 WATERFO		□ INVERTEBRATES □ FISH
🗆 FROGS		OTHER:
OBSERVED USE DRINKING		
LEFT BANK HEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE: silty clay loam
LEFT BANK SLOPE: 30%	RIGHT BANK SLOPE: 30%	EROSION POTENTIAL: moderge
MEANDER:	GRADIENT: moderate	% CANOPY CLOSURE:
ADJACENT COMMUNITY TYPES:	rub shub	
DOMINANT TREES: Honey locu		
DOMINANT SHRUBS: Amur h	(1)	
	Canary	
NOTES	/ SKETCH	× ×
	N	mm12 Scrub
6 -		wed mm13
		MMIL Scrub/Forest
e.		4

PROJECT INFORMATION		
PROJECT NAME: Kinnwood	DATE: 0-20-20	
PROJECT NUMBER: 020012-	COUNTY/STATE: (preene Dhio	
OBSERVER NAME: M. Martin	(, lodge	WEATHER: 50°, cloudy
STREAM INFORMATION	<u> </u>	
H&ASTREAMID: MM13	NEAREST FLAG #: MM13-S	WATER WIDTH:
STREAM NAME:		STREAM WIDTH: 31
FLOW TYPE: D PERENNIAL D II		BANKFULLWIDTH: 4
PERCEPTIBLE FLOW: VES V	D FLOW DIRECTION: W	PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHAN	NELSUBSTRATE: cobble, silt, day
		MUD BAR TREES/SHRUBS
SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETAT	
WILDLIFE OBSERVED UWATERFO		□ INVERTEBRATES □ FISH
OBSERVED USE DRINKING		
🗆 FISHING		
LEFT BANK HEIGHT: 2'		BANK SUBSTRATE: Clay loam
LEFT BANKSLOPE: 30%	RIGHT BANK SLOPE: 40%	EROSION POTENTIAL: mod/high
MEANDER: low moderate	GRADIENT: moderate	% CANOPY CLOSURE: 85%
	prest, scrub shrub	
	honey locust,	
	oneysuckle	
DOMINANT HERBACEOUS: Spars	- I	
NOTES	SKETCH	
	N	MM12 mm11
	Ar c	wed scrub
	J	scrub/Forest

PROJECT INFORMATION		
PROJECT NAME: Kinswood	DATE: 16-21-20	
PROJECT NUMBER: 020012	COUNTY/STATE: Greene/Ohio	
OBSERVER NAME: M. Martin	<u> </u>	WEATHER: partly cloudy/65
STREAMINFORMATION		
H&ASTREAMID: MMIU	NEAREST FLAG #: MM14-45	
STREAM NAME: (lack RU.	<b>^</b>	STREAM WIDTH:
FLOW TYPE: D PERENNIAL		BANKFULL WIDTH: 15
PERCEPTIBLE FLOW: YES IN	IO FLOW DIRECTION: $SW$	PROBED STREAM DEPTH: 2
	channel	SUBSTRATE: silt cobble
AQUATIC HABITAT	ING 🛛 COBBLE RIFFLES 🔲 N	IUD BAR 🛛 TREES/SHRUBS
SAND E	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED 🛛 WATERFO		INVERTEBRATES FISH
	SALAMANDERS	□ OTHER:
OBSERVED USE DRINKING		
		OTHER: Pasture
LEFT BANK HEIGHT:	RIGHT BANK HEIGHT: 🤍	BANK SUBSTRATE:
LEFT BANKSLOPE: 30%	RIGHT BANK SLOPE: 4070	EROSION POTENTIAL: moderat
MEANDER: Moderate	GRADIENT: Jon / mod	% CANOPY CLOSURE: 576
ADJACENT COMMUNITY TYPES:	asture, woolland	
DOMINANT TREES: Sycamore	honer brist	
DOMINANT SHRUBS:	1.0	
DOMINANT HERBACEOUS:	\	
NOTES	SKETCH	
		Pasture MMH4 Pasture Pasture

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PROJECT INFORMATION				
PROJECT NAME: Kingwood	DATE: 10-21-20			
PROJECT NUMBER: 0206127	COUNTY/STATE: Greene, OH			
OBSERVER NAME: M. Marti,	~	WEATHER: cloudy, 650		
STREAMINFORMATION				
H&ASTREAMID: MM15	NEAREST FLAG #: MM15-2	WATER WIDTH: 2'		
STREAM NAME:		STREAM WIDTH: 2		
FLOW TYPE: D PERENNIAL D		BANKFULL WIDTH: 41		
PERCEPTIBLE FLOW: VES V	O FLOW DIRECTION: SW	PROBED STREAM DEPTH: $2^n$		
OBSERVED WATER QUALITY:	htter torig CHANNELS	SUBSTRATE: Stode 50% Silt 50%		
AQUATICHABITAT		IUD BAR 🛛 TREES/SHRUBS		
SAND BAR	SAND/GRAVEL AQUATIC	DEEP OTHER: HOLES		
WILDLIFE OBSERVED 🛛 WATERFO		INVERTEBRATES FISH		
OBSERVED USE DRINKING				
		□ OTHER:		
LEFT BANK HEIGHT:		BANK SUBSTRATE: Clay loan		
LEFT BANK SLOPE: 50%	RIGHT BANKSLOPE: 50%	EROSION POTENTIAL:		
MEANDER:	GRADIENT: mod	% CANOPY CLOSURE:		
	orest			
DOMINANT TREES	nuberry			
DOMINANT SHRUBS: hoversu				
DOMINANT HERBACEOUS:				
NOTES	SKETCH M woode N Past	clarERUNTI pasture pasture		

PROJECT INFORMATION			
PROJECT NAME: Kingwood Salar		DATE: 10-21-20	
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene, Off	
OBSERVER NAME: M. Marti-	、	WEATHER: Cloudy 65°	
STREAMINFORMATION		//	
H&A STREAMID: MMIC	NEAREST FLAG #: MM(6-3	WATER WIDTH:	
STREAM NAME:		STREAM WIDTH: 2	
FLOW TYPE: D PERENNIAL D I		BANKFULL WIDTH: 7	
PERCEPTIBLE FLOW: VES IN		PROBED STREAM DEPTH:	
OBSERVED WATER QUALITY:	CHANNELS	SUBSTRATE: Silt 70, Clay 30	
AQUATICHABITAT	NG 🗆 COBBLE RIFFLES 🖾 M	UD BAR	
SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES	
WILDLIFE OBSERVED 🛛 WATERFO		INVERTEBRATES IFISH	
		OTHER:	
OBSERVED USE DRINKING		DRAINAGE IRRIGATION	
		OTHER:	
		BANK SUBSTRATE: Clay locm	
LEFT BANK SLOPE: 3070	RIGHT BANK SLOPE: 30%	EROSION POTENTIAL:	
MEANDER: Migh	GRADIENT: moderate	% CANOPY CLOSURE: 70	
ADJACENT COMMUNITY TYPES: Forest/ COSTINE			
DOMINANT TREES	Init offer orange,		
DOMINANT SHRUBS: Money se			
DOMINANT HERBACEOUS:	45		
NOTES SKETCH A wooded pasture N Uark Run Uark Run Clark Run Clark Run Clark Run Clark Run Clark Run Clark Run Clark Run			

PROJECT INFORMATION		
PROJECTNAME: Kingwood Solar		DATE: 11/18/20
PROJECT NUMBER: 0100127		COUNTY/STATE: Greene, OH
OBSERVER NAME: M. Mart	in	WEATHER: SUMMY, 400
STREAMINFORMATION		
H&A STREAM ID: MM17	NEAREST FLAG #: MM17-3	WATER WIDTH:
STREAM NAME:		STREAM WIDTH: 2
FLOW TYPE: PERENNIAL II	NTERMITTENT DEPHEMERAL	BANKFULL WIDTH: 4
PERCEPTIBLE FLOW: VES N	O FLOW DIRECTION:	PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHANNEL	SUBSTRATE: silt, clay, cobble
AQUATICHABITAT	NG COBBLE RIFFLES N	IUD BAR 🛛 TREES/SHRUBS
SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED UWATERFC	WL 🗆 TURTLES	INVERTEBRATES FISH
	SALAMANDERS	□ OTHER:
OBSERVED USE DRINKING		DRAINAGE IRRIGATION
🗆 FISHING		□ OTHER:
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE:
LEFT BANKSLOPE: 30%	RIGHT BANK SLOPE: 30%	EROSION POTENTIAL: MODERALE
MEANDER:	GRADIENT: moderate	% CANOPY CLOSURE: 66%
ADJACENT COMMUNITY TYPES:	crublforest	
DOMINANT TREES: ORK		
DOMINANT SHRUBS: honeyou	Ele	
DOMINANT HERBACEOUS:		
NOTES	×	crops & open to pasture ded ture wooded pasture

PROJECT INFORMAT	ION			
PROJECT NAME: Kingwood Solar		DATE: 11-18-20		
PROJECT NUMBER: 0100127		COUNTY/STATE: Greene		
OBSERVER NAME:	M. Marti-			WEATHER: Sunny, 40°
<b>STREAM INFORMAT</b>	ION			1 ·
H&A STREAM ID:	MMIS	NEAREST FLAG #	M18-4	WATER WIDTH: 🖉
STREAM NAME:	Clark Ru	<u>^</u>		STREAM WIDTH: 8'
FLOW TYPE: PE	RENNIAL 🗍 I		EPHEMERAL	BANKFULL WIDTH: 13
PERCEPTIBLE FLOW:		O FLOW DIRECT	ion: $SW$	PROBED STREAM DEPTH: 41
OBSERVED WATER Q	UALITY:	ar	CHANNELS	SUBSTRATE: cobble, gravel, sand
AQUATICHABITAT		/		IUD BAR 🛛 TREES/SHRUBS
	SAND BAR	SAND/GRAVEL	AQUATIC VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED			LES	INVERTEBRATES  FISH
			ANDERS	□ OTHER:
OBSERVED USE		🗆 SWIM	MING	
		BOAT	ING	Ø OTHER: Pasture
LEFT BANKHEIGHT:	6	<b>RIGHT BANK HEIG</b>	нт: 56%	BANK SUBSTRATE: Silt laam
LEFT BANK SLOPE:	6	RIGHT BANK SLOPI	: 30%	EROSION POTENTIAL: Lich
MEANDER: Moo	derete	GRADIENT: Ow/moderate		% CANOPY CLOSURE:
ADJACENT COMMUN	NITY TYPES:	actore	<i>i</i>	
DOMINANT TREES:	Osage oran	a f		
DOMINANT SHRUBS:	1	11		
DOMINANT HERBAC	EOUS: Or res.	585		
NOTES	5		SKETCH	
			∧ N	Pasture
				Clark Run
				posture

PROJECT INFORMATION	PROJECT INFORMATION			
PROJECT NAME: Kingwood Solar		DATE: 11/18/20		
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene, OH		
OBSERVER NAME: M. W	lartin		WEATHER: 40° SUNNY	
STREAMINFORMATION			1	
H&ASTREAMID: MM19	NEAREST FLAG	#: MM19-7	WATER WIDTH: N/A	
STREAM NAME:			STREAM WIDTH: 8	
FLOW TYPE: 🛛 PERENNIAL	DINTERMITTENT D		BANKFULL WIDTH: 15	
PERCEPTIBLE FLOW: 🛛 YES	✓ NO FLOW DIREC	TION: W	PROBED STREAM DEPTH: N	
OBSERVED WATER QUALITY:	WA	CHANNELS	SUBSTRATE: Cobble, boulder, bed to	
AQUATICHABITAT			IUD BAR ITREES/SHRUBS	
SAND BAR	SAND/GRAVEL BEACH BAR	AQUATIC VEGETATION		
WILDLIFE OBSERVED		TLES	INVERTEBRATES  FISH	
	is 🗆 sala	MANDERS	□ OTHER:	
OBSERVED USE DRINKI		MMING		
	і 🗆 воа	TING	OTHER: Pasture	
LEFT BANK HEIGHT: 3	RIGHT BANK HEI	<u>ант: 3 (</u>	BANK SUBSTRATE: SHI Sam	
LEFT BANKSLOPE: 45%	RIGHT BANK SLO	PE: 45%	EROSION POTENTIAL: high	
MEANDER:	GRADIENT: M	oderstellich	% CANOPY CLOSURE: 567	
ADJACENT COMMUNITY TYPES:				
DOMINANT TREES: black walnut, hackberry, bage arange				
DOMINANT SHRUBS: MULT		i j		
DOMINANT HERBACEOUS:				
NOTES		SKETCH		
		NT	wooded pasture mm19 pasture	
			1	

		· · · · · · · · · · · · · · · · · · ·	
PROJECT NAME: Kingwood Solar		DATE: 3-9-21	
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene OH	
<u></u>		WEATHER: Sunny 550	
·····			
NEAREST FLAG #: MY	12-3	WATER WIDTH: 8	
		STREAM WIDTH: 10	
	MERAL	BANKFULL WIDTH: 12	
FLOW DIRECTION:	$\mathcal{N}$	PROBED STREAM DEPTH: $Q''$	
ear	CHANNELS	UBSTRATE: cobble, boulder	
G 🛛 COBBLE RIFFLE	ES 🗆 M	UD BAR  TREES/SHRUBS	
		DEEP OTHER: HOLES	
L URTLES		□ INVERTEBRATES □ FISH	
	ERS	□ OTHER:	
		□ OTHER:	
IGHT BANK HEIGHT:	1'	BANK SUBSTRATE: Silt an	
IGHT BANK SLOPE: 30	5%	EROSION POTENTIAL: modified	
MEANDER: paw/mod GRADIENT: moderato		% CANOPY CLOSURE: SU	
i			
<u> </u>			
Je			
NOTES SKETCH			
A black	C CIN	Connection observed	
Possible remnants of an old A E			
water in scrub portion but Ar			
	1-15		
Rin		A 19	
does not reach Clark Run monthstacked P			
Şe	prest/scrul	5 Stares	
	Ath	the presidence	
	NEAREST FLAG #: MY TERMITTENT EPHE FLOW DIRECTION: eq ( G COBBLE RIFFLI SAND/GRAVEL AQU BEACH BAR VEC L TURTLES SALAMAND SWIMMING BOATING IGHT BANK HEIGHT: IGHT BANK SLOPE: 3( RADIENT: moden SC ( RADIENT: moden SC ( RADIENT: moden SC ( SKET A DIENT: MODEN SKET A DIENT SKET	NEAREST FLAG #: MM2-3 ERMITTENT EPHEMERAL FLOW DIRECTION: M EGG COBBLE RIFFLES M G COBBLE RIFFLES M SAND/GRAVEL AQUATIC BEACH BAR VEGETATION L TURTLES SALAMANDERS SWIMMING BOATING IGHT BANK HEIGHT: 1' IGHT BANK SLOPE: 30% RADIENT: moderate No	

PROJECT INFORMATION		
PROJECT NAME: King wood Solar		DATE: 3-9-2021
PROJECT NUMBER: 0100127		COUNTY/STATE: Greene, OH
OBSERVER NAME: M. Mart	· ~	WEATHER: 650 SUNNY
STREAM INFORMATION		
H&ASTREAMID: MM21	NEAREST FLAG #: MM21-12	WATER WIDTH: [(_'
STREAM NAME: Clark RU.	<u></u>	STREAM WIDTH: 26#
FLOW TYPE: 🗹 PERENNIAL 🗆 I		BANKFULL WIDTH: 28'
PERCEPTIBLE FLOW: VES IN	O FLOW DIRECTION: Rast	PROBED STREAM DEPTH: 81
OBSERVED WATER QUALITY:	e G / CHANNE	LSUBSTRATE: cobble, silt, sand
AQUATICHABITAT	ING 🛛 COBBLE RIFFLES 🔲	MUD BAR 🛛 TREES/SHRUBS
SAND E BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP DOTHER: HOLES
WILDLIFE OBSERVED UWATERFC		INVERTEBRATES FISH
OBSERVED USE DRINKING		
	D BOATING	
LEFT BANKHEIGHT: 4	RIGHT BANKHEIGHT: 4	BANK SUBSTRATE: Silt logm
LEFT BANK SLOPE: 36%	RIGHT BANKSLOPE: 30%	EROSION POTENTIAL: moderate
MEANDER:	GRADIENT: moderate	% CANOPY CLOSURE:
ADJACENT COMMUNITY TYPES: Agriculture		
DOMINANT TREES:		
DOMINANT SHRUBS:		
DOMINANT HERBACEOUS: 9 . d	enrod, grasses, com	
NOTES	SKETCH	Ag
	N	
5		mm2
		xends Ag
		75 mm20
		Forest

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PROJECT INFORMATION	5 x		
PROJECTNAME: Kingwood Salar		DATE: 3-9-2021	
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Marti	~	WEATHER: (55°, sunny	
STREAMINFORMATION			
H&ASTREAMID: MM22	NEAREST FLAG #: MM )2-4	WATER WIDTH: 21	
STREAM NAME:		STREAM WIDTH: 2 '	
FLOW TYPE: D PERENNIAL D'I		BANKFULL WIDTH: 31	
PERCEPTIBLE FLOW: 🖓 YES 🗆 N	O FLOW DIRECTION: NE	PROBED STREAM DEPTH: 3 "	
OBSERVED WATER QUALITY:	clear CHANNELS	SUBSTRATE: Silt, Sand	
AQUATICHABITAT 🗆 OVERHANG	ING COBBLE RIFFLES M	UD BAR 🛛 TREES/SHRUBS	
SAND E	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES	
WILDLIFE OBSERVED D WATERFO		□ INVERTEBRATES □ FISH	
		□ OTHER:	
OBSERVED USE DRINKING		DRAINAGE IRRIGATION	
🗆 FISHING			
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE: Silt loan	
LEFT BANKSLOPE: 40%	RIGHT BANKSLOPE: 40%	EROSION POTENTIAL:	
MEANDER: Jow GRADIENT: moderate		% CANOPY CLOSURE:	
ADJACENT COMMUNITY TYPES: herbaceaus			
DOMINANT TREES:			
DOMINANT SHRUBS:			
DOMINANT HERBACEOUS:	5585		
NOTES	SKETCH		
NOTES Fed by spring at base of a small hill, MM32 Fito SKETCH N Clacke Reva SKETCH N Clacke Reva Spring N			

PROJECT INFORMATION	PROJECT INFORMATION			
PROJECTNAME: Kingwood Solar		DATE: 3-9-2021		
PROJECT NUMBER: 6200127		COUNTY/STATE: Greene, OH		
OBSERVER NAME: M. Mart	in .	WEATHER: 65, sunny		
STREAMINFORMATION				
H&ASTREAMID: MM23	NEAREST FLAG #: MM23-15	WATER WIDTH: 10 '		
STREAM NAME:		STREAM WIDTH: 10'		
FLOW TYPE: D PERENNIAL D		BANKFULL WIDTH: 20'		
PERCEPTIBLE FLOW: 🖓 YES 🗆 N	O FLOW DIRECTION: NW	PROBED STREAM DEPTH: 📿 "		
OBSERVED WATER QUALITY:	lear CHANNELS	SUBSTRATE: COBBLE		
AQUATICHABITAT	ING COBBLE RIFFLES IN	IUD BAR 🗍 TREES/SHRUBS		
SAND BAR	SAND/GRAVEL AQUATIC	DEEP OTHER: HOLES		
WILDLIFE OBSERVED UWATERFO		□ INVERTEBRATES □ FISH		
	SALAMANDERS	OTHER:		
OBSERVED USE DRINKING				
🗆 FISHING		□ OTHER:		
LEFT BANKHEIGHT: 6	RIGHT BANK HEIGHT: 3	BANK SUBSTRATE: 5; F		
LEFT BANKSLOPE: 50%	RIGHTBANKSLOPE: 25%	EROSION POTENTIAL: moderate		
MEANDER:	GRADIENT: Moderate	% CANOPY CLOSURE: 50%		
ADJACENT COMMUNITY TYPES: road should or lag				
DOMINANT TREES: 10 CUST	maple			
DOMINANT SHRUBS: Maney S	iclife			
DOMINANT HERBACEOUS:				
NOTES	SKETCH	Run Asking		

PROJECT INFORMATION			
PROJECTNAME: Kingwood Solar		DATE: 3-9-2021	
PROJECT NUMBER: 6500127		COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Martin	~	WEATHER: 65° SUMMY	
STREAM INFORMATION			
H&ASTREAMID: MM24	NEAREST FLAG #: WM24-2	WATER WIDTH: / /	
STREAM NAME:	at	STREAM WIDTH:	
		BANKFULL WIDTH: 21	
PERCEPTIBLE FLOW: 🗹 YES 🗆 N		PROBED STREAM DEPTH: /''	
OBSERVED WATER QUALITY:	CHANNELS	SUBSTRATE: sand, silt	
AQUATICHABITAT		UD BAR	
SAND BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES	
WILDLIFE OBSERVED D WATERFO		INVERTEBRATES IFISH	
OBSERVED USE DRINKING			
		□ OTHER:	
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE:	
LEFT BANKSLOPE: 50%	RIGHT BANK SLOPE: 50%	EROSION POTENTIAL:	
MEANDER:	GRADIENT: moderaly	% CANOPY CLOSURE:	
ADJACENT COMMUNITY TYPES:	g, Grinnell RJ		
DOMINANT TREES:	<i>, , , , , , , , , ,</i>		
DOMINANT SHRUBS: honeyoud	cle		
	ses, goldenrod Aste G		
NOTES SKETCH			

PROJECT INFORMATION		
PROJECT NAME: Kingwood Solar		DATE: 3-10-2021
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene, OH
OBSERVER NAME: M. Marti	~	WEATHER: 70°, SUNNY
STREAMINFORMATION		
H&ASTREAMID: MM25	NEAREST FLAG #: MM25-5	WATER WIDTH:
STREAM NAME:		STREAM WIDTH: \
FLOW TYPE: D PERENNIAL		BANKFULL WIDTH: 3
PERCEPTIBLE FLOW: DYES DN		PROBED STREAM DEPTH:
OBSERVED WATER QUALITY:	CHANNELS	SUBSTRATE: Sand, si H
		IUD BAR 🔲 TREES/SHRUBS
SAND C BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES
WILDLIFE OBSERVED		INVERTEBRATES FISH
		OTHER:
OBSERVED USE DRINKING		
		OTHER:
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT:	BANK SUBSTRATE: S; 1 + 100 m
LEFT BANKSLOPE: 50%	RIGHT BANKSLOPE: 50%	EROSION POTENTIAL: moderate
MEANDER:	GRADIENT: moderate	% CANOPY CLOSURE: $20\%$
ADJACENT COMMUNITY TYPES:	asture	
DOMINANT TREES:	)	
DOMINANT SHRUBS: OSC SE	Orenze	
DOMINANT HERBACEOUS:	<u>)</u>	
NOTES	SKETCH M	Clark Run E

 $\mathcal{W}$ 

 $\mathcal{D}$ 

PROJECT INFORMATION			
PROJECTNAME: Kingubod Solar		DATE: 3-11-21	
PROJECT NUMBER: 0300127		COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Marti	^	WEATHER: LO°, SUNNY	
STREAMINFORMATION			
H&ASTREAMID: MM26	NEAREST FLAG #: MM26-3	WATER WIDTH: 3'	
STREAM NAME:		STREAM WIDTH: 3'	
FLOW TYPE: D PERENNIAL	NTERMITTENT Z EPHEMERAL	BANKFULL WIDTH:	
PERCEPTIBLE FLOW: 🗹 YES 🗆 N	O FLOW DIRECTION: N	PROBED STREAM DEPTH: 🤍 🗥	
OBSERVED WATER QUALITY:	Rar CHANNEL	SUBSTRATE: Silt, cobble	
AQUATICHABITAT	ING 🔲 COBBLE RIFFLES 🔲 N	1UD BAR 🛛 TREES/SHRUBS	
SAND E BAR	SAND/GRAVEL AQUATIC BEACH BAR VEGETATION	DEEP OTHER: HOLES	
WILDLIFE OBSERVED		□ INVERTEBRATES □ FISH	
	SALAMANDERS	□ OTHER:	
OBSERVED USE DRINKING			
🗆 FISHING		OTHER:	
LEFT BANKHEIGHT:	RIGHT BANK HEIGHT: 🤍 /	BANK SUBSTRATE: Silt locm	
LEFT BANKSLOPE: 30%	RIGHT BANKSLOPE: 30%	EROSION POTENTIAL:	
MEANDER:	GRADIENT: moderate	% CANOPY CLOSURE: 20	
ADJACENT COMMUNITY TYPES: wood of			
DOMINANT TREES: Cottonw	ood		
DOMINANT SHRUBS: raspher	ry		
	goldenrod, giant rague	zed	
NOTES	SKETCH N Cr	AG MM27 ain Atrees Ag Livestock	

.

PROJECT INFORMATION			
PROJECT NAME: Kingwood Sol	ar	DATE: 3-11-21	
PROJECT NUMBER: 0200127		COUNTY/STATE: Greene, OH	
OBSERVER NAME: M. Martin		WEATHER: 60° , Sunny	
STREAMINFORMATION	The third Alternation	1 /	
H&ASTREAMID: MM27 NEAL	REST FLAG #: MM27-7	WATER WIDTH:	
STREAM NAME:		STREAM WIDTH:	
FLOW TYPE:  PERENNIAL  INTERMI		BANKFULL WIDTH: 10'	
PERCEPTIBLE FLOW: VES NO FLO	DW DIRECTION:	PROBED STREAM DEPTH:	
OBSERVED WATER QUALITY:	CHANNELS	SUBSTRATE: Silt, silt loam	
		IUD BAR	
SAND SAND BAR BEAC	/GRAVEL AQUATIC	DEEP OTHER: HOLES	
WILDLIFE OBSERVED UWATERFOWL		□ INVERTEBRATES □ FISH	
		OTHER:	
OBSERVED USE DRINKING			
		OTHER:	
LEFT BANKHEIGHT: 2' RIGHT	BANKHEIGHT: 🤈 '	BANK SUBSTRATE: Silt lom	
LEFT BANKSLOPE: 25% RIGHT	BANKSLOPE: 25%	EROSION POTENTIAL: moderate	
MEANDER: moderate GRADI		% CANOPY CLOSURE:	
ADJACENT COMMUNITY TYPES: woodlot, 99			
DOMINANT TREES: Cottonwood	, <u> </u>		
DOMINANT SHRUBS:			
1 1 1	Idented, gight rague	veed, corn	
NOTES	SKETCH	······································	
During periods of high A water it appears flow N Ag			
may enter an agriculture)			
drainage system.	trees ~		
MM26			
		livestock	

# Background Information

Name: K. LODGE + M. MARTIN	
Date: 10115120	
Affiliation: H+A	
Address: 200 TOWN CENTRE DRIVE, SU	LITE 2 ROCHESTER NY 14623
Phone Number: 585-321-4265	
e-mail address: mmartin Qhaleyaldrich.com	2
Name of Wetland: MMC	
Vegetation Communit(ies): PEM	)
HGM Class(es): DEPRESSION	
Lat/Long or UTM Coordinate 39, 751957 N, 83,885	0672
USGS Quad Name	
County Greene	
County Greene Township Xenia Township Section and Subsection Hydrologic Unit Code 0509 0202	
County Greene Township Xen.a Township Section and Subsection Hydrologic Unit Code 0509 0202 Site Visit 16/15/20	
County Greene Township Xenia Township Section and Subsection Hydrologic Unit Code 0509 0202 Site Visit 16/15/20 National Wetland Inventory Map No	
County Greene Township Xenia Township Section and Subsection Hydrologic Unit Code 05090202 Site Visit 16/15/20 National Wetland Inventory Map No Ohio Wetland Inventory Map No	
County Greene Township Xenia Township Section and Subsection Hydrologic Unit Code 0509 0202 Site Visit 16/15/20 National Wetland Inventory Map No	

Name of Wetland: MMC Wetland Size (acres, hectares): 

 Wetland Size (acres, hectares):
 O
 O
 GC

 Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

 SEE DEL REPORT MAPS Comments, Narrative Discussion, Justification of Category Changes: Small emergent wetland at the base of agricultural filter strip/dain tile. Drains through a small ephemeral channel southwest to Clark Run. Category: Final score :

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

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

#### **Narrative Rating**

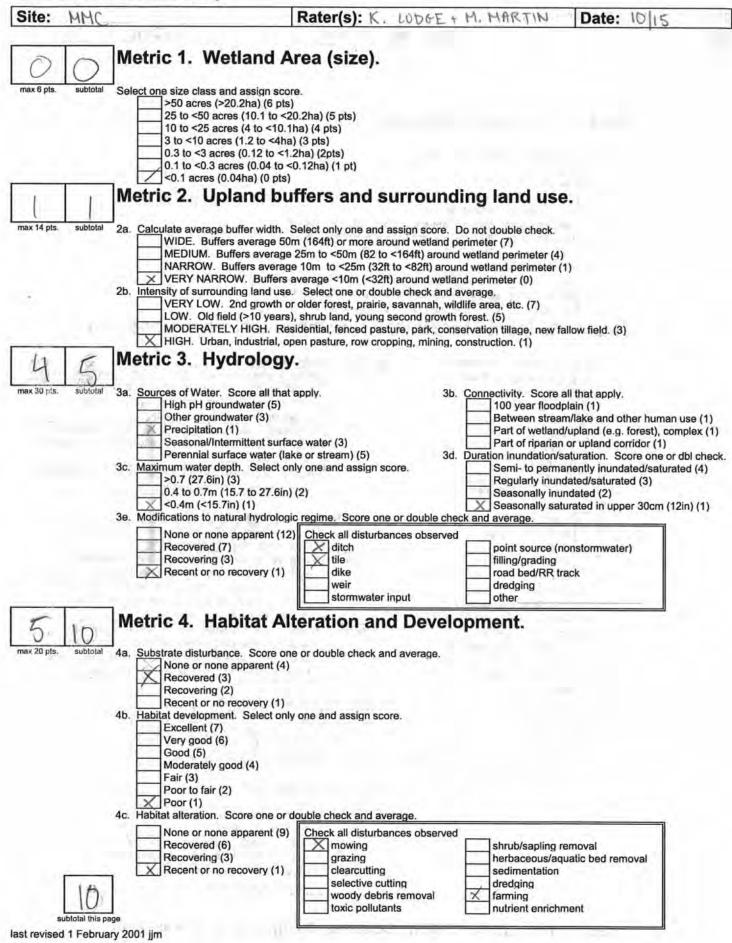
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural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

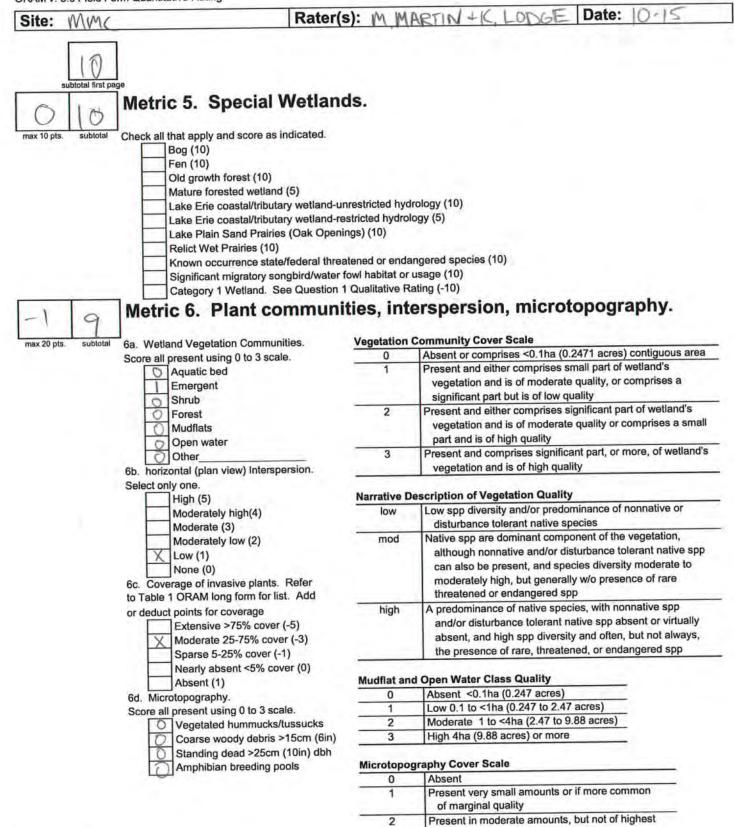
8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
	and the second sec	Go to Question 9a	0
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at.	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this	0.1.0.1.01	
9b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	Go to Question 10
50	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 90
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 96
	LEWIS CONTRACTOR AND	Go to Question 10	1
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
	South a second state of the second state of th	Go to Question 10	0
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Go to Question 11	-
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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



7



## 9

End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality Present in moderate or greater amounts

and of highest quality

### **ORAM Summary Worksheet**

MMC

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
- U	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.
ic ton -	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.
uantitative ating	Metric 1. Size	0	TOTE:
anng	Metric 2. Buffers and surrounding land use	I	
	Metric 3. Hydrology	7	1-11
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	12	Category based on score breakpoints

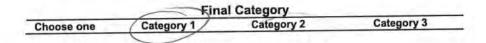
#### Complete Wetland Categorization Worksheet.

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### Wetland Categorization Worksheet

MMC Choices	Circle one	1.5.7	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been 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 "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria		Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



### End of Ohio Rapid Assessment Method for Wetlands.

### **Background Information**

Name:	
K. LODGE + N. MARTIN	
Date: 10/16/20	
Affiliation	
Ht A	
Address: 200 Town Centre Drive, Suite 2, Rochesti	er. NY 1462
Phone Number: 585-321-4265	
a mail addresses	
mmartin@haleyaldrich.com	
Name of Wetland: MMD	-
Vegetation Communit(ies):	
HIGM Class(es): depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
SEE DEL. REPORT HAP	
	3
	1
Lat/Long or UTM Coordinate 39,775210 N, 83.839847W	
USGS Quad Name	
County	1
Township	
Miam	
Section and Subsection	
Hydrologic Unit Code	
Site Visit	
10-16-20	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map	1
Soil Survey	
Delineation report/map Soil Surey	
Delineation reporting Figure 4 & Wetland Delineation Rpt	Contraction of the

Name of Wetland: MMD 

 Wetland Size (acres, hectares):
 D, 13 geve

 Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

 SEE DEL. REPORT MAPS Comments, Narrative Discussion, Justification of Category Changes: Small depressional wetland on the edge of an active agricultural field. Evidence of equipment movement around/through wetland. Wetland on edge of study area and appears isolated from other waters, Category: Final score : 8

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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.

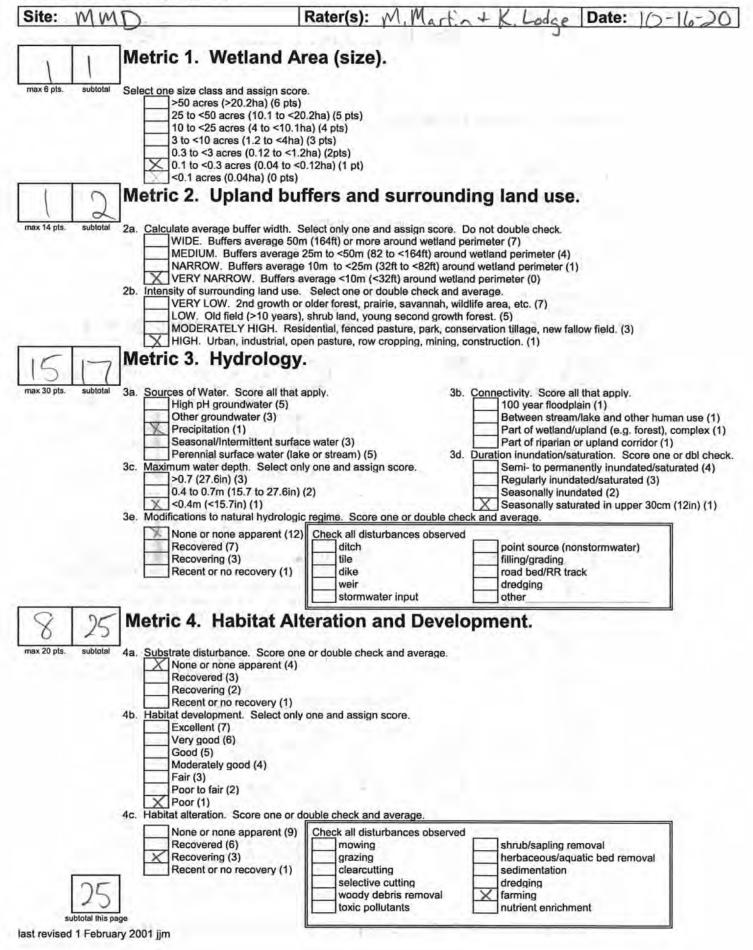
ŧ	Question	Circle one	
	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?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

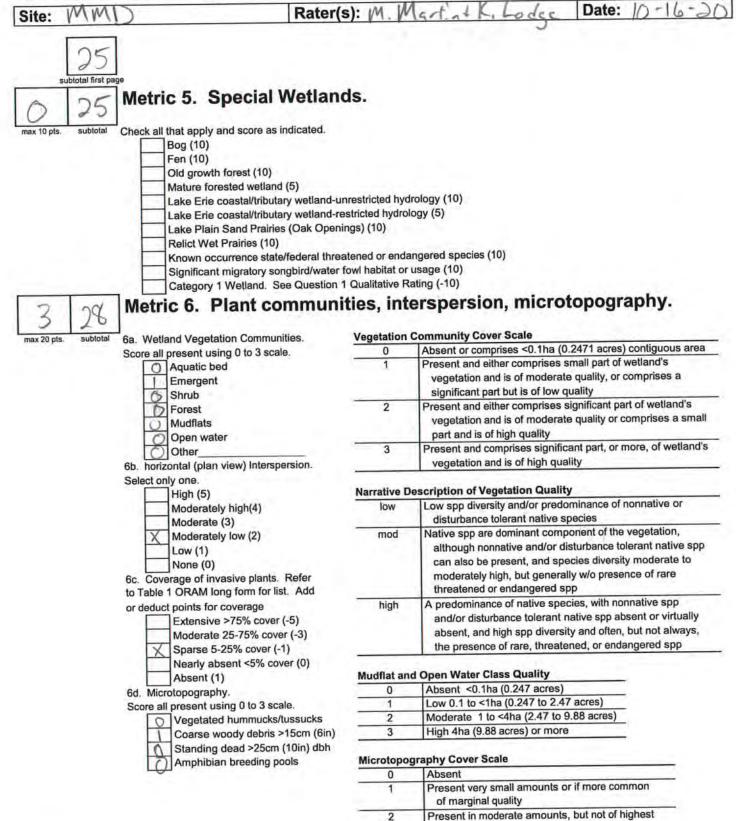
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.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

2.1

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

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







End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality Present in moderate or greater amounts

and of highest quality

### **ORAM Summary Worksheet**

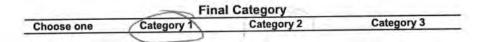
MMD

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO .	If yes, evaluate for Category 3; may also be 1 or 2.
1	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
0	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	State 1	
, saling	Metric 2. Buffers and surrounding land use		
	Metric 3. Hydrology	15	1
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	8	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	28	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

### Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been 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 (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <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, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons on information for this determination should be provided.



### End of Ohio Rapid Assessment Method for Wetlands.

### Background Information

Name: K. LODGE	+ M. MARTIN	
Date: 10/16/20		
Affiliation: H+A		
Addresses	Centre Drive, Soite 2, Rochester, NY 14	173
Phone Number: 585-	321-4265	6-0
Name of Wetland:	Fin Q haleyaldrich.com	
Vegetation Communit(ies):	PFD	
	ression	
Location of Wetland: include	e map, address, north arrow, landmarks, distances, roads, etc.	
See delinection	report maps	
and the second second		
Lat/Long or UTM Coordinate	20 777 21 2 02 0117-5	
USGS Quad Name	39,772363,-83.841755	_
Clif	ton	P-07-0-1-1-1
County Greene		
Township Miami		
Section and Subsection		
Hydrologic Unit Code	090202	
Site Visit	20	
National Wetland Inventory Ma	ap No	
Ohio Wetland Inventory Map	No	
Soil Survey Greene	County Sal Survey	
Delineation report/map	use 4 of Wetland Delineation Report	
1.11	The in the prime citien hereit	

Name of Wetland: MME 

 Wetland Size (acres, hectares):
 0,9
 acres

 Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.

 See delineation report Comments, Narrative Discussion, Justification of Category Changes: Forested, depression on the edge of an active agricultural field/residential home site. Appears to be evidence of abandoned, shallow ditch within the wetland. Category: Final score: 42

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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.

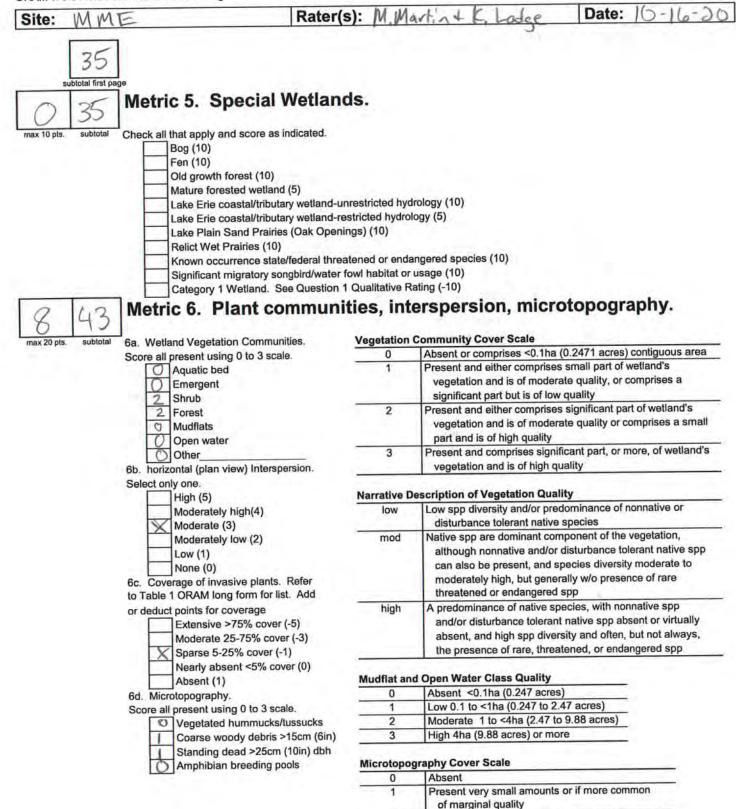
ŧ	Question	Circle one	0
5	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?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

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

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

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

Site: MM	E	Rater(s): M. Martin +	K. Lodge Date: 10-16-20
11	Metric 1. Wetland A	Area (size).	
max 6 pts. subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts		
	25 to <50 acres (10.1 to <	20.2ha) (5 pts)	
	10 to <25 acres (4 to <10. 3 to <10 acres (1.2 to <4h		
	0.3 to <3 acres (0.12 to <1		
	X 0.1 to <0.3 acres (0.04 to	<0.12ha) (1 pt)	
1 1 -	<0.1 acres (0.04ha) (0 pts		an internet and
415	Metric 2. Upland bi	uffers and surround	ing land use.
max 14 pts. subtotal	2a. Calculate average buffer width	Select only one and assign score. D	lo not double check
	WIDE. Buffers average 50	Om (164ft) or more around wetland pe	primeter (7)
	MEDIUM. Buffers average	a 25m to <50m (82 to <164ft) around ge 10m to <25m (32ft to <82ft) aroun	wetland perimeter (4)
		average <10m (<32ft) around wetlan	
	2b. Intensity of surrounding land use	<ol> <li>Select one or double check and an</li> </ol>	verage.
	LOW Old field (>10 years	or older forest, prairie, savannah, wild s), shrub land, young second growth f	llife area, etc. (7) forest (5)
	MODERATELY HIGH. Re	sidential, fenced pasture, park, consi	ervation tillage, new fallow field. (3)
	the second second state in the second state of the second state and the second state at the	open pasture, row cropping, mining, c	onstruction. (1)
14 10	Metric 3. Hydrology	y.	
19 11		1 mar 1	Second and the second second
nax 30 pts. subtotal	<li>3a. Sources of Water. Score all tha High pH groundwater (5)</li>	t apply. 3b.	Connectivity. Score all that apply. 100 year floodplain (1)
	Other groundwater (3)		Between stream/lake and other human use (1)
	Precipitation (1)	(2)	Part of wetland/upland (e.g. forest), complex (1
	Seasonal/Intermittent surface water (la		Part of riparian or upland corridor (1) Duration inundation/saturation. Score one or dbl chee
	3c. Maximum water depth. Select o		Semi- to permanently inundated/saturated (4)
	>0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in	) (2)	Regularly inundated/saturated (3)
	<0.4m (<15.7in) (1)		Seasonally saturated in upper 30cm (12in) (1)
	Provide the second seco	ic regime. Score one or double cheo	k and average.
	None or none apparent (1)	2) Check all disturbances observed	
	Recovering (3)	tile	point source (nonstormwater) filling/grading
	Recent or no recovery (1)	dike	road bed/RR track
		stormwater input	dredging other
	7		
10 35	Metric 4. Habitat A	Iteration and Develo	pment.
nax 20 pts. subtotal	4a. Substrate disturbance. Score or	as at double shock and success	
and the second	None or none apparent (4)		
	Recovered (3)		
	Recovering (2) Recent or no recovery (1)	and a start of the	
	4b. Habitat development. Select on	ly one and assign score.	
	Excellent (7)		
	Very good (6) Good (5)		
	Very good (6) Good (5) Moderately good (4)		
	Very good (6) Good (5) Moderately good (4) Fair (3)		
	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)		
	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or		
	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or	Check all disturbances observed	
	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6)	Check all disturbances observed mowing	shrub/sapling removal
	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or	Check all disturbances observed mowing grazing clearcutting	herbaceous/aquatic bed removal sedimentation
25	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6) Recovering (3)	Check all disturbances observed mowing grazing clearcutting selective cutting	herbaceous/aquatic bed removal sedimentation dredging
35	Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6) Recovering (3)	Check all disturbances observed mowing grazing clearcutting	herbaceous/aquatic bed removal sedimentation





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

# ORAM Summary Worksheet

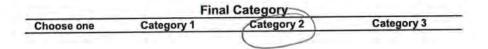
MME

1.6		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
-	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
1	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size		
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	11-	1201
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	43	Category based on score breakpoints

#### Complete Wetland Categorization Worksheet.

### Wetland Categorization Worksheet

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



### End of Ohio Rapid Assessment Method for Wetlands.

### **Background Information**

K. LODGE + M. HARTIN	
Date: 10/19/20	
Affiliation: H+A	
Address: 200 Town Centre Drive, Suite 2, Rochester, NY 1	14623
Phone Number: 585-321-4265	(102 S
e-mail address: Mmartin@haleyaldrich.com	
Name of Wetland: MMG	
Vegetation Communit(ies):	
HGM Class(es): CIDATIAN	1
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	1
See delineation report	
Lat/Long or UTM Coordinate 20 7700121 ( 82022085	
USGS Quad Name (1-C)	
USGS Quad Name (Lifton	
USGS Quad Name (1,fton	
USGS Quad Name (Ifton County Green	
USGS Quad Name (lifton County Green Township Migmi	
S9. 110613N, 83.8353895 USGS Quad Name County Green Township Migmi Section and Subsection Hydrologic Unit Code 05090202 Site Visit 16/19/20	
S9. 110615N, 83.8555895 USGS Quad Name County Green Township Migmi Section and Subsection Hydrologic Unit Code 05090202 Site Visit 16/19/20 National Wetland Inventory Map No	
S9. 770Col SN, 83.8353895 USGS Quad Name County Green Township Migmi Section and Subsection Hydrologic Unit Code 05090202 Site Visit 16/19/20 National Wetland Inventory Map No	
S9. 110615N, 83.8555895 USGS Quad Name County Green Township Migmi Section and Subsection Hydrologic Unit Code 05090202 Site Visit 16/19/20 National Wetland Inventory Map No	

1

Name of Wetland: MMG Wetland Size (acres, hectares): gere Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See delineation report Comments, Narrative Discussion, Justification of Category Changes: Small emergent wetland on slope adjacent to Clark Run. May have been mowed or grazed in the Dast Category: 40 Final score :

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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.

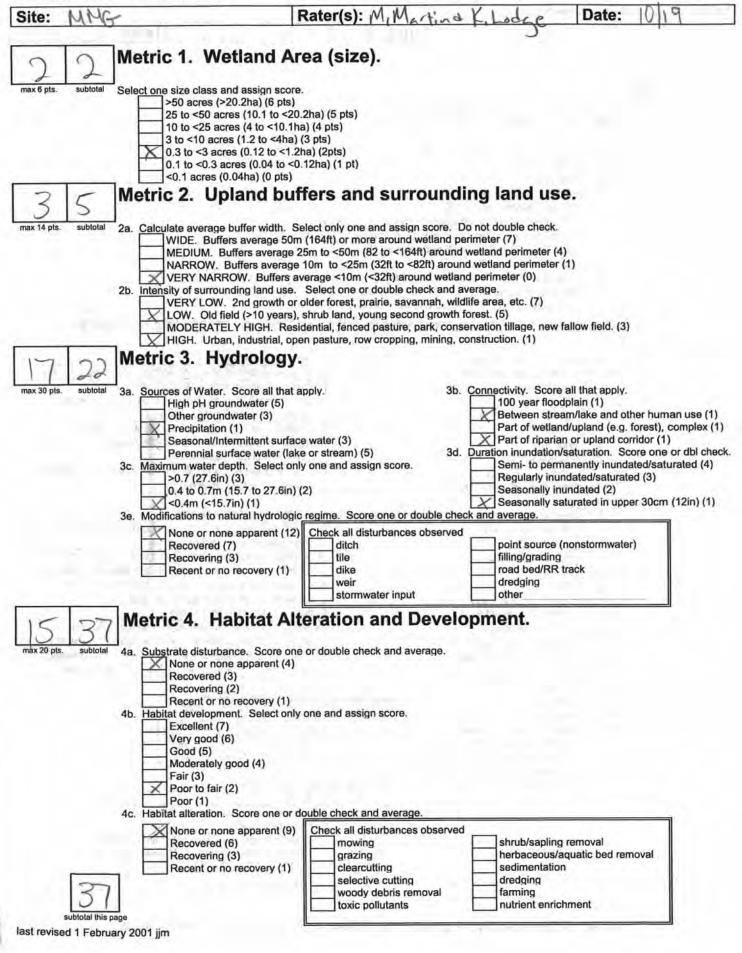
#	Question	Circle one	-
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: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

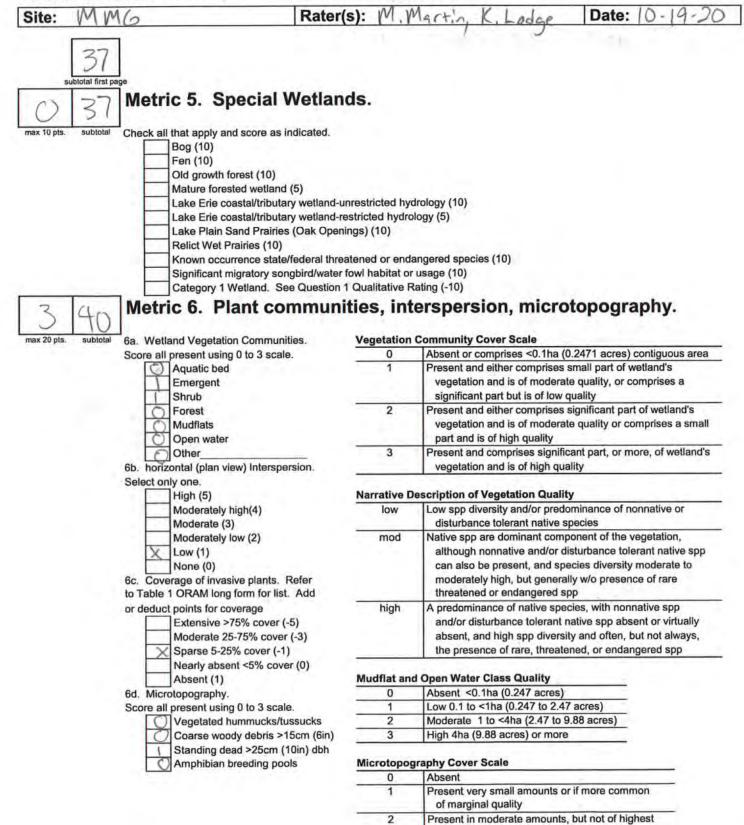
1.14

		1 450	1/10
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. is the wetland located at	YES	N9
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9c
0.	Are Lake Frie water levels the waterd's primary budralogical influence	Go to Question 10 YES	NO
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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





End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

# **ORAM Summary Worksheet**

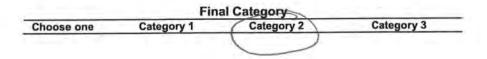
MMG

w. Tre		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
7an.	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
11	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
-11 C	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	
rtaung	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	17	
	Metric 4. Habitat	15	1
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	40	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

# Wetland Categorization Worksheet

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



# End of Ohio Rapid Assessment Method for Wetlands.

# **Background Information**

add.

Name: A la	
K. Lodge + M. Martin	
Date: 10-20-20	
Affiliation:	
H+H Address:	14 10 10 10 10 10 10 10 10 10 10 10 10 10
200 Town Centre Drive, Suite 2, Rachester, NY Phone Number:	14623
585-321-4265	
e-mail address: mmartin@haleyaldrich.com	
Name of Wetland: MMH	
Vegetation Communit(ies):	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See delineation report	
see content of the	
Lat/Long or UTM Coordinate 39.784842N/ 83 836134	
39. 189892N 83.856139	
USGS Quad Name Cliffton County 0	
USGS Quad Name Cliffon	
USGS Quad Name Cliffton County Greene	
USGS Quad Name Cliffton County Coun	
Section and Subsection Hydrologic Unit Code	
USGS Quad Name Cliffton County County County County Miami Section and Subsection Hydrologic Unit Code 05090202	
Sq. 189842N, 85,856154 USGS Quad Name Cliffton County Greene Township M.ami Section and Subsection Hydrologic Unit Code 05040202 Site Visit 10-20-26	
S9. 189842N, 85,856154         USGS Quad Name         Clifton         County         County         County         Township         Miami         Section and Subsection         Hydrologic Unit Code         O5090202         Site Visit         IO-LO-26         National Wetland Inventory Map         Nb         Ohio Wetland Inventory Map         No	
S9. 189842N, 85,856154 USGS Quad Name Cliffton County County Township M. ami Section and Subsection Hydrologic Unit Code 05090202 Site Visit 10-20-26 National Wetland Inventory Map N6	

Name of Wetland: Wetland Size (acres, hectares): Wetland Size (acres, hectares): O, OG acre Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See delineation report Comments, Narrative Discussion, Justification of Category Changes: Small linear swale/depression in agricultural field. Becomes channelized flow outside the study area, Category: Final score : 15

#### **Scoring Boundary Worksheet**

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

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

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

### **Narrative Rating**

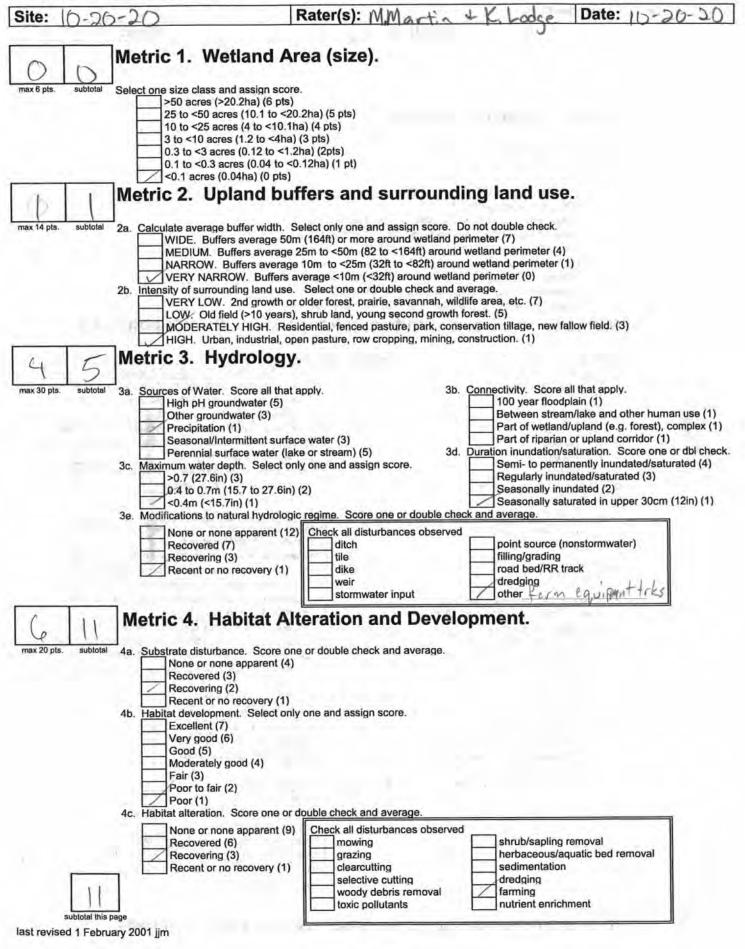
INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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.

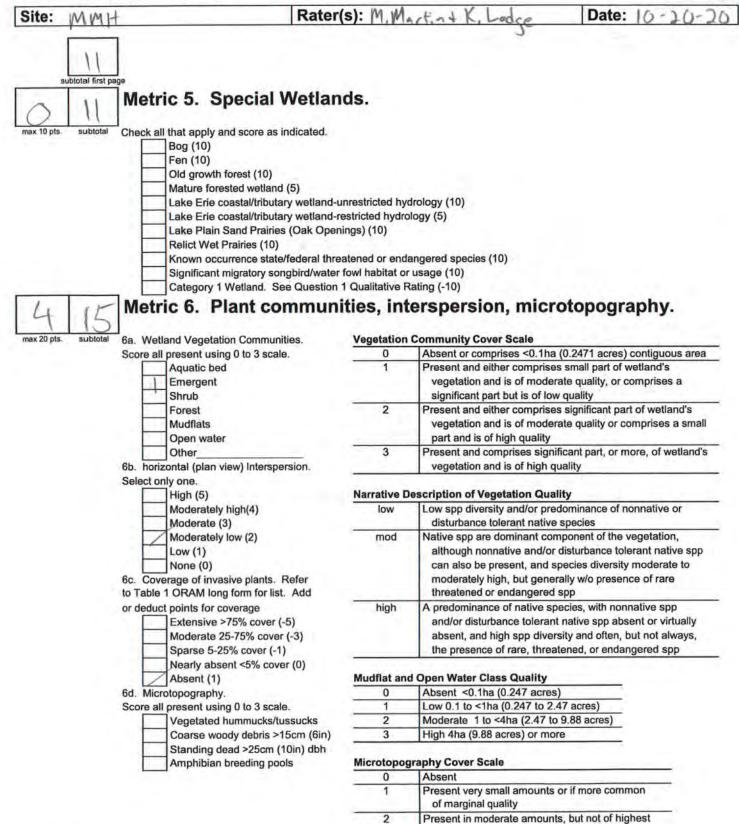
#	Question	Circle one	A
1	<b>Critical Habitat.</b> Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species?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

Bb	Mature forested wetlands. Is the wetland a forested wetland with	YES	NO
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
	and the second se	Go to Question 9a	1.2
a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO Go to Question 10
b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
	television of the second secon	Go to Question 10	1 million
c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES Go to Question 9d	NO Go to Question 10
	border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	GO TO QUESTION SO	Go to Question 10
d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
	AND AN A STREET AND A STREET AND A STREET	Go to Question 10	1
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Go to Question 11	a
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO/
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating
	And portions of western Onlo Counties (e.g. Darke, wercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative Rating	

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

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





End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

# **ORAM Summary Worksheet**

MMH

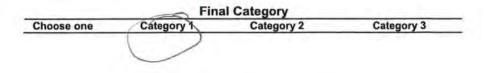
		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
-1	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
1.1	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	O	
	Metric 2. Buffers and surrounding land use	Ĩ	
	Metric 3. Hydrology	4	
	Metric 4. Habitat	le	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	15	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

IF THE AREA WARDEN AND

### 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?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



# End of Ohio Rapid Assessment Method for Wetlands.

# **Background Information**

Name: M. Martin	
Date: 3-10-21	
Affiliation: H+A	
Address: 200 Town Centre Drive, Suited Rochester, N	Y 14623
Phone Number: 585-321-4265	11000
e-mail address: mmartin@haleyaldrich.com	
Name of Wetland: MMT	
Vegetation Communit(ies): PEM	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See delineation report.	
	1
	10000000
Lat/Long or UTM Coordinate 39.764748 N. 83.855237W	
USGS Quad Name Clifton	
County Greene	
Township	
Section and Subsection	
Hydrologic Unit Code 05 090202	
03010207	
Site Visit 3-10-21	
Site Visit 3-10-21	
Site Visit 3-10-21 National Wetland Inventory Map No	
Site Visit 3-10-21 National Wetland Inventory Map Ohio Wetland Inventory Map Woods on Hydric Soil Soil Survey	

Name of Wetland: MMI Wetland Size (acres, hectares): Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See delineation report. all a solution Comments, Narrative Discussion, Justification of Category Changes: Part of heavily used coupasture. Drains to a small intermittent channel and south to Clark Run, Category: 2 Final score : 3

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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.

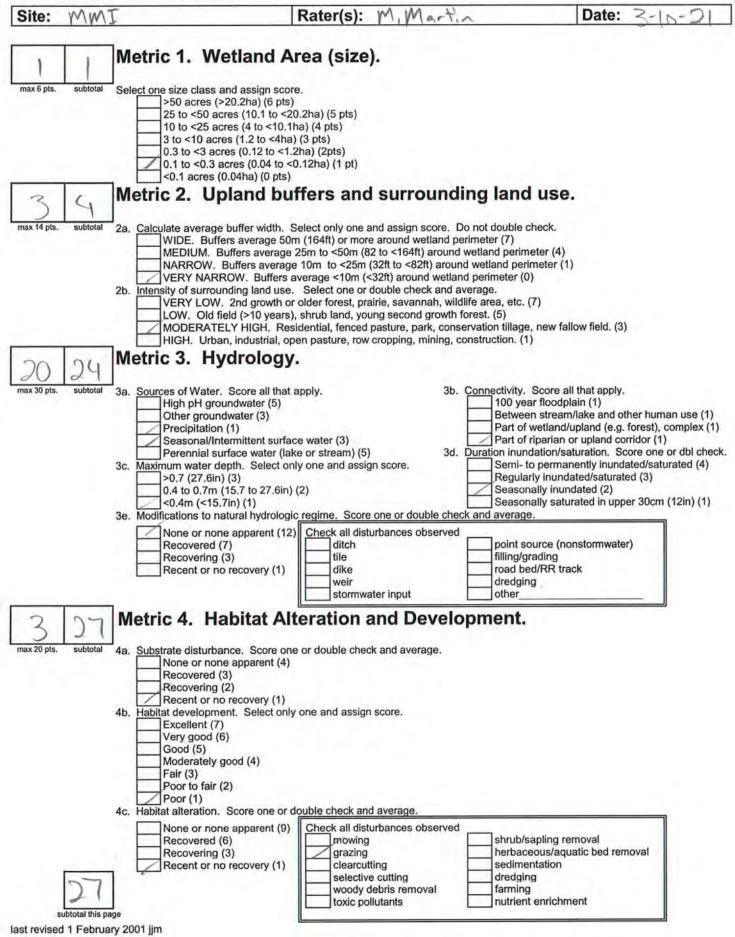
Question Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January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

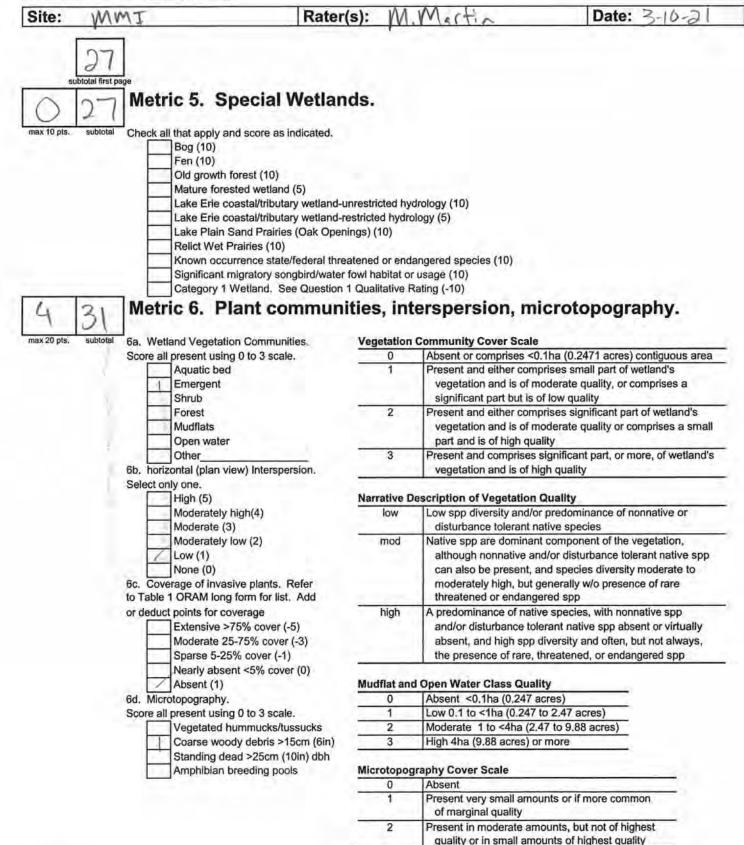
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	N9 Go to Question 9
	a defaulte for some a some some some some some some some some	Go to Question 9a	0
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 1
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	NO Go to Question 9
		Go to Question 10	NO
9¢	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	Go to Question 1
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 1
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO)
.,	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 1
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

×....

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

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







End of Quantitative Rating. Complete Categorization Worksheets.

3

Present in moderate or greater amounts

and of highest quality

# **ORAM Summary Worksheet**

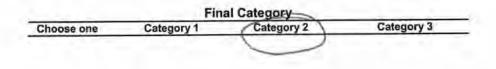
MMI

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	)	-1 <sup>2</sup>
rating	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	31	Category based on score breakpoints

**Complete Wetland Categorization Worksheet.** 

# Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been 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 (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	(NO)	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	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, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



# End of Ohio Rapid Assessment Method for Wetlands.

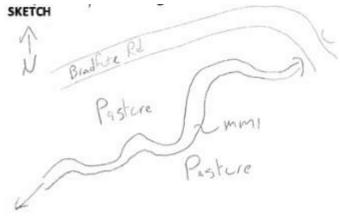
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the state in the stat	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
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( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must A	lso be Completed):
QHEI PERFORMED? - 🗍 Yes 🏾 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Tow	vnship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note	lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If n	ot, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	cher collections optional. NOTE: all voucher samples must be labeled with the site lata sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqu	s Observed? (Y/N) Voucher? (Y/N) uatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	

#### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





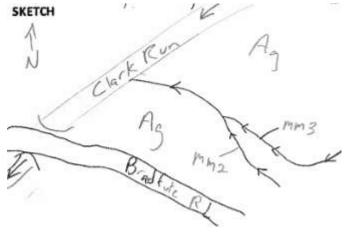
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td> <td>eted Right (R) as lookir Cor Cor Cor Dop Min</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

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:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EI	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towns	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	b sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not,	, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	er collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders C Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	
Comments Regarding Biology:	

#### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



FLOW

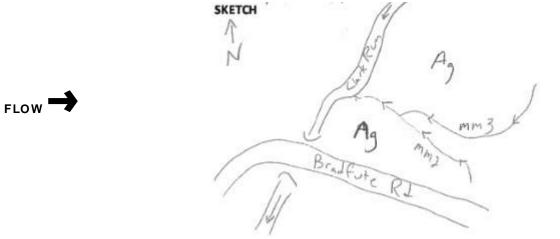
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookin Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):	
QHEI PERFORMED? - 🗍 Yes 🏾 No QHEI Score	(If Yes, Attach Completed QHEI Forn	n)
DOWNSTREAM DESIGNATED USE(S)		
U WWH Name:	Distance from Evaluate	ed Stream
CWH Name:	Distance from Evaluate	d Stream
EWH Name:	Distance from Evaluate	d Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	RE WATERSHED AREA. CLEARLY MARK	THE SITE LOCATION
USGS Quadrangle Name:	IRCS Soil Map Page: NRCS Soil	Map Stream Order
County: Townshi	o / City:	
MISCELLANEOUS		
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:	
Photograph Information:		
Elevated Turbidity? (Y/N): Canopy (% open):	_	
Were samples collected for water chemistry? (Y/N): (Note lab s	ample no. or id. and attach results) Lab Nu	imber:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μm	hos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	ease explain:	
Additional comments/description of pollution impacts:		
BIOTIC EVALUATION		
Performed? (Y/N): (If Yes, Record all observations. Voucher of ID number. Include appropriate field data s	ollections optional. NOTE: all voucher samp neets from the Primary Headwater Habitat As	
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observes or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic		Voucher? (Y/N)
Comments Regarding Biology:		

#### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



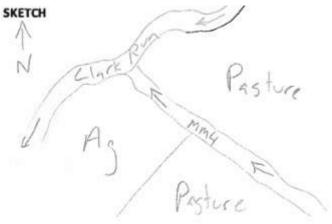
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         Image: Riper Bank)         Image: RiperBank)         Image:	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Mus	t Also be Completed):
QHEI PERFORMED? - 🗍 Yes 🏾 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING T	HE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (No	ote lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	oucher collections optional. NOTE: all voucher samples must be labeled with the site Id data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamand Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	ders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	

#### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the state in the stat	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

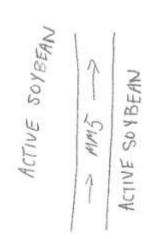
ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EI	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towns	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	b sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not	, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	er collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Salamanders C         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Aqua	
Comments Regarding Biology:	

#### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

SKETCH N↑

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location





<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

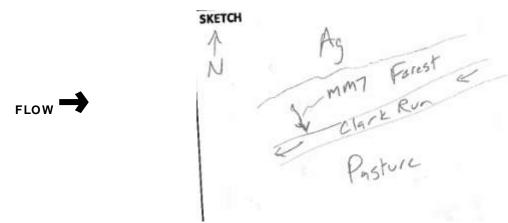
	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	eted Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookir Cor Cor Cor Dop Min</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

QHEIPERFORMED? - 🖵 Yes 🖵 No Q	HEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
_	Distance from Evaluated Stream
_	Distance from Evaluated Stream
_J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INC	CLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last pl	recipitation: Quantity:
hotograph Information:	
Elevated Turbidity? (Y/N): Canopy (%	open):
Vere samples collected for water chemistry? (Y/N): _	(Note lab sample no. or id. and attach results) Lab Number:
- Field Measures: Temp (°C) Dissolved Oxy	удеп (mg/l) pH (S.U.) Conductivity (µmhos/cm)
	N) If not, please explain:
Additional comments/description of pollution impacts:	
	rvations. Voucher collections optional. NOTE: all voucher samples must be labeled with th propriate field data sheets from the Primary Headwater Habitat Assessment Manual)
	Salamanders Observed? (Y/N) Voucher? (Y/N) Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	
	ESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
DRAWING AND NARRATIVE DE	
DRAWING AND NARRATIVE DE	es of interest for site evaluation and a narrative description of the stream's location
DRAWING AND NARRATIVE DE Include important landmarks and other feature	es of interest for site evaluation and a narrative description of the stream's location $\mathbf{CH}$
DRAWING AND NARRATIVE DE Include important landmarks and other feature	es of interest for site evaluation and a narrative description of the stream's location $\mathbf{CH}$
Include important landmarks and other feature	es of interest for site evaluation and a narrative description of the stream's location $\mathbf{CH}$
DRAWING AND NARRATIVE DE Include important landmarks and other feature	es of interest for site evaluation and a narrative description of the stream's location $\mathbf{CH}$
DRAWING AND NARRATIVE DE Include important landmarks and other feature SKET	es of interest for site evaluation and a narrative description of the stream's location $\mathbf{CH}$

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookir Cor Cor Cor Dop Min</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

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:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EI	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towns	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	b sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not	, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	er collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Salamanders C         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Aqua	
Comments Regarding Biology:	

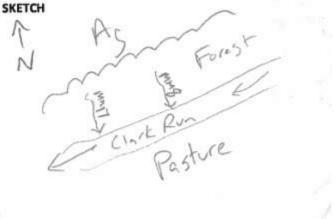


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Mu	ist Also be Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	e (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING	THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation	on: Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (N	Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/	/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	Voucher collections optional. NOTE: all voucher samples must be labeled with the site ield data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamar Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	nders Observed? (Y/N) Voucher? (Y/N) _ Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	



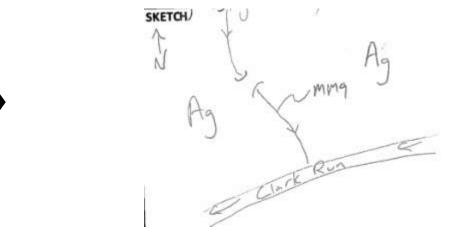


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td> <td>eted Right (R) as lookir Cor Cor Cor Dop Min</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Als	o be Completed):
QHEI PERFORMED? - 🗍 Yes 🏾 No 🛛 QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE E	NTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Town	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	ab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not	t, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	er collections optional. NOTE: all voucher samples must be labeled with the site ta sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders ( Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	
Comments Regarding Biology:	

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



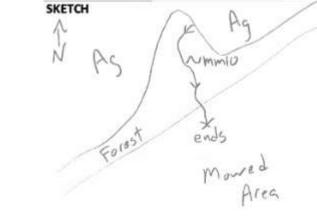
FLOW

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

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:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	ITIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towns	ship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lat	o sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not,	please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	r collections optional. NOTE: all voucher samples must be labeled with the site a sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders C Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	
Comments Regarding Biology:	

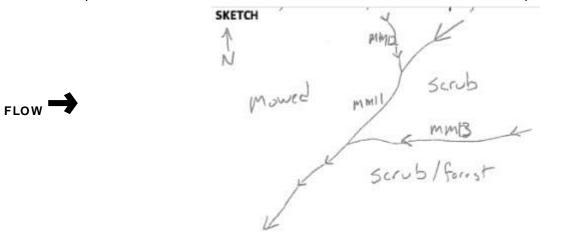




<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	acara is sum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookir Cor Cor Cor Dop Min</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also	o be Completed):	
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Comp	leted QHEI Form)
DOWNSTREAM DESIGNATED USE(S)		
WWH Name:	Distan	ce from Evaluated Stream
CWH Name:		e from Evaluated Stream
EWH Name:	Distanc	e from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	NTIRE WATERSHED AREA.	CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page:	NRCS Soil Map Stream Order
County: Town	ship / City:	
MISCELLANEOUS		
Base Flow Conditions? (Y/N): Date of last precipitation:	Qua	ntity:
Photograph Information:		
Elevated Turbidity? (Y/N): Canopy (% open):		
Were samples collected for water chemistry? (Y/N): (Note la	b sample no. or id. and attach	n results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) C	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not	, please explain:	
Additional comments/description of pollution impacts:		
BIOTIC EVALUATION		
Performed? (Y/N): (If Yes, Record all observations. Vouche ID number. Include appropriate field dat		-
Fish Observed? (Y/N)       Voucher? (Y/N)       Salamanders O         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Aquation		
Comments Regarding Biology:		

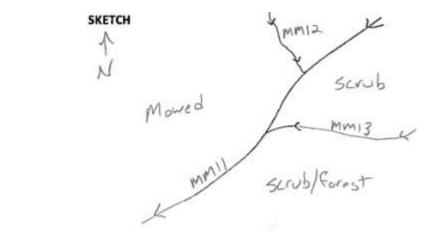


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also b	be Completed):
QHEI PERFORMED? - DYes DNo QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: I	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Townshi	p / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab s	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	lease explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	collections optional. NOTE: all voucher samples must be labeled with the site sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Obs Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic	
Comments Regarding Biology:	

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



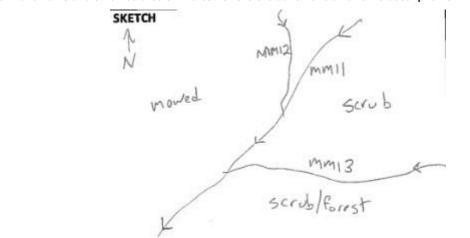
FLOW

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Info	rmation Must Also be Completed):	
QHEI PERFORMED? - 🗍 Yes 🏾 No	QHEI Score (If Yes, Attach Co	mpleted QHEI Form)
DOWNSTREAM DESIGNATED USE(S)		
WWH Name:	Dis	tance from Evaluated Stream
CWH Name:	Dist	ance from Evaluated Stream
EWH Name:	Dist	ance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, I	INCLUDING THE <u>ENTIRE</u> WATERSHED ARE	A. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page:	NRCS Soil Map Stream Order
County:	Township / City:	
MISCELLANEOUS		
Base Flow Conditions? (Y/N): Date of last	t precipitation: C	Quantity:
Photograph Information:		
Elevated Turbidity? (Y/N): Canopy (	% open):	
Were samples collected for water chemistry? (Y/N):	: (Note lab sample no. or id. and at	tach results) Lab Number:
Field Measures: Temp (°C) Dissolved C	Dxygen (mg/l) pH (S.U.)	_ Conductivity (µmhos/cm)
Is the sampling reach representative of the stream	(Y/N) If not, please explain:	
Additional comments/description of pollution impact	ts:	
BIOTIC EVALUATION		
Performed? (Y/N): (If Yes, Record all ob ID number. Include a	oservations. Voucher collections optional. NOT appropriate field data sheets from the Primary H	
Fish Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher		
Comments Regarding Biology:		
		· · · · · · · · · · · · · · · · · · ·

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



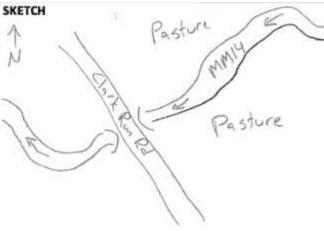
FLOW

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be C	ompleted):
QHEI PERFORMED? - 🗍 Yes 🎵 No QHEI Score	_ (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
U WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE	WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRC	S Soil Map Page: NRCS Soil Map Stream Order
County: Township / C	Dity:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab samples collected for water chemistry?	ole no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, pleas	e explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	ctions optional. NOTE: all voucher samples must be labeled with the site ts from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observer Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mat	
Comments Regarding Biology:	

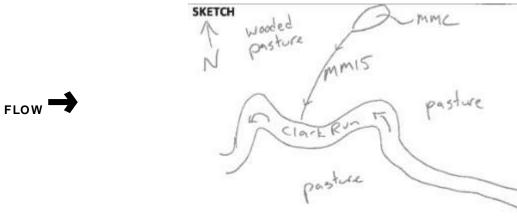




<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	acara is sum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - DYes DNo QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures:         Temp (°C)         Dissolved Oxygen (mg/l)         pH (S.U.)         Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)       Voucher? (Y/N)         Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)       Voucher? (Y/N)
Comments Regarding Biology:

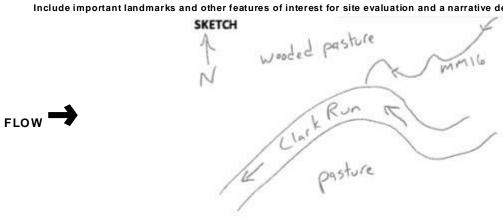


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	acara is sum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Immature         Field         Immature         Immature <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td> <td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td> <td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Co	ompleted):
QHEI PERFORMED? - DYes DNo QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> V	VATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRC	S Soil Map Page: NRCS Soil Map Stream Order
County: Township / C	ity:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab samp	le no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please	explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets	tions optional. NOTE: all voucher samples must be labeled with the site s from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observe         Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mac         Comments Regarding Biology:	roinvertebrates Observed? (Y/N) Voucher? (Y/N)

### DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

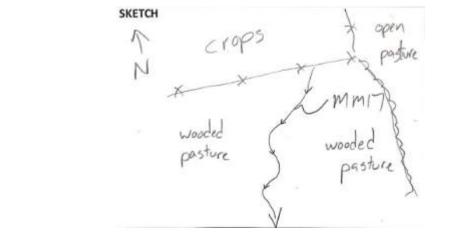


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Immature for         Field         Field         Fenced Pa         Evaluation         (Check ONLY of the context of th	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Immature for         Field         Field         Fenced Pa         Evaluation         (Check ONLY of the context of th	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? -
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures:         Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)         Comments Regarding Biology:

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



FLOW

PHWH Form Page - 2

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Als	o be Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
	Distance from Evaluated Stream
_	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE E	INTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towr	nship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	ab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If nor	t, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	ner collections optional. NOTE: all voucher samples must be labeled with the site ta sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders ( Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua	
Comments Regarding Biology:	



SKETCH Clark Run E Pesture

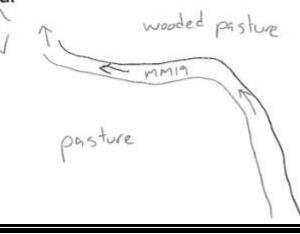
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	acara is sum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         Image: Constraint of the state in the stat	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also b	be Completed):
QHEI PERFORMED? - DYes DNo QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: I	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Townshi	p / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab s	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	lease explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	collections optional. NOTE: all voucher samples must be labeled with the site sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Obs Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic	
Comments Regarding Biology:	

SKETCH





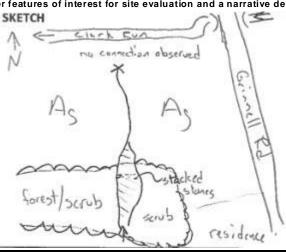
<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	acara is sum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature for         Field         Immature for         Field         Field         Fenced Pa	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - D Yes D No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the sit ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)         Comments Regarding Biology:

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



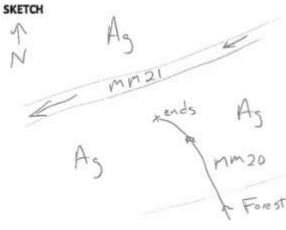


PHWH Form Page - 2

<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Immature I         Field         Immature I         Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Mus	t Also be Completed):
QHEI PERFORMED? - 🗍 Yes 🏾 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING T	HE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (N	ote lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	) pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
· · · · · · · · · · · · · · · · · · ·	Youcher collections optional. NOTE: all voucher samples must be labeled with the sit ald data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamand Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	ders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	



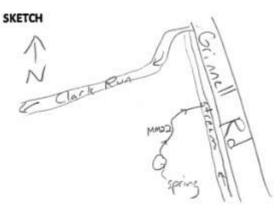


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature for         Immature field         Immature field <tr< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction</td><td>-</td></tr<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be C	completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	_(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
D EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u>	WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRC	CS Soil Map Page: NRCS Soil Map Stream Order
County: Township /	City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab sam	ple no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	_ pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please	e explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	ctions optional. NOTE: all voucher samples must be labeled with the site ts from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observ Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Ma	
Comments Regarding Biology:	



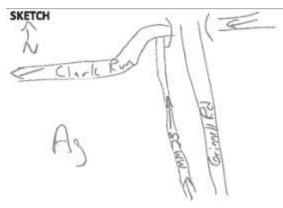


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Immature I         Field         Immature I         Immature I         Immature I         Immature I         Immature I <td< td=""><td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe</td><td>eted Right (R) as lookir Cor Cor Cor Dop Min</td><td>ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction</td><td>-</td></td<>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature         Immature         Field         Immature         Field         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature         Field         Immature         Immature<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 Inservation Tillage Inservation Tillage In Pasture, Row Cro Ing or Construction	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookin L R Cor Urb D Urb D Min el, isolated pools, n no water (Ephem Dox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - D Yes D No QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
UWWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:
MISCELLANEOUS
Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Voucher? (Y/N)
Comments Regarding Biology:

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



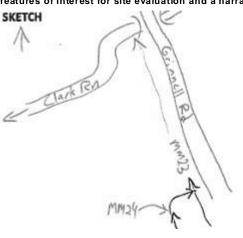


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubstrate tunce foun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         T       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the state in the stat	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature For         Immature For<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature For         Immature For<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ( ()))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Mus	t Also be Completed):
QHEI PERFORMED? - 🗍 Yes 🏾 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING T	HE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County:	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (No	ote lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	) pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
· · · · · · · ·	oucher collections optional. NOTE: all voucher samples must be labeled with the site Id data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamand Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N)	ders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	



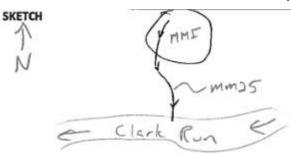


<b>OhioEPA</b>	Primary	Headwate	r Habitat E HHEI S	Valuation Form	M cs 1, 2, 3 <b>)</b> :
SITE NAME/LOCATION					
	SITE NUMBER	RIV	VER BASIN	DRAIN	NAGE AREA (mi²)
LENGTH OF STREAM REA	ACH (ft)	LAT	LONG	RIVER CODE	RIVER MILE
DATE S	CORER	COMMEN	TS		
NOTE: Complete All I	tems On This For	m - Refer to "Fie	Id Evaluation Ma	nual for Ohio's PHWH S	Streams" for Instructions
STREAM CHANNEL MODIFICATIONS:		TURAL CHANNEL	C RECOVERED		ECENT OR NO RECOVERY
•	•		•	ONLY <u>two</u> predominant subs	

	Max of 20) Add total number of sign	ficant aubatrata tunan faun	d (Max of Q) Final matric	accercic cum of h	rate TYPE boxes	HHEI
TYPE	Max of 32). Add total number of sign	PERCENT TYPE	d (Max of 8). Final metric	score is sum of bo	PERCENT	Metric
	BLDR SLABS [16 pts]		SILT [3 pt]		FERGENT	Points
	BOULDER (>256 mm) [16 pts]		LEAF PACK/WOODY	DEBRIS [3 pts]		<b>.</b>
	BEDROCK [16 pt]		FINE DETRITUS [3 p	ots]		Substrate Max = 40
	COBBLE (65-256 mm) [12 pts]		CLAY or HARDPAN [	[0 pt]		
	GRAVEL (2-64 mm) [9 pts]		MUCK [0 pts]			
	SAND (<2 mm) [6 pts]		ARTIFICIAL [3 pts]			
F	Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock	(A)	Substrate Percentag	ge	(B)	A + B
	OF TWO MOST PREDOMINATE SU			R OF SUBSTRATE	TYPES:	
	Aximum Pool Depth (Measure the				at the time of	Pool Depth
_	evaluation. Avoid plunge pools from r					Max = 30
	30 centimeters [20 pts] 22.5 - 30 cm [30 pts]		> 5 cm - 10 cm [15 p < 5 cm [5 pts]	nsj		
_	10 - 22.5 cm [25 pts]			IST CHANNEL [0	pts]	
C	COMMENTS		MAXIMUM PO	OL DEPTH (cent	imeters):	
3. E	BANK FULL WIDTH (Measured as 1	he average of 3-4 measur	ements) (Check	ONLY one box):		Bankfull
□ >	4.0 meters (> 13') [30 pts]		> 1.0 m - 1.5 m (> 3' 3			Width
	3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		$\leq$ 1.0 m (<=3' 3") [5 p	ts]		Max=30
□ >	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]					
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):	
		This informati	on must also be comple			
	RIPARIAN ZONE AND FLOO	DPLAIN QUALITY ☆	NOTE: River Left (L) and I	eted		
	<b>RIPARIAN WIDTH</b>	DPLAIN QUALITY ☆I FLOODPLAIN QUAL	NOTE: River Left (L) and I	e <b>ted</b> Right (R) as lookir		
	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L_R_ (Most Pred	NOTE: River Left (L) and I ITY ominant per Bank)	e <b>ted</b> Right (R) as lookir L R	ng downstream 🛠	
ĺ	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆I FLOODPLAIN QUAL L R (Most Prec □ □ Mature For Mature For	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	e <b>ted</b> Right (R) as lookir L R □ □ □ Cor	ng downstream 🛠	
ĺ	<u>RIPARIAN WIDTH</u> L R (Per Bank)	DPLAIN QUALITY St FLOODPLAIN QUAL L R (Most Prec D Mature For	NOTE: River Left (L) and I ITY ominant per Bank)	etted Right (R) as lookir L R D Cor Cor	ng downstream ☆ nservation Tillage pan or Industrial	
( (	RIPARIAN WIDTH         R       (Per Bank)         U       Wide >10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec Mature For Field	IOTE: River Left (L) and I ITY ominant per Bank) est, Wetland	etted Right (R) as lookir L R D Cor Cor	ng downstream 🛠	ц др
( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         I       Wide >10m         I       Moderate 5-10m	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec D Mature For Immature I Field	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial	ц
( ( (	R       (Per Bank)         Image: Constraint of the second sec	DPLAIN QUALITY ☆1 FLOODPLAIN QUAL L R (Most Prec □ □ Mature For □ □ Immature I Field □ □ Residentia	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field	etted Right (R) as lookir Cor Cor Urb	ng downstream ☆ nservation Tillage pan or Industrial en Pasture, Row Cro	pp -
( ( (	RIPARIAN WIDTH         (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY       ☆1         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Field         Immature I         Field         Fenced Pa	NOTE: River Left (L) and I ITY ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 Inservation Tillage Inan or Industrial In Pasture, Row Cro Ining or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH L R (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B Stream Flowing	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature For         Immature For<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookin Cor Cor Cor Cor Cor Cor Cor Cor Cor Cor	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH (Per Bank) Wide >10m Moderate 5-10m Narrow <5m None COMMENTS FLOW REGIME (At Time of B	DPLAIN QUALITY       ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature For         Immature For<	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe	eted Right (R) as lookir Cor Cor Cor Dop Min	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( (	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	DPLAIN QUALITY AT FLOODPLAIN QUAL L R (Most Prec Mature For Mature For Field Residentia Fenced Pa Evaluation) (Check ONLY of pools (Interstitial)	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channe Dry channel,	eted Right (R) as lookin L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Dime box): Dime box)	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
( ( ( ( ( ( ( ( ( ( ( ()))))))))))))))	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         (Most Prec         Immature I         Immature I         Field         Immature I         Field </td <td>NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box):  Moist Channel Dry channel, mel) (Check ONLY one b</td> <td>eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):</td> <td>ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)</td> <td>-</td>	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old , Park, New Field sture one box): Moist Channel Dry channel, mel) (Check ONLY one b	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, n no water (Ephem box):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-
	RIPARIAN WIDTH         L       R       (Per Bank)         Wide >10m         Moderate 5-10m         Narrow <5m	<b>DPLAIN QUALITY</b> ☆t         FLOODPLAIN QUAL         L       R         Mature For         Immature I         Field         Residentia         Fenced Pa         Evaluation)         (Check ONLY)         pools (Interstitial)         Interstitial         1.0	NOTE: River Left (L) and I <u>ITY</u> ominant per Bank) est, Wetland Forest, Shrub or Old I, Park, New Field sture Difference Structure Difference Stru	eted Right (R) as lookir L R Cor Urb D Urb Min el, isolated pools, i no water (Ephem poox):	ng downstream 🛠 nservation Tillage oan or Industrial en Pasture, Row Cro ning or Construction no flow (Intermittent) eral)	-

ADDITIONAL STREAM INFORMATION (This Information Must Als	o be Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Towr	nship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note la	ab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If no	t, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	ner collections optional. NOTE: all voucher samples must be labeled with the site ata sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqu	
Comments Regarding Biology:	





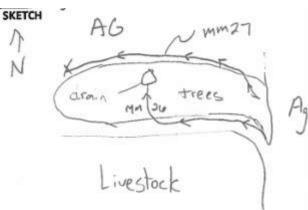
<b>OhioEPA</b>	Primary Hea	dwater Habitat E HHEI S	Evaluation Forn Score (sum of metrics	n s 1, 2, 3):
SITE NAME/LOCATION				
	_SITE NUMBER	RIVER BASIN	DRAIN	AGE AREA (mi²)
LENGTH OF STREAM REAC	CH (ft) LAT.	LONG	RIVER CODE	RIVER MILE
DATE SCO	ORER	_ COMMENTS		
NOTE: Complete All Ite	ms On This Form - Re	fer to "Field Evaluation Ma	nual for Ohio's PHWH S	treams" for Instructions
STREAM CHANNEL MODIFICATIONS:	🗖 NONE / NATURAL	CHANNEL 🗍 RECOVERED		CENT OR NO RECOVERY
•		e of substrate present. Check		

	SUBSTRATE (Estimate percent of even		·		
	Max of 32). Add total number of signific	•••	, ,	score is sum of b	Motri
		ERCENT	TYPE SILT [3 pt]		PERCENT Point
	BLDR SLABS [16 pts] _ BOULDER (>256 mm) [16 pts] _		SILT [3 pt]	DEBRIS [3 pts]	
					Substrat
	• • • • =		CLAY or HARDPAN [		Max = 4
				5 þíj	
			Image: Muck [0 pts]       Image: Muck [		
	SAND (<2 mm) [6 pts]				
	Total of Percentages of	(A)		je	(B) A + B
	Bldr Slabs, Boulder, Cobble, Bedrock _		Check		
SCORE C	OF TWO MOST PREDOMINATE SUB	STRATE TYPES:	TOTAL NUMBER	OF SUBSTRAT	E TYPES:
2. N	Aximum Pool Depth (Measure the n	naximum pool de	epth within the 61 meter (200 ft	evaluation reach	at the time of <b>Pool Dep</b>
	valuation. Avoid plunge pools from roa	•	,		Max = 3
_	30 centimeters [20 pts]		> 5 cm - 10 cm [15 pt	is]	
	22.5 - 30 cm [30 pts]		<ul> <li>&lt; 5 cm [5 pts]</li> <li>NO WATER OR MOI</li> </ul>		ntol
	10 - 22.5 cm [25 pts]		NO WATER OR MOI	ST CHANNEL [U	
c	COMMENTS		MAXIMUM PO	OL DEPTH (cen	timeters):
				-	
	BANK FULL WIDTH (Measured as the	average of 3-4 i		ONLY one box)	
_	4.0 meters (> 13') [30 pts] 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		> 1.0 m - 1.5 m (> 3' 3 ≤ 1.0 m (<=3' 3") [5 pt		Width Max=30
	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		1.0  m (< 3.3 ) [3  pt]	5]	Max-50
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):
		This in	formation must also be comple	ted	
	RIPARIAN ZONE AND FLOOD		☆NOTE: River Left (L) and F		ng downstream 🛠
	RIPARIAN WIDTH	<u>FLOODPLAIN</u>	<u>I QUALITY</u>		
	L R (Per Bank)	— — `	ost Predominant per Bank)	LR	
L	□ □ Wide >10m				
			ture Forest, Wetland	□ □ Co	nservation Tillage
ĺ	Moderate 5-10m		nature Forest, Shrub or Old		nservation Tillage pan or Industrial
	Moderate 5-10m		nature Forest, Shrub or Old Id		Ũ
Ĺ	Moderate 5-10m Narrow <5m	Imn Fiel	nature Forest, Shrub or Old ld sidential, Park, New Field		oan or Industrial en Pasture, Row Crop
Ĺ	Moderate 5-10m		nature Forest, Shrub or Old Id		ban or Industrial
( ( (	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None</li> </ul>	Imn Fiel Res Fer aluation) (Check	nature Forest, Shrub or Old ld sidential, Park, New Field need Pasture ONLY one box):	Co Uri	oan or Industrial en Pasture, Row Crop ning or Construction 
( ( (	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li> <li>FLOW REGIME (At Time of Eva Stream Flowing</li> <li>Subsurface flow with isolated por COMMENTS</li> </ul>	Imn Fiel     Fiel     Res     Fer     Gluation) (Check     ols (Interstitial)	nature Forest, Shrub or Old ld sidential, Park, New Field need Pasture ONLY one box): Dry channel, n	Co	oan or Industrial en Pasture, Row Crop ning or Construction 
	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li></ul>	aluation) (Check	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Moist Channe Dry channel, n	Co	oan or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)
	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li> <li>FLOW REGIME (At Time of Eva Stream Flowing</li> <li>Subsurface flow with isolated por COMMENTS</li> </ul>	Imn Fiel     Fiel     Res     Fer     Gluation) (Check     ols (Interstitial)	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one bo	Co	oan or Industrial en Pasture, Row Crop ning or Construction 
	Moderate 5-10m  Narrow <5m None COMMENTS  FLOW REGIME (At Time of Eva Stream Flowing Subsurface flow with isolated por COMMENTS SINUOSITY (Number of bends None	aluation) (Check bls (Interstitial) ber 61 m (200 ft) o 1.0	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Moist Channe Dry channel, n	Co	ban or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)
	Moderate 5-10m  Narrow <5m None COMMENTS  FLOW REGIME (At Time of Eva Stream Flowing Subsurface flow with isolated por COMMENTS SINUOSITY (Number of bends None	aluation) (Check bls (Interstitial) ber 61 m (200 ft) o 1.0	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one br 2.0 2.5	Co	ban or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)

ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENT	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Townsh	p / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note lab	ample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	ease explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	collections optional. NOTE: all voucher samples must be labeled with the site heets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observeds or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic	
Comments Regarding Biology:	

N



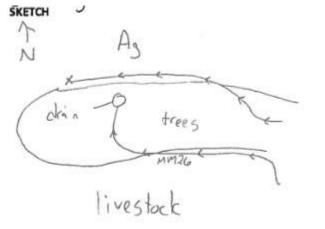


<b>OhioEPA</b>	Primary Hea	dwater Habitat E HHEI S	Evaluation Forn Score (sum of metrics	n s 1, 2, 3):
SITE NAME/LOCATION				
	_SITE NUMBER	RIVER BASIN	DRAIN	AGE AREA (mi²)
LENGTH OF STREAM REAC	CH (ft) LAT.	LONG	RIVER CODE	RIVER MILE
DATE SCO	ORER	_ COMMENTS		
NOTE: Complete All Ite	ms On This Form - Re	fer to "Field Evaluation Ma	nual for Ohio's PHWH S	treams" for Instructions
STREAM CHANNEL MODIFICATIONS:	🗖 NONE / NATURAL	CHANNEL 🗍 RECOVERED		CENT OR NO RECOVERY
•		e of substrate present. Check		

	SUBSTRATE (Estimate percent of even		·		
	Max of 32). Add total number of signific	•••	, ,	score is sum of b	Motri
		ERCENT	TYPE SILT [3 pt]		PERCENT Point
	BLDR SLABS [16 pts] _ BOULDER (>256 mm) [16 pts] _		SILT [3 pt]	DEBRIS [3 pts]	
					Substrat
	• • • • =		CLAY or HARDPAN [		Max = 4
				5 þíj	
			Image: MUCK [0 pts]		
	SAND (<2 mm) [6 pts]				
	Total of Percentages of	(A)		je	(B) A + B
	Bldr Slabs, Boulder, Cobble, Bedrock _		Check		
SCORE C	OF TWO MOST PREDOMINATE SUB	STRATE TYPES:	TOTAL NUMBER	OF SUBSTRAT	E TYPES:
2. N	Aximum Pool Depth (Measure the n	naximum pool de	epth within the 61 meter (200 ft	evaluation reach	at the time of <b>Pool Dep</b>
	valuation. Avoid plunge pools from roa	•	,		Max = 3
_	30 centimeters [20 pts]		> 5 cm - 10 cm [15 pt	is]	
	22.5 - 30 cm [30 pts]		<ul> <li>&lt; 5 cm [5 pts]</li> <li>NO WATER OR MOI</li> </ul>		ntol
	10 - 22.5 cm [25 pts]		NO WATER OR MOI	ST CHANNEL [U	
c	COMMENTS		MAXIMUM PO	OL DEPTH (cen	timeters):
				-	
	BANK FULL WIDTH (Measured as the	average of 3-4 i		ONLY one box)	
_	4.0 meters (> 13') [30 pts] 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]		> 1.0 m - 1.5 m (> 3' 3 ≤ 1.0 m (<=3' 3") [5 pt		Width Max=30
	1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		1.0  m (< 3.3 ) [3  pt]	5]	Max-50
c	COMMENTS		AVERAGE BA	NKFULL WIDTH	(meters):
		This in	formation must also be comple	ted	
	RIPARIAN ZONE AND FLOOD		☆NOTE: River Left (L) and F		ng downstream 🛠
	RIPARIAN WIDTH	<u>FLOODPLAIN</u>	<u>I QUALITY</u>		
	L R (Per Bank)	— — `	ost Predominant per Bank)	LR	
L	□ □ Wide >10m				
			ture Forest, Wetland	□ □ Co	nservation Tillage
ĺ	Moderate 5-10m		nature Forest, Shrub or Old		nservation Tillage pan or Industrial
	Moderate 5-10m		nature Forest, Shrub or Old Id		Ũ
Ĺ	Moderate 5-10m Narrow <5m	Imn Fiel	nature Forest, Shrub or Old ld sidential, Park, New Field		oan or Industrial en Pasture, Row Crop
Ĺ	Moderate 5-10m		nature Forest, Shrub or Old Id		ban or Industrial
( ( (	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None</li> </ul>	Imn Fiel Res Fer aluation) (Check	nature Forest, Shrub or Old ld sidential, Park, New Field need Pasture ONLY one box):	Co Uri	oan or Industrial en Pasture, Row Crop ning or Construction 
( ( (	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li> <li>FLOW REGIME (At Time of Eva Stream Flowing</li> <li>Subsurface flow with isolated por COMMENTS</li> </ul>	Imn Fiel     Fiel     Res     Fer     Gluation) (Check     ols (Interstitial)	nature Forest, Shrub or Old ld sidential, Park, New Field need Pasture ONLY one box): Dry channel, n	Co	oan or Industrial en Pasture, Row Crop ning or Construction 
	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li></ul>	aluation) (Check	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one bo	Co	oan or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)
	<ul> <li>Moderate 5-10m</li> <li>Narrow &lt;5m</li> <li>None COMMENTS</li> <li>FLOW REGIME (At Time of Eva Stream Flowing</li> <li>Subsurface flow with isolated por COMMENTS</li> </ul>	Imn Fiel     Fiel     Res     Fer     Gluation) (Check     ols (Interstitial)	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one bo	Co	oan or Industrial en Pasture, Row Crop ning or Construction 
	Moderate 5-10m  Narrow <5m None COMMENTS  FLOW REGIME (At Time of Eva Stream Flowing Subsurface flow with isolated por COMMENTS SINUOSITY (Number of bends None	aluation) (Check bls (Interstitial) ber 61 m (200 ft) o 1.0	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one bo	Co	an or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)
	Moderate 5-10m  Narrow <5m None COMMENTS  FLOW REGIME (At Time of Eva Stream Flowing Subsurface flow with isolated por COMMENTS SINUOSITY (Number of bends None	aluation) (Check bls (Interstitial) ber 61 m (200 ft) o 1.0	nature Forest, Shrub or Old Id sidential, Park, New Field need Pasture ONLY one box): Dry channel, n Of channel) (Check ONLY one br 2.0 2.5	Co	an or Industrial en Pasture, Row Crop ning or Construction no flow (Intermittent) neral)

ADDITIONAL STREAM INFORMATION (This Information Must Also be	e Completed):
QHEI PERFORMED? - 🗍 Yes 🗍 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIT	<u>RE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: N	RCS Soil Map Page: NRCS Soil Map Stream Order
County: Township	/ City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	_
Were samples collected for water chemistry? (Y/N): (Note lab sa	ample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, ple	ease explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher co ID number. Include appropriate field data sh	ollections optional. NOTE: all voucher samples must be labeled with the site neets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)       Voucher? (Y/N)       Salamanders Observed?         Frogs or Tadpoles Observed? (Y/N)       Voucher? (Y/N)       Aquatic I	
Comments Regarding Biology:	





This foregoing document was electronically filed with the Public Utilities

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4/16/2021 3:50:17 PM

in

Case No(s). 21-0117-EL-BGN

Summary: Application Appendix M (Aquatic Resource Report) electronically filed by Mr. Michael J. Settineri on behalf of Kingwood Solar I LLC