Appendix F: Wetland Delineation and Stream Identification Report Wetland Delineation and Stream Identification Report for Carroll County Energy Carroll County, Ohio



Prepared By: Tetra Tech, Inc. For Carroll County Energy LLC 31 Milk Street – Suite 1001 Boston, Massachusetts



July 2013

TABLE OF CONTENTS

SECTIC	DN		PAGE NO.
ACRON	IYMS		iii
1.0	INTRODU 1.1	CTION SITE LOCATION	1-1
2.0	REGULAT	ORY FRAMEWORK FOR WETLANDS AND OTHER WATERS OF THE U.S	2.1
3.0	METHODO	DLOGY	3-1
4.0	RESULTS 3.1 3.2 3.2	STUDY AREA WETLAND DELINEATION ORAM WETLAND ASSESSMENT STUDY AREA STREAM EVALUATION	4-1
5.0	CONCLUS	IONS	5-1
REFER	ENCES		
TABLE	s		
	1 2	ORAM WETLAND SUMMARY HHEI STREAM SUMMARY	
FIGURE	ES		
	1 2 3A 3B 4 5	USGS LOCATION MAP SOIL SURVEY MAPPING NATIONAL WETLAND INVENTORY MAPPING OHIO WETLAND INVENTORY MAPPING AERIAL LOCATION MAP DETAIL MAP	
APPEN	DICES		

- A B C D USACE WETLAND DETERMINATION DATA FORMS
- ORAM FORMS
- HHEI FORMS
- PHOTOGRAPHS OF THE SITE
- Е HYDRIC SOILS LIST
- RESUMES F

ACRONYMS

1987 Manual	Corps of Engineers Wetland Delineation Manual
AWS	Agricultural Water Source
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	Geographic Information Systems
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
IWS	Industrial Water Source
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
Ohio EPA	Ohio Environmental Protection Agency
ORAM	Ohio Rapid Assessment Method for Wetlands
OWI	Ohio Wetlands Inventory
PCR	Primary Contact Recreation
PEM	Palustrine emergent
PHWH	Primary Headwater Habitat
PFO	Palustrine Forested
PSS	Palustrine Scrub Shrub
QHEI	Qualitative Habitat Evaluation Index
Regional Supplement	Eastern Mountains and Piedmont Regional Supplement
SF	Square-foot
UNT	Unnamed tributary
UPL	Upland
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWH	Warm Water Habitat

1.0 INTRODUCTION

This Wetland Delineation and Stream Identification Report for the proposed Carroll County Energy project has been prepared by Tetra Tech, Inc. on behalf of Carroll County Energy, LLC. Wetland areas were delineated on site using methodology enumerated in the United States Army Corps of Engineers (USACE) Wetland Delineation Manual (Environmental Laboratory, 1987) (1987 Manual) and the Eastern Mountains and Piedmont Regional Supplement (USACE, 2012) (Regional Supplement), as well as the Ohio Rapid Assessment Method (ORAM) for Wetlands (Mack, 2001). Headwater streams were evaluated using the Field Evaluation Manual for Ohio's Primary Headwater Streams (Ohio EPA, 2012).

The subject of this report is the potential site of proposed electric generation facility (the Project) located in Carroll County, Ohio, approximately 2.5 miles north of Carrollton, Ohio. Although the Project site will be smaller, a 182-acre Study Area was considered for this wetland delineation in order to identify and avoid jurisdictional features to the greatest extent possible. The 182-acre Study Area extends from Mobile Road NE to the east and continues approximately 1,000 feet beyond Route 9 (Kensington Road) to the west. Pasturelands, agricultural areas, and forested uplands are located north of the site, with forested uplands and residential properties to the south. The Study Area contains active agricultural areas as well as upland field, upland thicket, forested upland, and wetland vegetational communities.

The Study Area is located in the Tuscarawas River Watershed (05040001). East of Route 9 (Kensington Road), the Study Area contains ephemeral, intermittent, and perennial unnamed tributaries (UNTs) to Pipes Fork. An intermittent UNT and ephemeral UNT to Pipe Run are located west of Route 9. Pipe Run, Pipes Fork, and tributaries are designated as Warmwater Habitat (WWH), Agricultural Water Source (AWS), Industrial Water Source (IWS), and Primary Contact Recreation (PCR) under Ohio Administrative Code 3745-1-07, as further discussed in Section 2.0. Wetlands and other waters of the U.S., including ephemeral, intermittent, and perennial streams, are described in detail in Section 4.0.

2.0 REGULATORY FRAMEWORK FOR WETLANDS AND OTHER WATERS OF THE U.S.

The United States Army Corps of Engineers (USACE) is the lead agency for making jurisdictional determinations for freshwater wetlands and waters of the U.S. within Carroll County, Ohio. Section 404 of the U.S. Clean Water Act (CWA) of 1977 requires the USACE to use the procedures and criteria enumerated in the *1987 U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987 Corps Manual) and the *Regional Supplement to Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region* (Regional Supplement) in making jurisdictional determinations (Environmental Laboratory, 1987). Wetlands are defined in the 1987 Corps Manual and by the U.S. Environmental Protection Agency as:

... areas 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

Pursuant to 33 CFR 328 (Section 328.3), waters of the U.S. (which also includes wetlands), as it is applied to the jurisdiction limits of authority of USACE under the U.S. Clean Water Act of 1977, is defined as:

- 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- 2. All interstate waters including interstate wetlands;
- 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
 - *i.* Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - *ii.* From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - *iii.* Which are used or could be used for industrial purpose by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as waters of the United States under the definition;
- 5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;

- 6. The territorial seas;
- 7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1)-(6) of this section. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet the criteria of this definition), are not waters of the United States.
- 8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA.

Additionally, two (2) recent U.S. Supreme Court decisions have limited the jurisdiction which USACE can exert over areas that meet the definition of wetlands or waters of the U.S. according to the *Corps Manual*. The first of these decisions, issued in 2001, was the *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers* (SWANCC). This ruling held that the USACE does not have jurisdiction over wetlands or waters of the U.S. that are not surface water tributaries of other wetlands or waters of the U.S., based solely upon its Migratory Bird Rule (MBR). As a result of this decision, the USACE has issued guidance to its field offices not to assert jurisdiction over these isolated wetlands or waters of the US unless a clear link to interstate commerce is present.

The second such Supreme Court decision, issued in 2006, was regarding the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (Rapanos). This ruling held that the USACE can only assert jurisdiction over Traditional Navigable Waters (TNW) and their associated wetlands, as well as relatively permanently flowing tributaries or relatively permament waters (RPWs) of TNWs and their adjacent wetlands, or over those tributaries and associated wetlands that possess a significant nexus to the TNW s to which it eventually flows. As a result of this ruling, the U.S. Environmental Protection Agency (USEPA) and USACE have issued various guidance documents to their field offices regarding how and when to conduct analyses of tributaries of TNWs to determine whether they contain either relatively permanent flows or a significant nexus to downstream TNWs.

The various guidance documents are summarized in a publication entitled U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (JD Guidebook) (USACE and USEPA, 2007). According to this guidebook, among the classes of water bodies subject to Federal CWA jurisdiction are:

- TNWs;
- All wetlands adjacent to TNWs;
- Non-navigable tributaries of TNWs that are relatively permanent (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
- Wetlands that directly abut such relatively permanent tributaries.

Federal CWA jurisdiction also covers the following classes of waters when a fact-specific analysis determines that those waters have a significant nexus with a TNW:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- Wetlands adjacent to such tributaries; and
- Wetlands adjacent to, but that do not directly abut a relatively permanent non-navigable tributary.

A significant nexus exists if the tributary, together with its adjacent wetlands, has more than an insubstantial or speculative effect on the chemical, physical, and/or biological integrity of the downstream TNW. Principal considerations when evaluating significant nexus include the volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus the functions performed by the tributary and all of its adjacent wetlands.

The USACE has developed a Significant Nexus Checklist for use in determining whether a significant nexus exists between a tributary of a TNW that does not have relatively permanent flow and the downstream TNW. It has also developed a new Jurisdictional Determination (JD) form for its use in determining whether it can assert jurisdiction over watercourses and associated wetlands, taking into consideration the SWANCC and Rapanos decisions.

The Ohio Environmental Protection Agency (OEPA) regulates isolated wetland systems that may not be jurisdictional by USACE. Ohio Administrative Code 6111.02 defines an "Isolated wetland" as a wetland that is not subject to regulation under the Federal Water Pollution Control Act. Therefore, any area that meets the USACE criteria and is determined to be a wetland, though it may not meet the jurisdictional definitions presented previously, would be subject to the regulations set forth by the OEPA. Any activity within isolated wetlands would require coordination with the USACE for a Jurisdictional Determination confirming the wetlands are isolated features followed by coordination with OEPA.

From the Ohio Administrative Code 3745-1-07 Water Use Designations and Statewide Criteria, Water Quality Standards contain two distinct elements: designated uses; and numerical or

narrative criteria designed to protect and measure attainment of the uses. Each water body in the state is assigned one or more aquatic life habitat use designations. Each water body may be assigned one or more water supply use designations and/or one recreational use designation.

Aquatic life habitat designations include:

(a) "Warmwater" - these are waters capable of supporting and maintaining a balanced, integrated, adaptive community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the twenty-fifth percentile of the identified reference sites within each of the following ecoregions: the interior plateau ecoregion, the Erie/Ontario lake plains ecoregion, the western Allegheny plateau ecoregion and the eastern corn belt plains ecoregion. For the Huron/Erie lake plains ecoregion, the comparable species composition, diversity and functional organization are based upon the ninetieth percentile of all sites within the ecoregion.

(b) "Limited warmwater" - these are waters that were temporarily designated in the 1978 water quality standards as not meeting specific warmwater habitat criteria.

(c) "Exceptional warmwater" - these are waters capable of supporting and maintaining an exceptional or unusual community of warmwater aquatic organisms having a species composition, diversity, and functional organization comparable to the seventy-fifth percentile of the identified reference sites on a statewide basis. (d) "Modified warmwater" - these are waters that have been the subject of a use attainability analysis and have been found to be incapable of supporting and maintaining a balanced, integrated, adaptive community of warmwater organisms due to irretrievable modifications of the physical habitat.

(e) "Seasonal salmonid" - these are rivers, streams and embayments capable of supporting the passage of salmonids from October to May and are water bodies large enough to support recreational fishing. This use will be in effect the months of October to May. Another aquatic life habitat use designation will be enforced the remainder of the year (June to September).

(f) "Coldwater" - these are waters that meet one or both of the characteristics as either "Coldwater habitat, inland trout streams" - these are waters which support trout stocking and management under the auspices of the Ohio Department of Natural Resources, Division of Wildlife, excluding waters in lake run stocking programs, lake or reservoir stocking programs, experimental or trial stocking programs, and put and take programs on waters without, or without the potential restoration of, natural coldwater attributes of temperature and flow or "Coldwater habitat, native fauna" - these are waters capable of supporting populations of native coldwater fish and associated vertebrate and invertebrate organisms and plants on an annual basis.

(g) "Limited resource water" - these are waters that have been the subject of a use attainability analysis and have been found to lack the potential for any resemblance of any other aquatic life habitat as determined by the biological criteria in table 7-15 of the rule.

Water supply designations include:

(a) "Public" - these are waters that, with conventional treatment, will be suitable for human intake and meet federal regulations for drinking water.

(b) "Agricultural" - these are waters suitable for irrigation and livestock watering without treatment.

(c) "Industrial" - these are waters suitable for commercial and industrial uses, with or without treatment.

Recreation use designations are in effect only during the recreation season, which is the period from May first to October thirty-first and include:

(a) "Bathing waters" - these are waters that, during the recreation season, are heavily used for swimming.

(b) "Primary contact" - these are waters that, during the recreation season, are suitable for one or more full-body contact recreation activities such as, but not limited to, wading, swimming, boating, water skiing, canoeing, kayaking, and scuba diving. Three classes of primary contact recreation use are defined to reflect differences in the observed and potential frequency and intensity of usage.

(c) "Secondary contact" - these are waters that result in minimal exposure potential to water borne pathogens because the waters are: rarely used for water based recreation such as, but not limited to, wading; situated in remote, sparsely populated areas; have restricted access points; and have insufficient depth to provide full body immersion, thereby greatly limiting the potential for water based recreation activities.

3.0 METHODOLOGY

Field investigations were performed on 23 April 2013, 24 April 2013, and 25 April 2013 within the 182-acre Study Area. A preliminary site reconnaissance of the study area was conducted through a review of available Geographic Information Systems (GIS) resources. Existing information reviewed included the following:

- United States Geological Survey (USGS) topographic mapping (Figure 1)
- Natural Resources Conservation Service (NRCS) National Cooperative Soil Survey (Figure 2)
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Mapping (Figure 3A)
- Ohio Wetlands Inventory (Figure 3B)

The field identification of wetlands within the study area was based on the 1987 Corps Manual's three (3) parameter approach of wetland delineation requiring the presence of the following three (3) wetland characteristics under normal environmental conditions: the predominance of hydrophytic vegetation, hydric soils, and indicators of wetland hydrology. The delineation consisted of establishment of the wetland/upland margin with flagging hung at intervals that accurately depicted the outline of the boundary. The individual flags were then located using a Global Positioning System (GPS) receiver and later added to the project area mapping (Figures 4 and 5).

Data concerning soils, hydrology, and vegetation were collected and recorded on USACE wetland determination data forms, which are provided in Appendix A. In addition to the USACE wetland delineation, a wetland evaluation was performed to determine the quality and function of each wetland as required by the OEPA. The Ohio Rapid Assessment Method for Wetlands (ORAM) (Mack, 2001) was used to perform this evaluation. Data concerning wetland size, adjacent upland land use, hydrology, habitat alteration, special habitats, and plant communities was collected and recorded on the ORAM 10 Page Form for Wetland Categorization (Appendix B). Wetlands can be designated as Category 1, Category 2, Modified Category 2, or Category 3 based on the results of the ORAM. The categories correspond to wetlands of low, medium, and high quality.

Headwater streams, those streams with a maximum pool depth less than 40 centimeters (15.4 inches) and/or drainage areas less than one square mile, were evaluated using the Field Evaluation Manual for Ohio's Primary Headwater Streams (OEPA, 2012) and the associated

Primary Headwater Habitat Evaluation Index (HHEI) forms (Appendix C). Streams can be designated as either Modified Class I, Modified Class II, Class I, Class II, or Class III Primary Headwater Habitats (PHWH) under Ohio Administrative Code 3745-1-07 (F)(9)(d). OEPA (2012) defines Class I PHWH streams as ephemeral streams that have little or no aquatic life potential, except seasonally when flowing water is present for short time periods following precipitation or snow melt. Class II PHWH streams are defined as streams that are normally intermittent but may have perennial flow. These watercourses may exhibit moderately diverse communities of warm water-adapted native fauna present either seasonally or year-round. The native fauna is characterized by species of vertebrates (temperature facultative species of amphibians and pioneering species of fish) and benthic macroinvertebrates (OEPA, 2012). Class III PHWH streams are perennial streams in which the prevailing flow and temperature conditions in are influenced by groundwater. They exhibit moderately diverse to highly diverse communities of cold water adapted native fauna present year-round (OEPA, 2012).

Photographs depicting wetland topography and vegetation, streams, and uplands onsite are included in Appendix D. Appendix E contains the Hydric Soils List for Carroll County, Ohio. Resumes of personnel are included as Appendix F.

4.0 RESULTS

Although the Project site will be smaller, a 182-acre Study Area was considered for this wetland delineation in order to identify and avoid jurisdictional features to the greatest extent possible. The field investigation identified eighteen areas within the Study Area that met the wetland criteria outlined in the 1987 Corps Manual, as amended by the Corps Regional Supplement. A narrative summary of field data collected for these systems is presented below. Fourteen watercourses were identified within the study area with general descriptions included below. The detail map provided as Figure 5 illustrates the project location and the wetlands and watercourses within the Study Area.

Hydric soils and soils with hydric components are often associated with wetlands. A review of the NRCS soil survey and hydric soil list indicated that there are two soil types mapped within the study area that are classified as hydric or containing hydric components. These are the Glenford silt loam, eight to fifteen percent slopes (GfC) and the Library-Variant silt loam, three to eight percent slopes (LbB) soil types. These soils are known to have major and/or minor hydric inclusions. The NRCS soil survey map is included as Figure 2. Confirmation of the soil mapping units was not performed during this site evaluation.

A review of U.S. Fish and Wildlife Service National Wetland Inventory mapping and Ohio Wetland Inventory (OHWI) mapping do not indicate the presence of NWI or OHWI-mapped wetlands within the Study Area. The National Wetland Inventory Map is included as Figure 3A and the Ohio Wetland Inventory Map is included as Figure 3B.

4.1 STUDY AREA WETLAND DELINEATION

Based on field evidence and best professional judgment, it was determined that there are eighteen wetlands within the Study Area. Data sheets that detail the existing vegetation, soil characteristics, and hydrology were prepared at each wetland area (Appendix A).

Wetland A

Wetland A is a 405-square foot (SF) palustrine emergent (PEM) wetland located adjacent to an intermittent stream/seep (Stream 2) within the north-central portion of the study area (Figure 5). Hydrology for this wetland is supported by groundwater and surficial runoff from adjacent uplands. Dominant vegetation consists of an unidentified sedge (*Carex* sp.) and jewelweed (*Impatiens capensis*). The soil within the upper five inches exhibited a low-chroma matrix color (10YR 4/2) with a sandy loam texture that contained redoximorphic features (7.5YR 4/6). Below

4-1

five inches, the soil profile exhibited a low-chroma matrix (2.5Y 4/1) with a sandy loam texture that contained redoximorphic features (7.5YR 4/6). Indicators of wetland hydrology included saturation within the upper twelve inches of the soil profile, high water table, surface water in portions of the wetland, and drainage patterns.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. The wetland exhibits a significant nexus to Stream 2 and would be considered jurisdictional by USACE.

Wetland B

Wetland B is a 293-SF PEM wetland located at the toe of slope and abutting Stream 10 within the eastern portion of the study (Figure 5). Hydrology for this wetland system is supported by groundwater and surficial runoff from adjacent uplands. Dominant vegetation consists of elderberry (*Sambucus nigra* var. *canadensis*), jewelweed, an unidentified sedge (*Carex* sp.), and an unidentified grass species (*Poaceae* sp.). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/1) with a silt texture that contained redoximorphic features (5YR 4/4). Indicators of wetland hydrology included surface water is portions of the wetland, high water table, saturation within the upper twelve inches of the soil profile, drainage patterns, geomorphic position, and positive FAC-Neutral test.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland C

Wetland C is an isolated 287-SF PEM wetland located within a historic diversion ditch within the east-central portion of the study (Figure 5). Hydrology is supported by precipitation and drainage from adjacent uplands. Dominant vegetation consists of redtop (*Agrostris gigantea*). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 5/1) with a clay loam texture that contained redoximorphic features (10YR 4/6). Indicators of wetland hydrology included surface water in portions of the wetland, saturation within the upper twelve inches of the soil profile, and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland system does not exhibit a significant nexus to a RPW or TNW. The historic diversion ditch constructed in the 1930's and does not connect to a RPW or TNW. Therefore, this wetland would not likely be considered jurisdictional by USACE; however, this wetland would be regulated by OEPA.

Wetland D

Wetland D is an isolated 117-SF PEM wetland located within a historic diversion ditch within the east-central portion of the study (Figure 5). Hydrology is supported by precipitation and drainage from adjacent uplands. Dominant vegetation consists of redtop (*Agrostris gigantea*). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 5/1) with a clay loam texture that contained redoximorphic features (5YR 5/6). Indicators of wetland hydrology included water-stained leaves and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland system does not exhibit a significant nexus to a RPW or TNW. The historic diversion ditch constructed in the 1930's does not connect to a RPW or TNW. Therefore, this wetland would not likely be considered jurisdictional by USACE; however, this wetland would be regulated by OEPA.

Wetland E

Wetland 5 is a 580-SF PEM wetland located adjacent to the south-central portion of the Study Area and abuts Stream 4 (Figure 5). Hydrology is supported by surficial runoff from adjacent uplands and occasional overtopping of Stream 4. Dominant vegetation consists of an unidentified grass species (*Poaceae* sp.). The soil within the upper seven inches exhibited low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (5YR 5/6). The soil between seven and twelve inches exhibited a low-chroma matrix (2.5Y 4/1) with a silt loam texture (5YR 5/6). Indicators of wetland hydrology included surface water within portions of the wetland, saturation within the upper twelve inches of the soil profile, oxidized rhizospheres, geomorphic position, and microtopographic relief.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 4 and would be considered jurisdictional by USACE.

Wetland F

Wetland F is a 328-SF PEM wetland located adjacent to the south-central portion of the Study Area, abutting Stream 5 (Figure 5). Hydrology for this wetland is supported by surficial runoff from adjacent uplands and occasional overtopping of Stream 5. Dominant vegetation consists of an unidentified grass (*Poaceae* sp.), white grass (*Leersia virginica*), and Japanese stilt grass (*Microstegium vimineum*). The soil within the upper ten inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (10YR 4/6). The soil below ten inches exhibits a higher chroma (2.5Y 4/3) with a silt loam texture and contained redoximorphic features (10YR 4/6). Indicators of wetland hydrology included surface water within portions of the wetland, saturation within the upper twelve inches of the soil profile, wetland drainage patterns, and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 5 and would be considered jurisdictional by USACE.

Wetland G

Wetland G is an 8,018-SF PEM wetland located within the north-central portion of the study area (Figure 5). Hydrology for this wetland is supported by groundwater and drainage from adjacent uplands. An existing access road is located within the western portion of Wetland G. Dominant vegetation consists of an unidentified grass (*Poaceae* sp.), and fox sedge (*Carex vulpinoidea*). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 4/6). Indicators of wetland hydrology included saturation within the upper twelve inches of the soil profile and wetland drainage patterns.

This area demonstrated the presence of hydric soils and wetland hydrology indicator parameters required by the 1987 Corps Manual and the Regional Supplement. Due to unidentified grass and sedge species, the wetland determination was weighted to soils and hydrology indicators. Drainage patterns from this wetland extend to an ephemeral stream channel (Stream 6);

therefore, this wetland exhibits a significant nexus to Stream 6 and would be considered jurisdictional by USACE.

Wetland H

Wetland H is a 920-SF PEM wetland that abuts Stream 7 within the north-central portion of the Study Area (Figure 5). Hydrology for this wetland is supported by drainage from adjacent uplands and occasional overtopping of the bank of Stream 7. Dominant vegetation consists of elderberry and an unidentified grass species (*Poaceae* sp.). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (10YR 5/6). Indicators of wetland hydrology included evidence of seasonal ponding, wetland drainage patterns, and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 7 and would be considered jurisdictional by USACE.

Wetland I

Wetland I is a 9,667-SF PEM wetland located within the eastern portion of the Study Area (Figure 5). This wetland occurs in a marginal depression at the toe of a steep slope and abuts Stream 9 and Stream 10. Hydrology for this wetland is supported by groundwater, drainage from adjacent uplands, and periodic inundation from Stream 10 during storm events. Dominant vegetation consists of skunk cabbage (*Symplocarpus foetidus*). The soil to a depth of six inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 5/6). At a depth of six to twelve inches, the soil exhibited a gleyed matrix (G1 6/10Y) with a fine sand texture and contained redoximorphic features (10YR 5/6). Indicators of wetland hydrology included surface water within portions of the wetland, high water table, saturation within the upper twelve inches of the soil profile, oxidized rhizospheres, wetland drainage patterns, geomorphic position, and positive FAC-neutral test.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland J

Wetland J is an 86-SF PEM wetland located within the eastern portion of the Study Area (Figure 5). This wetland occurs within a marginal drainageway/depression and hydrology is supported by groundwater as well as drainage from Mobile Road NE and adjacent uplands to Stream 10. Dominant vegetation consists of an unidentified grass species (*Poaceae* sp.). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 4/6). Indicators of wetland hydrology included high water table, saturation within the upper twelve inches of the soil profile, wetland drainage patterns.

This area demonstrated the presence of hydric soils and wetland hydrology indicator parameters required by the 1987 Corps Manual and the Regional Supplement. Due to unidentified grass and sedge species, the wetland determination was weighted to soils and hydrology indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland K

Wetland K is a 5,454-SF PSS wetland located east of Mobile Road NE within the northeastern portion of the Study Area (Figure 5). This wetland abuts Stream 10 and hydrology is supported by drainage from adjacent uplands. Dominant vegetation consists of musclewood (*Carpinius caroliniana*), silky dogwood (*Cornus amomum*), black willow (*Salix nigra*), elderberry, an unidentified grass species (*Poaceae* sp.), and skunk cabbage. The soil within the upper twelve inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 4/6). Indicators of wetland hydrology included geomorphic position and positive FAC-Neutral test.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland L

Wetland L is a 109-SF PEM wetland located adjacent to Stream 10 within the eastern portion of the Study Area (Figure 5). This wetland occurs in a marginal depression/drainageway near the toe of a steep slope. Hydrology is supported by drainage from the adjacent slope. Dominant vegetation consists of an unidentified grass species (*Poaceae* sp.) and jewelweed. The soil

within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 4/6). Indicators of wetland hydrology included saturation within the upper twelve inches of the soil profile and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland M

Wetland M is a 1,373-SF PEM wetland within the eastern portion of the Study Area adjacent to Stream 10 (Figure 5). This wetland occurs in a marginal depression/drainageway near the toe of a steep slope. Hydrology is supported by drainage from adjacent uplands. Dominant vegetation consists of elderberry, jewelweed, an unidentified grass species (*Poaceae* sp.), and skunk cabbage. The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 5/6). Indicators of wetland hydrology included saturation within the upper twelve inches of the soil profile, wetland drainage patterns, and positive FAC-neutral test.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland N

Wetland N is a 460-SF PEM wetland located in a depression abutting Stream 10 within the southeastern portion of the Study Area (Figure 5). Hydrology is supported by groundwater, drainage from adjacent uplands, and periodic inundation from Stream 10 during storm events. Dominant vegetation consists of jewelweed and an unidentified grass species (*Poaceae* sp.). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/1) with a sand texture (alluvium) and contained organic streaking. Indicators of wetland hydrology included surface water in portions of the wetland, high water table, saturation within the upper twelve inches of the soil profile, sparsely vegetated concave surface, drainage patterns, and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained hydrologic indicators. This wetland exhibits a significant nexus to Stream 10 and would be considered jurisdictional by USACE.

Wetland O

Wetland O is a 2,920-SF PSS wetland located between two (2) agricultural fields within the northern portion of the Study Area (Figure 5). Hydrology is supported by drainage from adjacent agricultural fields and forested uplands. This wetland is hydrologically connected to Stream 12. Dominant vegetation consists of elderberry, jewelweed, and white grass. The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 5/6). Indicators of wetland hydrology included surface water in portions of the wetland, saturation within the upper twelve inches of the soil profile, wetland drainage patterns, and positive FAC-Neutral test.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained primary hydrologic indicators. This wetland exhibits a significant nexus to Stream 12 and would be considered jurisdictional by USACE.

Wetland P

Wetland P is a 4,001-SF PEM that abuts Stream 13 and Stream 14 within the southwestern portion of the Study Area (Figure 5). Hydrology is supported by groundwater, drainage from adjacent uplands, and occasional overtopping of Stream 13. Dominant vegetation consists of an unidentified grass species (*Poaceae* sp.) and jewelweed. The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (7.5YR 5/6). Indicators of wetland hydrology included surface water in portions of the wetland, saturation within the upper twelve inches of the soil profile, high water table, geomorphic position, and drainage patterns.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained primary hydrologic indicators. This wetland exhibits a significant nexus to Stream 13 and would be considered jurisdictional by USACE.

Wetland Q

Wetland Q is a 1,192-SF PEM wetland that abuts Stream 13 and is located adjacent to a power line right-of-way within the southwestern portion of the Study Area (Figure 5). Hydrology is supported by groundwater, drainage from adjacent uplands, and occasional overtopping of Stream 13. Dominant vegetation consists of elderberry, fox sedge, sensitive fern (*Onoclea sensibilis*), and jewelweed. The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (10YR 4/6). Indicators of wetland hydrology included high water table, saturation within the upper twelve inches of the soil profile, drainage patterns, positive FAC-Neutral test, and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Corps Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained primary hydrologic indicators. This wetland exhibits a significant nexus to Stream 13 and would be considered jurisdictional by USACE.

Wetland R

Wetland R is a 1,179-SF PSS wetland that abuts Stream 13 and is located within the southeastern portion of the study area (Figure 5). Hydrology is supported by drainage from adjacent uplands and occasional overtopping of Stream 13. Dominant vegetation consists of box elder (*Acer negundo*) and an unidentified grass species (*Poaceae* sp.). The soil within the upper twelve inches exhibited a low-chroma matrix color (2.5Y 4/2) with a silt loam texture and contained redoximorphic features (10YR 5/6). Indicators of wetland hydrology included drainage patterns and geomorphic position.

This area demonstrated the presence of all three wetland parameters required by the 1987 Manual and the Regional Supplement. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained primary hydrologic indicators. This wetland exhibits a significant nexus to Stream 13 and would be considered jurisdictional by USACE.

4.2 OHIO RAPID ASSESSMENT METHOD FOR WETLANDS ASSESSMENT

A wetland assessment was performed using the ORAM. Data sheets that detail wetland size, upland land use, hydrology, habitat alteration, special habitats, plant communities, and scoring calculations were prepared for each wetland (Appendix B). Wetlands were designated as a Category 1, Category 2, or Category 3 based on the results of the ORAM. Category 1 corresponds to wetlands of limited quality. Category 2 corresponds to wetlands of medium quality. Category 3 corresponds to wetland of high quality. Table 1 presents the results of the ORAM scoring summary and Category for the wetlands identified at the site.

Table 1.
Ohio Rapid Assessment Method for Wetlands Results Summary

Wetland Name	ORAM Score	ORAM Category
WL A	52	2
WL B	60	2
WL C and WL D	27	1
WL E and WL F	52	2
WL G	52	2
WL H	53	2
WLI	76	3
WL J	33	2
WL K	58	2
WLL	50	2
WL M	56	2
WL N	59	2
WL O	56	2
WL P and WL Q	61	2
WL R	59	2

4.3 STUDY AREA STREAM EVALUATION

Headwater streams were evaluated using the Field Evaluation Manual for Ohio's Primary Headwater Streams (OEPA, 2012) and the associated HHEI forms (Appendix C). Streams were classified as either Class I, Class II, or Class III PHWHs based on the results of the evaluation forms. OEPA (2012) defines Class I PHWH streams as ephemeral streams that have little or no aquatic life potential, except seasonally when flowing water is present for short time periods following precipitation or snow melt. Class II PHWH streams are defined as streams that are normally intermittent but may have perennial flow. They may exhibit moderately diverse communities of warm water adapted native fauna present either seasonally or year-round. The native fauna is characterized by species of vertebrates (temperature facultative species of amphibians and pioneering species of fish) and benthic macroinvertebrates (OEPA, 2012). Class III PHWH streams are perennial streams in which the prevailing flow and temperature conditions are influenced by groundwater. They exhibit moderately diverse to highly diverse communities of cold water adapted native fauna present year-round (OEPA, 2012). None of the streams within the Study Area had a maximum pool depth greater than forty (40) centimeters (15.4 inches) and/or drainage areas greater than one (1) square mile, so no streams were evaluated using the Qualitative Habitat Evaluation Index (QHEI) and associated Qualitative Habitat Evaluation and Use Assessment Field Sheet.

General descriptions of each stream and results of the PHWH HHEI scoring are discussed below. The results of the HHEI are also summarized in Table 2.

Stream 1

Stream 1 is an ephemeral, headwater, unnamed tributary (UNT) of Pipes Fork located within the north-central portion of the Study Area (Figure 5). This stream is approximately 30 feet in length and flows south from an access road to its confluence with Stream 7. This watercourse is supported by drainage from an access road and from adjacent uplands. The stream channel is approximately 1.5 feet and contains a silt substrate. The stream did not exhibit any flow at the time of field investigations. The stream was classified as a Class I PHWH based on a HHEI score of 9.

Stream 2

Stream 2 is an intermittent, headwater, UNT of Pipes Fork located within the north-central portion of the Study Area (Figure 5). This watercourse is supported by a pipe associated with a well/seep and drainage from adjacent uplands. The stream channel is approximately 3 feet in width and contains a silt, gravel, and cobble substrate. The stream exhibited moderate flow at

4-11

the time of field investigations with a water depth of approximately 0.25 inch at riffles and 1 inch within pools. The stream was classified as a Class I PHWH based on a HHEI score of 26.5.

Stream 3

Stream 3 is an ephemeral, headwater, UNT of Pipes Fork located within the eastern portion of the Study Area (Figure 5). This stream flows west from a culvert adjacent to Mobile Road NE to its confluence with Stream 10. This watercourse is supported by drainage from Mobile Road, surficial runoff from adjacent uplands, and drainage from a riprap channel adjacent to a residential dwelling east of Mobile Road. The stream channel is approximately 6 feet in width and contains a clay, silt, gravel, and cobble substrate. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 0.25 inch depth at riffles and 3 inches within pools. The stream was classified as a Class II PHWH based on an HHEI score of 49.

Stream 4

Stream 4 is an ephemeral, headwater, unnamed tributary (UNT) of Pipes Fork located within the southwestern portion of the Study Area (Figure 5). This stream flows south through a forested upland community. This watercourse is supported by drainage from adjacent uplands. The stream channel is approximately 1.5 feet in width and contains a silt substrate with leaf litter. The stream exhibited low flow at the time of field investigations with a water depth of approximately 0.25 inch depth at riffles and 1 inch within pools. The stream was classified as a Class I PHWH based on a HHEI score of 18.

Stream 5

Stream 5 is an ephemeral, headwater, UNT of Pipes Fork located within the southwestern portion of the Study Area (Figure 5). This stream flows southeast through a forested upland community. This watercourse is supported by drainage from forested uplands and an adjacent agricultural field. The stream channel is approximately 1 foot in width and contains a silt and gravel substrate. The stream exhibited low flow at the time of field investigations with a water depth of approximately 0.25 inch depth at riffles and 1 inch within pools. The stream was classified as a Class I PHWH based on a HHEI score of 24.

Stream 6

Stream 6 is an ephemeral, headwater, UNT of Pipes Fork located within the north-central portion of the Study Area (Figure 5). This stream flows north from Wetland G to its confluence with Stream 7. This watercourse is supported by drainage from Wetland G and adjacent uplands. The stream channel is approximately 2 feet in width and contains a clay, silt, sand, gravel, and cobble substrate. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 0.5 inch depth at riffles and 2.0 inches within pools. The stream was classified as a Class I PHWH based on an HHEI score of 28.

Stream 7

Stream 7 is an intermittent, headwater, UNT of Pipes Fork located within the north-central portion of the Study Area (Figure 5). This stream flows east from pasturelands on the property to the west to its confluence with Stream 10. This watercourse is supported by groundwater, drainage from tributaries, drainage from the aforementioned pastureland, and surficial runoff from adjacent uplands. The stream channel is approximately 6 to 7 feet in width and contains a sand, gravel, cobble, and boulder substrate. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 0.5 inch depth at riffles and 2 to 3 inches within pools. The stream was classified as a Class II PHWH based on HHEI scores of 48 and 55. Tadpoles (*Rana* sp.) were observed within the lower portions of the reach.

Stream 8

Stream 8 is an ephemeral, headwater, unnamed tributary (UNT) of Pipes Fork located within the northeast-central portion of the Study Area (Figure 5). This stream flows south to its confluence with Stream 7. This watercourse is supported by drainage from adjacent uplands. The stream channel is approximately two feet in width and contains a clay, sand, and gravel substrate. The stream exhibited low flow at the time of field investigations with a water depth of approximately 0.25 inch depth at riffles and 1 inch within pools. The stream was classified as a Class I PHWH based on a HHEI score of 22.

Stream 9

Stream 9 is an ephemeral, headwater, UNT of Pipes Fork located within the eastern portion of the Study Area (Figure 5). This stream flows west and conveys drainage from Mobile Road NE to its confluence with Stream 10. This watercourse is supported by drainage from Mobile Road and surficial runoff from adjacent uplands. The stream channel is approximately 3 feet in width and contains a silt, clay, and cobble substrate. Vegetation is also present within the stream channel. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 1 inch depth at riffles and 2 inches within pools. The stream was classified as a Class I PHWH based on a HHEI score of 17.

Stream 10

Stream 10 is a perennial, unnamed tributary of Pipes Fork located within the eastern portion of the study area (Figure 5). This watercourse is supported by groundwater, drainage from adjacent uplands, surficial runoff from adjacent uplands, and drainage from tributaries. The stream channel is approximately 7 to 10 feet in width and contains a silt, sand, gravel, and cobble

July 2013

substrate. The stream exhibited medium flow at the time of field investigations, with an average water depth of approximately 0.25 to 0.50 inch at riffles and 3 to 4 inches within pools. The stream was classified as a Class III PHWH based on a HHEI score of 61 because the percent of bedrock, boulder, boulder slab, and cobble was greater than 10 percent (50 percent cobble).

Stream 11

Stream 11 is an intermittent, headwater, UNT of Pipes Fork located within the southeastern portion of the Study Area (Figure 5). This stream flows west from a partially collapsed culvert adjacent to Mobile Road NE to its confluence with Stream 10. This watercourse is supported by groundwater, drainage from Mobile Road, and surficial runoff from adjacent uplands. The stream channel is approximately 7 feet in width and contains a silt, sand, gravel, cobble, and boulder substrate. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 1 inch depth at riffles and 2 inches within pools. The stream was classified as a Class II PHWH based on a HHEI score of 45.

Stream 12

Stream 12 is an intermittent, headwater, UNT of Pipes Fork located within the northern portion of the Study Area (Figure 5). This stream flows south within a forested fringe between two agricultural fields to its confluence with Stream 7. A buried culvert associated with an access road between the agricultural fields affects flow of the stream. This watercourse is supported by drainage from Wetland O and surficial runoff from adjacent uplands. The stream channel ends at a collapsed culvert, with drainage conveyed within an existing access road to Stream 1. The upper portion of the reach is approximately 3 feet in width and contains a silt substrate. The lower portion of the stream channel is approximately 1.5 feet in width and contains a silt, gravel, cobble, and boulder substrate. The upper portion of the reach did not contain any water at the time of field investigations; the lower portion of the stream was classified as a Class I PHWH based on an HHEI score of 24.

Stream 13

Stream 13 is an UNT of Pipe Run and is located within the western portion of the Study Area, west of Route 9. Hydrology is supported by drainage from Route 9 as well as existing farm facilities, upland fields, and forested uplands. Hydrology within the lower portion of the reach is also supported by groundwater and drainage from a tributary (Stream 14). The stream drains west through the Study Area within a narrow ravine. The upper portion of the reach is ephemeral and is approximately 2 feet in width and exhibited a moist streambed with no flow. The stream

4-14

channel is approximately 2 feet in width and contains a silt, sand, gravel and cobble substrate. The lower portion is intermittent with an approximately 0.25 inch depth at riffles and 2 inches within pools. The stream channel within the lower portion of the reach is approximately 3.50 feet in width and contains a silt, sand, gravel, and cobble substrate. The stream was classified as Class I PHWH based on an HHEI score of 17 within the upper portion of the reach and as a Class II PHWH based on an HHEI score of 33 within the lower portion of the reach.

Stream 14

Stream 14 is an ephemeral, headwater, UNT of Pipe Run located within the southwestern portion of the Study Area (Figure 5). This stream flows southeast through a forested upland community. This watercourse is supported by drainage from forested uplands and an adjacent agricultural field. The stream channel is approximately 2.5 feet in width and contains a silt and gravel substrate. The stream exhibited moderate flow at the time of field investigations with a water depth of approximately 0.25 inch depth at riffles and 0.5 inches within pools. The stream was classified as a Class I PHWH based on a HHEI score of 24.

Stream ID	HHEI Score	PHWH Class
Stream 1	9	I
Stream 2	26.5	I
Stream 3	49	II
Stream 4	18	I
Stream 5	24	I
Stream 6	28	I
Stream 7	48/55	II
Stream 8	22	I
Stream 9	17	I
Stream 10	61	
Stream 11	49	II
Stream 12-1	36	II
Stream 12-2	24	I
Stream 13-1	17	I
Stream 13-2	33	II
Stream 14	24	I

Table 2.

Headwater Habitat Evaluation Index and Qualitative Habitat Evaluation Index Results Summary

5.0 CONCLUSIONS

As a result of the on-site investigation, eighteen areas were identified within the Study Area that exhibited all three criteria necessary to be classified as a wetland according to the 1987 Corps Manual and the Regional Supplement.

- The areas had a vegetative community that contained a predominance (greater than 50% aerial coverage) of hydrophytic plant species.
- Hydric soil conditions were present at each location.
- There were indicators of wetland hydrology at each location.

Of the eighteen wetlands that occur within the Study Area, two were classified as a Category 1, fifteen were classified as Category 2, one was classified as Category 3 based on the ORAM scoring system for assessing quality and function of wetlands. Two of the eighteen wetlands (Wetlands C and D) were identified as isolated non-jurisdictional wetlands during field investigations. Though the USACE would not have jurisdiction over these wetlands, the OEPA does regulate isolated wetlands. Of the 182-acre Study Area, only 0.85 acres was identified as containing wetlands.

Fourteen streams were also identified during field investigations. Two streams (Streams 12 and 13) had upper and lower segments that scored as Class I and Class II PHWH streams. Of the remaining twelve streams, eight were classified as Class I PHWH streams, three were classified as Class II PHWH streams, three were classified as Class II PHWH streams.

REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. United States Government Printing Office. Washington, D.C. GPO 024-010-00524-6. 103 pp.

Environmental Laboratory, 1987. Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1. United States Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Natural Resource Conservation Service, 2012. Hydric Soils of the United States, available at: http://soils.usda.gov/use/hydric/.

Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.

Ohio EPA. 2012. Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams. Version 3.0. Ohio EPA Division of Surface Water, Columbus, Ohio.

Robert W. Lichvar and John T. Kartesz. 2012. North American Digital Flora: National Wetland Plant List, version 3.0 (https://wetland_plants.usace.army.mil). U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH, and BONAP, Chapel Hill, NC.

U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0, ed. J. F. Berkowitz, J. S. Wakeley, R. W. Lichvar, C. V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Fish and Wildlife Service, 2009. National Wetlands Inventory Mapping. Available at: http://wetlandsfws.er.usgs.gov.

United States Geological Survey, 2009, Unites States Geological Survey Topographical Mapping. available at: http://nmviewogc.cr.usgs.gov/viewer.htm.

FIGURES













PGH P:\GIS\CARROLL COUNTY\MAPDOCS\CARROLLCOUNTY_OWI.MXD 07/22/13 KM








APPENDIX A

USACE WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Corroll County Energy	City/County: Corroll Co.		Sampling Date: 23 April 2013		
Applicant/Owner Almoral Person		State: OH	Sampling Point: WC A		
Investigator(s); Mike Mussivel, and Poston Smith	Section, Township, Range:	228 7141 1	25~		
Landform (hillslope, terrace, etc.): hills it saw Low	cal relief (concave, convex, nor	1e): {~n(++/	Stope (%): 5-70		
Subrecipe (LRR or MIRA): / RR N Lat: 40.607)	Long: - 21	. 64-11	Datum: MAp \$1		
South of the second state	15-75% days (Wmn)		line: OFm (not must /)		
Son map Onic Name: WYSYMA Error Cost and Sold Toring	15 7 5 F 214 15 10 100				
Are climatic / hydrologic conditions on the site typical for this time of ya	ar? Yes No ((if no, explain in Re	emarks.)		
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are *Normal	Circumstances" pr	resent? Yes <u></u> Na		
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed, e	xplain any answer	s in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing	sampling point locatio	ins, transects,	important features, etc.		
Hydrophytic Vegelation Present? Yes No Hydric Soil Present? Yes No Watland Hydrology Present? Yes No	is the Sampled Area within a Wetland?	Yes_	, _ Na		
Remarks: See bruinne eine					
- TP, TV: A-37 KINT					
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicat	ors (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)		Surface Soil C	Cracks (B6)		
Surface Water (A1) True Aquatic Pl	ianis (B14)	Sparsely Vegetated Concave Surface (B8)			
High Water Table (A2) Hydrogen Sulfii	de Odor (C1)	Drainage Patt	ems (B10)		
Saluration (A3) Oxidized Rhizo	spheres on Living Roots (C3)	Moss Tinm Lin	les (B1B)		
VValer Merks (61) Presence of Re	duced from (C4) duction in Tilled Spile (CA)	Crawfieh Burr	vater Table (GZ)		
Dói Deorests (A3) Thin Muck Surf	ace (C7)	Saturation Vis	lble on Aerial Imagery (C9)		
Akeal Mat or Crust (B4) Other (Explain	in Remarks)	Stunled or Str	essed Plants (D1)		
Iron Deposits (B5)	,	Geomorphic P	Position (D2)		
Inundation Visible on Aerial Imagery (B7)		Shallow Aquit	ard (D3)		
Water-Stained Leaves (B9)		Microlopographic Rellef (D4)			
Aquetic Fauna (B13)		FAC-Neutral 1	Test (D5)		
Field Observations:					
Surface Water Present? Yes 🟒 No Depth (inches)	1: 2 8 25				
Water Table Present? Yes 🗹 No Depth (inches)): 				
Saturation Present? Yes 🖌 No Depth (inches)): Wetland H	lydrology Present	? Yes <u> </u>		
(includes capillary innge) Describe Recorded Data (stream gauge, monitoring well, aerial photo	j is, previous inspections), if avai	ijable:			
Remarks:					
Section water in a draw of water					
and the second of the second of the second s					

Samolino	Point:	Lί	н
----------	--------	----	---

VEGETATION (Four Strata) – Use scientific r	names of	plants.		Sampling Point:
75	Absolute	Dominant I	indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>2''</u>)	% Cover	Species?	Status	Number of Dominant Species) That Are DBL, FACW, or FAC: (A)
2		·		Total Number of Dominant
a		·		Species Across Air Suata.
•5		·	·	Percent of Dominant Species [00] That Are OBL, FACW, or FAC: (A/F
6				Remale was index workshart.
7	·			Total & Course of Multiply but
		 Total Cove 	r	
50% of total cover:	20% ol	f total cover:_		
Sapling/Shrub Stratum (Plot size: 75)				
1		·		FAC species x 3 =
2				FACU Speciels X 4 =
3				UPL species X 5 =
4		·		Column folais: (A) (B)
5				Prevalence Index - B/A
6		·		Hydrophytic Vegetation Indicators:
7		·		,1 - Rapid Test for Hydrophytic Vegetation
8				¦ 2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cove	r	4 - Morphological Adaptations ¹ (Provide support
50% of total cover:	70% 0	101al cover:_		data in Remarks or on a separate sheet)
Her <u>o, Stratum</u> (Piot size: <u>7</u>)	4.0			Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>(***), 58.</u> 				
2. Infedier rafies 5	 	· _•	<u></u>	¹ Indicators of hydric soil and wetland hydrology must
A Contraction and term	- <u>-</u> , 5	·	FAC	be present, unless disturbed or problematic.
S	·			Definitions of Four Vegetation Strata:
<u> </u>				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) c
7				i more in diameter at breast height (DBH), regardless o I height
R				lingin.
<u> </u>				Sapling/Shrub - Woody plants, excluding vines, less
10	_			man sin. Don and greater than or equal to 5.20 k (in ; m) tall.
11	· · · —			Line All backware (universide) plagic, specification
····	10	- Total Cove		of size, and woody plants less than 3.28 ft tail.
50% of total cover:`	20% ol	lotal cover:	16	
Woody Vine Stratum (Plot size 30			•	height.
1				
2				
3.				
4,				Underschutig
5.				Vegetation
		 Total Cove 	эг	Present? Yes No
50% of total cover:	20% o	f total cover:_		
Remarks: (include photo numbers here or on a separate	sheel.)			,,
President of the set of the ball in a set of				

Profile Desc	ription: (Describe t	o the dept	h needed to docun Rada	nent lhe i « Fosturn	ndicator (-	or confirm	n the absend	e of indicators.)
(inches)	Color (moist)	%	Color (moist)	K Feature:	lype	l oc ²	Texture	Remarks
Oч	INYR 4/2	9.0	29404/6	10		m	Sec. la	
5.171	254 4/1	<u></u>	A.S. Salah	15-		m	. 1.	
			7 1 1 7/La				21110	
·								·
		,						
							· · - —	
Type: C=Co	pricentration, D=Depl	etion, RM-1	Reduced Matrix, MS	-Masked	Sand Gra	ins.	Location:	PL=Pore Lining, M=Matrix.
Hyaric Soit I			Deels Conferen	(02)			INDI-	2 au Unah (\$20) (MI Dé 147)
Mistosol	(AI) vicedos (A2)		Dark Surace	(57) Inte Surfa	ca (S8) /U	1 12 6 147	1491	Z ciri Muçk (ATU) (MERA 147) Coast Brairia Rados (A16)
Black Hi	stic (A3)		Thin Dark Su	face (S9)	(MIRA 1	47. 148)	(46)	(MI RA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	d Matrix (F 2)			Piedmont Floodplain Soils (F19)
Stratified	I Layers (A5)		Depleted Mat	rix (F3)				(MLRA 136, 147)
2 cm Mu	ick (A10) (LRR N)		Redox Dark 3	Surface (F	6)			Very Shallow Dark Surface (TF12)
Depicted	t Delow Dark Surface	: (A11)	Depleted Dar	k Surface	(F7)		_	Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	ssions (Fi	8)			
Sandy N	Sucky Mineral (S1) (L	RR N,	Iron-Mangane	ese Masse	es (F12) (L	.RR N,		
MLRA Seedy C	4 147, 148) Javed Matrix (S4)		MLKA 130 Umbric Surfa	2) co (E12) /		- 1221	31,-	disators of bydrophytic venetation and
Sandy G	edox (S5)		Piedmant Elo	odolain Se	oils (F19) i	, 127) MURA 14	181 vi	velland hydrology must be prosent.
Stripped	Matrix (S6)		Red Parent N	fatenal (F	21) (MI R/	127, 147	7) U	nless disturbed or problematic.
Restrictive l	ayer (if observed):			_				
Type:	-							
Depth (int	ches):						Hydric So	il Present? Yes 🗹 No 🔜 👘
Remarks:								

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Carrol County Energy	City/County:(<i>invest1_Ce</i> Sampling Date: <u>3_April</u>
Applican/Owner: //ilvincal_Power	State: <u>CH</u> Sampling Point: <u>~4 A</u>
investigator(s): mile Mussingli and Proster South	Section, Township, Range: 528, 7142, RSW
Landform (hillslope, terrace, etc.): hillslope	Local relief (concave, convex, none): Slope (%): _/v? Slope (%): _/v?
Subregion (LRR or MLRA) LKR N Lat:	Echa: Datum: AAP 5.
Soil Map Lloit Name: Wistme elast - Casherdan silt lame	15.25% Jerry (Wm A) NWI classification 446
Are climatic Linductoric conditions on the site twoical for this time of	View No. (Il no. avolation Monarke)
Are Vegetution Soil or Hydrolegy circlifer	ni year i tes (ni te explain in tremains.)
Are Vegetation, Soi, or Hydrology significant	nuy distutbed? Are normal circumstances present? Yes <u> </u>
Are vegetation, Soit, or Hydrology haturally	/ problematic ? (ir needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showi	ing sampling point locations, transects, important features, et
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remerks: No	Is the Sampled Area Within a Wetland? Yes No
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required
Primary Inductors (minimum of one is required; check all that appl	Ny) Surface Soil Cracks (B6)
Surface Waler (A1) True Aquatio	c Plants (B14) Sparsely Vegetated Concave Surface (H8)
High Water Table (A2) Hydrogen St	iulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3)Oxidized Rh	nizospheres on Living Roots (C3) Moss 1rim Lines (B16)
Water Marks (B1) Presence of Sodeman's (C0)	/ Reduced Iron (C4) Dry-Season Water Table (C2)
Dià Denosite (83) Racent Iran	Reduction in Filled Solis (CB) Craylish Burrows (C8) Surface (C2) Solucation Visible on Aerial Imprery (C9)
Algal Mat or Crust (B4) Other (Expla	ain in Remarks) Stunied or Stressed Plants (D1)
Iron Deposits (85)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (H7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Opph (inch	nes):
Water Table Present? Yes No Depth (inch	nes):
Saturation Present? Yes No Depth (inch fincludes capillary frinde)	Tes): Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial ph	hotos, previous inspections), if available:
Remuder.	
Kemarks:	

VEGETATION (FOULDUALD) - Dae actendine in		hierira'		Samping Form.
·····	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:)	% Cove	Species?	Sterus	Number of Dominant Sparies
1 Company	45		Farr	That Are OBL_EACW, or EAC-
	10			
2. Prenty Secondaria	10		THEV	Total Number of Dominant 7
3.				Species Across All Strata: (B)
⁴				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 197 (A/B)
£.				,
				Prevalence index worksheet:
7				
	55	- Tolal Cove	20	Yotai % Cover or:Municity ov:
SITK of total cover 24.5	20% of	total cover:	11	OBL species × 1 =
				FACW species y 2 -
Sapling/Shrub Stratum (Plot size: 7.5)		,		
1. Ross multitues	25	<i></i>	Ency	FAC species x 3 =
2 Propus muching	10		NACV.	FACU species x 4 =
2. Trees Stephen		_ -		
3				OPL species X 5
4				Column 1otals: (A) (B)
·····				
5				Prevalence Index - B/A -
6.				
				Hydrophytic Vegetation Indicators:
1				 Rapid Test for Hydrophytic Vegetation
8				1 Deminance Test is 50%
a				2 · Dominiarice rescis >5076
*'	20			3 - Prevalence Index is \$3.0'
	~ ~ ~ ~	= fotal Cove	"	A - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>/7. 5</u>	20% of	total cover;_		/ melphological melphanens (i fortae supporting
Herb Stratum (Plot size: 5)		-		data in Remarks or on a separate sheet)
<u>riero Sudanii</u> (riot size. <u> </u>			-	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Com cambridge	<u> </u>	<u>~</u>	1000	
2. Glackman halesness	5		FAIL	
a Auti				¹ Indicators of hydric soil and wetland hydrology must
d. Firstiew prives			146-	be present, unless disturbed or problematic.
4. Posterne Bet				Definitions of Four Versetation Strate:
5				Dentitions of Convegeration Strate.
		· · · · · ·		Tree – Woody clants, excluding vines, 3 in, (7.6 cm) or
6				more in diameter at breast heinht (DBH), repardless of
7.				heinhi.
0				
a				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 in. DBH and greater than or equal to 3.28 /t (1
חו				m) tall.
11				Herb – All herbaceous (non-woody) plants, regardless
	15 .	- Total Cove	r	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	iotal cover-	36	
Manda Marker (Plater 21				Woody vine – All woody vines greater than 3.28 ft in
woony vine stratum (Plot size:]				height
1. Jexicologia concerns	<u> </u>		FAC.	
7				
E				
3				
4.				
				Hydrophylic
ə				Vegetation
	<u> </u>	 Fotal Cove 	r ,	Present? Yes No
50% of total cover: 🚽 🔎	20% of	tolai cover:		
Romatica finalezia abata sembara bara az az a serende el				
rivernoriks. (includie prioto frombers nete or on a separate si	(661-)			

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: we A vr

Sampling Point: <u>🛰 R Y</u>

Profile Desc	ription: (Describe (to the depth n	eeded to docum	ient the ia	ndicator	or confirm	n the absance	e of indicato	ars.)	
Depth	Matrix		Redo)	(Features						
(inches)	Color (m <u>oist)</u>	_%(olar (moisi)	<u>%</u>	TYPE	<u> </u>	Texiline		Remarks	
0121	10-11-513	100	—		_		s b			
							-			
¹ 1ype: <u>C=C</u>	oncentration, D=Depl	etion, RM-Rec	luced Matrix, MS	=Masked	Sand Gra	in <u>s.</u>	² Location: I	PL=Pore Lini	ing, M-Matrix.	
Hydric Soil	Indicators:						India	cators for Pr	roblematic Hydi	ric Soils':
Histosol	(A1)		Dark Sulface	(57)				2 cm Muck (A10) (MI RA 147	r}
Histic Fr	pinedon (A2)	-	Polyvalue Bel	ow Surfac	e (S8) (N	LRA 147.	146)	Coast Prairie	Redox (A16)	-
Black H	stic (A3)	-	Thin Dark Sur	face (S9)	(MLRA 1	47. 146)	• —	MLRA 14	7, 148)	
Hvdroge	n Sulfide (A4)	-	Loaruy Gleve	d Matrix (i	F21	•••		Piedmont Flo	oodplain Soils (F	19)
Stratifier	Lavers (A5)	-	Depleted Mat	rix (F3)				MURA 13	6, 147)	-
2 cm Mi	rk (A10) (LRR N)	-	Redox Deak S	Surface (F)	61		,	Very Shallow	v Dark Surface (1F12)
Deplete	Below Dark Surface	e (A11) -	Depleted Dari	k Surface	(F7)		_	Other (Expla	in in Remarks)	-
Thick D:	ark Surface (A12)		Redox Decre	ssions (F8	ท้			• • • • •	•	
Sondy k	tucky Mineral (S1) (L	BR N.	Iron-Mangane	isa Masse	-, as (F12) (1	BR N				
MIRA	147. 1490		MLRA 136	5)						
Sandy (Joved Matrix (S4)		Umbór Suda	~ re (E13) (i	MI RA 13	6 122)	ماد	dicators of h	vdrophytic veget	ation and
Sandy E	adox (S5)	-	Reducent Flor	odplain Sr	oils (F19)	(MIRA 14	1R) w	etland bydro	loov musi be pri	isent.
Stringer	Matrix (S6)	-	Red Parent M	atorial (F)	21) ANI R.	6 127 141	71 11	uless disturb	ed or problemati	
Output	maria (00)			internet (r					·····	
Resultive	Layer (ir ouserveu):									
туре:										
Depth (in	thes):						Hydric So	Il Present?	Yes	No
Remarks:										
-										

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region	
Project/Site: Carroll low Energy City/County: Carroll Co Sampling Date: 23 April 2	1013
Annlicant/Owner: Alamic Point: WEB	
Investigator(s): mille Alusseme li ind Pierston Smith Section, Township, Range: 528 7142, R5w	
Tandform (hillslope, terrace, etc.): <u>4440444</u> Local relief (concave, convex, none): <u>Concave</u> Slope (%): <u>7-3</u>	
Subregion (LRR or MLRA):L18_ MLat:V0.4+5.5Long:11. +56*1Datum:005	<u>.</u>
Soil Map Unit Name: Wroth- lund - Cosherton sill lama 15-25% shore (Win D) NWI classification: NEM (not mapped))
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 "Normal Circumstances" present? Yes 🗸 No	
Are Vegetation, Soit, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)	_
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc	C.
Hydrophytrc Vegetalion Present? Yes No Is the Sampled Area within a Wetland? Hydric Soil Present? Yes No No Wetland Hydrology Present? Yes No Remarks: Trend shorp abottics stream	
HYDROLOGY	I
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)	
Surface Water (A1) True Aquatic Plants (B14) Sparsely Vegetated Concave Surface (H8)	
✓ High Water Table (AZ) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10)	
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)	
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Table (C2)	
Sediment Deposits (B2) Recent Iron Reduction in Tilled Spils (C6) Crayfish Burrows (C8)	
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)	
Algal Mat or Crust (B4)Other (Explain in Remarks)Stunted or Stressed Plants (D1)	
iron Deposits (B5)	
Inundation Visible on Aerial Imagery (H7) Shallow Aquitard (D3) Histohenegraphic Dalief (D4)	
Water-Stained Leaves (69) Microtopographic Reliet (04)	
	\neg
Surface Water Prospoi2 Ves Vince Depth (inches): (115	
Water Fusient? Yes No Depth (inches):	
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No	
(includes capillary fringe)	-
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if avaitable:	
Remarks: solution water in positions of without	

VEGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point: <u>645</u>
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>▲</u> <i>U</i>) 1	% Çover	Species?	Status	Number of Dominant Species (A)
2				Tatal Number of Demistral
3		·		Species Across All Strata: (B)
4				Percent of Derussial Spacies (4.7)
5				That Are OBL. FACW, or FAC: $(A'B)$
Б				
7				Prevalence Index workshot:
		- Total Cove	er	OPI species v1.
50% of total cover:	20% of	total cover:		EACW species x2
	. IF-	1	T 14	FAC SORCIES x 3 =
1. Janducis profes (Mr. Constitutist		¥	PACW	FACU species x 4 =
2	····			UPL species x 5 =
*				Column futals: (A) (B)
* 5				
6	-			Prevalence Index - B/A
7.				Hydrophytic Vegetation Indicators:
8.				
9				2 - Dominance Test is >50%
	15	- Total Cove	s.	3 - Prevalence Index is \$3.0
50% of total cover: <u>7.5</u>	20% of	total cover:		data in Remarks of para construct should
Herb Stratum (Plot size: <u>\$</u>)		,		Problematic Hydronbylic Venetation (Evolution)
1. Ingetives Commissis	/5	<u> </u>	FAIN	receiverer i jerebiljere volgetetten ferskennt
2. <u>Const 50.</u>				¹ Indicators of hydric soil and wetland hydrology must
3. <u>1997</u>	<u></u>			be present, unless disturbed or problematic.
4. Yorks service	<u> </u>		<u> </u>	Definitions of Four Vegelation Strata:
$5 - \frac{5}{2} \sum_{n=1}^{\infty} \frac{1}{n} \sum_{n=1}^{\infty} $			14(Free - Woody plants, excluding vines, 3 in. (7.6 cm) or
D. Jungers many (ver completing) (southing)			Arw	more in drameter at breast height (DBH), regardless of
P				neight.
9		·		Septing/Shrub – Woody plants, excluding vines, less
10				man sin, bon and greater than or equal to 5.26 k (1
11.				Hade All backware we word A shall corrections
	50	= Total Cove	н	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 25	20% of	total cover:_	10	Wraedu wrae - All wraedu wraes greater (hae 2,22 ft in
Woody Vine Stratum (Plot size: 20)				height.
1				
2				
3				
4				Hydrophylic
5				Vegetation Present? Ves No
57% of total cover	20% of	= Total Cove Total cover:	şr.	
Bernarks: /include photo numbers here or on a separate st		total cover.		
	li f			
Anythat \$127 adjusted due the size at its	Alm			
** - vaid Attel genss and selse species	and the	$LH \gtrsim$	m. Kshi	.+

VEGETATION (Four Strata) – Use scientific names of plants.

Depth	Matrix			Redo	x Features	i			
(inches)	Calor (mgist)	<u>%</u>	Color	moist)	<u>%</u>	lype'	1.007	Texture	Remarks
0-121	2.59 4/1	<u>90</u>	54 <u>R</u>	ч/ч.	13	<u> </u>	<u>~</u>	5:10	
								·	
								·	
Type: C≖Co Iudele Soit I	oncentration, D=Deple Indicators	etion, RM-	Reduced	Matrix, MS	i=Masked	Sand Gra	105	Location: PL:	-Pore Lining, M=Mabix. ors for Problematic Hydric Soils ³ :
Histosol Histosol Biack Hi Hydroge Stratified 2 cm Mu Depleter Thick Dz Sandy M MLR4	(A1) oipedon (A2) stic (A3) in Sulfide (A4) i Layers (A5) ick (A10) (LRR N) d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) (Li A 147, 148)	(A11) RR N,	Da Po Th De Re Re Re Iro	rk Surface lyvalue Be in Dark Su amy Gleye pleted Mai dox Dark S pleted Dar dox Depre n-Mangani MI RA 138	(S7) low Surface (S9) d Matrix (F Jix (F3) Surface (F k Surface ssions (F6 ese Masse 5)	e (S8) (M (MLRA 1 72) 6) (F7) 9) 93 (F12) (U	ILRA 147, 47, 148) -RR N,	2 c 148)Co Pie Ve Ve Oi	m Muck (A10) (MLRA 147) ast Prame Redox (A16) (MLRA 147, 148) comont Hoodplain Soils (F19) (MLRA 136, 147) ry Shallow Dark Surface (TF12) her (Explain in Remarks)
Sandy G Sandy R Stripped lestrictive I	ileyed Matrix (S4) Redox (S5) Matrix (S6) ayer (If observed):		Un Pie Re	abric Surfa admont Flo d Parent N	v ce (F13) (i odplain So falenal (F3	MLRA 13) bils (F19) 21) (MLRA	6, 122) (MLRA 14 A 127, 147	¹ Indic (8) wet) (1) unle	ators of hydrophytic vagetation and and hydrology must be present, ss disturbed or problematic.
Туре:									/
Depth (in:	thes):							Hydric Soil P	resent? Yes 🗹 No 🔜

Remarks:

WETLAND	DETERMINATI	ON DATA FORM	– Eastern Mountai	ins and Piedm	ont Region	
Project/Site: Constal Court	the Enersy	Слу/С	County: Corroll Co.		Sampling Date:	23 Ap. 1 204
Applicant/Owner: Always	Power			State: CH	Sampling Point	we but
Investigator(s): mile M.	minuli and P	Lesta Smith Secti	on, Township, Range:	528 714N	fsw	·
Landform (billslope, tenace, etc.):	1. History	Local rel	lief (concave, convex, no	nel: (w.exx	Slop	e (%): /5テラジ
Subsection (LDB or MLDA): (11)	<u> </u>	. Mabon	loog: 71	1 0561	Setur	MAD 51
		d and a	c set de la la cong	n)		
Soil Map Unit Name: <u><u><u>vvv57m</u></u></u>	ingland Usher	- 5117 15mm 1		2/ NWI classific	alion: <u>CP ~</u>	
Are climatic / hydrologic condition	s on the site typical	for this time of year? If	res No	(ii no, explain in R	emarks.j	/
Are Vegetation Soil	_, or Hydrology	significantly distur	rbed? Are 'Norma	il Circumstances" p	resent?Yes 🚄	No
Are Vegetation, Soil	, or Hydrology	naturally problem	atic? (If needed,	explain any answe	rs in Remarks.]	
SUMMARY OF FINDINGS	Attach site r	map showing san	npling point locati	ons, transects	, important fe	atures, etc.
Hydrophylic Vegetation Present Hydric Soil Present? Wetland Hydrology Present? Remarks:	? Yes Yes Yes	No No No	Is the Sampled Area within a Wetland?	¥es	_ No	
HYDROLOGY Wetland Hydrology Indicators	 	-		Second:=y Indica	Nors (minimum of t	
Primary Indicators (minimum of e	one is required; che	ck <u>all that apply)</u>		Surface Soil	Cracks (86)	
Surface Water (A1)	_	True Aquatic Plants	(B14)	Sparsely Veq	getated Concave S	Surface (B8)
High Water Table (A2)	_	Hydrogen Sulfide Od	lor (C1)	Drainage Pa	ttems (B10)	
Saturation (A3)	_	Oxidized Rhizospher	es on Living Roots (C3)	🔄 Moss Trim Li	ines (B16)	
Water Marks (81)		Presence of Reduce	d Iron (C4)	Dry-Season	Water Table (CZ)	
Sediment Deposits (B2)	_	Recent Iron Reduction	m in Tilled Soils (C6)	Crayfish Bun	rows (C8)	
Drift Deposits (H3)	_	_ Thin Muck Surface ([7]	Saturation Vi	isible on Aerial Ima	igery (C9)
Algal Mat or Crust (B4)	_	Other (Explain in Rei	marks)	Stunted or S	tressed Plants (D1) [
Iron Deposits (B5)				Geomorphic	Position (D2)	1
Inundation Visible on Aerial	Imagery (87)			Shallow Aqu	(tard (D3)	
Water-Stamed Leaves (B9)				Microlopogra	aphic Reset (D4)	
				FAC-Neural	(D3)	
Field Observations:	/	- Double (contract)				
Surface Water Present?		Z Depth (incres):				
Water Table Present?	(es No	Z Depth (inches):	— I			
includes capillary fringe)	/es No _~	_ Depth (incries):	wettend	Hydrology Presen	IC/ THS	NO
Describe Recorded Data (stream	a gauge, monitoring	well, acrial photos, pre	vious inspections), if avi	ailable:		
Remarks:						
					. –	

VEGETATION (Four St	rata) – Use scientific	names of plants.
---------------------	------------------------	------------------

Sampling Point: we B -r

	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Ptot size: <u>35</u>)	% Cover	Species?	Status	Number of Dominant Species
1. Privar's Secrition	20		FALL	That Are OHL, FACW, or FAC: (A)
2. Anna million	15	·	FAIL	
2 Almer rolling	15		FAC	Total Number of Dominant 7 Sections Access All Strates (B)
a			<u> </u>	
4				Percent of Dominant Species
5		·		That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	3.0	 Total Cove 	ar N	
50% of total cover: <u>4 7</u>	20% of	total cover:	0	
Sapling/Shrub Stratum (Plot size: / / / / / / / / / / / / / / / / / / /		1		FACW Spoules x 2
1. Lose multillion	30	· —	FAIL	FAC species x .s =
2. P-bus allestimiteris	10	<u> </u>	FAV✓	FACU species X 4 e
3 Proper Secolina			FALM	UPL species x 5 =
4.				Column Totals: (A) (B)
۹				
c		·		Prevalence Index - B/A
o				Hydrophytic Vegetation Indicators:
<i>1</i>		·		1 - Rapid Test for Hydrophytic Vegetation
B		·		2 - Dominance Test is >50%
9		·		3 Prevalence Index is ≤3.0 ¹
	<u> </u>	= Total Cove	a a	4 - Morphological Adaptations' (Provide supporting
50% of total cover: <u>34-5</u>	20% of	total cover:	<u>'</u> '	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)	-	,		Broblematic Mydronbytic Verenation ¹ (Explain)
1. Peterhylon geldeden	_5	·	FAC	- Elonesitorio Likeroktilite sefleranen Tenkrenik
7 Pull Sove in	54		FAC	
3. Poly Hickory repustich ily	5	V	FACU	Indicators of hydric soil and wetland hydrology must
4. Condening constants	3		FACU	Deficience of Four Venetation Strates
5 Rec - Hilbr	1		FALV	Demnitions of Four Vegetation Strate:
o that there			E	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
a st. 12 C. a Place			EALU	more in diameter at breast height (DHH), regardless of
T. Co. Manager Providence	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	·	-14	height.
B. <u>6 tive grains</u>		·	FAC	Sapling/Shrub - Woody plants, excluding vines, less
9. Importions Copannis			1 91 - 1	than 3 in. DBH and greater than or equal to 3.28 ft ()
10				m) tall.
11				Herb – Alf herbaceous (non-woody) plants, regardless
	3	= Total Cove	er	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 15.5	20% of	total cover:	6.2	Wendumen Allowed wines graphs than 2.28 ft in
Woody Vine Stratum (Plot size:3e)				heicht.
1. Texcolondres indican	5"	1	Fac	
2.				
7				
3		·		
۹ -			<u> </u>	Hydrophylic
5	~			Vegetation Present 7 Ves No
	<u> </u>	 Total Cove 	er i	
50% of total covor: _ Z · >	20% of	total cover:		
Remarks: (include photo numbers here or on a separate sl	heet.)			

Profile Descr	iption: (Describe to	o the depth n	esded to docum	ent the indi	icator o	r confirm	the absence of indicators.)
Depth	Matrix		Redox	Features			
(inches)	Color (moist)	<u>%</u> (Jolar (maist)	<u>%</u> 1	íype' .	l oc'	Texture Remarks
01	1042 413	100		_	_	-	silo
	tone who		_				<u> </u>
<u>- 1. 1</u>	1091 179	100					2.00
·							
- · · · · · ·							
İ ·							
- · ·							
·							
.							
¹ Type: C-Co	ncentration, D-Deple	tion, RM-Red	luced Matrix, MS-	-Masked Sa	and Grai	ins.	² Location• PL=Pore Lining, M-Matrix.
Hydric Soil Ir	dicators:						Indicators for Problematic Hydric Soils ³ :
Bistosol (A1)		Dark Surface ((\$71			2 cm Muck (A10) (MLRA 147)
Histic Epi	pedon (A2)	_	Polyvalue Belo	w Surface	(S8) (MI	LRA 147. ⁻	148) Coast Prairie Redox (A16)
Black His	lic (A3)	_	Thin Dark Surf	lace (S9) (M	ILRA 14	17, 148)	(MLRA 147, 146)
Hydrogen	Sulfide (A4)	_	Loamy Gleved	Matrix (F2)	I		Predmont Floodplain Soils (F19)
Stratified	Layers (A5)	_	Depleted Matri	ix (F3)			(MLRA 136, 147)
2 cm Muc	k (A10) (LRR N)		Redox Dark Si	urface (F6)			Very Shallow Dark Surface (TF12)
Depireted	Below Dark Surface	(A11)	Depleted Dark	Surface (F	7)		Other (Explain in Remarks)
Thick Dar	k Surface (A12)		Redox Depres	sions (F8)			
Sandy Mu	ucky Mineral (S1) (LF	RR N,	Iron-Manganes	se Masses ((F12) (L	RR N,	
MIRA	147, 148)		MLRA 136))			
Sandy Gl	eyed Matrix (S4)	_	Umbric Surface	e (F13) (ML	RA 136	i, 122)	³ Indicators of hydrophytic vegetation and
Sandy Re	dox (55)	_	Piedmont Floo	dplain Soils	(F19) (MLRA 148	welland hydrology must be present.
Stripped t	Matrix (S6)	_	_ Red Parent Ma	alenal (F21)	(MI RA	127, 147)) unless disturbed or problematic.
Restrictive La	ayer (if observed):]]
Туре:							
Depth (inc)	ies):						Hydric Soil Present? Yes No
Bomarker							1

Remarks.

WETLAND DETERMINATION DATA F	FORM – Eastern Mountains and Piedmont Region
Projecusite: Currell Comb Enorgy	City/County: Carcell C. Sampling Date: 23 Apr 1
Applicant/Owner: Havary Pour	State: CV/ Sampling Point: 102 C
Investigator(s): Milly Mussenel, and fisher Sont	Section, Township, Range: 528, 714N, RSW
Landform (hillslope, terrace, etc.):	Local relief (concave, convex, none): Concave Slope (%): Con
Subregion (LRR or MLRA): LFF N 1at: 40.604	3 Long: 31,0603 Deturn: 1.40 54
Soil Man Unit Name: Brike shale silt form 15-25	1/2 Joers (BKD) NWI classification: PEM Cart men
Are climatic / hydrologic conditions on the site typical for this time of	(vear? Yes No (if no, explain in Remarks.)
Are Venetation Spil or Hydrology significan	ntly disturbed? Are "Normal Circumstances" present? Yes / No
Are Vegetation Soil or Hydrology paturally	problematic? (If needed, oxplain any answers in Remarks.)
SLIMMAADY OF FINDINGS - Attach site man showin	na samplina point locations, transacts, important features, e
	ng aamping point locations, libitsoots, important reations, e
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: No No Within historic diffet missideslaft;	Is the Sampled Area within a Wetland? Yes No
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required
Primary Indicators (minimum of one is required; check all that appl	ly] Surface Soil Cracks (B6)
. ▼ Surface Water (A1) If us Aqualic High Water Table (A2) High and St	C Plants (B14) Sparsely vegetated Concave Sufface (B8)
Saturation (A3) Ovidized Rhi	izosoberes on Liviuo Roots (CX) Moss Tom Lines (B16)
Water Marks (B1) Presence of	Reduced Iron (C4) Div Season Water Table (C2)
Sediment Deposits (B2) Recent Iron I	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck S	Surface (C7) Saturation Visible on Acrial Imagery (C9)
Algal Mat or Crust (B4) Other (Expla	ain in Remarks)Stunted or Stressed Plants (D1)
Iron Deposits (85)	🗹 Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microlopographic Reliat (D4)
Aquatic Fauna (B13)	FAC-INEQUIAR LESU(05)
Field Observations: Surface Mister Present? Your Mo Death (arth	act. 0.15
Water Table Present? Yes No Depth (inch	· · · · · · · · · · · · · · · · · · ·
Saturation Present? Yes Vo Depth (mch	es): L' Wetland Hydrology Present? Yes 🗸 No
(includes capiliary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial ph	otos, previous inspections), if available:
Remarks: Surface water in pertian of wetland	

Sampling Point: w/L/C

VEGETATION (Four Strata) – Use scientific r	names of	plants.		Sampling Point: <u>k/L <</u>
. 19	Absolute	Dominant	ndicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>10 ×</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC; (A)
2				1 otal Number of Dominant
3				Species Across All Strata: (B)
45				Percent of Dominant Species 100
6				
······································				Prevalence Index worksheet:
r		– Lotal Cove		Total % Cover of: Multiply by:
50% of total cover:	20% of	- Total cover:	11	OBL species x 1 =
Santion/Shoub Stratum (Plot size: 16 4)				FACW species x 2 =
1 ~~				FAC species x 3
7				FACU species x 4 =
2				UP1 species x 5 =
s			<u> </u>	Column Totals: {A} (B)
а с				
e				Prevalence Index = B/A =
v				Hydrophytic Vegetation Indicators:
··				A - Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cove	ſ	4 - Morphological Adaptations ¹ (Provide supporting
_ 50% of total cover:	X0% 0	total cover:_		data in Remarks or on a separate shoet)
Hero Stratum (Protisize:)	20	1	T.t.	Problematic Hydrophytic Vegetation ¹ (Explain)
L <u>Chirmten's Signalian</u>	·		1400	
2. Las Ammine provident	· <u>· /0</u>		LAC .	Indicators of hydric soil and wetland hydrology must
3. Clinopeline KASALA	. <u> </u>			be present, unless disturbed or problematic.
4. Un [l'um exploring			<u>racy</u>	Definitions of Four Vegetation Strata:
5				Tree – Woody plants, excluding vines, 3 in, (7.6 cm) or
Б				more in diameter at breast height (DBH), regardless of
7			<u> </u>	height.
ð	·			Sapling/Shrub - Woody plants, excluding vines, less
g. <u></u>				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				(B) (B)
11				Herb – All herbaceous (non-woody) plants, regardless
		 Total Cove 	۲.	of size, and woody plants less than 3.28 ft tall.
50% of local cover:	20% 01	total cover:_		Woody vine - All woody vines greater than 3-28 9 in
Woody Vine Stratum (Plot size:/V)				height.
l				
2	·			
3				
4				Hydrophylic
5				Vegetation / Present? Ves No
		= 1otal Cove Total cover	۱C	
50% of total cover:		TOCAL COVER:		<u></u>
* plat sizes a black due to size a	(uith	m		
	•			

Profile Desc	ription: (Describe t	o the depth n	eeded to docum	tent the h	ndicator	or confirm	the absence	of indica	itors.)	
Depth (inches)	Color (moist)		Redou Color (moist)	<u>i Features</u> se	lunal	1007	Tevire		Remarks	
De (2 a	2 5 5 5 M	<u>~</u> _	kuna in li	10	 	<u> </u>		11	Lak & Paur	- 141
0.00	2.57 5/1		N9# 976		<u> </u>			<u> 180 TA</u>	- 5 /- C 1-1-1-1	
									-	
				<u> </u>				·		
							· · —	·		
									·	
¹ Турв: С-Сс	oncentration, DeDept	etion, RM=Red	luced M <u>atrix, MS</u>	-Masked	Sand Gra	ains.	² Location: P	L=lore l	ining, M=Mal <u>rix.</u>	
Hydric Soil I	ndicators:						Indic	ators for	Problematic Hy	dric Soils':
Histosol	(A1)	-	_ Dark Surface Delegation Rel	(S7) Iow Sector	- (CP) (B)	0.0.1.1	1403 2	2 cm MuCk Const 1876	(A10) (MLRA 1) de Rodey (A16)	47}
Black Hu	stre (A3)	-	Polyvalus issi Tibiq Dadt Su	nara (S9)	.С (36) (М (МІ ВА 1	47 1481	146)	MIRA	147 1481	
Hydroge	n Sultide (A4)	_	Loamy Gleye	d Matrix (i	F2)		_ +	riedmont I	Floodplain Soils i	(F19)
Stratified	Layers (A5)	_	C Depleted Mat	ліх (F3)				(MLRA	136, 147)	
2 cm Mu	ick (A10) (I RR N)		Redox Dark S	Surface (F	6)		<u> </u>	Very Shalli	ow Dark Surface	(TF12)
	i Belo w Dark Surface → Surface (*12)	(A11) _	_ Depleted Dari Redex Depart	k Surface science (FF	(F7) D		0	Diher (Exp	ain in Remarks)	
Trick Da Sanda M	irk Stillace (ATZ) turky Mineral (ST) (L	RR N -	Redox Depic	ssions (Fe se Masse	u es (F12) (l	RR N.				
MLRA	(147, 148)		MLRA 138	5) 5)						
Sandy G	leyed Matrix (S4)	_	Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ Inc	dicators of	hydrophytic veg	etation and
Sandy R	edox (S5)	_	_ Piedmont Flor	odplain Se	oils (F19)	(MLRA 14	8) ww	elland hyd	rology must be p	resent,
Stripped	Matrix (S6)	_	_ Red Parent ₩	laterial (F:	21) (MLR	A 127, 147	') ur	niess distu	rbed or problema	atic.
Restrictive L	ayer (if observed):									
Type:							l) -dria Sail	Decembra	2 200 100	No
Depth (int	;nes):			_			Hydric Sol	Present	7 TUS	NO
Remarks:										
dim	sion litch r.	.s.levelil	in 1430's		1 des					
					1 2.001					

WETLAND DETERMINATION DATA FORM	4 – Eastern Moun	ntains and Piedmo	nt Region
Project/Sile: Correll County Energy City	County: Greatt	tourt.	Sampling Date: 23 Apr 1 2013
Applicant Dispars Advance Para		State: CH	Sampting Point: WL D
Investigator(s) mille M-scineli and Aresta Smith see	tion, Township, Range	E 528, 714N RS	· · · · · · · · · · · · · · · · · · ·
Eandform (hillslope, terrace, etc.): dependent of the Local (elief (concave, convex	c. none): <u>(**********</u>	Slope (%) <u>0 ~2</u>
Subregion (LRR or MLRA): LRR N Lat: 44.6049	Long	-11.0604	Datum:56
Soil Man Unit Name Cullev Kn Silt losm, 3-8% slug	م (۲۰ 8)	NWI classifica	tion: PEM (not mypel)
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No	((f no, explain in Ro	marks.)
Are Vegetation, Soil, or Hydrology significantly dist	urbed? Are "No	mal Circumstances' pr	esent? Yes 🔽 No 🔜 👘
Are Vegetation , Spil, or Hydrology naturally proble	matic? (If neod	ed, explain any answers	s in Remarks.)
SUMMARY OF FINDINGS - Attach site man showing sa	moling point loc	ations transects	important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks: Dooln fill dynamics in historic diversion life from	Is the Sampled Ar within a Welland?	Yea Yes	No
	·	Casa dans ladiant	(
Wetland Hydrology Indicators:		Secondary Indicate Surfuse Sed C	ors (minimum or (wo requ <u>irear</u>
<u>Frinnary indicators (minimum or one is required; check an mat apply)</u>	- (814)	Sunace Son C	Natura (199)
Hinh Water Table (A2) Hydronen Sulfide ()dor (C1)	Drainage Patt	ems (H10)
Saturation (A3) Oxidized Rhizosoh	eres on Living Rools ((C3) Moss Trim Lin	es (B16)
Water Marks (B1) Presence of Reduc	ed Iron (C4)	Dry-Season W	later Table (C2)
Sedurient Deposits (B2) Recent Iron Reduc	tion in Tilled Soils (C6)	Crayfish Burro	ws (C8)
Drift Deposits (B3) Thm Muck Surface	(C7)	Saturation Vis	ible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R	emarks)	Stunted or Str	essed Plants (D1)
from Deposits (B5)		🖌 Geomorphic P	osition (D2)
Imundation Visible on Aerial Imagery (B?)		Shallow Aquit-	ard (D3)
✓ Water-Stained Leaves (B9)		Microlopograp	ohic Relief (D4)
Aqualic Fauna (B13)		- FAC-Neutral I	est (D5)
Field Observations:			
Surface Water Present? Yes No Depth (inches):			
Water Table Present? Yes <u>No</u> Depth (inches):			/
Saturation Present? Yes No Depth (inches): (includes capillary fringe)	Wettai	nd Hydrology Present	? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	evious inspections), if	f available:	
Remarks:			

VEGETATION (Four Strata) - Use scientific r	ames of	plants.		Sampling Point: we a
. .	Absolute	Dominant d	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Hot size: <u>10</u>)	<u>% Cover</u>	Species?	Status	Number of Dominant Species / / (A)
2.				
3				Total Number of Dominant (Species Across All Strata) (B)
4	·		•	
4	·			Percent of Dominant Species / 0 0
5	·			That Are OBL, FACW, or FAC: (A/B)
б	·			Provelonce Index worksheet
7,				final R. Course of Multiply by
		- Total Cove	эг	<u> </u>
50% of total cover:	20% of	total cover:_		UBL species x 1 =
Sapling/Shrub Stratum (Plot size:)				FACW species × 2 =
1. 				FAC species x 3 =
2				FACU species x 4 ~
<u></u>	•			UPL species x 5 =
	·			Column Totals: (A) (B)
a	·			
5				Prevalence index = H/A =
б				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
B				∇_2 . Dominance Test is 550%.
9				2 Exemplose lader is <2.0 ¹
		- Total Cove	۶C	
50% of total cover:	20% of	total cover:_		4 Morphological Adaptations (Provide supporting
Herb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
1. According standy	30	1	Farw	Problematic Hydrophytic Vegetation (Explain)
7 A			Die	
S P I S PI			= 44	Indicators of hydric soil and wetland hydrology must
3. (4+1644.) Jarna 19++	·			be present, unless disturbed or problematic.
4. 142000 ptd vsrs				Definitions of Four Vegetation Strata:
5	·			Tree – Woody plants, excluding virues, 3 in, (7.5 cm) or
6	- <u>-</u>			more in diameter at breast height (OBH), regardless of
7				height.
ช				Santino/Shrub Woody plants excluding waves 1995
9				than 3 in. DBM and greater than or equal to 3.28 ft [1
10.				m) tall.
11				that at he have us then we do here an under
···-	53	- Total Cove		of size and woody plants less than 3.28 ft tail.
50% of Intel cover: 24.4	20% of	total cover-	10.6	
Mande Man Statum (Mal size: 10				Woody vine - All woody vines greater than 3.28 ft in
<u>recevy vale priotoni</u> (natistas, <u>to</u>)				neignit.
1. <u>+</u>				
2				
3				
4				Hydrophysic
5				Vegetation
		- Total Cove	er	Present? Yes No
50% of total cover:	20% of	lotal cover:_		
Remarks: (include photo numbers here or on a separate :	sheet.)			· · · · ·
	-			
*- plat sizes ali-stil las to size of wit	11			

2.5Y 5// 32 548 5/6 20 C n sich/o	ALC: 107211	Color (mainx	<u> </u>	Color (moist)	DX Febiures %	1vpe	Loc ⁷	Texture	Remarks
Prime 2.5 yr 3.6 yr 3.6 yr 3.6 rd Prime 2.5 yr 3.6 rd 3.6 rd 3.6 rd Period Period 2.5 rd 3.6 rd 3.6 rd Period Period Period 2.5 rd 3.6 rd Period Period Period 2.6 rd 3.6 rd 3.6 rd Period Period Period 2.6 rd 3.6 rd<			30		- <u>~~</u> .			16	
pe: C=Cancentration, D=Depletion, RM=Reduced Matrix, MS=Maskad Sand Grains. 'Location: PL-Pore Lining, M-Matrix. fric Soll Indicators: Indicators for Problematic Hydric Solls' Histosol (A1)	/* 14 +			5 7K 276		<u> </u>	<u></u> .	210110	
pe: C=Concentration, D=Depletion, RM-Reduced Matrix, MS=Maskod Sand Grains. /Location: PL-Pore Lining, M-Matrix. indicators in indicators: Indicators for Problematic Hydric Soils? Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histosol (A2) Polyvalue Below Surface (S9) (MLRA 147, 148) Coast Praine Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) MLRA 147, 148) Kistilde Layers (A5) Depleted Matrix (F2) Predmant Floodplain Soils (F19) Straffied Layers (A5) Depleted Dark Surface (F6) Very Shallow Dark Surface (F17) Depleted Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Informatic F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and wetland hydrotogy must be prasent. Sandy Redox (S5) Predmant Floodplain Soils (F19) (MLRA 127, 147) Indicators of hydrophytic vegetation and wetland hydrotogy must be prasent. Stripped Matrix (S4) Umbric Surface (F12) (MLRA 127, 147) Indicators of hydrophytic vegetation and wetland hydrotogy must be prasent. Stripped Matrix (S4) Predmant Floodplain Soils (F19) (MLRA 127, 147) Indicators of hydrophytic vegetation and wetland hydrotogy must be prasent. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
pe: C=Concentration, D=Depletion, RM-Reduced Matrix, MS=Maskod Sand Grains. /Location: PL-Pore Lining, M-Matrix. Indicators: Indicators for Problematic Hydric Soils Indicators for Problematic Hydric Soils Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (ML RA 147) Histosol (A2) Polyvalue Below Surface (S8) (ML RA 147, 148) Coase Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (ML RA 147, 148) Coase Prairie Redox (A16) Hydrogen Sulfade (A4) Loamy Gleyed Matrix (F2) Pedonont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (ML RA 136, 147) Depleted Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Dark Surface (F13) Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbrit Surface (F13) (ML RA 126, 142) Indicators of hydrophytic vegetation and wetland hydrotogy must be prasent, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (ML RA 127, 147) Indicators of hydrophytic vegetation and surface (F03) (ML RA 147, 148) Stripped Matrix (S6) Red Parent Material (F21) (ML RA 127, 147) Indicators of hydrophytic vegetation and surface (F10) (S01 Present? Yes No Spetint (inches): Hydric Soil Prese									
pe: C-Concentration, D=Dapletion, RM-Reduced Matrix, MS=Masked Sand Grains. 'Location: PL-Pore Lining, M-Matrix. Indicators: Indicators: Indicators for Problematic Hydric Soils' Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147) Histic Epipodan (A2) Polyvalue Below Surface (S8) (MLRA 147, 148) (MLRA 147, 148) Putrogen Suffade (A4) Loamy Gleyed Matrix (F2) Pedyoratic Floodplain Soils (F19) Strafiled Layers (A5) Depleted Matrix (F2) Pedyoratic Floodplain Soils (F19) Other (LIRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (F17) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) Metan 1360 Stripped Matrix (S4) Umbrit Surface (F21) (MLRA 146, 122) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S4) Indicators (F21) (MLRA 147, 148) Hydrology must be present, unless disturbed or problematic. Stripped Matrix (S4) Indicators (F21) (MLRA 147, 148) Hydrology must be present, unless disturbed or problematic. <									
pe: C=Concentration, D=Dapletion, RM-Reduced Matrix, MS=Maskod Sand Grains. /Location: PL-Pore Lining, M-Matrix. fric Soll Indicators: Indicators for Problematic Hydric Soils' Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MI RA 147) Histosol (A2) Polyvalue Bolow Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfido (A4) Loarny Gleyed Matrix (F2) Pedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 147, 148) Depleted Matrix (F3) Other Surface (F6) Very Shallow Dark Surface (1F17) Depleted Dark Surface (F6) Very Shallow Dark Surface (1F17) Other (Explain in Hemarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 136, 122) Sandy Redox (S5) Pedmont Floodplain Soils (F19) (MLRA 148, 147) Very Shallow Dark Surface (F13) (MLRA 148, 147) Stripped Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegatation and welland hydrotogy must be present. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 148, 147) Irolicators of hydrotogy must be present. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 147, 148) Irolicators of hydrotogy must be present. Stripped Matrix (S6) Red Parent Material (F21) (·		,					
pe: C-Concentration, D=Depletion, RM-Reduced Matrix, MS=Masked Sand Grains. ¹ Location: PL-Pore Lining, M-Mainx. Indicators: Indicators: Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (MLRA 147, 148) Histic Epipodon (A2) Polyvalue Below Surface (S9) (MLRA 147, 148) Cosst Prane Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) MLRA 147, 148) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F3) Predmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) MLRA 136, 147) Depleted Matrix (F3) MLRA 136, 147) Other (Explain in Hemarks) Thick Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Hemarks) Thick Dark Surface (A12) Redox Dark Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrotogy must be present. Sandy Mucky Mineral (S1) (LRR N, Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and wetland hydrotogy must be present. Stripped Matrix (S4) Umbric Surface (F13) (MLRA 127, 147) Unless disturbed or problematic. Stripped Matrix (S5) Red Parent Material (F21) (MLRA 127, 147) ¹ Indicators of hydrophytic vegetation and wetland hydrotogy must be present. Stripped Matrix (S6) Red Pa									
pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ¹ Location: PL=Pore Lining, M=Mainx. dric Soll Indicators: Indicators: Indicators: Histosol (A1)									
pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 'Location: PL-Pore Lining, M-Matrix. dric Soil Indicators: Indicators for Problematic Hydric Soils' Histosol (A1)									
pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. 'Location: PL-Pore Lining, M-Matrix. dric Soll Indicators: Indicators for Problematic Hydric Solls' Histosol (A1)									
pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. /Location: PL-Pore Lining, M-Mainx. Indicators: Indicators for Problematic Hydric Soils? Histosol (A1)								<u> </u>	
pe: C=Concentration, D=Depletion, RM-Reduced Matrix, MS=Masked Sand Grains. ¹ Location: PL-Pore Lining, M-Matrix. dric Soll Indicators: Indicators: Indicators for Problematic Hydric Solfs ¹ Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (ML RA 147) Histic Epipodon (A2) Polyvalue Below Surface (S6) (MLRA 147, 148) Coast Prairie Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) (MLRA 147, 148) Hydrogen Sulfide (A4) Learny Gleyed Matrix (F2) Predmont Floodplain Solis (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (F17) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Sandy Gleyed Matrix (S4) Umbrit Surface (F13) (MLRA 136, 122) ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Stripper									
per: C=Concentration, D=Dapletion, RM=Reduced Matrix, MS=Masked Sand Grains. 'Location: PL-Pore Lining, M-Matrix. dric Soll Indicators: Indicators for Problematic Hydric Solfs' Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (ML RA 147) Histo Epipodon (A2) Polyvaluo Below Surface (S8) (ML RA 147, 148) Coast Prance Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (ML RA 147, 148) (ML RA 147, 148) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Predmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (ML RA 147, 148) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Stripped Matrix (S6) Red Parent Material (F21) (ML RA 148) vertiand hydrotogy must be present, Stripped Matrix (S6) Red Parent Material (F21) (ML RA 148) vertiand hydrotogy must be present, Uniperiod (inches):									
dric Soll Indicators: Indicators for Problematic Hydric Solls ² Histosol (A1)	ne: C=C	oncentration D=Dan	etion RM_Re	duced Matrix, M	S ₂ Masked	Sand Grai	ns. –	Location: Pl	-Pore Linino, M-Matrix,
Histosol (A1)	dric Soll	Indicators:			0-1100100	34110 0131		Indica	ators for Problematic Hydric Soils
Histic Epipodon (A2) Polyvalue Below Surface (S6) (MLRA 147, 148) Coast Prartice Redox (A16) Black Histic (A3) Thin Dark Surface (S9) (MLRA 147, 148) Coast Prartice Redox (A16) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Predmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (1F17) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Stripped in fincters: Findex for a fincter for a findex for	Histoso	(41)		Dark Surface	e (S7)			2	cm Muck (A10) MI RA 147)
Black Histic (A3)	Histic Fr	ninodaa (A2)	-	Polyvalue Br	elow Surfac	e (S8) (M I	RA 147. 1	48) C	oasi Prairie Redox (A16)
Hydrogen Sulfide (A4) Loamy Gleved Matrix (F2) Ptedmont Floodplain Soils (F19) Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (IF12) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F6) Very Shallow Dark Surface (IF17) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and Sandy Redox (S5) Prediment Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Stripter	Black H	istic (A3)	-	Thig Dark St	urface (S9)	14 RA 14	7. 148)	··· _ ·	ML RA 147, 148)
Stratified Layers (A5) Depleted Matrix (F3) MLRA 136, 147) 2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (1F17) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (hxptain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Very Shallow Dark Surface (1F17) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (hxptain in Remarks) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) Indicators of hydrophytic vegetation and Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strippe:	Hydroor	en Sulfide (A4)	-	Loamy Glev	ed Matrix (F	2)	.,,	P	redmont Floodplain Soils (F19)
2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Very Shallow Dark Surface (1F17) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, Other (Explain in Remarks) MLRA 147, 148) MLRA 136) *Indicators of hydrophytic vegetation and Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strippet	Stratifie	d Lavers (A5)		Depleted Ma	atrix (F3)	-,		_	(MLRA 136, 147)
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Other (Explain in Remarks) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strippe:	2 cm Mi	uck (A10) (LRR N)	-	Redox Dark	Surface (F6	1]		V	ery Shallow Dark Sulface (1F12)
Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbrit Surface (F13) (MLRA 136, 122) Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) Strictive Layer (if observed): Type: Type: Hydric Soil Present? Yes Inarks: Sindy Solo (S1)	Deplete	d Below Dark Surface	(A11)	Depleted Da	rk Surface	F7)		_ 0	ther (Explain in Remarks)
Sandy Mucky Mineral (S1) (LRR N, Iron-Manganese Masses (F12) (LRR N, MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbrit Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strictive Leyer (if observed): Type: Type: Depth (inches): Hydric Soil Present? Yes No marks: Indicators of Light (inches): 19303	Thick D	ark Surface (A12)		Redox Depr	essions (FB)			_	
MLRA 147, 148) MLRA 136) Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophylic vegetation and solds (F19) (MLRA 148) Sandy Redox (S5) Pedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. Strictive Leyer (if observed): Hydric Soil Present? Yes No Depth (inches): Hydric Soil Present? Yes No narks: Indicators of hydrophylic vegetation and hydrology must be present.	Sandy M	Mucky Mineral (S1) (L	RR N,	Iron-Mangar	iese Masse	s (F12) (LR	RR N,		
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122) ³ Indicators of hydrophytic vegetation and solds (S5) Sandy Redox (S5) Pedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Leyer (if observed):	MLR/	A 147, 148)		MLRA 13	36)				
Sandy Redox (S5) Predmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic. Stripped Matrix (S6) Red Parent Material (F21) (MLRA 127, 147) unless disturbed or problematic. strictive Leyer (if observed):	Sandy C	Gleyed Matrix (S4)	-	Umbric Surfa	ace (F13) (N	ALRA 136,	122)	³ Indi	icators of hydrophytic vegetation and
Stripped Matrix (S6)	Sandy F	Redox (S5)		Predmont Fl	oodplain So	ils (F19) (N	ILRA 148) we'	tland hydrology must be present,
Strictive Leyer (if observed): Type: Depth (inches): marks: So biostectic diversion differ (misterial in 1930)	Stripped	i Matrix (S6)	-	Red Parent I	Material (F2	1) (MLRA	127, 147)	uni	less disturbed or problematic.
Type: Depth (inches): Hydric Soil Present? Yes No narks: In highlande diversion dident constructed in 19303	strictive	Løyer (if observed):					[
Depth (inches):	Туре: 🔛			_					
narks: In historie ditch constrail in 1930s	Depth (in	ches):		_				Hydric Soil	Present? Yes No
In hospile. The diversion dilled constructed in 1930s.	marks:							-	
In hostelle diversion diffet emisterable in 1930s									
		State Sugar	delet a	- house	193.5				
	In hò								
	In hÒ								
	<i>Σ</i> η μ θ								
	In hò								
	In hà								
	<u>Ση</u> μθ								
	In hÒ								
	<u>Ση</u> μθ								
	<u>ጉ</u> ጉፅ								
	<u>Ση</u> μθ								
	รา ได้								
	<u>-</u> 50 hò								
	<u>3</u> 0 hò								
	<u>3</u> 1 hò								
	<u>3</u> 0 hò								
	<u>3</u> 1 hò								
	<u>3</u> 1 hò								
	5n hÒ								

WETLAN		TION DATA FORM	- Eastern Mounta	ins and Piedmon	it Region
Project/Sne: Correll G	andy Enoisy	City/	County: Control G	\$	ampling Date: 23 Arr. 1 201
Anglicant/Owner: Hovers	few-1			State: OH	Samplang Point: wet c/A .
Investigator(s): M:14 M	teneral ent to	when Smith sou	ion Townshin Rango	528 714N RS	
Investigator (sp	an a lifetere		tel (neuerine eneuerine)		Close (M) D (v)
i androimi (milisiope, teitace, e	(C.): <u>6.1(5)0</u> 22	Locarte	iller (concave, convex, lic	21 5745	
Subregion (LRR or MLRA):		at 40.600,6	Long: <u>` č</u>	11,000.1	Deturn:00000000000000
Soil Map Unit Name: <u>わっメ</u>	s shalp silt le	orm, 15-257- Jul	~s (BKD)	NWI classificati	on:
Are climatic / hydrologic condi	tions on the site typic:	al for this time of year?	Yes 📝 No	(If no, explain in Rem	harks.)
Are Vegetation Soil	or Hydrology _	significantly distu	rbed? Are "Norrus	al Circumstances' pres	sent? Yes 🗹 Na 🔜
Are Vogetation . Soil	. or Hydrology	naturally problem	atic? (If needed,	explain any answers i	in Remarks.)
	ICS Attach cite	map chowing say	naling point locati	one transacte i	mood ant features atc
SUMMART OF FINDIN	G5 – Attach Site	map showing sar	npang ponk locari		···
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	vent? Yes Yes Yos	No No No	is the Sampled Area within a Wetland?	Yes	No
HYDROLOGY					
Wetland Hydrology Indicat	ors:			Secondary Indicator	s (minimum of two required)
Primary Indicators (minimum	of one is required; ch	eck all that apply)		Surface Soil Cra	acks (B6)
Surface Water (A1)		True Aquatic Plants	(814)	Sparsely Venel	ated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Od	lor (C1)	Dreinage Patter	ns (B10)
Saturation (A3)	-	Oxidized Rhizosphe	res on Living Roots (C3)	Moss Trim Line	s (B16)
Water Marks (B1)	-		d Iron (C4)	Dry-Season Wa	ter Table (C2)
Sediment Deposits (B2)	-	Recent Iron Reduction	on in Tilled Soils (C6)	Crayfish Burrow	vs (C8)
Drift Deposits (H3)	_	Thin Muck Surface (C7)	Saturation Visib	le on Aerial Imagery (C9)
, Algal Mat or Crust (B4)		Other (Explain in Re	marks)	Stunted or Stres	ssed Plants (O1)
Iron Deposits (B5)				Geomorphic Po	silion (D2)
Inundation Visible on Ae	rial Imagery (B7)			Shallow Aquitar	d (D3)
Water-Stamed Leaves (F	H9)			Microtopograph	ic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutral Te	est (D5)
Field Observations:		/			
Surface Water Present?	Yes No	🟒 Depth (inches):			
Waler Table Present?	Yes No	Depth (inches):			
Soturation Present? (includes capillary fringe)	Yes No	Depth (mchos):	Wetland	Hydrology Present7	Yes No
Describe Recorded Data (sin	eam gauge, monitorin	ig well, aerial photos, pr	avious inspections), if avi	ailable:	
Remarks:					
n Gillaiko.					

-- -- ----

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: wit cipor

3,	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>1ree Shatum</u> (Plot size:)	% Cover	Species?	Status	Number of Dominant Species
1. Acur mechanism	. 5	<u> </u>	$-M\sim$	That Are OBL, FACW, or FAC: (A)
2.				N
3				Local Number of Dominant
				Species Across All Strata:
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/H)
6				
7.				Prevalence Index worksheet:
	5	Tabul Car		Total % Cover of: Multiply by:
som et	5 2001 -1		ar J	OBL species x 1 -
50% di total cover:	20% or	total cover:		
Sapling/Shrub Stratum (Plot size: 15)				
1. Post multi Vista	25		FALV	FAC species x 3 =
2.				FACU species x 4
				UPJ species x 5 =
				Column Totals: (A) (B)
a				
5				Drevalence Index - H/A -
6				
7				Hydrophytic vegetation indicators:
a				1 - Rapid Test for Hydrophytic Vegetation
a				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	25	 Total Cove 	er _	A Membeloairal Adaptations ¹ (Provide supporting
50% of total cover: <u>12.5</u>	20% of	total cover:_	5	 4 - Morphological Adaptations (Provide supporting
Berb Stratum (Plot size: 5)				data in Remarks or on a separate sheet)
1 Press 4	4.5	1		Problomatic Hydrophytic Vegetation' (Explain)
i cad t	<u></u>	<u> </u>	-	
2. Sale had Changdonges			<u></u> F46-'	¹ lodeates of hydric soil and walland barbology oust
3. Climpedian velgers			VK	be present, unless disturbed or problematic.
4. Berbarry relancia			Farv	Definitions of Four Vegetation Strates
5	_			Demnicons of Four Vegetation Strata:
c				Tree - Woody plants, excluding vines, 3 in, (7.6 cm) or
B				more in diameter at breast height (DBR), regardless of
7				height.
8				Parliant/Charle Mondu state analytics views loss
9.				ban 3 in DBM and greater than or poughts 3 28 0 ft
10				miarta ni, borrano graniar (nan or equanto a.zo k (n m) tall.
II .	- 1			Herb – Ali herbaceous (non-woody) plants, regardless
00	<u> </u>	 Total Cove 	ег	of size, and woody plants less than 3.28 ft tall.
50% of total cover: <u>> 7</u>	20% of	total cover:_	15.6	Mandu vine Altwoody vines grapter than 2.29 B is
Woody Vine Stratum (Plot size: 30)				height
1.				
2				
۲				
3				
4				Hydrophytic
5				Vebelation
		- Total Cove		Present? Yes No
50% of total cover-	20% m	iolal cover:		
		inter cover		
Remarks: Unclude proto numbers here or on a separato s	heet.)			
*	heet.)	J		
*-milent fiel sizes not included in	<u> </u>	,J		
* include proto numbers nere or on a separato s	<u>–</u> heet.) nKsh	,4		
* include proto numbers nere or on a separato s	<u>—</u> 10000. heet.) nKsh	,J		
* include proto numbers nere or on a separato s	<u>—</u> 10000. heet.) nKsh	, ··· ··		
*	<u>—</u>	,J		
*	<u>—</u> 1999 (m.) heet.) n Ksh.,	, ,-I		
* include photo numbers nere or on a separato s	<u></u> heet.) nKsh			

Profile Desc	ription: (Describe)	to the depth	needed to docur	ment the i	ndicator	or confirm	n the absenc	e of indicators.)
Depth	Matrix		Redo	x Features		10-1	Tauduum	Bam !
[Inches]		<u> </u>	Color (moisi)	<u>%</u>	Type	Loc		Kemarks
0-121	2.57 5/3	10)					570	
						·		
						·		
		<u> </u>						
—· .—								
					••			
					Freed Co.		2	
Type: C=Cr Nucleic Seit	oncentration, D=Depi	elion, HM=Hi	educed Mahrix, Mi	S=MASKOO	Sand Gr	ains.	1 ocation:	PLEPore Lining, MEMatrix.
Hydric Soli	indicators:			10-1			1001	cators for Problematic Hydric Solls :
- Histosol	(Al) Geodes (AC)		Dark Sunace	a (57)	- 10-02-04			Z cm Muck (ATU) (MLNA 147) Genet Duride (Beder (1935)
	pipedon (AZ)		Polyvalue Be Polyvalue Be	alow Surfac	A) (8-3) 9:	ALKA 147,	148)	Coast Maine Redox (A16)
Black Mr	SUC (A3) a Sulfda (84)		Thin Dark St	итасе (59) итасе (59)	IMLHA 1 Cal	47, 146)		(MLKA 147, 148) Diadmant Frandelais Caile (F10)
Hyoroga	n Suilide (A4)		Loainy Gieye	ad Mairix (i Ad Mirix	-2)			Pleamont Floooplain Solis (F19)
	I Layers (A5)		Depieted Ma	101X (F3) 6. đene (H	r: L			(MLKA 135, 147) Mary Charles, Dark Conferenciat 200
2 cm Mu	ick (ATU) (LKRIN) 1 October Deste Continent		Redox Dark :	Surface (Fi	ы) 2017-ж			Very Shallow Dark Sunace (TFT2)
Depieted	DCIOW Dark Surface	(ATT)	Depieted Dat Deday Deers	rk Sunace	(F7) N		—	ourer (Explain in Remarks)
THICK Da	usku Miseral (S1) (L			aso Maasa) ,			
Salidy N	10 CKY MINELAL (ST) (L 147 149)	кк Ν,	ITON-Mangan Mt DA 1a	678 MN228	F (F 1 Z) (LKRN,		
Sandy G	loved Matrix (SA)		MERIA TA Umbria Surfa	ю; ход (С13) Л	M DA 17	6 1221	310	dicators of hydrophytic variation and
Sandy B	adov (SS)		Diadmont Flo	y (ciri) eo: vodolain Sv	nic (C10)	0, 1227 7311 (23, 14	19) 1	ethod bydrology must be present
Sandy n	Matrix (S6)		Pleamont Pit	Vopian St Vatorial (E)	/⊪si(ria) 211 /0.4 ID	(MERA 14 6 177 147	юј и Лі н	nless disturbed or problematic
Supper	aver (finhserveri):				n in finitie	A 127, 147	·) -	ness distanced of problematic.
Tuno	ale horsenaat							
турв:			_					
Depth (inc	:hes):		_				Hydric So	I Present? Yos No
Remarks:								

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont F	legion.
--	---------

Project/Sito: Christ Christ City/County: Christ	Sampling Date: /_ Aler 1 / 5
Applicant/Owner: Advanced Prover	State: C1 <u>1</u> Sampling Point: C
Investigator(s): Mike Myssen Kast freshe Smith Section, Township, Range	526 714N, KSW
Landform (hillslope, terrace, etc.): 4+////	.none): <u>//www.</u> Slope (%): <u>// 1</u>
Subregion (LRR or MLRA): 124 M Lat: 40.6030 Long:	-11, 6614 Datum: Add 33
Soil Man Unit Name: Br. K. ship it 1 Jam 15-25% shere (ALD).	NWI classification: SEM Coul myseld)
Are climatic (budgeboic conditions on the site typical for this time of year? Yes Mo	(If go, evolain in Remarks)
Are Venetation Collamore budgebox circuits and the are good for this time of years in the No	
Are vegetation, Soi, or Hybrologysignificantly disturbed? We not	marcingunstances present? Tes No
Are Vegetation, Soil, or Hydrology naturally problematic? (If neede	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point loca	ations, transects, important features, etc.
Hydrophylic Vegetation Present? Yes No Is the Sampled And Wetland? Hydric Soil Present? Yes No within a Wetland? Wetland Hydrology Present? Yes No within a Wetland? Hemarks: statting information that stream No	ee Yes / No
HYDROLOGY	
Wetrand Hydrology Indicators:	Suctors Soil Cracks (R5)
High Water Lable (A2) Hydronen Sulfide Odnr (C1)	Drainace Patterns (91D)
Saturation (A3)	(3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced from (C4)	Dry-Season Water Table (C2)
Sediment Deposits (H2) Recent Iron Roduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
 Inundation Visible on Aerial Imagery (B7) 	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (813)	FAC-Netimal Test (Db)
Field Observations:	
Sunace water Present? Yes No Depth (inches):	
Selection Present? Yes No Depth (incres).	ad Hydrology Brasant2 Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if	available:
Lonarke	
See here under ' as the of author	
and the markets of the same of markets	

VEGETATION (Four Strata) – Use scientific name	s of	plants.

Sampling Point: <u>wt E</u>

Trans Structures (Distriction 2.5)	Absolute	Dominant I	ndicator	Dominance Test worksheet:
1)	<u>% Cover</u>	Species?	Status	Number of Dominant Species (A)
2				Total Number of Dominant
4				Percent of Dominant Species
G				
7				Prevalence Index worksheet:
··		- Lotal Cover		Total % Cover of: Multiply by:
50% of total cover-	 2D%_of	iniai mver	ſ	DBI species x 1 =
Sanling(Shoth Stratum) (Did size: /k		totte cover,	· · <u> </u>	FACW species x 2 =
				FAC snecies x 3 =
				FACIL species x 4 -
2				
3				
[d,				
5			·	Prevalence Index = B/A =
7				Hydrophytic Vegetation Indicators:
a		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
a				2 - Dominance Test is >50%
9] 3 - Prevalence Index is ≤3.01
		 Total Cover 		4 - Morphological Adaptations' (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
Herb Stretum (Plot size:)		/		Problematic Hydrophylic Venetation ¹ (Explain)
1. Po cono 50. 20	43	<u> </u>		
2. Importers aprovis	10		FAIw	¹ Indiastors of building of and supplement building as set
3. Corre colling	(d		OBL	be present unless disturbed or problematic.
4. Verteringelle radiut	<u> </u>		FAC	Definitions of Four Vegetation Strata-
5. Curdumin portaleroit-			Dø.	connections of your yege action strates.
G				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height
8.				nogue.
a		<u> </u>		Sapling/Shrub - Woody plants, excluding vines, less
10				inan 3 in. DBH and greater than or equal to 3.28 ft (1 m) tail
10		·		
···-		Total Cover		Herb – All herbaccous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
50% of total cover: 3*]	20% of	total cover:	13.6	
Woody Vine Stratum (Plot size: 25 **)				Woody vine - All woody vines greater than 3.28 ft in height
1				
2				
4		<u> </u>		
<u>. </u>				Hydrophylic
ə				Vegetation
FOW of total particular	=	: Total Cover		Present: 165 110
SU% of total cover:		total cover:		
Remarks: (include photo numbers here or on a separate st	heel.)			
* plat sin uprost bor to sin of with	and the			
an - mitability gross so not inshell in	w. Hshird	1: marty	ուսար	hyliphy die
14-1911-11 Y-	50 B 40	1951-12	25	
			r	

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox	<u>CFeatures</u>		<u> </u>		
<u>(inches)</u>	Color (moist)	%	Color (moist)	_%	Type	<u> </u>	Texture	Remarks
00	254 4/3	90	54R 5/6		<u> </u>	<u> 12</u>	5.10	
$\frac{\phi}{2}$	259 4/1	<u> </u>	541 5 K	_15	٢	<u>11/m</u>	sila	
						·		
-								· ·
						·		
¹ Type: C-C	oncentration, D-Deple	kon, RM=		-Masked :	Sand Gra	ins.	² Location: P	 L∝Pore Lining, M⊬Matrix.
Hydric Soil	Indicators:						Indica	ators for Problematic Hydric Soils*:
Histosol Histic Ei	(A1) pipedon (A2)		Dark Surface Polyvalue Bel	(S7) low Surface	a (SB) (M	ILRA 147, 1	2 148) C	om Muck (A10) (MLRA 147) oast Prairie Redox (A16)
Black H	stic (A3)		Thin Dark Sur	face (S9) (MLRA 1	47, 148)	. —	(MLRA 147, 149)
Hydroga	en Sulfide (A4)		/Loamy Gleye	d Malrix (F	2)	-	P	iedmont Floodplain Soils (F19)
Stratifier	d Lavers (A5)		フ Depleted Man	rix (F3)				(MLRA 136, 147)
2 cm Mu	ick (A10) (LRR N)		Redox Dark S	iurface (FG	1		v	ery Shallow Dark Surface (TF12)
Depleter	d Helow Dark Surface	(A11)	Depleted Dari	k Surface (F7]			ther (Explain in Remarks)
Thick Di	ark Surface (A12)	•	Redox Depres	ssions (F8)				
Sandy N	lucky Mineral (ST) (LF	RN.	Iron Mangane	ise Masse	s (F12) (l	.RR N,		
MLR/	A 147, 148)		MLRA 136	5)				
Sandy Q	Sleved Matrix (S4)		Umbric Surfac	:e (F13) (N	ILRA 13	6, 122)	^a Ind	icators of hydrophytic vegetation and
Sandy F	tedox (S5)		Piedmont Flo	odplain So	ils (F19)	(MLRA 148	i) we	tland hydrology must be present.
Stripped	Matrix (S6)		Red Parent M	aterial (F2	1) (MLR/	A 127, 147)	un	less disturbed or problematic.
Restrictive	Layer (if observed):							
Туре:								/
Depih (m	ches):						Hydric Soit	Present? Yes Vo No
Remarks:						1		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site Carcell Guest Engine	CAVE	country Coverest Co		Sampling Date: 23 April Joy
Ambigunt Thuman Advand Power	0.4340		State: 017	Sampling Point: W4 £ 49
Investigation in the Marker of a Line	1 South cost	an Township Danaer	528 TIYN R.	<u> </u>
Investigator(s): <u>IPTER Proposition and Fire</u>	<u> </u>	on, rownsnip, wange:		
Landform (hillslope, terrace, etc.): <u>L, (1519)</u>	Local rel	iel (concave, convex, no	one): <u>Conces</u>	Stope (%):
Subregion (LHR or MLRA): L# A ~ La	R: 40.6030	Long: l	81, 0641	Datum: 4/40/90
Soil Map Unit Name: Books shals site low	, 15-25 7. stors	(010)	NWI classific	ation: VPL
Are climatic / hydrologic conditions on the site typical	for this time of year? Y	/es No	(If no, explain in R	emaiks.)
Are Vegetation, Soil, or Hydrology	significantly distu	bed? Are 'Nonna	al Circumstances" p	nesent7 Yes 🔜 No 🔜 👘
Are Vegetation, Soil, or Hydrology	naturally problem:	atic? (If needed.	explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Atlach site	map showing san	npling point locati	ons, transects	, important features, etc.
Hydrophylic Vegetation Present? Yes Hydric Soil Present? Yes		Is the Sampled Area within a Wetland?	Yes	_ No
Wetland Hydrology Present? Yes	No			
Wetland Hydrology Indicators:			Secondary Indica	Create (RS)
Primary Indicators (minimum of one is required; che	<u>ck all that apply)</u>			
Surface Water (A1)	_ True Aquatic Plants ((814)	Sparsely Veg	getated Concave Sunace (ISS)
High Water Table (A2)	 Hydrogen Sumde Od Guidined Ubimeenhee 	or (C1) es es Liviss Bests (C2)	Urainage Pai	terns (BTO)
Saturation (A3)	 Oxigized Knizospheri Dravavca of Reduced 	es on Living Rooks (C3). d koo (C4)	Noss min ti	Mater Table (C2)
Seducent Depusit: (N2)	Recent Iron Reduction	on in Tilled Soils (CE)	Crawfish Bun	
Drift Denosits (B3)	_ Necenciron reducte Thin Muck Surface (C	271 271	Saturation Vi	sible on Aerial Imagery (C9)
Alnal Mat or Crist (84)	Other (Explain in Rec	nades)	Stunted or St	tressed Plants (D1)
Iron Deposits (85)	_ 0	,	Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (87)			Shallow Aqui	itard (D3)
Water-Stained Leaves (B9)			Microtopogra	phic Relief (D4)
Aqualic Fauna (B13)			FAC-Neutral	Test (D5)
Field Observations:				·
Suiface Water Present? 🛛 Yes 🔜 No 🗸	_ Depth (inches):			
Water Table Present? Yes No	🖌 Depth (inches):			
Saturation Present? Yes No 💆	Depth (inches):	Wetland	Hydrology Presen	nt? Yes No
(includes capillary fringe)	well accial photos, are	vious inspactions), if our	ailable)	
Describe Recorded Data (stream gauge, montoing	weit, aan in prioros, pre			
Remarks:				
				i i

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WE E M

201	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Ulmvš rokon	. 15	Ť	74(That Are OBL, FACW, or FAC: (A)
2. United and the second	25		- AK V	Total Number of Dominant 🛛 🗶
3				Species Across All Strata: (8)
4				Percent of Dominant Species
s				That Are OBL, FACW, or FAC: <u>\$7.57</u> (A/B)
6. <u> </u>				Prevalence index worksheet:
7				Total 95 Cover of: Multiply by:
25		 Total Cove 	ي م	OBL species x 1 =
50% of total cover:	20% of	total cover:_	<u> </u>	FACW spacies x 2 =
Sapling/Snrub Stratum (Piol size: /)	2.	,	b	FAC species Y 3
1. Kess meltinger		<u> </u>	Tac	FACIL species x 4 -
2. Climes relies		<u> </u>	Taxed	1PL species ¥ 5 -
3. (1873)	<u> </u>		- F-46.00	Column Totals: (A) (B)
4. Lunin service	<u> </u>		<u></u>	
5. Kobus ocestendalis			-16	Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8				2 - Dominance Lest is >50%
9				3 - Prevalence Index is ≰3.0 ¹
	<u>. 15</u>	 Total Cove 	۲	4 Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>245</u>	20% of	total cover:_	<u> </u>	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)				Problematic Hydrophytic Vegetation ¹ (Explain)
1. Allineis petialuts	<u>_10</u>	<u> </u>	<u></u> F4<	
2. Russ my Hitter	<u> </u>	<u> </u>	FNV	¹ Indicators of hydric soil and welland hydrology must
3. 6 trm. Curating			_ <u>F40v</u>	be present, unless disturbed or problematic.
4. Clinepolium velour	3		100	Definitions of Four Vegetation Strata:
5				
6				Tree - woody plans, excluding viries, 3 in (7.6 cm) or more in diameter at breast height (DBH), regardless of
7				height.
8				Santing/Shouh, Woody plynts, excluding vises, less
9				than 3 in. DBH and greater than or equal to 3.29 ft (1
10				m) tall.
11				Herb - All herbaceous (non-woody) plants, regardless
	23	= Total Cove	er i	of size, and woody plants less than 3.78 ft tall.
50% of total cover: <u>11.5</u>	20% of	total cover:_	4.6	Mondy vine All woods vices greater than 2.28 ft in
Woody Vine Stratum (Plot size: 3?)				height.
1. Testerbalin calling	_ 5		140	·
2				
3				
4				Hudrophysia
5				Vegetation
	5	= Total Cove	r	Present? Yes No V
50% of total cover:	20%6 of	total cover:_	j	
Remarks: (include photo numbers here or on a separate si	heot.)			

Sampling Point: <u>we e</u>v

Profile Desc	ription: (Describe t	o the depth	needed to docum	ient the in	dicator o	r confirm	the absence of indicators.)	
Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moisi)	<u> % </u>	1 100	1002	<u> </u>	
0-174	1848 413	100		. —	-		5.10	
						<u> </u>		
¹ [voe: C=Co	occutration, D-Deph	etion RM=Rr	educed Matrix MS	_Masked 3	Sand Gra		² Location: PL=Pore Linion MyMatrix	
Hydric Soil I	ndicators:						Indicators for Problematic Hydric	Soils':
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)	
Histic Ep	ipedon (A2)		Polyvalue Bel	ow Surface	e (SB) (M	LRA 147,	146) Coast Prairie Redox (A16)	
Black Hi	slic (A3)		Thin Dark Sur	face (S9) (MLRA 1	47, 148)	(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loamy Gleyed	d Matrix (F	2)		Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Matr	тіх (ГЗ)			(MLRA 136, 147)	
2 cm Mu	ck (A10) (LRR N)		Redox Dark S	urface (F6	5		Very Shallow Dark Surface (TF)	12)
Depleted	Below Dark Surface	(A11)	Depleted Dark	k Surface (F7)		Other (Explain in Remarks)	
Thick De	rk Surface (A12)		Redox Depres	ssions (F8))			
Sandy M	lucky Mineral (S1) (Ll	RR N,	Iron Mangane	se Masse:	s (F12) (L	RR N,		
MLRA	. 147, 148)		MLRA 136	i)				
Sandy G	ieyed Matux (S4)		Umbric Surfac	:e (F13) (N	ILRA 136	5, 122}	Indicators of hydrophytic vegetati	on and
Sandy R	edox (S5)		Piedmont Floc	dplain So	ils (F19) (MLRA 14	 wetland hydrology must be prese 	ent,
Stripped	Matrix (S6)		Red Parent M	aterial (F2	1) (MLRA	127, 147) unless disturbed or problematic.	
Restrictive E	ayer (if observed):							
i ype:	— -		_					
Depth (inc	hes):		-				Hydric Soil Present? Yes No	»_ <u>~</u>
Remarks:								

WETLAND DETER	MINATION DATA	FORM – Eastern	Mountains and Pice	dmont Region
Projecusne: Currell Coral For	Gale	City/County: Co.	al G.	Sampling Date 23 April Jon
Applicant/Owner: Aly out Pour	~,	/	State: 07	1 Sampling Point: w4 P
Investigator(s): Milk Massing is	ad fresher Smith	Section, Township	, Range: 526, 1/1	IN REW
Landform millslope, terrace, etc.):	· · · · · · · · · · · · · · · · · · ·	Local relief (concave,	convex. none): Calo ca	- Slope (%): ナブ
Subregion (LBR or MLBA): LPC ~	1at: 40.643	, ,	Long: -11 0656	Datum: 242 35
Soit Man Unit Name: Burka shuke	5.14 hours 15 25	1. star. (BKO)	NWI clas	silication fem and man D
Are climatic / hydrologic conditions on the s	site typical for this time o	f yoar? Yes 🧹	No (If no, explain	in Remarks.)
Are Vegetation . Soil . or Hy	trology significa	ntly disturbed?	Are "Normal Circumstance	es" prosent? Yes 📈 No
Are Vegetation, Soil, or Hy	drology naturally	problematic?	(If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDINGS - Atta	ch site map show	ing sampling poi	nt locations, transe	cts, important features, etc.
Hydrophybo Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Remarks:	Yes No No Yes No No	Is the Sam within a W	pled Area ietland? Yes <u>-</u>	No
HYDROLOGY		-		
Wetland Hydrology Indicators:			Secondary In	dicators (minimum of two required)
Primary Indicators (minimum of one is req	wired; check all <u>that app</u>	<u>ily)</u>	Surface \$	Soil Cracks (B6)
V Surface Water (A1)	frue Aquati	c Plants (814)	,Sparsety	Vegetated Concave Surface (B9)
High Water Table (A2)	Hydrogen S	ulfide Odor (C1)	🗹 Urainage	Patierns (B10)
saturation (A3)	Oxidized Rt	nizospheres on Living	Roots (C3) 🔄 Moss Tri	m Lines (B16)
Water Marks (H1)	Presence of	Reduced Iron (C4)	Dry-Seas	ion Water Table (C2)
Sediment Deposits (B2)	Recent from	Reduction in Tilled Se	oils (C6) 📃 Crayfish	Burrows (CB)
Drift Deposits (B3)	Thin Muck S	Surface (C7)	Saturatio	n Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Expl	ain in Remarks)	Stunted o	or Stressed Plants (D1)
Iron Deposits (85)			🟒 Geomorp	ahic Position (D2)
Inundation Visible on Aerial Imagery	[0 7]		Shallow /	Aquitard (D3)
Water-Stained Leaves (H9)			Microtop	ographic Relief (O4)
Aqualic Fauna (B13)			FAC-NeL	Ural lest (US)
Field Observations:	n n ha	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
Sunace water present? Yes		nes): <u> </u>		
Seturation Present? Yes	_ No Depth (incl No Depth (incl	nes):	Mattered Hudseleen Day	want? Yas Ala
includes capillary fringe)		hotos, previous inspec	tions) if available:	
	namaning nam, senar pr	iotos, promotos inspor		
Remarks.				
section unter in putter	el without			
L				

VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u>W4 P</u>
	Absolute	Dominant	ndicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u> / <i>0</i>	<u>Species?</u>	<u>Status</u> FA (Number of Dominant Species
2				Total Number of Dominant
3				Species Across All Strata: (H)
5				Percent of Dominant Species
6				Prevalence Index worksheet:
ь <u> </u>	13	= Total Cove	 If	<u>lotal % Cover of:</u> <u>Multiply by:</u>
50% of total cover:ን	20% of	total cover:_	ን	OBL species x1
Sapling/Shrub Stratum (Plot size: 15)				FACW species x 2 =
1. Rosa mar Hills a	10		FAIN	FAC species x 3
2.				FACU species x 4
3.				UP4 species x 5 =
4				Column Totals: (A) (B)
5				Prevalence index = H/A =
b	·	<u> </u>		Hydrophytic Vegetation Indicators:
8.				1 - Rapid Test for Hydrophytic Vegetation
9,				2 - Dominance 1est is ≻50%
		= Total Cove	r ٦	4 - Morphological Adaptations' (Provide supporting
50% of total cover: <u>5</u>	70% of	total cover:_	-	data in Bemarks or on a separate sheet)
Harb Stratum (Plot size:)		,		Problematic Hydrophytic Venetation ¹ (Explain)
1. Leven St.		<u> </u>		
2. barrie virginia	15		Farm	The dimension of boot is and another of bootstand products
3. menselying viminer	15		Fee	be present unless disturbed or problematic.
4. Imaking carron's	12		FAC	Definitions of Four Vegelation Strate
5. Olechars believes	3		Fare	Definitions of Four asguetter strate.
6 Altinety Acticlate	3		FARV	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7.				more in diameter at breast height (DBH), regardless of height
o			• ·	- Horgene
0				Sapling/Shrub - Woody plants. excluding vines, fess
ə				INAN 3 IN. DISH and greater than or equal to 3.28 ft [1 m) tail
11		–		
	76	= Total Cove	r	Hero – All heroaceous (non-woody) plants, regardless of size, and woody plants less than 3.78 ft tall.
50% of total cover: 323	⊃້_20% of	total cover:_	15.2	Woody vine - All woody vines greater than 3.28 ft in
woody vine of allow (Mor Size;)				
l				
2		<u> </u>	<u> </u>	
3				
4				Hydrophylic 🧳
5				Vegetation
50% of total cover-		 Total Cove total cover: 	Г	Present? Yes NO
Remarks: (Include photo numbers here or on a separate s	heet.)			L
at a table of the second se				
" + 1 of sin adjusted for the sin of an	I from pl			
MA - unitertified gross not included in rates	In in			

VEGETATION (Four Strata) - Use scientific names of plants.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Matrix		Redox	Redox Features				
(inches)	Color (moist)	%	Color (moist)	- %	Type	Loc	Texture	Remarks
0.10	2151 4/2	15	104R 4/6	_5_	Ċ	m	5.10	
10-121	2.59 7/3	95	1041 4 16	5	C	An	5.10	
			···					
]								
								·
· ·								
<u> </u>								
¹ [voe: C=Co	ucentration, D=Depla	 Non, RM=	Reduced Matrix, MS	=Masked	Sand Gra	ius.	² Location: F	PL=Pore Lining, M=Matrix,
Hydric Soil Ir	dicators:						Indic	ators for Problematic Hydric Soils ³ :
Histosol (A1)		Dark Suiface	(S7)			;	2 cm Muck (A10) (MLRA 147)
Histic Epi	pedon (A7)		Holyvafue Heli	ow Surlac	e (S8) (M	I RA 147.	148) (Coast Prairie Redox (A16)
Black His	tic (A3)		Thin Dark Sur	face (S9)	(MI RA 1	47, 148)		(MLRA 147, 148)
🔄 Hydrogen	Sulfide (A4)		L camy Gleyed	d Marrix (F	-7)	-		Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		🔜 🗹 Depleted Matr	tix (H3)				(MLRA 136, 147)
2 cm Muc	k (A10) (I RR N)		Redox Dark S	urface (Ht	5)			Very Shallow Dark Surface (TF12)
Depleted	Below Dark Surface	(AD1)	Depicted Dark	Surface	(+ 7)		(Other (Explain in Romarks)
Thick Dar	k Surface (A12)		Redox Depres	ssions (F8	()			
Sandy Mi	ucky Mineral (S1) (Ll	RRN,	Iron-Mangane	se Masse	IS (F 17) (L	.RR N,		
MLRA	147, 148)		MLRA 136)				
Sandy Gl	eyed Matrix (S4)		Umbric Surfac	e (F13) (N	MLRA 130	6, 122)	°ini 	dicators of hydrophytic vegetation and
Sandy Re	10x (S5)		Piedmont Floo	dplain So	bils (F 19) ((MLRA 14	-8) w	atland hydrology must be present,
Stripped i	Matrix (S6)		Red Parent M	alerial (F2	21) (MER/	A 127, 147	') ui	niess disturbed of problematic.
Restrictive Li	ayer (il observed):							
ype:								
Depth (inc)	nes):						Hydric Soi	il Present? Yes <u> </u>
Remarks:								

Project/Site: Charge 11 (Unity) Energy City/County:	Corrolf Co. Sampling Date: 43 April 20
Applicant/Owner: Advant Avar	State: <u>OH</u> Sampling Point: <u>W1 FV</u>
Investigator(s): Mill Massenel end Prester S. 75 Section, In	mship, Range: <u>5<1, 71977, 7597</u>
Landform (hillslope, terrace, etc.): <u>killslopr</u> Local relief (cor	cave, convex, none): <u>Convex</u> Slope (%): <u>J-/D</u>
Subregion (LRR or MLRA): LR M Lat: 46.6631	Long: 0655 Datum: Datum:
Soil Map Unit Name: Br. Ky shall silt low 15-25% slow 1	⁶ ΚΟ) NWI classification: <u>Ψ</u> ρ(
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	No (if no, explain in Remarks.)
Are Venetation Soil or Hydrolony similicantly disturbed?	Are "Normal Circumstances" present? Yes No
Are Verentation Stul or Hydrology naturally problematic?	(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site map showing sampling	point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No V Is the	2 Sampled Area
Welland Hydrology Present? Yes No	n a Wetland? Yes No
Remarks:	
HYDROLOGY	The sector is the base of the sector of the
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Sufface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surrace (BB) Drainage Ratiems (P10)
Saturation (A3) Civilized Rhizospheres or I	ivion Bools (C3) Moss Loin Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4) Dry-Season Water Lable (C2)
Sediment Deposits (B2) Recent Iron Reduction in Til	led Soits (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (H5)	Geomorphic Position (D2)
Inundation Visible on Aenal Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microlopographic Relief (D4)
Aquanic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Sunace water Present? Yes No Depth (inches):	
Water Table Present? Yes <u>No Depth (inches)</u>	Watten d Hudente nu Bracenta Van
(includes capillary fringe)	Wettand Hydrology Present? #85 NO
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous i	nspections), if available:
Remarks:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: _____ F -r

	Absolute	Dominant I	ndicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Species γ)
1. Acce such and	<u></u>		FALL	That Are OBL. FACW, or FAC: (A)
2. Come er itu	- 57	_ <u>/</u>	FACU	······ · · · · · · · · · · · · · · · ·
3				Fotal Number of Dominant
4				
				Percent of Dominant Species
^{5.}				That Are OBL, FACW, or FAC: (A/B)
6				
7				Prevalence Index worksheet:
	25	- Total Cove	r	1otal % Cover of:Multiply by:
50% of total cover: 12.1	20% of	total cover:	5	OBL species x 1 =
Sanlinn/Shruh Stratum (Plot size: 15)				FACW species x 2 =
$\frac{\sqrt{2}}{2} \frac{1}{2} \frac$	(1)		*	FAC soeries x 3 =
1. A #25. (by 19-3-4-)			TAIN	
2				
3				UP1 species x 5 =
4				Column Totals: (A) (B)
5				
<u> </u>				Prevalence Index = B/A =
b				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Varietation
8				2 Development of the SOM
g.				2 · Dominance vest is >50%
	40	Total Coue		3 - Prevalence Index is ≤3.0°
50% of total cover 3.2	20% of	total cover	2	4 - Morphological Adaptations' (Provide supporting
	_ 20,2 0	total cover	~	data m Remarks or on a separate sheet)
Hero Stratum (Hot size: 7	_	,		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Billion profinde	10	<u> </u>	\$4rv	
2. Checking hedrenstan	5		FAC	
3. Deriver in prosition	3		FACW	Indicators of hydric soil and wetland hydrology must
a la astra cansie	2		Earra	
			- AR	Definitions of Four Vegetation Strata:
S				Tree – Woody plants, excluding vines, 3 in, (7,6 cm) or
6				more in diameter at breast height (DHH), regardless of
7				height.
8				
9.				Sapling/Shrub – Woody plants, excluding vines, less
10	<u> </u>			man sin. Don and greater man or equarto 5.20 m (r m) fall.
11				- 19 - 11
II				Herb – All herbaceous (non-woody) plants, regardless
	<u></u> ,	 Total Cover 	r	of size, and woody plants less than 3.28 ft tail
50% of total cover:	20% of	total cover:_	<u>.</u> 4	Moody vice All woody vices greater than 3,28 0 in
Woody Vine Stratum (Plot size:)				height.
1				
2				
s				
4				Hydrophytic
5				Vegetation
	=	Total Cover	,	Present? Yes No 🔽
50% of total cover:	20% of	total cover:	i	
Semarks: (luclude abain numbers here or on a senarate of	hoet 1			
Remarks. (monute photo numbers here or on a separate si	nceuj			

Death	Matrix		Redo	x Features				
(inches)	Color (moist)	~~	Color (moist)	%	Type		1 exture	Remarks
11-121	1018 413	100		-	-		slo	
+								-
			··					
	· <u> </u>							
	·							
		<u> </u>	<u> </u>					
								_
Ivoe: C=C	oncentration, D∠Dep	letion, RM-F	leduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location: F	L-Pore Lining, M=Marrix.
lydric Soil	Indicators:			<u> </u>			Indic	ators for Problematic Hydric Soils
Histosol	(A1)		Dark Surface	e (S7)			:	cm Muck (A30) (MLRA 147)
Histic Fr	pipedon (A2)		Polyvalue Be	alow Surfa	.e (S8) (N	LRA 147.	148) 0	Coast Prairie Redox (A16)
Black Hi	stic (A3)		Thin Dark Su	uface (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
 Hvdroge	in Sulfide (A4)		Loamy Gleye	d Matrix (F2)			Piedmont Floodplain Soils (F19)
Stratified	d Layers (A5)		Depleted Ma	trix (F3)				(MLRA 136, 147)
2 cm Mu	ick (A10) (LRR N)		Redox Dark	Surface (F	6)		, v	/ery Shallow Dark Surface (TF12)
Depleter	d Below Dark Surface	e (A11)	Depleted Date	rk Surface	(F 7)			Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Redox Depre	assions (Fi	3)			
Sandy N	lucky Mineral (S1) (E	.RR N,	Iron-Mangan	ese Masse	es (F12) (lrr n,		
MLR/	A 147, 148)		MLRA 13	6}				
Sandy G	leyed Matrix (S4)		Umbric Surfa	ice (F13) (MLRA 13	6, 122)	fir).	licators of hydrophytic vegetation an
Sandy F	tedox (S5)		Piedmont Ftd	odplain S	oils (F19)	(MLRA 14	8) w	etland hydrology must be present,
Stripped	Matrix (S6)		Red Parent N	Moterial (F	21) (MLR	A 127, 147	") u	less disturbed or problematic.
Restrictive	Layer (if observed):							
Турв:			_					
Depth (in	ches):		_				Hydric Soi	Present? Yes No 🗹
Remarks:							1	

. . ____

.

Project/Site: Correll County Formany C	Sampling Date: <u>J4 April Jais</u> Sampling Date: <u>J4 April Jais</u>
Applicant/Owner: <u>Alwanish Peress</u>	State: C# Sampling Point: E
Investigator(s): Mills Massimet and Colin Villens 5	Section, Township, Range: 528, 71910 RSW
t andform (hillstope, terrace, etc.): hillstart are Loca	al relief (concave, convex, none): <u>Constant</u> Slope (%): <u>3-5</u>
Subregion (LRR or MLRA): LAK M Lat: 49.6653	Long: -31.0624 Datum: NAO 33
Soil Man Unit Name: West Inschol . Cerberden . 14 Insure 1	1.15% sheres (WmC) NWI classification dem (and march)
Are slimptic i hydrolegic contributions on the site typical for this time of your	r2 Vor / No /// on ovalisis is Personal /
Are climate in yor diogre conditions on the site typical of this time of year	
Are Vegetation Soil, or Hydrology significantly o	rstunded? Are "Normal Circumstances" present? Yes <u>•</u> No
Are Vegetation, Soil, or Hydrology naturally prob	ilematic? (If needed, explain any answors in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing :	sampling point locations, transects, important features, etc.
Hydrophylic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes No
seen from hillslope dening to stream 6	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Sorl Cracks (B6)
Surface Water (A1) True Aquatic Pla	ints (B14)Sparsely Vegetated Concave Surface (D8)
High Water Table (A2) Hydrogen Sulfide	a Odor (C1) Z Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizos	pheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Red	luced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Red	uction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface	ce (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in	(Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (67)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microlopographic Relief (D4)
Aqualic Fauna (B13)	FAC-Neutral Test (05)
Field Observations:	
Surrace water Mesent 7 Yes No Depth (inches):	
Water Table Present? Yes <u>ND</u> - Depth (inches); Softwartian Present? Yes ND - Depth (inches);	Wattand Wytrology Brosont2 Vor / No
(includes capillary fringe)	Weballd Hydrology Presenter Tres Wo
Describe Recorded Data (stream gauge, monitoring well, aerial photos	, previous inspections), if available:
	{
remers:	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: Let G

י _א ר	Absolute Dominant	Indicator	Dominance Test worksheet:				
Tree Stratum (Plot size:)	<u>% Cover</u> Species?	Status	Number of Dominant Species /				
1			That Are OBL, FACW. or FAC: (A)				
2			Latal Number of Dominant				
3			Species Across All Strata: (B)				
4.							
5			Percent of Dominant Species /00"				
c.			That are OBL, FACW, or FAC: (AVB)				
P			Prevalence Index worksheet:				
f			Total % Cover of Multiply by:				
	= Total Cov	ev 🛛	OBI spacies x1 -				
50% of total cover:	20% of total cover:						
Sapling/Shrub Stratum (Plot size: 75)			r FACVV species x 2 =				
1			FAC species X 3 =				
2			FACU species x 4				
3.			UPI species x 5 =				
4.			Column Totals: (A) (B)				
5							
			Prevalence Index = B/A =				
a			Hydrophytic Vegetation Indicators:				
7			A - Rapid Test for Hydrophytic Vegetation				
8	·		2 - Dominance Test is >50%				
9			$\frac{1}{2} \text{Provelance Index is $<3.0^{1}$}$				
	 Total Cov 	0F					
50% of total cover:	20% of total cover:		4 - Morphological Adaptations" (Provide supporting				
Herb Stratum (Plot size: 5)			data in Remarks or on a separate sheet)				
1 Patrice A	40		Problematic Hydrophytic Vegetation' (Explain)				
2 Constraint	<u> </u>						
a to be a second a second seco	·	001	¹ Indicators of hydric soil and wetland hydrology must				
3. Impetiens (aproption		PAIL	be present, unless disturbed or problematic.				
4. Jones r (fises	· _ <u> </u>	Fac	Definitions of Four Vegetation Strata:				
5. Carry builds		601					
6. Charling and interior	5	FAS	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast bright (DRV), reportions of				
7. Bidens SP.	}		height.				
B. C. markonis		FAIN					
9 Cluber but was	<u> </u>	FALL	Sapling/Shrub – Woody plants, excluding vines, less				
10	·	<u></u>	i inan 3 m. DBM and greater than or equal to 3.28 ft (1 m) tail				
10	·						
11, <u> </u>	21		Herb – All herheceous (non-woody) plants, regardless				
	Total Cove	er .	of size, and woody plants less than 3.28 ft tall.				
50% of total cover: <u>42</u>	2 20% of lotal cover:	16. 2	Woody vine – All woody vines greater than 3.28 ft in				
Woody Vine Stratum (Plot size:)			height.				
1	·						
2							
3.							
4.							
5			Hydrophytic				
J	Tetel Com		Present? Yes No				
600 of total causes	= Total Cove	er					
	20% of total cover:	-	_ <u></u>				
Remarks: (include photo numbers here or on a separate s	sneet.)						
" He undatified gross not included in we	Kshit						
· · · · ·							
Profile Desc	ription: (Describe to	o the depth	needed to docum	ent the in	dicator o	or confirm	n the absence of indicators.)
--	--	-------------	---------------------------------	-------------------------	------------------	------------------	---
Depth	Matrix		Redox	Features			
(inches)	Color (moist)	%	Colar (moist)	_%	Type	Loc ²	Texture Remarks
0-12+	2.54 412	40	3.3424/6	10	Ċ	m	5:10
¹ Type: C+Cc Hydric Soil I	ncentration, D-Deple	ation, RM-R	educed Matrix, MS	Masked	Sand Gra	ins.	² Location: 19 =Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils ³ :
Histosof	(A1)		Dark Surface I	(S7)			2 cm Muck (A10) (MLRA 147)
Histoc Ep	ipedon (A2)		Polyvalue Bel	ow Surfac	e (S8) (M	I RA 147,	. 148) 🛛 Coast Prairie Redox (A16)
Black Hs	stic (A3)		Thin Dark Suri	face (S9) -	(MLRA 1-	17, 148)	(MLRA 147, 148)
Hydroge	n Sulfi de (A4)		Eoamy Gleyed	i Matux (F	7)		Piedmant Floodplain Soils (F19)
Stratified	LL ayers (A5)		Depleted Matr	ix (F3)			(MLRA 136, 147)
Z Cm Mu	CK (ATU) (LRH NJ LBolom Dack Surfaces	(611)	Redox Dark S	urrace (FE Surface (ו) (ביד)		Very Shallow Dark Suitace (TFT2) Other (Explain in Remarks)
Line Depreted	r Below Dark Sunace V Stefana (612)	(411)	- Depleted Daik Bedry Debles	sinne (F.A	(F 3)		
Saudy M	ucky Mineral (S1) (U	RR N.	Lon-Mangane	se Masse	, s (F-12) (L	RR N.	
MLRA	147, 148))	•••••••	,	
Sandy G	leyed Matrix (S4)		Umbric Surfac	.e (F13) (N	ILRA 136	i, 122)	³ Indicators of hydrophytic vegetation and
Sandy R	edox (S5)		Predimont Floc	dplain So	ils (F 19) (MLRA 14	 wetland hydrology must be present,
Stripped	Matrix (S5)		Red Parent Ma	aterial (F2	1) (MLR/	127, 147	unless disturbed or problematic.
Restrictive L	ayer (if observed):						
Type:			_				1
Depth (no	hes):		_				Hydric Soil Present? Yes 🗹 No
Remarks:							• · · · ·

WETL	AND	DET	ERMI	NAT	ION	DATA	FORM	 Easterr 	n Mouni	tains a	ind Pie	dmont	Region

	ID DETER				mountain	is and include	on regio	
Project/Site: (wreath for	and Ens.			City/County: 🦰	roll by		Sampling Da	no: 14 April 1
ApplicanVOwner:	A Permer	· .				Stale: <u>EH</u>	Sampling	Point: WIG-1
Investigator(s): milk y	Numerouting	J Gli	V. hens	Section, Township	, Range: <u>S</u>	26 TIMM R	ş~	
Landform (hillslope, terrace, e	te.): <u> </u>	p	Lo	cal relief (concave,	convex, nor	18): <u>CJARCA</u>		Slope (%): <u>4-7</u>
Subregion (LRR or MLRA):	LAA N	Lat	A. Herry		t ong: <u> 7</u>	1.0627	υ	alum: <u>#40 88</u>
Soil Map Unit Name:	muchat Ge	han the	silf lows	15-257 stops		NWI classific	ation: UP (
Are climatic / hydrologic condi	tions on the si	te typical fo	x this time of ye	ear? Yes 🗐 🚽	No ([If no, explain in R	emarks.)	
Are Vegetation . Soil	, or Hydr	ology	significantly	disturbed?	Are 'Normal	Circumstances" (present? Yes	No No
Are Vegetation Soil	. or Hydr	ology	naturally pr	oblematic?	(If needed, e	xolain any answe	rs in Remarks	s.)
SUMMARY OF FINDIN	IGS - Attar	h site m	an showing	i sampling poi	nt locatio	ne transecte	importan	t features, etc
				g samping por			, naportan	
Hydrophytic Vegetation Pres	ant? Y	/es	_ No	Is the Serr	nied Area			
Hydric Soil Present?	ì	/es	_ No	within a W	etland?	Yes	No	_
Wetland Hydrology Present?	' `	/es	_ No	· ·				
Hemaiks:								
Wetland Hydrology Indicat	0/5:					Secondary Indica	tors (minimun	n of two required)
Primary Indicators (minimum	of one is requ	ired: check	ali that apply)			Surface Soil	Cracks (86)	
Surface Water (A1)			True Aquatic P	Vants (B14)		Sparsely Ver	etated Conca	ave Surface (69)
High Water Table (A2)		_	Hydrogen Sulfi	ide Odor (C1)		Drainage Pa	(tems (H10)	
Saturation (A3)		_	Oxidized Rhizo	spheres on Living	Roots (C3)	Moss Trim Li	ines (B16)	
Water Marks (B1)			Presence of Re	educed Iron (C4)		Dry-Season	Water Table (C2)
Sedument Deposits (B2)		_	Recent Iron Re	eduction in Tilled So	oils (C6)	_ Crayfish Bur	rows (C8)	
Drift Deposits (83)			Thin Muck Sur	faco (C7)		Saturation V	sible on Aeria	il Imagery (C9)
Algal Mat or Crust (84)		—	Other (Explain	in Remarks)		Stunted or S	tressed Plants	; (D1)
Iron Deposits (B5)	cial Imageor (f	2.0				, Geomorphic Shallow Ami	POSICION (DZ) iterat (DZ)	
Water.Stained Leaves #	пантпадсту (с зо)	51)				Sharow Aqu Microtopogra	nano (Do) Inhic Relief (D	143
Aqualic Fauna (813)	101						last (D5)	
Field Observations:							,	
Surface Water Present?	Yes	No_/_	Depth (inches)):				
Water Table Present?	Yes	No Z	Depun (inches	}:				
Saturation Present?	Yes	No	Depth (inches)):	Wetland H	ydrology Preser	it? Yes	No
(includes capillary finge) Describe Recorded Data (str	ват данов, т	ionitoring w	ell aerial nhoto	os, previous inspec	lions) if avai	ilable:		
		, en	an, sens pres					
Remarks:								

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: wt 6-1

2.12	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Clans - hr-	20	· · · · ·	FAC	That Are OBL, FACW, or FAC: (A)
2. Arriver reference	_12		FAN/	Total Number of Dominant 4
3				Species Across All Strata: (H)
4				Barrant of Daminant Constinut on a
5				That Are OBL, FACW, or FAC:
6				
7.				Prevalence Index worksheet:
	30	 Total Cove 	<u>ه</u> د	Total % Cover of:Multiply by:
50% of total cover: 75	20% of	total cover:	ΪG	OBL species x1 =
Sapling/Shrub Stratum (Plot size: 77)	_	-		FACW species x 2 =
1 Been metholic	30	V	FARD	FAC species x 3 =
2 Poly with silve	5		-PL	FACU species x 4 =
1 Section of the section beside			Dalar	UPL species x 5 =
A				Column Totals: (A) (B)
0				Prevalence index = B/A =
b				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegelation
8				Dominance (est is >50%
9				3 - Prevalence index is ≤3.0 ¹
â :	<u></u>	» Total Cove	ir 🖡	A - Mombological Adaptations ¹ (Provide supporting
50% of total cover:	20 % of	total cover:_	4	data in Kemadra or on a senarate sheet)
Herb Stratum (Plot size:)				Brohlematic Hydrophytic Vacentien ¹ (Evoluin)
1. Alleria polialida	i		FACU	
2. January 30. +	15			
3. Cleptrois suggining	_5_		<u></u> 74 c	indicators of hydric soil and wetland hydrology must be present, upless disturbed of problematic.
4. Glicham haberen	1a		FACE	Definitions of Four Venetation Strate:
5. Gun tanatan's	5		FAIL	Definitions of Pour Vogetation Sciala.
5. Calling amongs	3		FAC	Tree - Woody plants, excluding vines, 3 in. (7.5 cm) or
7 Write evening	<u> </u>		FAC	more in diameter at breast height (DBH), regardless of bainty
P				nogin.
o				Sapling/Shrub - Woody plants, excluding vines, less
2				Uhan 3 in. DBH and greater than or equal to 3.28 ft [1]
11,				Herb – All herbaceous (non-woody) plants, regardless
here a stand and a stand a	<u><u><u></u><u><u></u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u></u>	 Total Cove 	·	of size, and woody plants less than 3.28 It tall.
50% of total cover:	20%, of	total cover:_	10	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)				height_
1				
2				
3				
4				Hydrophytic
5				Vegetation
		= Total Cove	r	Present? Yes No V
50% of total cover:	20% of	total cover:_		
Remarks: (Include photo numbers here or on a separate si	heet.)			
* - ver that bed some not & let 1 to me	4.1			
a second the gray had the fit of berth	2144			
·				

Sampling Point: <u>w/ 67</u>

epth Matrix		Redo	x Features				
nches) Color (moist)	- %	Color (moist)	% 1	'ype'	Loc ²	Texture	Remarks
2.54 4/2	100			-		5:10	
• •							
			_				
_							•••
pe: C=Concentration, D-De	pletion, RM-	Reduced Matrix, Mi	S-Masked Sa	and Gra	ins.	² Location: Pt =	Pore Lining, M=Majux,
dric Soil Indicators:						Indicato	ors for Problematic Hydric Soils ³ :
Histosol (A1) Histic Epipedon (A2)		Dark Surface Polyvalue Bo	(S7) Iow Surface ((S8) (M	LRA 147, 1	2 cr 148) — Coa	n Muck (A10) (Mi RA 147) Ist Hrairie Redox (A15)
Black Histic (A3)		Thin Dark Su	rface (S9) (M	LRA 14	7, 148)		MLRA 147, 146)
Hydrogen Sulfide (A4)		Loamy Gleya	d Matrix (F2)	I		Pier	dmont Floodptain Soils (F19)
Stratified Layers (A5)		Depleted Ma	(rix (F3)				MLRA 135, 147)
2 cm Muck (A10) (LRR N)		Redox Dark 3	Surface (F6)			Ver	v Shallow Dark Surface (1F12)
Depleted Below Dark Surface	:e (A11)	Depleted Dar	k Surface (F)	7)		Oth	er (Explain in Remarks)
Thick Dark Surface (A12)		Redox Depre	ssions (FB)				
Sandy Mucky Mineral (S1) (MLRA 147, 148)	LRRN,	Iron-Mangan MLRA 13	esc Masses (6)	(F12) (L	RR N.		
Sandy Gleved Matrix (S4)		Umbrin Surfa	се (F13) (МL	RA 136	1221	¹ Indica	tors of hydrophytic venetation and
Sandy Redox (S5)		Piedmont Flo	odolain Soils	(F19) (MLRA 148	i) wetta	nd hydrology must be present
Stripped Matrix (S6)		Red Parent M	Aaterial (F21)	(MLRA	127, 147)	unles	s disturbed or problematic.
strictive Laver (if observed)	:				, ,		
Тире:						•	
Depth (inches):						Hydric Soil Pr	resent? Yes No 🗹
morke			_		· l		

WETLAND DETERMINATION DATA FORM	- Eastern Mountains and Piedmont Region
Project/Site: Carroll Grad Energy City/C	ounty Const Co. Sampling Date: 24 April 2013
Applicant/Owner Colored Prace	State: CH Sampling Point: W4 H
Investigator (s) Mrss of and the kit Securit	no loweshin Ranne 528 114M ASW
Landform dilloloop tamoon oto harden and and and and and and	of (concurs company popel). This is Struce (9): 1-2
Eardronn (missiope, tenade, etc.): <u></u> Cocarteir	
Subregion (LRR of MLRA): <u>ARA AV</u> Lat: <u>ARA GENE</u>	
Soil Map Unit Name: Wrstmander Casharden S.H. Gumy K-i	<u>RE7_Signa_(Mm()</u> NWI classification: <u>FET_(API_myAP</u>
Are climatic / hydrologic conditions on the site typical for this time of year? Y	es No (If no, explain in Remarks.)
Are Vegetation, Soit, or Hydrology significantly disturb	bed? Are "Normal Circumstances" present? Yes No
Are Vegelation, Soil, or Hydrology naturally problema	tic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS - Attach site map showing sam	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wettand Hydrology Present? Yes No Remarks:	Is the Sampled Area within a Wetland? Yes <u>No</u>
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (86)
Surface Water (A1) True Aquatic Plants (Mater Value Table (62) Mademan Suffide Ode	x (C1) Sparsely Vegetated Concave Sunace (68)
Saluration (A3)	is on Livion Boots (C3) Moss 1 cm Lines (B16)
Water Marks (B1) Presence of Reduced	Iron (C4) Dry Season Water Table (C2)
Sediment Deposits (B2)	n in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C	7) Saturation Visible on Aerial Imagery (C9)
🔄 Algal Mat or Crust (B4) 🛛 🖌 Other (Explain in Rem	parks)Stunted or Stressed Plants (D1)
Iron Daposits (85)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	M:crotopographic Relief (D4)
C Aquatic Fauna (B13)	FAC-Neutral Fest (05)
Field Observations:	
Surface water Present? Yes No C Depth (incres):	—
Seturation Grandel 7 Yes No. 2 Depth (incres):	Weiland Mudrelony Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre-	vious inspections), if available:
Romarks:	
-public of suscent ponding	

reservation (rom seala) - 056 selentine i	Abrelate	Pionto.	Indicator	Dominance Test worksheets	
<u>1ree Stratum</u> (Piot size: <u>ろい</u>)	% Cover	Species?	Statuş	Number of Dominant Species	(6)
ı					(~)
a <u> </u>				Total Number of Dominant	605
				Species Across All Strata	(m)
·				Percent of Dominant Species	
····				That Are OBL, FACW, or FAC:	(A/I
				Prevalence Index worksheet:	—
• •		Total Car		Total % Cover of: Multiply by:	
5095 of lotal cover-	20% 0	≤ Totar Cov finial cover:		OBL species × 1	
anlinn/Shruh Stratum (Plot size: 75)				FACW species x ? =	
Contraction of the second cases	10	1	FACW	FAC species x 3 =	
an in the second se				FACU species x 4	
				UPL species x 5 =	
				Column Totals: (A)	(8)
				Prevalence Index = B/A =	
				Hydrophylic Vegetation Indicators:	
				Rapid Test for Hydrophytic Vegetation	
				2 - Dominance Test is >50%	
·	- 12	T-tel C-te		3 - Prevalence Index is ≤3.0 [°]	
50% of total cover	<u>/*</u>	 Total cover 	ີ່ມ	4 - Morphological Adaptations ¹ (Provide supp	10 r tir
ach Stratum (Olatsina: 5)				data in Remarks or on a separate sheet)	
	~ J	1		Problematic Hydrophytic Vegetation ¹ (Explain	1)
CI)	- <u>- 11</u>	·	<u> </u>	Indicators of hydric soil and wetland hydrology m	IUSL
	- <u> </u>	·		be present, unless disturbed or problematic.	
	- <u> </u>	·	FAX-	Definitions of Four Vegetation Strata:	
Leven Protect			- 30	Tree - Woody plants, excluding vines, 3 in. (7.6 c	an) (
		·		πισre in diameter at breast height (DBH), regardle	\$SS 0
·		·		negue.	
·				Sapling/Shrub – Woody plants, excluding vines.	less a. m
·		·		man 3 m. Den and greater man or equal to 3.28 m) tall.	14 (1
·					
l	24	- Lolat Cov		Herb – All herbaceous (non-woody) plants, regard of size, and woody plants less than 3 28 ft tall	dies
50% of lotal cover: 3%	-> 20% of	f total cover:	15 X	er bize, and weedy plants reportion once it to	
Voody Vine Stratum (Plot size: 30)			#	Woody vine – All woody vines greater than 3.28	ft in
- <u></u> /					
•					
· • • • • •					
·		·			
·				Hydrophylic Vegetation	
		Lot al Con		Present? Yes No	
50% of total cover:		- TOME COV Total cover:	Ψr		
Remarks: finclude photo numbers here or on a constate	sheet 1			L	
$x = \frac{1}{2} \frac{V(x)}{V(x)}$	in naistej				
a contraction provided in which	had jama	hereiteration	generally	h, desphydie	

VEGETATION (F. ~. · • • • • • -. . . .

Profile Desc	ription: (Describe)	to the depth	needed to docur	nent the ir	ndicator	or confirm	the absence of inc	licators.)	
Depth (inches)	Color (mpist)		<u> </u>	<u>x Features</u> %	Tupe	i or ⁷	Texture	Remarks	
<u>0.134</u>	2.55 7/2	<u> </u>	Jerge S R		<u>(</u>	m	5.6		
		·			·				··
								. <u></u> .	
		· ·							
¹ Type: C=C Hydric Soil	oncentration, <u>D=Depl</u> Indicators:	etion, RM=F	Reduced Matrix, M	5-Masked	Sand Gra	ains	² Location: PL=Por Indicators i	e Lining, M-Matrix, for Problematic Hy	dric Soils ³ :
Histosol Histic F Hlack Hi Hydroge Stratified 2 cm Mu Depleter Thick D	(A1) pipedon (A2) sitic (A3) an Sulfide (A4) d Layers (A5) Jok (A10) (LRR N) d Below Dark Surface ark Surface (A12)	e (A11)	Dark Surface Polyvalue Be Thin Dark Su Loamy Gleye Depleted Ma Redox Dark Depleted Da Redox Depreted Da	e (S7) elow Surface (S9) ed Matrix (F trix (F3) Surface (F1 rk Surface essions (F8	:e (S8) (W (MLRA 1 ⁻ 7) 5) (F7)	ILRA 147, 1 47, 148)	2 cm M 148) Coast F (MLF Piedmo (MLF Very St Other ()	uck (A10) (MLRA 1 Prairie Redox (A16) (A 147, 146) (A 147, 146) (A 136, 147) (A 136	47) (F19) ⊨(TF12))
Sandy M MLR/ Sandy C Sandy F Stripped	Aucky Mineral (S1) (L A 147, 148) Sleyed Matrix (S4) Redox (S5) I Matrix (S6)	RR N,	Iron Mangan Mi RA 13 Umbric Surfa Piedmont Fic Red Parent P	iese Masse 6) ace (F13) (i codplain Sc Material (F2	MLRA 13 MLRA 13 bils (F19) 21) (MLR	LRR N. 6, 122) (MLRA 148 A 127, 147)	¹ Indicators a) wetland l unless di	s of hydrophylic veg hydrology must be j isturbed <u>or problem</u>	jetation and present, atic.
I VOB:	Layor (it Observed):								
Depth (in	ches):						Hydric Soil Prese	ent? Yes	No
Hemarks:							J		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Pil	Piedmont Region
---	-----------------

	in the second
Project/Site: Constitution of the City	County: County
Applican/Owner: //ifrae. / // // // //	State: <u>\$77</u> Sampling Point: <u>\$177</u>
Investigator(s): Mike (Hasserry less) Color V. Imp	uion, Township, Range: <u>521 775 / 755 / 755 / 7</u>
Landform (hillslope, terrace, etc.): 11/14/	relief (concave, convex, none): <u>EQUIPEE</u> Slope (%): <u>3 - 77</u> -
Subregion (LRH or MLRA): <u>UPP w</u> Lat: <u>90.6073</u>	Long: Datum: Datu
Soil Map Unit Name: Westmartent Popherty silt kam 15.25%	<u>she (w_()</u> NWI classification: <u>UPL</u>
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)
Are Vegetation, Soit, or Hydrology significantly dist	turbed? Are "Normal Circumstances" present? Yes No
Are Vegetation Soil, or Hydrology naturally problem	matic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	impling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	is the sampled Area within a Wetland 7 Yes No
Wetland Hydrology Present? Yes No	
Remarks:	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (H6)
Surface Water (A1) True Aquatic Plants	s (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide C	Didor (C1) Drainage Patterns (B10)
Saturation (A3)Oxidized Rhizosph Water Marine (01)Dresence of Padur	eres on Living Roots (C.3) Moss Trim Lines (B16)
Sedurient Depresits (B2) Presence or Reduct	tion in Tilled Soils (C6) Cravish Humovs (C8)
Drift Deposits (B3) Thin Muck Surface	(C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in R	(emarks) Stunted or Stressed Plants (D1)
Iron Deposits (H5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (H13)	FAC-Neukral Test (US)
Field Observations:	
Water Table Present? Yes No Depth (inches):	—
Saturation Present? Yes No Debth (inches):	Wetland Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Remarks:	

VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: W4 H ~r
	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Piol size:)	<u>% Cover</u> उठ	Species?	<u>Status</u>	Number of Dominant Species) That are OBL_EACW_or EAC: (A)
2 Maria calle	1.1		Dar	
3			_ <u></u>	Total Number of Dominant 7 Species Across All Strata:
4				
5				Percent of Dominant Species Z S That Are OB1_EACW, or EAC: (A/B)
G				
7.				Prevalence Index worksheet:
	40	- Total Cove		3 otal % Cover of: Multiply by:
50% of total cover:	2 20% of	total cover:	5	OBL species x1
Sapling/Shrub Stratum (Plot size: 75)				FACW species × 2 =
1. Pass moldeling	45	1	FAN-	FAC species x 3 =
2. Rober or diatalis	5		SPL.	FACU species x 4 =
3.				UPL species x 5 =
4				Column Totals: (A) (B)
5 6				Prevalence Index = B/A =
د				Hydrophylic Vegetation Indicators:
1		<u> </u>		1 - Rapid Test for Hydrophytic Vegetation
B				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
	<u>- 5°</u>	= Total Cove	er /k	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 45	20%- 01	total cover;	10	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)		,	_	Problematic Hydrophytic Vegetation ¹ (Explain)
1 Hilbert Restation	10	_ /	FAN	
Z. Gleich - hefernein	<u> </u>		EAC -	¹ Indicators of hydric soil and wetland hydrology must
3. Kose math 03	<u>_</u>		FA(be present, unless disturbed or problematic.
4. Allian Coursen			TAIN	Definitions of Four Vegetation Strata:
5. Creat produ (studios)	<u> </u>		FACE	
6. Com condinais			FACV	Tree – wreedy plants, excluding vines, 3 in. (7.6 cm) or more in diameter at heast height (DBH), regardless of the second sec
7. Viele systematic mains	<u>2</u>		SPL	height.
8				Carling/Charle Mendualante evolutions/and land
9				than 3 in. DBH and creater than or equal to 3.28 ft (1
10.				m) tall.
11.				Hards 60 keybassawa (asa waadw) alaatsi saaacdasa
	$\overline{\mathfrak{U}}$	= Total Cove	аг	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 13	20% of	total cover:	5.2	
Woody Vine Stratum (Plot size: 32)	_	-		Woody vina - All woody vines greater than 3.28 ft in beight
1				- nongina
2				
3				
A.				
۳ ۲				Hydrophytic
ə		Latel Co.		Present? Yes No
CDW with states	······································	 Total COVE Total course 	11	••••
Deventer finale above method base of a second and		(oral cover		
internaliks. Initiative platito numbers here or on a separate s	neer.]			

Profile Descri	ption: (Describe t	o the depth	needed to docum	nent the in	odicator	or confirm	n the absence o	f indicate	rs.)	
Depth _	Matrix Color (moust)		Redo: Color (moist)	<u>x Fealgres</u> જ	Tunn		Tortura		Bamarke	
0. (2)	10 52 4/1		<u></u>	~	- 1105		<u> </u>		Neingi KS	
	1.1. 117									
· ·							·			
						<u> </u>	·			
							·			
					_					
¹ Type: C ₂ Con	centration, D=Depli	tion, RM=R	educed Matrix, <u>M</u> \$	-Masked	Sand Gra	ains.	⁷ Location: 1 ² L :	Pore Linir	ng, M=Matrix.	
Hydric Soll Int	dicators:						Indicat	ors for Pr	oblematic Hy	dric Soils ³ :
Histosol (A	3)		Dark Surface	(S7)			20	m Muck (A	(10) (MLRA 1	47)
Histic Epip	edon (A2)		Polyvalue Hel	ow Surfac	e (S8) (N	ILRA 147,	148) Co.	ası Prairie	Redox (A16)	
Black Histi	c (A3)		Thin Dark Sur	ríace (S9)	(MLRA 1	47, 148)	(MLRA 14	7, 148)	
Hydrogen	Sulfide (A4)		Loamy Gleye	d Matrix (F	2)		Pie	dmont Flo	odplain Soils	(F 19)
Stratified L	avers (A5)		Depleted Mat	rix (F3)	-			MLRA 13	6, 147)	
2 cm Muck	(A10) (LRR N)		Redox Dark S	Surface (HE	5)		Ver	v Shallow	Dark Surface	(1+12)
Depleted E	elow Dark Surface	(A11)	Depleted Darl	k Surface i	., (F7)		Olt	ier (Explai	n in Remarks	1
Thick Dark	Surface (A12)		Reday Depre	ssions (FR	, <i>,</i> }					,
Sandy Mur	kv Mineral (S1) /LI		Necox Depres	eo Macso	/ e (E12) (i	DD N				
	AT 1491	nn n,	HOMMANGANO	130 m ilij336 13	3 (F #2) (i	-nis ia,				
Sandy Gle	ved Matrix (S4)		Umbrie Surfa	77 na (F13) (1	M RA 13	6 122)	3lodic	ators of by	when hydroxyme	bee noteto
Sandy Red	lox (SS)		Piedmont Flor	odolain So	ils (F19)	MLRA 14	(B) wells	and hydrol	oav must be i	vesent.
Stripped M	atrix (S6)		Red Parent M	aterial (F2	1) (MLR)	A 127. 147	n unle	ss disturbe	ad or problem	alic.
Restrictive La	var (rf observed):			· (· -						
Type:										
Depth (inche	8s):		_				Hydric Soil P	resent?	Yes	No
Remarks:							1 -			

	and full for an 24 Aul 120
Project/Site: (arroll localy they y	City/County: Sampling Date: Sampling Date:
Applicant/Owner: <u>Allenout</u> Read	State: Sampling Point:
Investigator(s): 17.14 Alexander band Cector V. Irma	Section, Township, Range: X 41, 719 N, K 5
Landform (hillslope, terrace, etc.)* 1	Local relief (concave, convex, none): <u>Concever</u> Stope (%): <u>1-7</u>
Subregion (LRR or MLRA): LRF M Lat: 10 60	[2 Long: <u>11.0551</u> Datum: MAO []
Soil Map Unit Name: 6 Janles + 14 Jun, 3-15 4 slap	y (LCC) NWI classification: <u>JCm (and mynd)</u>
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes 📝 No (If no, explain in Remarks)
Are Vegetation, Soil, or Hydrology significa	ntly disturbed? Are "Normal Circumstances" present? Yes 🔽 No
Are Vegetation, Soil, or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map show	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yos No Wetland Hydrology Present? Yes No Remarks: No No	Is the Sampled Area within a Wetland? Yes <u>Ves</u> No
HANROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary indicators (minimum of one is required; check all that and	lu) Si∎fare Soit Crarks (B6)
$\sqrt{\frac{1}{3}}$ Surface Water (51) True Amati	r Plants (B14) Sparsely Venetated Concave Surface (B8)
High Water Table (A2)	Sulfide Odor (C1)
Saturation (A3)	hizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence o	i Reduced iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Muck 5	Surface (C7) Saturation Visible on Aenal Imagery (C9)
Algal Mat or Crust (B4) Other (Expl	ain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (85)	🧹 Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	¹
Surface Water Present? Yes <u>Ves</u> No Depth (inc)	185): <u>0, 75</u>
Water Table Present? Yes 🗸 No Depth (incl	ves): 5
Saturation Present? Yes <u>V</u> No <u>Depth</u> (incl (includes capillary fringe)	ies): <u>0 °</u> Wetland Hydrology Present? Yes <u>•</u> No
Describe Recorded Data (stream gauge, monitoring well, aerial pl	totos, previous inspections), if available:
komate	
- Suchare weater in partiens of weathers	

VEGETATION (Four Strata) – Use scientific	names of	plants.		Sampling Point	<u>: we I</u>
	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size:)	<u>% Cover</u>	<u>Species?</u>	Status	Number of Dominant Species That Are OBL_FACW, or FAC:) (A)
2				Total Number of Dominant	<u> </u>
3				Species Across All Strata:	(B)
4				Percent of Dominant Species	(00
5.				That Are UNIT, FACW, of FAC:	(AVB)
9				Prevalence Index worksheat:	
	;	= Fotal Cov	er	Total % Cover of:	<u>viulupiy by:</u> -
50% of total cover:	20% of	total cover:	:	FACW species x 2 :	
1				FAC species x 3 =	•
2				FACU species x 4 :	<u> </u>
a				UPL species x 5 -	·
4				Column Totals: (A)	<u>(</u> B)
5				Prevalence Index = E/A =	
ti		-		Hydrophytic Vegetation Indicator	rs:
8				Rapid Test for Hydrophytic	Vegetation
9				2 - Dominance Test is >50% 3 - Prevalence Index is <3.0 ¹	
		= Total Cov	er.	4 - Morphological Adaptations ¹	(Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a se	parate sheet)
<u>Hem Straium</u> (Piot Size:)	54	1	CI (Problematic Hydrophytic Vege	təlion ¹ (Explain)
2 Latra and the	15	<u> </u>	ta cod		
3. Deners of frees	10		Fare	¹ Indicators of hydric soil and wetlan be present unless disturbed or pro	id hydrology must htematic
4. Corne poloinitia	/0		Farmer	Definitions of Four Vegetation St	rata:
5				Tree . Woody abuly excluding vio	ves 3 in (7.6 cm) or
۶				more in diameter at breast height (DBH), regardless of
/	·			height.	
9.				Sapling/Shrub Woody plants, ex	cluding vines, less equal to 3.28 ft (1
10				m) tall.	oquerte orzent (
11				Herb - All herbaceous (non-woody) plants, regardless
LOW of the later way (4)	55	 Total Cov 	er ≀n	of size, and woody plants less than	3.28 ft tall.
Wordy Vine Stratum (Plot size:34	• <u>)</u> 20%-01	total cover;	<u> </u>	Woody vine – All woody vines greaters height	ater than 3.28 R in
1				4	
3.					
4				Hydrophytic	
5				Vegetation	
50% of total cover:	20% of	 Total Cov total cover; 	er	Present? Yes	NO
Remarks: {Include photo numbers here or on a separate	sheet.)			I	
				·	

Profile Description: (Des	scribe to the dept	h needed to docum	ent the ind	licator o	or confirm	the absence of indicators.)
DepthM	lətrix	Redox	Features			
(inches) Color (mo	oist) 96	Color (moist)	%	Type'	l oc'	<u>Texture</u> Remarks
0.6 2.5791	1) 40	7.578 4/6	10	۲	PL/m	sile organic routed high
6.121 61 6/1	64 90	1998 5/6	19	<u> </u>	m	Fish Allevial
· · · · _ · · · · · · · · ·						
¹ Lype: C=Concentration.	D-Depletion, RM-	Reduced Matrix, MS-	Masked S	and Gra	ins	² Location: PL-Pore Lining, M-Matrix
Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :
Histosol (A1)		Dark Surface (S7}			2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)		Polyvalue Belo	w Surface	(S8) (M	LRA 147, 1	148) Coast Prairie Redox (A16)
Hiack Histic (A3)		Thin Dark Surf	ace (S9) (N	ALRA 14	47, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4))	Loamy Gleyed	Malox (F2	1		Predmont Floodplain Soils (F19)
Strained Layers (A5) B am March (A10) (LD)		Depleted Math	X (F3) -Frank (FC)			(MLRA 136, 147)
Z cm Muck (ATU) (LR	R N) Statum (833)	Redox Dark St	mace (ro) Surface (ro)	-1		Very Snallow Dark Striade (1712)
Depend below Dark Thick Dark Surface (A	Suirace (ATT)	Depleted Dark	Surrace (F signs (F9)	1)		Other (Explain in Remarks)
Sandy Mucloy Museral	(51) (LRR N	Redux Depres	a Musees	(ED 2) /I	DD N	
MLBA 147, 148)		Hor Hangaries MI RA 136)	e 1940 30 60	(112) (0	. nn n,	
Sandy Gleved Matrix	(54)	Umbric Surface	e (F13) (M I	RA 138	5, 122)	³ Indicators of hydrophytic vegetation and
Sandy Redox (S5)		Predmont Floo	dolain Soils	s (F19) (MLRA 14	 wetland hydrology must be present.
Stripped Matrix (S6)		Red Parent Ma	nerial (F 21)) (MI RA	127, 147]) unless disturbed or problematic.
Restrictive Layer (if obse	erved):					· · · · · · · · · · · · · · · · · · ·
lype:						
Depth (inches):		_				Hydric Soil Present? Yes 🗾 No
Remarks:						1

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Correll La A france	City/County Correll Co	5	amoling Date: 24 April 248
Applicant/Ounar Athen I for a	enycounty	Sime Oil	Sampling Union White Lar
		State	_ Sampling Point. <u></u>
Investigator(s): Miller (11-576-11 and 16 for Kilana	Section, Township, Range:	340, 1190,	100
Landform (hillslope, terrace, etc.): <u>hillslop</u>	 Local relief (concave, convex, no 	ne): <u>('arry nr</u>	Slope (%): <u> フィル</u>
Subregion (LRR or MLRA): LAK N Lat: 40,	<u>644 5</u> Long: <u>13</u>	11. 0561	Datum: <i>iVndj_j</i>
Soil Map Unit Name: 61-1 11 1 1-1 1 15 1 5	Laws (6fc)	NWI classificat	ion Upt
Are climatic / hydrolonic conditions on the site typical for this time	of year? Yes No	(If no, explain in Rec	narks.)
Are Vagetation Soil or Hydrology signific	captly disturbed?	(Circumetoones' pro	kamiz Vos No
Are Vegetation, Soli, or Hydrology signific		i circuitsiances pre	isenii: res NG
Are vegetation, Soil, or Hydrology natura	iny problematic? (in needed, o	explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	wing sampling point location	ons, transects, i	important features, etc.
Hydrophylic Vegetation Present? Yes No			
Hydric Soil Present? Yes No	Is the Sampled Area within a Watland?	Vee	
Wetland Hydrology Present? Yes No		765	NO
Romarks:	L		
HYDROLOGY			
Welland Hydrology Indicators:		Secondary Indicato	rs (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	pply)	Surface Soil Cr	acks (B6)
Surface Water (A1) True Aqu	atic Plants (B14)	Sparsely Veget	lated Concave Surface (B8)
High Water Table (A2) Hydrogen	Sulfide Odor (C1)	Dramage Patte	rns (B10)
Saturation (A3) Oxidized I	Rhizospheres on Living Roots (C3)	Moss Trim Line	es (B16)
Water Marks (B1) Presence	of Roduced Iron (C4)	Dry-Season Wa	ater Table (C2)
Sediment Deposits (87) Recent Ire	an Reduction in Tilled Soils (C6)	Crayfish Burlov	vs (C8)
Drift Deposits (B3) Thin Mucl	x Surface (C7)	Saturation Visit	ole on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Ex	plain in Remarks)	Stunted or Stre	ssed Plants (D1)
Iron Deposits (B5)		Geomorphic Pic	usition (D2)
Inundation Visible on Aerial Imagery (B7) Water Stated Leaves (B0)		Shallow Aquital	rð (D3) via Raliaf (D4)
Water-Stained Leaves (B9)		Microlopograph	nic Relief (D4)
Aquate Facilia (513)			35((120)
Surface Water Prosent? Yes No Depth for	ichor).		ľ
Water Table Bresent? Ves No Barth (m			ł
Saturation Brussed? Yes No Donth (m	sches): Meilend k	wdrolony Drecent?	Vas No
(includes capillary fringe)		iyorology Fresence	1es
Describe Recorded Data (stream gauge, monitoring well, aerial	photos, previous inspections), if ava	iilable:	
Romarks			·

VEGETATION (Four Strata) – Use scientific	names of plants.	Sampling Point: <u></u>
Trans Standard (Stationer 3)	Absolute Dominant Ind	Icalor Dominance Test worksheet:
Tree Stratum (Plot size:)	<u> % Lover Species? S</u>	Number of Dominant Species 2 (A)
1. <u>(4.27.125)</u>		$\frac{p_{A}(\mathbf{v})}{p_{A}(\mathbf{v})} = \frac{1}{p_{A}(\mathbf{A})} \frac{1}{p_{A}(\mathbf{A})} \frac{1}{p_{A}(\mathbf{v})} \frac{1}{p_{A}(\mathbf{v})$
2. <u>Franks</u> <u>5. J. 1. 1.</u>		Total Number of Dominant
3. <u></u>		CAC Species Across All Strata: (B)
4		Percent of Dominant Species 25%
-		That Are OBL, FACW, or FAC: (A/B)
6		Prevalence Index worksheet:
<i>I</i> .	M6	Total % Cover of: Multiply by:
50% of total cover, 2	7.5 = 10 kal Cover	G OBL species x1 =
State of total cover		FACW species x 2 =
sapingrsmuu suatom (Ploy size: 75)	15 /	FAC species x 3 =
' <u>#256_mod56_</u>		F4/2 FACU species X 4 =
n A day have a		UPL species x 5 =
S. Contra DMZein		Column Totals: (A) (B)
4		(0)
<u>ა.</u>		Prevalence Index - B/A
6		Hydrophytic Vegetation Indicators:
7		1 - Rapid 1est for Hydrophytic Vegetation
⁸	`	2 - Dominance Test is >50%
9	·	3 - Prevalence Index is \$3.0 ¹
t h	30 = Total Cover	4 - Morphological Adaptations' (Provide supporting
50% of total cover	20% of total cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)	(~)	Problematic Hydrophytic Vegetation ¹ (Explain)
1. Kelighalin pelitation		
2. Perary Averting Stilling 1		7/10/2 Indicators of hydric soil and wetland hydrology must
3. Rober phigning lesies		be present, unless disturbed or problematic.
4. Polystichen accordication	}	Definitions of Four Vegetation Strata:
5		Tree Weedu plants excludion vices 3 in (2.6 cm) or
۶		more in diameter at breast height (DHH), regardless of
7		height.
B		Sapling/Shrub – Woody plants, excluding vines, less
9		
10		(m) tall.
11		——— Herb - All herbaceous (non-woody) planis, regardless
	Total Cover	of size, and woody plants tess than 3.28 ft tall.
50% of total cover	20% of total cover:	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)		height.
1. Junitedination Conditions		FAC
2		<u> </u>
3		
4		Hydrophytic
5		Vegetation
-	<u>5</u> = Total Cover	Present? Yes No
50% of total cover:	20% of total cover:	<u> </u>
Remarks: (include photo numbers here or on a separate	e sheel.)	

				<u>x Features</u>	- 1		-	
icnes) C	olor [moist]	%	Color (maist)	_%	Type:	1.00		Remarks
2.10 10-	(* 4/3	100						
							.	
·								
							<u> </u>	
ype: C-Concent	ration, D-Depl	etion, RM=I	Reduced Matrix, MS	-Masked	Sand Gra	ins.	² Location: PL=Pc	ore Lining, M=Matrix.
dric Soil Indica	tors:						Indicators	for Problematic Hydric Soils ³ :
Histosol (A1)			Dark Surface	(S7)			2 cm l	Muck (A10) (MLRA 147)
Histic Epipedo	n (AZ)		Polyvalue Hel	low Surfac	e (SB) (M	LRA 147,	148) Coast	Prairie Redox (A16)
Black Histic (A	3)		Thin Dark Su	iface (S9)	(MLRA 1	47, 148)	(ML	RA 147, 148)
Hydrogen Sulf	de (A4)		Loamy Gleye	d Matrix (F	2)		Piedrr	iont Floodplain Soils (F19)
Stratified Laye	rs (A5)		Depleted Mai	rix (F3)			(ML	.RA 136, 147)
2 cm Muck (A1	0) (LRR N)	/4775	Redox Dark S	Surface (FE	2) 45 - 1		Very :	Shallow Dark Surface (TFT2)
Depleted Relo	w Dark Suitace Josep (A12)	(ATT)	Depieted Dar	k Surface ocione (EQ	(+))		Uner	(Cxplain in Remarks)
Smelu Mucharl	irace (ATZ) Museul (S1) /E		Redox Depre	ssions (Fo bea Massa	4 6 (E12) (I	OD M		
MI DA 147	149) 149	ка в,	MIRA 136	328 MW3356	יז (רובן (ו	-nn n,		
Sandy Gleved	Matrix (S4)		Umbric Surfa	-, ce (F13) (P	ALRA 13	6. 122)	⁸ Indicato	rs of hydrophytic vecetation and
Sandy Redox	(55)		Piedmont Flo	odplain So	iils (F19)	(MLRA 14	(8) wetland	f hydrology must be present.
Stripped Matrix	c (S5)		Red Parent N	aterial (F2	1) (MLR	A 127, 147	7) unless	disturbed or problematic.
strictive Layer	(if observed):							
Type:								
Depth (inches):							Hydric Soil Pres	sent? Yes No
marks								

WETERID DETERMINATION DATA (Online - Edistern instante	nins and Fiodmont Hogion
Project/Site: (acred) County Energy City/County: Convell Co	Sampling Date: 14 July 200
Applicant/Owner: Aligned Remain	State: Sampling Point: D
Investigator(s): 191 14 Massing li and Calie Vilens Section, Township, Range-	SES TIMN ASW
Landform (hillstope, terrace, etc.):	ione): <u>Canadara</u> Slope (%): <u>1-3</u>
Subregion (LRR of MLRA): LAR & Lat: 40.6 ° 6' Long: -	81,0557 Datum: NAO 81
Soil Man Hair Name: Whenfiel with have 3 to 14 show (GC)	NWI reassification: PEM Cart mayed)
Are elimetic i hydrolesis coorditions on the site typical for the line of unit? Yes	//f.oo. eveloin in Remarks)
Are Versioning Conditions on the site typical for this time of years res No	al Circumstances" present? Yes V
Are Vegetation, Soil, arrighted agy significantly distanced in the vegetation, Soil, or Hydrology significantly distanced in the vegetation, arrighted agy significant distanced in the vegetation arrighted agy significant distanced in the vegetation arrighted agy significant distanced in the vegetation arrighted agy arrighted agr agy agy agr agy agy agr agy agy agr agy agr agy agy agr agy agr agy agy agr agy agy agr agy agr agy agy agr agy agy agy agr agy agy agr agy agy agy agy agr agy agy a	, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locat	ions, transects, important features, etc.
	1
Hydrophytic Vegetation Prosent? Yes Vegetation Prosent? Yes Vegetation Prosent? Yes Vegetation Prosent?	
Hydric Soil Present? Yes <u>No</u> within a Wetland?	Yes No
Wetland Hydrology Present? Yes Vo	
Remarks:	
·	J
HYDROLDGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2) Hydrogen Sulfide Odor (C1)	'Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizospheres on Living Roots (C3)) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced Iron (C4)	Dry-Season Water Table (C2)
Sediment Deposits (82) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8)
Dhit Deposits (B3) Dhit Mijck Sundete (C7)	Studied or Stressed Plants (D1)
Adjar Mat of Crust (B4) Other (Cxpriair) in Remarks)	Eeomorphic Position (D2)
toundation Visible on Aerial Imanery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (199)	Microtopographic Relief (D4)
Aqualic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No 🗸 Depth (inches):	
Water Table Present? Yes 🗸 No Depth (urches):	,
Saturation Present? Yes 🔽 No Depth (inches): _] " Wetland	Hydrology Present? Yes 🗹 No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if a	valiable:
Remarks:	

I

VEGETATION (Four Strata) – Use scientific m	ames of	plants.		Sampling Point: WF 3
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 15)	% Cover	Species?	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)
б				
7				Prevalence index worksheet:
		- Total Cov	er	Total % Cover of: Multiply by:
50% of total cover:	20% of	total cover:		OBL species X1 =
Sapling/Shrub Stratum (Plot size: 75)				FACW species x 2 =
1				FAC species x 3 =
2				FACU species X 4 =
3				UPL species x 5 ~
4				Column Totals: (A) (B)
5.				
6.		-		Prevalence index = B/A =
7.				Hydrophytic Vegetation Indicators:
R				1 - Rapid Test for Hydrophytic Vegetation
a.				2 - Dominance Test is >50%
ə		Total Cov		3 - Prevalence Index is ≤3.0'
50% of total cover:	2096.01	total cover:	er	4 - Morphological Adaptations ¹ (Provide supporting
Hach Stratum (Plot size: 5	_ 20/000			data in Remarks or on a separate sheet)
1 9	1.2			Problematic Hydrophytic Vegetation ¹ (Explain)
2 S. Lever C. L.	 		cal	
α)]			Etc.	¹ Indicators of hydric soil and wetland hydrology must
3. Longediers Cybranis			14100	be present, unless disturbed or problematic.
4,				Definitions of Four Vegetation Strate:
5				Tree - Woody plants, excluding vines, 3 in, (7.6 cm) or
ົບ				more in diameter at breast height (DBH), regardless of
7				height.
8				Septing/Shrub – Woody plants, excluding vines, less
9				than 3 in DBH and greater than or equal to 3.28 ft (1
10				m) tail.
11			·	Herb - All herbaceous (non woody) plants, regardless
	<u>je</u> 2.	 Lotal Cove 	۲r	of size, and woody plants less than 3.28 # tall.
50% of total cover: 5	_ 20% of	total cover:	35	Woody vine - All woody vines creater than 3.28 thin
Woody Vine Stratum (Plot size: 73 ^)				height.
1				
2				
3				
4				Hydrophytic
5				Vegetation
	:	- Tolal Cove	er	Present? Yes No
50% of total cover:	_ 20% of	total cover:		
Remarks: {Include photo numbers here or on a separate sh	ieet)			•
A ald a for the left of a comparison				
the proof size is here the due to size of week	61			
in third gross not included ; repr	fa tin ag	semid h	L. 1.,	he bush on muchanic day
protection that would be set and had	dege			15
	1			

Sampling Point: _______

Profile Desc	ription: (Describe)	to the dept	h needed to docum	nent the ir	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix		Redo	x Features	; 		. .	
<u>(inches)</u>	Color (moist)	<u> </u>	Color (moist)	%	T pe	Loc'	Texture	Remarks
0.133	2.57 -12	90	1.54R 4/6	10		_ m	_sile	
					-			
<u>. </u>								
1ype: C=Cc	oncentration, D=Depl	etion, RM=I	Reduced Matrix, MS	5≃Masked	Sand Gra	eins.	Location: P	PL=Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indic	ators for Problematic Hydric Solls":
Histosał	(A1)		Dark Surface	(S7)				cm Muck (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Polyvalue Be	low Surfac	:e (S8) (N	ERA 147,	148) (Coast Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Su	rface (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
Hydrogei	n Sulfide (A4)		Доатту Gleye	d Matrix (F	F2)		F	iedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Mat	rix (F3)				(MLRA 136, 147)
2 cm Mu	ck (A10) (LRR N)		Redox Dark \$	Surface (Fi	6)		\	/ery Shallow Dark Surface (TF12)
Depleted	Below Dark Surface	e (A11)	Depleted Dar	k Surface	(F7)		(Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8	3)			
Sandy M	ucky Mineral (S1) (L	RR N,	Iron-Mangan	ese Masse	es (F12) (I	LAR N,		
MLRA	147, 148)		MLRA 13	6)				
Sandy G	leyed Matrix (S4)		Umbric Surfa	ce (F13) (MLRA 13	6, 122)	³ Inc	ficators of hydrophytic vegetation and
Sandy R	edox (S5)		Piedmont Flo	odplain Sc	pils (F19)	(MLRA 14	B) we	atland hydrology must be present.
Stripped	Matrix (S6)		Red Parent M	Aaterial (F)	21) (MI R.	A 127, 147	i) un	less disturbed or problematic.
Restrictive L	ayer (if observed):							· · · · · · · · · · · · · · · · · · ·
Type:	Ŧ							
Depih fing	hasl						Hydric Soil	Present? Yes 📈 No
ocput (inc	alogi							
Remarks:								

$\mathbf{T} = \mathbf{L} = $
--

Project/Site: Comell (<u> </u>	no. 24	City/0	County: <u> </u>	A to.		Sampling Date	24 4. 12
Applicant/Owner: A hear	<u>al fere</u>	et la la			S'	tate: <u>CH</u>	Sampling Po	int:
Investigator(s): 1/15-14 M	-secoli -	not Colle	Vilan Secu	on, Township, Rai	nge: <u>52</u>	STIMM 1	15~	
Landform (hillslope, terrace, (etc.): 1.71	sty / enders	Keent Local rel	ief (concave, conv	vex, none):	Course_	St	ope (%): <u>7</u>
Subregion (LRR or MLRA):	LEP N	I at:	40.6665	Lon	a: -71	755	Datu	m: 1-44 15
Soil Man Unit Name:	LI OH	J	4. June 1680		5	NWI classific	alion: LogK	
des elleuris d'autoris es et			· · · · · · · · · · · · · · · · · · ·	··· / N-	<u>()(</u>		emoche)	
Are climatic / hydrologic cond	litions on the	site typical to	or unis time or year? I	185 <u>~</u> NO _	(n m	o, explain in R	emarks.j	/
Are Vegetation, Soil _	, or H ₂	ydrology	significantly distui	ibed? And "	Normal Cir	cumstances" p	resent? Yes	<u> </u>
Are Vegetation, Soil _	, or H ₂	ydrology	naturally problem	entij Spile	reded, expra	ain any answe	rs in Remarks.)	
SUMMARY OF FINDI	NGS – Att	ach site n	ap showing san	npling point k	ocations	, transects	, important i	eatures, etc.
Hydrophytic Vegetation Pre Hydric Soil Present? Wetland Hydrology Present	sent? ?	Yes Yes Yes		Is the Sampled within a Wetlan	Area 1d7 	Yes	_ No	
1								
HYDROLOGY								
Wetland Hydrology Indica	itors:				Sec	condary Indica	tors (minimum c	if two required)
Primary Indicators (minimur	n of one is re	equired; chec	k all that apply)			Surface Soil	Cracks (B6)	
Surface Water (A1)		_	True Aquatic Plants I	(B14)	_	Sparsely Veg	gelated Concave	surface (88)
High Water Table (A2)			Hydrogen Sulfide Od	or (C1)		Drainage Pa	lterns (B10)	
Saturation (A3)		_	Oxidized Rhizospher	es on Living Roots	s (C3) 📃	Moss Frim Li	nes (816)	
Water Marks (B1)		_	Prosence of Reduce	l Iron (C4)	_	Dry Season	Water Table (C2)
Sediment Deposits (82)	_	Recent Iron Reduction	on in Tilled Soils (C	C6)	Crayfish Bun	rows (CB)	
Drift Deposits (B3)		_	Thin Muck Surface ((27)	_	Saturation Vi	sible on Aerial Ir	magery (C9)
Algal Mat or Crust (B4)		_	Other (Explain in Rea	marks}	_	Stunted or S	ressed Plants (I	21)
Iron Deposits (85)					_	Geomorphic	Position (D2)	
Inundation Visible on A	erial Imagery	ý (B7)			_	Shallow Aqu	ilard (D3)	
Water-Stained Leaves	(B9)				_	Microtopogra	unic Relief (D4)	
Aquatic Fauna (B13)						FAC-Neutral	Test (D5)	
Field Observations:		/						
Surface Water Present?	Yes	_ № <u> </u>	، Depth (inches):					
Water Table Present?	Yas	_ No	, Depth (inches):					
Saturation Present?	Yes	No <u>/</u>	Depth (inches):	Wei	tland Hydr	ology Preser	t? Yes	No
Describe Recorded Data (st	tream gauge	, monitoring v	vell, aerial photos, pre	vious inspections)), if availabl	le:		
		Ŧ						
Remarks:								

VEGETATION	(Four Strata) – Use scientific	names of plants.
------------	--------------	--------------------	------------------

Sampling Point: w4 3+r

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
1. Vieros coles			Fie	That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4.				
5				Percent of Dominant Species 75
c				
· · · · · · · · · · · · · · · · · · ·				Prevalence Index worksheet:
- t- <u></u>				Total % Cover of: Multiply by:
		 Total Covi 	er	OBL species x 1 =
50% of total cover: 70	20% or	total cover:	r	FACW spacies y 2 =
Sapling/Shrub Stratum (Plot size: /)		1		
1. <u>Kang mart for her-</u>		<u> </u>	FAIL	
2. Artas ciridatats	10		$\nabla \mu$	FACU spacies X 4 =
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Desculance Index D15
6.				
7				Hydrophytic Vegelation Indicators:
p				1 - Rapid Test for Hydrophytic Vegetation
р.				2 - Dominance Test is >50%
9				3 - Prevalence Index is ≤3.0 ¹
		= Total Cov	er 7	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: <u>~</u> 3	20% of	total cover:	<u>)</u>	data in Remarks or on a separate sheet)
Herb Stratum (Plot size:)		_		Problematic Hydrophytic Vagetation ¹ (Explain)
1. Presence Sp. *	40			
2. Kess milt fl -	15		FALV.	Jundiantana of buddia and and and budded may should
3. Electron heles an	_5_		Facul	he present unless disturbed or problematic
4.				Definitions of Four Venetation Strates
5.				Definitions of Four Vegetation Sulara:
5.				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
a				more in diameter at breast height (DBH), regardless of
·				neight.
8,				Sapling/Shrub – Woody plants, excluding vines, less
ġ				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) can.
11				Herb - All herbaceous (non-woody) plants, regardless
	<u> </u>	= Total Cove	₽ſ	of size, and woody plants less than 3.28 ft tall.
50% of total cover:52	20% of	total cover:	12	Whody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size: 30)				height
1				
2.				
3				
۰ <u>ــــــــــــــــــــــــــــــــــــ</u>				Hydrophytic
s				Present? Yes No
		= TOTAL COVE	21	
Su% or total cover:	_ 20% 01	total cover:		
Remarks: (include photo numbers here or on a separate s	neel.)			
to -midufiled gross sp. not included in ca	hickory			
• • • • •	-			

Profile Description: (Describe to the de	pth needed to document the indicator or confirm	n the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	Turken Bemarks
- 0-12+ 1848 4/3 100		<u> </u>
·		
		·
••••	····	·
		<u> </u>
Type: C=Concentration, D=Depletion, RM	I=Reduced Mainx, MS=Masked Sand Grains.	*Location: PL=Pore Lining, M-Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Solis":
Histosul (A1)	Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedion (A2)	Polyvalue Below Surface (S8) (MLRA 147,	. 148) Coast Prairie Redox (A16)
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
— Hydrogen Sulfide (A4)	Loarny Cleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	Very Shallow Dark Surface (TF12)
 Depleted Helow Dark Surface (A11) 	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (FB)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	har a second second
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 1)	weband hydrology must be present.
Stopped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 14	7) unless disturbed or problematic.
Restrictive Layer (if observed):		
lype:		
Depth (inches):		Hydric Soil Present? Yes No
Remarks:		

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region
Project/Site: Carroll County: Carroll Co Sampling Date: 24 41.1 201.
Applicant/Owner: Advand Point We K
Investigator(s): Mile Illessand and Chie Villens Section, Township, Range: 523, 719m RSW
Local relief (concave, convex, none): h & Slope (%): <u>h - 1</u>
Subrening (LRE or MLRA): [KA. M Lat. 44, 603] Long: "81, 0545" Datum: 1441 33
Soil Han Hait Name: West muchal - Curberles with here 15:252 slice (West D) NWI classification: P35 (not meanly)
Aventing and values of the site typical for this time of year? Yes No. (If no explain in Remarks.)
Are Veneration Set or Hydrology similarity disturbed? Are "Normal Circumstances" present? Yes V
Are Vegetation, Son, or Hydrology Bynneardy bisarboot. Are the memory exclaim any answers in Remarks)
All system, Sol, or hydrology reforming posientation in the cost of point only on one of the most and for the second system to the second
SUMMART OF FINDINGS – Attach site map snowing sampling point locations, transects, important readines, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Within a Wetland? Yes No
Weiland Hydrology Present? Yes No Remarks:
Wetland Hydrology Indicators: <u>Secondary Indicators (mainten or two required)</u>
Primary Indicators (minimum of one is required; check all that apply) Surface Soli Cracks (bo)
Line Water Table (A2) High Water Table (A2) Hydronen Sulfide Odix (C1) Draware Pallerns (B10)
Solucation (A3) Oxidized Blizospheres on Living Boots (C3) Moss Trip Lines (B16)
Water Marks (B1) Presence of Reduced from (C4) Dry-Scason Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C5) Crayfish Burrows (C6)
Drift Deposits (B3) Thin Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7) Shallow Aquitard (D3)
Water-Stained Leaves (B9) Microtopographic Relief (D4)
Aquatic Fauna (B13)
Field Observations:
Surface Water Present? Yes No V Depth (inches):
Water Table Present? Yes No Veptn (inches):
(includes capillary fringe)
Describe Recorded Data (stream gauge, monitoring well, aenal photos, previous inspections), if available:
Remarks:

VEGETATION	(Four Strata)	- Use scientific	names of plants.
------------	---------------	------------------	------------------

Sampling Point: we K

20	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 32)	% Cover	Species?	Status	Number of Dominant Species L ₁
1. Carping perlinian			K	That Are OBL, FACW, or FAC: (A)
2				L Justal Number of Demicent
3				Species Arross All Strala: (B)
	-			
4				Percent of Dominant Species 100
5				That Are OBL, FACW, or FAC: (A/B)
6				Description of Index sensitivity
7				Prevalence index worksnest:
	5	= Total Cove	er.	Total % Cover of: Mutiply by:
50% of total cover: 2.5	20% of	total cover:	1	OBL species x 1 =
Section/Shoub Stratum (Plot size: 15)		-		FACW species x 2 =
separation of the second secon	1.0	1	Dec.	FAC species x 3 -
1- Cacors Provincen			<u></u>	EACH spacing y 4 -
2 <u>5 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>	10	<u> </u>	<u>erk</u>	
3. Samera Constant	<u>i0</u>		FACW	UPL Species X 5
4				Column Totals: (A) (H)
5.				
c				Prevalence Index = D/A =
0				Hydrophytic Vegetation Indicators:
7				
8				2 - Dominance Lest is >50%
9				3. Provalence Index is \$3.0 ¹
	40	= Lotal Cove	ar	
50% of total cover:	20% of	total cover:	y	4 Morphological Adaptations' (Provide Supporting)
Horb Strutum (Riot mag		·····	-	data in Remarks or on a separate sheet)
		./		Problematic Hydrophytic Vegetation ¹ (Explain)
1. 19 - 19 - 19 - 19 - 19 - 19 - 19 - 19		<u> </u>		
2. Sample contra testiling			CBL	Instruction of hydrocoll and until and hydrology must
3. Inortion commis	_/5		<u> </u>	be present unless disturbed or problematic.
4. Onuber smilling	Ś		FAIN	Definitions of Four Vecetation Strates
5 All's data			5464	Denniuons of Four Vegetation Strata:
				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
6				more in diameter at breast height (DBH), regardless of
7				height.
8				Faction Shaub - Machinelants, avaluation views, loss
g,				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
10				
	- 2 .			Herb – All herbaceous (non-woody) plants, regardless
	<u> </u>	 Total Cove 	er An an	of size, and woody plants less than 3.26 it tail.
50% of total cover: <u>415</u>	20% of	total cover:_	16.6	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)				height.
1,				
7.				
3				
4				Hydrophylic
5				Vegetation
		 Total Cove 	sr	Present? Yes <u>v</u> No
50% of total cover:	20% of	total cover:_		
Remarks: (include photo numbers here or on a separate s	heet.)			<u> </u>
s a state				
I - unidenticity first st not include in in	halations	1		

(inches)		96	Color (moist)	<u>* reatures</u>	Type'	Loc	Texture	Remarks
0.11)	1048 4/3	15	7.542416	57	ć	m	5.15	
	<u> </u>				_ `			
········						_ 		
		<u> </u>						— ————
								· ·
								·
¹ [voe: C=Cc	ricentration, D=Depl	etion, RM-	Reduced Matrix, MS	-Masked	Sand Gra	ains.	² Location: F	PL⊧Pore Lining, M⊭Matrix
Hydric Soil I	ndicators:		· · ·				Indic	ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			_ :	2 cm Muck (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Polyvalue Bel	ow Surfac	e (S8) (M	II RA 147,	. 148)	Coast Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Sur	face (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
Hydroger	n Sulfide (A4)		Loamy Gleyed	1 Malrox (F	Z)		_ '	Piedmont Floodplain Soils (F19)
Stratified	Layers (A5)		Depleted Mati	rix (F3)				(MLRA 136, 147)
2 ¢m Mu	ck (A10) (LRH N) Deleve Deek Conferen		Redox Dark S	unace (Ft	i] ∕r.⊐\		—	Very Shallow Dark Sufface (TFT2)
Depiereo Deiak Da	Helow Dark Surface de Surfaco (A12)	: (A I I)	Depleted Dan Redex Depres	Countrace ((F 7) N			Overer (Expraint of reemarks)
Thick Da Sandu M	uekv Mineral (S1) /I.	BD N	Iron.Mannane	se Masse	r s (F12) (i	RR N		
MLBA	147, 148)		MLRA 136	30.00000				
Sandy G	leved Matrix (S4)		Umbric Surfac	e (F13) (N	AI RA 13	6, 122}	'ln	dicators of hydrophytic vegetation and
Sandy R	edox (S5)		Piedmont Floo	dplain So	ils (F 19)	(MLRA 14	4 8) w	etland hydrology must be present.
Stripped	Matrix (S6)		📃 Red Parent M	aterial (F2	1) (MLR.	A 127, 14	7) u	nless disturbed or problematic.
Restrictive L	ayer (if observed):							
lype:								1
Depth (inc	hes):						Hydric So	il Present? Yes 🗹 No 🔜
Remarks:	· -							

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: <u>Currell Levely Consign</u> Applican/Owner: <u>JUnand Person</u> Investigator(s): <u>Mike House of Co</u> Landform (hillslope, terrace, etc.): <u>Killshy/an</u> Subregion (LRR or MLRA): <u>KRE M</u> Soil Map Unit Name: <u>Wrighmichal Coshee</u> Are climatic / hydrologic conditions on the site typic Are Vegetation <u>Soil</u> , or Hydrology, Are Vegetation <u>Soil</u> , or Hydrology, SUMMARY OF FINDINGS – Attach site	I. V. Jone Section, Townsi I. V. Jone Section, Townsi In Knach Tocal relief (concave) Lat: 46. Get M Image: Section (concave) Section (concave) Image: Section (concave) Section (concave)	Correct 1 Correct 1 Sampling Date: <u>JA April 1</u> State: <u>CHA</u> Sampling Point: <u>WA KA</u> nip, Range: <u>JDS, TITM, R5</u> re, convex, none): <u>Correct</u> Stope (%): <u>5</u> Long: <u>II. C573</u> Datum: <u>IVAA (A</u> <u>Long: II. C573</u> Datum: <u>IVAA (A</u> <u>April (March 0)</u> NWI classification: <u>CAA</u> No (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes No [If needed, explain any answers in Remarks.] oint locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes Remarks:	No Is the Sa No No Is the Sa within a	Impled Area Wetland? Yes No
HYDROLOGY Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; c</u> Surface Water (A1) Surface Water (A2) Surface Water (A3) Surface Water (A3) Surf	heck all that apply) True Aquatic Plants (B14) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Livin Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled I hin Muck Surface (C7) Other (Explain in Remarks)	Secondary Indicators (minimum of two required)
Field Observations: Surface Water Present? Yes No Water Table Present? Yes No Saturation Present? Yes No (includes capillary fringe) Describe Recorded Data (stream gauge, monitor) Remarks:	Depth (inches): Depth (inches): Depth (inches): ng well, aerial photos, previous insp	Welland Hydrology Present? Yes No

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: WL & V/

· · · · · · · · · · · · · · · ·	h humbete	Deminant		Deminance Test worksheet:
Tree Stratum (Plot size: 30')	- Mosolute - % Cover	Species7	Status	Dominance rest worksheet:
The sound (Flot size:)	10	<u> </u>	David	Number of Dominiant Species
1 Tevars Saution	. <u>1</u>			
2. Ving sole-			140	Total Number of Dominant
3				Species Across All Strata: (B)
4				
				Percent of Dominant Species
°				That Are OBL, FACW, or FAC: (A/B)
6	·	•		Oravalence Index worksheet:
7				FIBYGIOLO INGOX WOLKSHOOL
	25	= Total Cov	ver	Lotal % Cover of: Multiply by:
50% of total cover: 12.1	5 20% 0	f total cover	5	OBL species x 1 =
Septime/Shoub Stratum (Blot cizer / 6)				FACW species x 2 =
	3.0	1	Etwa	FAC spories x 3 m
1 K-2. m-14.4K.	- 25_		1400	
2. Riter our limps h)	<u> </u>		17400	FACU species, X4 =
3. Sambries wine the complemits	5		E4c-v	UPI species X 5 =
				Column Totals: (A) (B)
4				
\$		- <u>-</u>		Prevalence index = B/A =
6				Hydronhylic Vegetation Indicators:
7				Denid Test in University Versities
8				i - Rapio Test for Hydrophytic Vegetation
<u>.</u>		n <u> </u>		2 Dominance Test is >50%
9	1		·	3 - Prevalence Index is ≤3.0 ¹
	45	- Total Cov	vei .	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 22:	<u>57</u> 20% o	f total cover	: <u> </u>	/ Interprinting out in opportunity () the temperature of the second sec
Herb Stratum (Plot size: 5)				bata in Remarks or bit a separate sneet
1.75.4.5.5.5.	10	1		Problematic Hydrophytic Vegetation' (Explain)
	· · · · · · · · · · · · · · · · · · ·			
2. Kish multidan	. <u> </u>	·	<u>Jaco</u>	¹ Indicators of hydric soil and wetland hydrology must
3. Vich Juryin	2		<u>F4</u>	be present, unless disturbed or problematic.
4				Definitions of Four Verstation Strata
5				i nemicons of r bur vagetacon social.
			-	Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
- b				more in diameter at breast height (DBH), regardless of
7				heighl.
Β			. ——	Carling Rhash Mandy share avaluation incomes
9				than 3 in DBB and prester than or equal to 3.28 ft (1
10	-			m) tall.
[10				
/ 11				Herb – Ali herbaceous (non-woody) plants, regardless
	<u>_P1</u>	= Total Cov	/81	of size, and woody plants less than 3.28 it tall.
50% of total cover:6.5	<u> </u>	f total cover	3.7	and the second sec
Woody Vine Stratum (Plot size: 30)				woody vine - An woody vines greater than 3.26 it in the beintit
2				-
3				
4				Undrophytic
5				Vacetation -
		Tetul C		Present? Yes No
		i – Total COV Lietet –	4¢1	
50% of total cover:	20% 0	r total cover	:	
Remarks: (include photo numbers here or on a separate :	sheet.)			
l				

_. -----

Sampling Point: LVL K-Y

Profile Desc	ription: (Describe to	the deput	needed to docum	ent the in	dicator o	or confirm	the absence o	f indicator	s.)	
Depth	Matrix		Redo	Features			_			
<u>[inches]</u>	Color (moist)	<u>%</u>	Color (moist)	<u> </u>	<u>lype</u>	Loc	<u>Texture</u>		Remarks	
0-4	18-18 4 12 ·	100	-				5.12			
4-124	ICYR M/3	102	-	~	-	-	silo			
<u> </u>										
	· <u> </u>				·					
		· ·								
			·				·			
¹ Type: C=Co	ncentration, D-Deple	tion, RM=}	<u>ted</u> uced Mat <u>rix, MS</u>	-Masked	Sand Gra	ins.	Location: PL:	Pore Linin	<u>g, M</u> ⊿Matrix	
Hydric Soil I	ndicators:						Indicat	ors for Pro	iblematic Hyd	Inc Solls":
Histosol	(A1)		Dark Surface	(S7)			2 c	m Muck (A	10) (MLRA 14	7)
Histic Cp	ipedon (A2)		Polyvalue Bel	low Surfac	e (S8) (M	LRA 147,	148) <u> </u>	ast Praine I Mul Dia 147	RCOOX (A15)	
Black Hi	stic (A3) - Cultate (A1)		Thin Dark Su	nace (S9) (A Marrie /E	(MLKA I 2)	47, 148)	Dia.	MLKA 197 Idmont Elec	, 190) Molain Sails (I	Figi
Hyoroge Sustified	n Summe (A4) Li summe (A5)		Deploted Mat	o Maurx (F riv (F3)	2)			MI BA 136	. 147)	1.13)
3uaoneo 2 rm Mu	rk (A10) /I RR N)		Bedox Dark S	Surface (Fif	ຄ		Ve	v Shallow I	Dark Surface	(TE12)
Depleted	Below Dark Surface	(A11)	Depleted Dar	k Surface ((F7)			ior (Explain	in Remarks)	• • • • •
Thick Da	irk Surface (A12)	. ,	Redox Depre	ssions (F8)	j i					
📃 Sandy M	lucky Mineral (S1) (FI	RR N,	Iron Mangano	se Masse	s (F12) (l	RR N.				
MÉRA	147, 148)		MLRA 130	5)						
Sandy G	leyed Matrix (S4)		Umbric Surfa	ce (F13) (N	ALRA 13	6, 122}	Indic	ators of hyd	drophytic vege	station and
Sandy R	edox (S5)		Piedmont Flo	odplain So	ils (F19)	(MI RA 14	8) weth	and hydroid	xgy must be pi	resem, Ka
Stripped	Matrix (56)		Red Parent M	aterial (F2	() (MI H3	A 127, 147) Unic	ss disturde	o or propiema	μς.
Hastrictive L	ayer (if observed):									
Type:									u	
Depth (ind	:hes):		<u> </u>				Hydric Soll F	mesentr _	tes	OPI
Remarks:										

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

ProjecuSite: Coverell County: Coverell Constant Sampling Date: 27 Averall Co
Applicant/Owner: Advined ferrer State: Ciff Sampling Point: We h,
Investigatoris) Mille Merssing Vice Viley Section Township Hanne 528 THAN 25
I sodiers delleren hunnen utale filler af field state i bereitet formennen annate filler (and a State (St.)) + 5
Landidrin (ninsidpe, terrace, etc.): <u>Calary 7 1967 2019</u> Local relief (concave, convex, none): <u>Calary 7 1967 2019</u> Sidpe (%): <u>Priv</u>
Subregion (LRR or MLRA): <u>LAN M</u> Lat: <u>99, 6091</u> Long: <u>-77, 0599</u> Datum: <u>MAN 05</u>
Soil Map Unit Name: 612.624 SH Kom, 3.476 Stops NWI classification: 75m (Aut mp/1)
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 "Normal Circumstances" present? Yes 📈 No
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sampled Area Hydric Soil Present? Yes No within e Wetland? Yes No Wetland Hydrology Present? Yes No No No No
Remarks:
Wetland Hydrotopy Indicators:
Prinanci Indicators (minimum of one is required: check ell that apply) Surface Soil Cracks (B6)
Surface Water (41) The Anuatr Diants (B1A) Sharsely Menabular Character (B9)
High Water Table (A2) Hydronen Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidized Rhizosoheres on Livion Boots (C3) Moss Trim Lines (B16)
Water Marks (H1) Researce of Reduced from (C4) Dru-Season Water Table (C2)
Sediment Denosits (B2) Recent Iton Reduction in Tilled Spils (C6) Cravitsh Burrows (C8)
Drift Denosits (R3) This Muck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Alina) Mat or Crust (R&) Oliber (Explain in Remarks) Stunted or Stepsed Plants (D1)
Iron Deposits (B5)
Inundation Visible on Aerial Imageor (B7)
Water-Stained Leaves (B9) Microtronomanbic Retief (D4)
Aquatic Fauna (B13) FAC-Neutral Test (D5)
Field Observations:
Surface Water Present? Yes No / Depth (inches):
Water Table Present? Yes No 🗸 Depth (inches):
Saturation Present? Yes No Depth (inches): 3 Wetland Hydrology Present? Yes No
(includes capillary fringe)
Doscribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
Remarks:

VEGETATION (Four Strata) - Use scientific	names or plants.	••	Samping Point:
Tree Stratum (Plot size: (§ *)	Absolute Dominant I <u>% Cover</u> <u>Species?</u>	ndicator Status	Dominance Test worksheet: Number of Dominant Species
1. <u></u>			That Are OBL, FACW, or FAC:(A)
2			Total Number of Dominant
J			Species Across All Strata (B)
1			Percent of Dominant Species / 02
5			That Are OBL, FACW, or FAC: (A/B)
6. <u></u>			Prevalence index worksheet:
7	· ·		Lotal % Cover of: Multiply by:
	= Total Cove	r	OBI species x1-
50% of total cover:	20% of lotal cover:		+ 61'W snames x 7 -
Sapking/Shoub_Stratum_(Plot size:O)			
1			FACU species X 3 =
2			100 spaces x 4 =
3			Column Tatalar (A)
4			(A) (B)
5			Prevalence Index = H/A =
6			Hydrophytic Vegetation Indicators:
7			2 - Rapid Test for Hydrophytic Vegetation
B			2 - Dominance Test is >50%
9			3 - Prevalence Index is <3 0
	= Total Cove	r	4 - Mombological Adaptations ¹ (Provide supporting
50% of total cover:	20% of total cover:		data in Remarks of nr a senarate sheet)
Herb Suaturn (Plot size:)			Problematic Hydrophytic Vagatation ¹ (Evaluate
1. for une 50, **	- }		
2. Impletens countis	- 15	FAIL	The strength of the state of th
3. Symplexieps fields		2014	be present, unless disturbed or problematic
4. Viels screen	<u></u>	FAC	Definitions of Four Vegetation Strata:
5			
б. <u></u>			Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast beight (DBH), cenardless of
7			height.
8			
9			Sapling/Shrub - Woody plants, excluding vines, less than 3 in, DBH and greater than or equal to 3.28 ft (1
10.			m) tall.
11.			Harb All barbaraous (con woody) plants regardless
	Cover - Total Cover	r	of size, and woody plants less than 3.28 R tall.
50% of total cover:	20% of total cover:	12	
Woody Vine Stratum (Plot size: 15 * *)			height.
1			
2			
3.			
4			
5.			Vapetation
	■ Total Cover		Present? Yes No No
50% of total cover:	20% of total cover:		
Remarks: (Include photo numbers here or on a separate	sheet.)		· · ··-
stables bill to A to	()		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	~~		
# - vailatilid gross and included in unit	sheet		

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Redox Features							
<u>(inches)</u>	Color (moist)	<u> </u>	Color (moist)	%	(ype ¹	_ I oc'	Tenure	Remar	ks	
<u>0-12+</u>	2.59 4/2	_95	7.541 96	_5_	<u> </u>	m	5%			
								_		
	·									
				·				·		
		·						·		
<u> </u>		_ .					<u> </u>			
Type: C=Co	sicentration, D-Dept	etion, KM=F	Reduced Matrix, MS	S-Masked :	Sand Gra	iins.	"Location: P	L=Pore Lining, M-Mat	rix.	
Hydric Soil II	ndicators:						Indica	ators for Problematic	Hydric Soils':	
Histosof ((A1)		Dark Surface	(S7)			?	cm Muck (A10) (MLR/	A 147)	
Histic Ep	ipedon (A2)		Polyvalue Bel	low Surface	e (S8) (M	LRA 147,	149) C	oast Prairie Redox (A1	6)	
Hydroner	n Sultide (A4)		Inim Dark Sul Foamy Cleve	riace (Sa) i A Marrix (F	(MERA 1) 2)	47, 14BJ	L.	(MLHA 147, 148) indepent Floodelaw Se	ile /610)	
Stratified	Lavers (A5)		Denieted Mai	our de 31	٤)		r	CM BA 136 1471	415 (F 19)	
2 cm Mus	(LRR N)		Redux Dark S	Surface (F6	a		v	ery Shallow Dark Surfa	ice (TE12)	
Depleted	Below Dark Surface	(A11)	Depleted Dar	k Surface (F7)			ther (Explain in Remar	ksl :	
Thick Da	rk Surface (A12)		Redox Detries	ssions (F8)						
Sandy Me	učky Mineral (S1) (L	RR N,	Iron-Mangane	ese Masses	s (F 12) (L	RR N,				
MLRA	147, 148)		MLRA 136	5)						
Sandy GI	eyed Matrix (S4)		Umbrie Surfac	ce (F13) (N	ILRA 136	6, 122)	³ Indi	icators of hydrophytic v	regetation and	
Sandy Re	edox (S5)		Piedmont Flo	odpfain Soi	fs (F19) (MLRA 14	8) we	tland hydrology must b	e present,	
Supped	Matrix (S6)		Red Parent M	laterial (F2	1) (MLRA	127, 147	') unl	less disturbed or proble	ematic.	
Restrictive L	ayer (if observed):									
Туре:			_						/	
Depth (inches):						Hydric Soil	Present? Yes 🗹	No		
Remarks:		_								

Project/Site: Great loans	Energy	City/County:	Const Co.	Samol	ling Date: JM April Jul 3
annicasitionas Adminut	Ň			State: CH San	noling Paint: WL 1 w?
Applicano Owner: 240 44771	Preserve and a sector			31818. <u> </u>	iping Point <u>, Pre C Pr</u>
Investigator(s):	eli and Codie Vitena	Section, Town	ship, Range:	<u>, , , , , , , , , , , , , , , , , , , </u>	
Landform (hillslope, terrace, etc.)	hillsloge	Local relief (conca	зve, сопvex, попе)): <u>(</u> Un vex	Slope (%): 15-22
Subregion (LRR or MLRA):	🔥 📂 🔄 Lat: 🔤 🌱 🤅	6017	Long://.	c 5 5 4	Datum: 1-40 0J
Soil Map Unit Name: 6 Im f 1	5-17 han 3-3%	stores (USC)	,	NWI classification:	2,06
Are climatic / hydrologic conditions	on the site typical for this t	nne of year? Yes 📝	_ No (If	no, explain in Remarks	.)
Are Vegetation, Soil	_, or Hydrology sig	nificantly disturbed?	Are "Normal C	ircumstances' present?	? Yes No
Are Vegetation, Soil	_, or Hydrology na'	urally problematic?	(If needed, exp	olain any answers in Re	amarks.)
SUMMARY OF FINDINGS	– Attach site map sl	howing sampling	point location	s, transects, impo	ortant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wettand Hydrology Present? Remarks:	Yes No_ Yes No Yes No_	Is the S within a	iampled Area a Wetland?	¥es No	,
HYDROLOGY					
Wetland Hydrology Indicators:			<u>\$</u>	econdary Indi <u>cators (m</u>	inimum of two required)
Primary Indicators (minimum of o	ne is required; check all the	οι ορρίγ) —		Surface Soil Cracks	(B6)
Surface Water (A1)	True /	Aquatic Plants (B14)	_	_ Sparsely Vegetated	Concave Surface (B8)
High Water Table (A2)	Hydro	gen Sulfide Odor (C1)	_	_ Urainage Patterns (I	310)
Saturation (A3)	Oxidiz	ed Rhizospheres on Liv	ing Roots (C3)	Moss Trim Lines (B)	(6)
Water Marks (B1)	Prese	nce of Reduced Iron (C4	l)	Dry-Season Water I	(able (C2)
Sediment Deposits (B2)	Recen	It from Reduction in Tiller	d Soils (C6)	_ Craylish Burrows (C	8)
Drift Deposits (B3)	[hin M	NUCK SUITACE (C7)	-	Saturation Visible or Student of Stranged	t Aenai Imagery (C9)
Algar Mat or Crush (B4)		(Explain in Remarks)	-	 Stunted of Stressed Ceomorphic Position 	n (D2)
Involution Visible on Aerial II	manufr (87)		-	Shallow Anuitard (D	3)
Water-Stained Leaves (B9)	nogery (m)		-	Microtopographic Re	elief (D4)
Aqualic Fauna (B13)			_	FAC-Neutral Test (D	>5)
Field Observations:				,	· · · · · · · · · · · · · · · · · · ·
Surface Water Present? Y	es No Dept	n (inches):			
Water Table Present? Y	es No Dept	n (inches):			
Saturation Present? Y	as No Dept/	n (inches):	Wetland Hys	drology Present? Ye	as No
(includes capillary fringe) Describe Recorded Data (stream)	naura monitoring well as	dal photos, previous ins	nections) if svails	-	· ·
Describe Necolded Data (arredit	gauge, mornoring weat, ne	na pilotos, pievious ins	poenona, il ova-o		
Remarks:					

The Stratum (Protistic:	VEGETATION (Four Strata) – Use scientific i	names of	plants.		Sampling Point: <u>w/ /</u>
Targe Stream (Provision: Series) 2. Construct Species 2. Construct Species Construct Species 2. Construct Species 2. Construct Species Species		Absolute	Dominant	Indicator	Dominance Test worksheet:
1. Processor 23 Z Processor (A) (A) 2. Outputs refer 32 Z Processor (A) (A) 3. Ultrus refer 33 Z Processor (A) (A) 3. Ultrus refer 100 X Processor (A) (A) 3. Ultrus refer 100 X Processor (A) (A) 3. Processor 100 X Processor (A) (A) 3. Processor 100 X Processor (A) (A) (A) 3. Chare of hydrophydic Negation 100 Y Processor (A) (A) (A) 3. Chare of hydrophydic Negation 100 Y Processor (A) (A) (B) 3. Chare of hydrophydic Negation 100 Y Processor (A) (A) (B)	Iree Stratum (Plot size:)	<u>% Cover</u>	Species?	Status	Number of Dominant Species
2. Get the solves 13 2 144 1. Unary solves 13 2 14 2. Unary solves 14 14 14 3. Unary solves 14 14 14 3. Unary solves 14 14 14 3. Unary solves 14 14 14 4. Unary solves 14 14 14 5. Solves 14 14 14 5. Solves 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14	1. Prove secolo	- 43	· —	FA (*	That Are OBL, FACW, or FAC: (A)
2. Unexpected Spaces Across Al Stater (P) Proveletice Index worksheet (D) Spaces Across Al Stater (P) Proveletice Index worksheet (D) Spaces Across Al Stater (P) Proveletice Index worksheet	2. Greeces cales			- Ar.	Total Number of Dominant
Section Prevent of Lowinshippeids Section "Ys" - Total Cover Prevent of Low vortsheet: Intervention Section "Ys" - Total Cover Prevent of Low vortsheet: Networtsheet: Pre	3. Ulmus ruha	<u> </u>	·		Species Across All Strata (H)
5	4		·		Percent of Dominant Species
Some of total cover: 22.5 <td< td=""><td>5</td><td></td><td></td><td></td><td>That Are OBL, FACW, or FAC:2 57/. (A/H)</td></td<>	5				That Are OBL, FACW, or FAC:2 57/. (A/H)
94 Total Cover 10111 Closer and cover and cov	б		·		Prevalence Index worksbeet:
90% of total cover 22.5 70% of total cover 4 3apling/Shub Stratum (Pios size: 1/5) 1 4 Fride 5 1	λ		·		Lotal % Cover of: Multiply by:
Saping/Shub Stratum (Plot size	21		- Total Cov	er Al	OBI species x1-
analog products Statum (Hot Status) ////////////////////////////////////	50% of total cover: <u>**</u>	<u>.)</u> 20% ol	lotal cover:		FACW species x2 =
Image: Section in the sector secto	Saping/Shrub Stratum (Plot size: 75)	<i>.</i>	/	-	FAC species x 3 -
2 Lets	1. Precis Services		· —		FACIL species x 4 -
1 1	2. Kasa maltitlara		·	1110	P snarios x 5 -
Image: Arrow of the second state of	3. Prins providential		·	- UPC	Colume Totals: (A) (B)
Sector Prevalence Index = HA =	4. Kaber Alishering	- - 5		<u> </u>	(2)
3	5. Hunddig Brodain	A	·	<u>_r#(</u>	Prevalence Index = B/A =
a	б		·		Hydrophytic Vegetation Indicators:
2 2 Dominance Test is >50% 3 2 = lotal Cover 50% of total cover: 1/2 20% of total cover: 6.9 4 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 4 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 2 2 Dominance Test is >50% 3 Provide supporting data in Remarks or on a separate sheet) 2 Cover 50% of total cover: 11.5 20% 3 Cover 50% of total cover: 11.5 20% 4 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 2 Cover 50% of total cover: 11.5 20% 4 Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 2 Cover 50% of total cover: 11.5 20% 4 Morphylic Vegetation 50% of total cover: 11.5 20% 50% 50% 50% 50% 50% 50% 50%	7		·		1 - Rapid Test for Hydrophytic Vegetation
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 4 4 4 4 4 4 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 5 4 4 5 4	8		·		2 - Dominance Test is >50%
32 = 1 total Cover 420% of total cover: 42 420% of total cover: 41.5 420% of total cover: 4	9				3 - Prevalence Index is ≤3.0 ¹
Solve of total cover: 12 20% of total cover: 20% Hards Stratum (Prot size: S)) Problematic Hydrophytic Vegetation (Explain) Particular 12 Farce Farce Farce Solve are ty: 10 Solve are type: Solve are type: Solve: Solve: <td> 1</td> <td>34</td> <td>= Total Cove</td> <td>er ,</td> <td>4 - Morphological Adaptations¹ (Provide supporting</td>	1	34	= Total Cove	er ,	4 - Morphological Adaptations ¹ (Provide supporting
Harb Statum (Plot size:	50% of total cover: <u>(6</u>	20%6 of	fotat cover:	6.7	data in Remarks or on a separate sheet)
Image: Arrow of the Arrow	Herb Stratum (Plot size:)		/	~	Problematic Hydrophytic Vegetation ¹ (Explain)
2. Lists we fit the:	1. Pelpotichen weren tiebertig		· — / /	- 14/2	
3. Classifier 5	2. Kasa melter			1.40-	¹ Indicators of hydric soil and wetland hydrology must
A Product 201 S Image: Construction of the second sec	3. Clapter : viesinier		·	_FAC	be present, unless disturbed or problematic.
Similar Tree - Woody plants, excluding vines, 3 in: (7,6 cm) or more in diamater at breast height (DBH), regardless of height. Similar Sapling/Shrub - Woody plants, excluding vines, less than 3 in: (7,6 cm) or more in diamater at breast height (DBH), regardless of height. Similar Sapling/Shrub - Woody plants, excluding vines, less than 3 in: (7,6 cm) or more in diamater at breast height (DBH), regardless of height. Similar Sapling/Shrub - Woody plants, excluding vines, less than 3 in: (7,6 cm) or more in diamater at breast height (DBH), regardless of height. Similar Similar Similar	4. Priced 31.				Definitions of Four Vegetation Strata:
5.	5		·		Tree – Woody plants, excludion vines, 3 in, (7.5 cm) or.
A	б		·		more in diameter at breast height (DBH), regardless of
3.	7				height.
a.	8		·		Sapling/Shrub - Woody plants, excluding vines, less
10	9				than 3 in. DBH and greater than or equal to 3.28 ft (1
11. 2] = Total Cover 50% of total cover: 11.5 50% of total cover: 11.5 20% of total cover: 14.5 20% of total cover: </td <td>10</td> <td></td> <td></td> <td></td> <td>m) tali</td>	10				m) tali
21 = Total Cover 50% of total cover: 11.5 20% of total cover:	11				Herb - All herbaceous (non-woody) plants, regardless
50% of total cover: 1.3.20% of total cover: 4.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2		~ ~ 1	= Total Covi	ж 	of size, and woody plants less than 3.28 ft tail.
Moody Vine Stratum (Plot size:)	50% of total cover: <u>77.</u>	<u>)</u> 20%6 of	total cover:	7.6	Woody vine - All woody vines greater than 3.26 ft in
Implementation Imple	Woody Vine Stratum (Plot size: 2 -)	-	/		height.
Image: Second	1. Jacoberger Briddering	- <u> </u>			
Hydrophytic Hydrophytic Hydrophytic Vegetation Frosent? Yes S0% of total cover: S0% of total cover: S0% of total cover: Yes	2				
Image:	3				
5.	4				Hydrophytic
50% of total cover: 7 = foral Cover Frustentr Fes MO	5	- <u>- </u> - <u>-</u> <u>-</u> <u>-</u>			Vegetation Proceet2 Ves No
S0% of total cover:		7	 Lotal Cove 	ar i	Prosentr Tes Ho
Remarks: (Include photo numbers here or on a separate sheet.)	50% of total cover:	<u>5 20% or</u>	total cover:_		
	Remarks: (include photo numbers here or on a separate	sneet.)			

VEGETATION (Four Strata) - Use scientific names of plants.

Depth	Malrix	to the dept	Redo	x Features			1 W 10 GOD	
(inches)	Color (moist)	- %	Color (moist)	%	Type	1 002	Textu	ire Remarks
0-7	1042-113	102						/ <u>.</u>
2-121	10 yp y/4	100					_ 5.1	<u> </u>
	· · · - · · · · · · · · · · · · · · · · · · ·							·
								·· · · · · · · · · · · · · · · · · ·
								
Type: C=C	oncentration, D=Depi	letion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	lins.	⁴ Locatio	en: PL=Pore Lining, M_Matrix.
Hydric Soil	Indicators:			(D-1)			L	Indicators for Problematic Hydric Solls':
Histosal Mistic El	(A1) pigedon (A2)		Dark Surface Polyapius Re) (S7) Iow Surfac	o (S8) 6 4	DA 147	148) -	2 Cm Muck (A10) (MLKA 147) Coast Brakin Redex (A16)
Black H	stic (A3)		Thin Dark Su	inface (S9)	(MLRA 1-	47, 148)	140/ _	(MLRA 147, 148)
Hydroge	n Sulfide (A4)		Loamy Gleye	ed Matrix (F	2)		_	Piedmont Floodplain Soils (F19)
Stratifio	d Layers (A5)		Oepleted Ma	trix (F3)				(MLRA 136, 147)
2 ст Ми	ick (A10) (LRR N)		Redox Dark	Surface (F)	6)		-	Very Shallow Dark Surface (TF12)
Deplete	d Below Dark Surface	e (A11)	Depicted Date	rk Surface	(F7)		-	Other (Explain in Remarks)
Thick Da	ark Surface (A12)		Rodox Depro	essions (F8)			
Sandy N	Aucky Mineral (S1) (L	.RR N,	Iron-Mangan	ese Masse	is (F12) (L	.RR N,		
MUN Sandy (4 147, 140) Sloved Matrix (SA)		MERA 13 Limbric Surfa	9) 100 (E131 (I		6 1721		³ Indicators of bydronbytic venetation and
Sandy C	tedox (S5)		Piedmont Flo	vodniain So	nis (F19) (5, 1227 MIRA 14	9 1	weiland hydrology must be present.
Stripped	Matrix (S6)		Red Parent M	vaterial (F2	21) (MLRA	4 127, 147)	unless disturbed or problematic.
Restrictive	Layer (if observed):							
Туре:							1	
Depth (in	ches):						Hydric	: Soil Present? Yes No
Remarks:								

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

- in the later of the second s	Hell Line Por Section
Projecusne: <u>(accult Co-olg Energy</u>) City/County: <u>Coverners</u>	Sampling Date: V (Martin P
Applicant/Owner: Kowarz	State:Sampling Point:
Investigator(s): In K. Marshaw I. and Code & Iroy Section, Township, Range:	523 11910 KS~
Landform (hillslope, terrade, etc.): <u>I nate as a second</u> Local relief (concave, convex, no	ane): <u>canadez</u> Stope (%): <u>37 7</u>
Subregion (LRR or MLRA): Lat- 」 Lat- 」 に に に に し に に し に し に し に し に し に し に	21,0559 Datum: NA0 35
Soil Map Unit Name: Charles Silt lana, 3.1% stops (686)	NWI classification: <u>PEm (not mapped)</u>
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 "Norma	al Circumstances' present? Yes No
Are Vegetation Soil or Hydrology paturally problematic? (If needed,	explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampling point locati	ons, transects, important features, etc.
Hudenshutis Vesselation Beneral 2 - You - A No	
Hydrophydd Yegeddon Presend: Yes Is the Sampled Area	
Wetland Hydrology Present? Yes No	Yes No
Remarks:	
	Cocondana Indicators (management of two you work)
Primary Indicators:	Sudace Soil Cracks (R6)
Primary moticators (minimum or one is regulated; check an gran appry)	Spassaly Modelated Concerne Surface (89)
High Water Table (A2) Hudrager Sulfide Odry (C1)	Drainarie Palterns (B10)
Saturation (A3) Nytrogen Sume Coor (C1)	Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduced from (C4)	Dry Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (CB)
Drit Deposits (H3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Algat Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water Stained Leaves (89)	Microlopographic Heliel (D4)
	V FAC-Neutral Test (Ds)
Field Ubservations:	
Weter Table Present? Yes No / Depth (incles)	
Saturation Present? Yes No Double (inches): "4" Wetland	Hydrology Present? Yes No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if av	ailable.
Remarks:	

/EGETATION (Four Strata) – Use scientific	names of plants.	Sampling Point: <u>we m</u>
2.1	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover Species? Status</u>	Number of Dominant Species (A)
2		Leis Number of Dominant
3.		Species Across All Strata: (B)
4.		
5.		Percent of Dominant Species / Crur There are OBL Farthy of FAC: (A(B)
6		(11)
7		Prevalence index worksheet:
· ·	= Inial Cover	Total % Cover of: Multiply by:
50% of total cover:	20% of total cover:	OBL species x 1 =
Sanimo/Shuth Stratum, (Plot size: 15)		FACW species x 2 =
1 Sampera Diverse and line	5 / FAIN	FAC species x 3
1. 3 (#1993) 10000 # W 1594(1993)		FACU species x 4 =
<u> </u>		UPL species x 5 =
3		Column Totals: (A) (B)
4		
5. <u> </u>		Prevalence Index = D/A =
Б		Hydrophytic Vegetation Indicators:
7		1- Rapid Test for Hydrophylic Vegetation
B		7 - Dominance Test is >50%
9		3 - Prevalence Index is ≤3.0 ¹
,	= 1otal Cover	4 . Moreholenical Adaptations ¹ (Provide supporting
50% of total cover:	20% of local cover:	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: <u><u>s</u>)</u>		Problematic Hydrophytic Versitabou ¹ (Evolain)
1. Improvements	<u>FACW</u>	
2. Junior so *	//	
3. Symplerides (intides		he present, unless disturbed or problematic.
4. Courtes sensibilits	5	Deficitions of Four Venstation Strata:
5.		Daniations of roal regitation straw.
		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
7		more in diameter at breast height (DBH), regardless of balant
p	,	noight.
		Sapling/Shrub - Woody plants, excluding vines, less
y		than 3 in. DBH and greater than or equal to 3.26 ft [1
10	· ·	
11		Herb – All herbaceous (non-woody) plants, regardless
	Total Cover	of \$126, and woody plants less than 3.28 it tall.
50% of lotal cover: <u>7 -</u>	20% of total cover: <u>4</u>	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)		height.
l,		
2		
3		
4		Hydronhylic
5		Vegeration
	= Total Cover	Present? Yes Vo
50% of total cover:	20% of total cover:	
Remarks: (Includo photo numbers here or on a separate	sheet.)	1
a state to sta		
- Voidaded gass & at infahl	· Merksheef	

VEGETATION (Four Strata) – Use scientific names of plants.
Profile Des	cription: (Describe	to the depth i	needed to docum	ent the ir	ndicator	or confirm	the absence	e of indicators.)
Depth (inches)	Matrix Color (maint)	<u> </u>	Redo)	Features	Type	Loc'	Taxlure	Bomarke
		<u></u>	Color (molsi)	20				
	1.57 9/1	<u> 90 -</u>	7.571.576	- 16			2.74	
						<u>-</u>		
———		·						
		·						
11.00.01.01		lating DM Ca	duced Matrix, NC	Muchad			² Lonotion:	
Hwdrie Soil	oncentration, <u>D=Dep</u> Indicators:	ielian, KM=K6	euced Matrix, MS	-Maskeo	Sano Gra	air15	Indi	reactions for Problematic Hydric Soils ³ :
Histosol	(61)		Dark Surface	(57)				2 cm Muck (A10) (MI RA 147)
Histic F	nipedon (A2)		Polyvalue Bel	ow Surfac	.e (S8) (N	I RA 147.	148)	Coast Prairie Redox (A16)
Black H	istic (A3)		Thin Dark Sur	face (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
🔄 Hydroge	an Sulfide (A4)		📃 Lgamy Gleye	d Matrix (F	-7)		_	Piedmont Floodplain Soils (F19)
Stratifie	d Layers (A5)		Depleted Mat	rix (F.3)				(MLRA 136, 147)
2 cm Me	uck (A10) (LRR N)		Redox Dark S	urface (Fi	5)		_	Very Shallow Dark Surface (TF12)
Deplete	d Below Dark Surface	e (A11)	Depleted Dari Depleted Dari	k Suifa¢e ∕u n	(F7)		—	Other (Explain in Remarks)
Snody J	ark Sunace (A+Z) Jusky Missrel (S1) /I	DD N	Redox Depres Iron Mangane	5530115 (F 8 100 Marcon	9) veri(⊨ 1.71.il	CD N		
MIR	MUCKY MIRIERAL (ST) (L A 147-149)		INDE-Manyane MIRA 136	ise masse N	(3 (F 12) (Linn M,		
Sandy (Gleved Matrix (S4)		Umbric Surfac	 te (F13) (F	MLRA 13	6, 122)	°ic	ndicators of hydrophytic vegetation and
Sandy F	Redox (S5)		Piedmont Flo	odplam Sc	xils (F 19)	MLRA 14	8) v	vottand hydrology must be present.
Stripped	Matrix (S6)		Red Parent M	aterial (H2	21) (MLR	A 127, 147) L	inless disturbed or problematic.
Restrictive	Layer (if observed):	-	•••				İ	
Type:			_				Í	/
Depth (in	ches):		_				Hydric So	oil Present? Yes No
Remarks:							•	
1								
ŀ								
								·

WETLAN	ID DETE	RMINATI	ON DATA FORM	– Eastern	Mountai	ins and Piedmont Region			
Project/Site Correct (1. 60	ery Con	<mark>↓.</mark> City/0	County: <u>Ca</u>	roll to.	Sampling Date: April 304			
Applicant/Owner: Advance	Perro	/				_ State: _O[f Sampling Point: _ w L m vr			
Investigator(s): 11.	mount	and hidd	. V. Jap Secti	on, Township	o, Range: <u>S</u>	28 TIMM XEW			
Landform (hillslone, terrace, et	ele hit	She	Local rel	lief (concave,	convex, no	ne): (****** Slope (%): (* 19			
Subreation (LRB or MLRA): 1	10 N	I H	· 40.6071		1000 -	31.0564 Datum: 140 38			
	1.1	- Carle de		esex d		A NUM classification V//			
Soir Map Unit Name:			<u>· 1.7 (7.5 m), 77</u>	··· / »	<u>~~</u>				
Are climatic / hydrologic condit	ons on the	a site typical	for this time of year?	res <u>v</u> i	NO	(inito, explain in Remarks.)			
Are Vegetation, Soil	, or H	ydrology	significantly distu	rbed?	Are Norma	al Circumstances" present? Yes No			
Are Vegetation, Soil	, or H	ydrology	naturally problem	alic?	(if needed, (explain any answers in Remarks.)			
SUMMARY OF FINDING	GS – Att	tach site r	nap showing san	npling poi	int locatio	ons, transects, important features, etc.			
						· · ·			
Hydrophylic Vegetation Press	ent?	Yes	_ №	Is the Sam	pled Area				
Wationd Muddology Present?		res		within a W	etland?	Yes No			
Remarks:		165							
rteinaiks.									
HYDROLDGY									
Wetland Hydrology Indicate	ors:					Secondary Indicators (minimum of two required)			
Primary Indicators (minimum	of one is r	equired; che	ck all (<u>hat apply</u>)			Surface Soil Cracks (86)			
Surface Water (A1)			True Aquatic Plants ((B14)		Sparsely Vegetated Concave Surface (B9)			
Iigh Water Table (A2)			Hydrogen Sulfide Od	lor (C1)		Drainage Patterns (B10)			
Saturation (A3)		_	Oxidized Rhizospher	zed Rhizospheres on Living Roots (C3) Moss 1rim Lines (B16)					
Water Marks (B1)			Presence of Reduce	d Iron (C4)		Dry-Season Water Table (C2)			
Sediment Deposits (B2)			Recent Iron Reduction	on in Tilted Se	oils (C6)	Crayfish Burrows (C8)			
Duft Deposits (B3)			Thin Muck Surface (0	C7)		Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)			Other (Explain in Rei	marks)		Stunted or Stressed Planis (D1)			
Iron Deposits (B5)						Geomorphic Position (D2)			
Inundation Visible on Ae	rial Imager	y (87)				Shallow Aquitard (D3)			
Water-Stained Leaves (8	19)					Microtopographic Relief (D4)			
Aquatic Fauna (813)						FAC-Neutral Test (D5)			
Field Observations:			/						
Surface Water Present?	Yes	No	Depth (inches):						
Water Table Present?	Yes	No	Depth (inches):						
Saturation Present?	Yes	No	Depth (inches):	<u> </u>	Wetland I	Hydrology Present? Yes No			
Describe Recorded Data (stra	aam gauge	, monitoring	well, aerial photos, pre	evious inspec	tions), if ava	aitable:			
		v	•						
Remarks:									
-									
•									

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: We m w

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Iree Stratum (Plot size: 30)	% Cover	Species?	Status	Number of Dominant Species
1. Chargen caken	30		FAL-	That Are OBL, FACW, or FAC: (A)
2. Prove scration	15		FACH	The later of Providence of All
3 blues refer	5			Fourier Actors All Strate: (B)
4				opecies neioss nii oliala (b)
-		·	· · ··—	Percent of Dominant Species
-5-, <u> </u>		·		That Are OBL, FACW, or FAC: (A/B)
6		·		Browslangs Index Workshoot
7				Total M Cause of Additional Statistics
	50	= Total Cov	er.	Loral & Cover or. Multiply by:
50% of total cover: 2 5	20% of	total cover:	10	OBL species x1 =
Sapling/Shrub Stratum (Plot size: 75)				FACW species x 2 =
1. Ray meltiflein	20		EATY	FAC species x 3 =
2 Potential 1 at			<u> </u>	FACU species x 4 =
- 1 11				LIPI species x 5 -
3 times secondine	· 2			Column Totales (A) (H)
4. Maria colo		·		
5				Prevalence Index R/A
6.				Herdenski de Venstellen Indianterer
7	-			Hydrophytic vegetation indicators:
0				1 - Rapid Test for Hydrophytic Vegetation
B				7 - Dominance Test is >50%
9	·			3 - Prevalence Index is ≤3.0 ¹
	<u> </u>	 Total Cov 	er y	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover:	20% of	total cover:		data in Remarks or on a sonarate sheet)
Herb Stratum (Plot size:)				Baldematic Hudsenhuter Verstudies ¹ (Lewioid)
1. Polystichen geractiche il a	5_		FAC	Problematic Hybrophytic Vegetation (Explain)
2 Taking danley Editions	2		EAL	
a the wheth	2		Enc	Indicators of hydric soil and welland hydrology must
A Creation Comment	- <u>5</u> -			be present, unless disturbed or problematic.
4. Britan Sunationsis			- 1810	Definitions of Four Vegetation Strata:
5				Terry Wenderstands evolution views 2 in (7.6 cm) or
6				more in diameter at breast beinht (DBH), repardless of
7				height.
8.				
9				Sapling/Shrub ·· Woody plants, excluding vines, less
10				miliali.
10 ·				
11				Herb – All herbaceous (non-woody) plants, regardless
(Total Covi 	er a	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover;		Woody vine - All woody vines greater than 3.78 ft in
Woody Vine Stratum (Plot size:3.				height.
1. Twitch flow rations	<u> </u>		<u>_ 7.4 c</u>	
2				
3				
*				
*				Hydrophytic
5				Vegetation
	<u> </u>	 Total Covi 	ег	Present? TesNO
50% of total cover: 4.5	20% of	total cover:	<u> </u>	
Remarks: (include photo numbers here or on a separate s	iheel.)			

Profile Des	cription: (Describe t	o the depth	needed to docum	nont th a ii	ndicator e	or confirm	the absence	of indicators.)		
Depth	Matrix		Redo:	x Features	i					
(inches)	Calar (moist)	%	Color (moist)	<u>%</u>	Туре'	Loc	Texture	Remark	<u>(5</u>	
<u>?</u>	1048 4/3	108					5.10			
J_12.	1071 4/4	۸.,					<u>s'la</u>			
								·		
		<u> </u>								
——										
l				_ _						
[†] Туре: С-С	oncentration, D-Deph		teduced Matrix, MS	-Masked	 Sand Gra	ins.	² Location: PL		rix.	
Hydric Soil	Indicators:						Indica	tors for Problematic	Hydric Soils [*] :	
Histosol	(A1)		Dark Surface	(\$7)			2	em Muck (A10) (MLR.	A 147)	
Histor E	oipedon (A2)		Polyvalue Bel	low Surfac	e (S8) (M	LRA 147, 1	148) Ci	oast Prairie Redox (At	16)	
Black H	istic (A3)		Thin Dark Su	face (S9)	(MI.RA 1	47, 148)		(MLRA 147, 148)		
. Hydroge	an Sulfide (A4)		🔄 Loamy Gieye	d Matrix (F	F Z)		Piedmont Floodplain Soils (E19)			
Strahifer	d Layers (A5)		Depleted Mai	rix (F3)			(MLRA 136, 147)			
2 cm Mu	ick (A10) (LRR N)		Redox Dark \$	iurface (Fi	6)		Ve	ery Shallow Dark Surf	ace (TF12)	
Deplete	d Below Dark Surface	(A11)	Depieted Dari	k Surface	(F7)		0	ther (Explain in Rema	rks}	
Thick Da	ark Surface (A17)		Redox Depre	ssions (F&	9)					
Sandy N	Aucky Mineral (S1) (Ll	RR N,	Iron-Mangane	ase Masse	as (F12) (L	.RR N,				
MLR/	A 147, 148)		MLRA 136	5)						
Sandy Gleyed Matrix (S4) Umbric Surface (F13) (MLRA 136, 122)						6, 122)	'Indi	cators of hydrophytic t	vegetation and	
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 1					(MLRA 148	8) wei	tland hydrology must t	present,		
Stripped	Matrix (S6)		Red Parent M	laterial (F:	21) (MLR/	A 127, 147)) unl	ess disturbed or proble	ematic,	
Rostrictive	Layer (if observed):									
Туре:										
Depth (inches):						Hydric Soil	Present? Yes	No		
Remarks:										

WETLAND DETERMINATION DATA FORM -	Eastern Mountains and Piedmont Region
-----------------------------------	---------------------------------------

			2. 6. 1. 361
Project/Site: (wrapp from the same	City/County: <u>Car</u>	<u>i - II - Q.</u> Sampling Date	and the second
Applicant/Owner: <u>797-west F17</u>		State: Sampling Po	ant:
Investigator(s): Drike Messenali and Coller V kni	Section, Township, R	ange: 547 / 144; XSW	
Landform (hillslope, terrace, etc.): <u>Herrare</u>	Local relief (concave, co	nvex, none): Si	lope (%): <u>¢-</u>]
Subregion (LRR or MLRA): Lat: Lat:	ε (<i>θ</i> ε., Lo	ong: -61.0516 Dat	um: 444 55
Soil Map Unit Name: In produce le Crebe be sit h	my 18 15th shirts (w	m <i>b)</i> NWI classification: <u>/c/m</u>	(ant mappel)
Are climatro / hydrologic conditions on the site typical for this	s time of year? YesNo.	(If no, explain in Remarks.)	
Arc Vegetation . Soil . or Hydrology S	ignificantly disturbed? Are	Normal Circumstances* present? Yes _	No
Are Vegetation Soil or Hydrology n	aturally problematic? (If (needed, exptain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing sampling point	locations, transects, important	features, etc.
Hydrophytic Vegetation Present? Yes Ni Hydric Soit Present? Yes Ni Wetland Hydrology Present? Yes Ni	o Is the Sample o within a Wetk	ed Area and? Yes <u>/</u> No	_
aduly stram, buich			
Wetland Hydrology Indicators:		Secondary Indicators (minimum	of two required)
Primary Indicators (minimum of one is required; check all t	their apply)	Surface Spil Cracks (B6)	<u></u>
Surface Water (A1)	Aquatic Plants (B14)	Sparsely Vegetated Concav	e Surface (88)
High Water Table (A2)	rogen Sulfide Odor (C1)	Drainage Patterns (B10)	,
Saturation (A3) Oxid	lized Rhizospheres on Living Ro	oks (C3) Moss Trim Lines (B16)	
Water Marks (B1) Pres	sence of Reduced Iron (C4)	Dry-Season Water Table (C	2)
Sediment Deposits (82) Rece	ent fron Reduction in Tilfed Soils	(C6) Crayfish Burrows (C8)	
Drift Deposits (B3) Thin	Muck Surface (C7)	Saturation Visible on Aerial	imagei y (C9)
Algal Mat or Crust (H4) Othe	ar (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)	
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)	
Water-Stamed Leaves (H9)		Microtopographic Relief (U4	1
Aquatic Fauna (B13)		FAC-inedical rest (tra)	··
Field Observations:	and contract of the lite		
Sunace Water Present? Yes No Dep	ain (inches): 2 '		
Water Labre Present? Yes ND Dep	oin (inches): <u>····</u>	Vational Hudrology Draspat? Yes	/ No.
Saturation Present? Yes No Dep fincludes capillary fringe)	oth (inches):	vecand Rydrology Presence Tes	
Describe Recorded Data (stream gauge, monitoring well, a	serial photos, previous inspection	hs), if evailable:	
	·		
Remarks:			
l			

/EGETATION (Four Strata) – Use scientific na	ames of	plants.		Sampling Point:
	Absolute	Dominant Second	Indicator	Dominance Test worksheet:
1 199 Spranum (Phot Size:)	- % Cover	<u>Species/</u>	518005	Number of Dominant Species
n				
۲				Total Number of Dominant /
3				Species Across All Strata:(B)
1				Percent of Dominant Species 1.47
		·		That Are OBL, FACW, or FAC: (A/
à				
7.				Prevalence Index worksheet:
		- Trial Cove		1 otal % Cover of: Multiply by:
50% of total cover:	20% of	total cover:	-1	OBL species x 1
Poling/Shave Stratum /Diot size: ()				FACW species x 2 =
				FAC species x 3 =
·				EACII species x 4 -
l				
·				Column Totals: (A) (B
				Drawlanca index - R(A -
·				
				Hydrophysic vegetation indicators:
				Rapid Test for Hydrophytic Vegetation
				2 · Dommance Test is >50%
				3 - Prevalence Index is ≤3.0 ¹
	·	 Iotal Cove 	a,	4 · Morphological Adaptations ¹ (Provide supported
50% of total cover:	20% of	total cover:		data in Remarks or on a separate sheet)
lerb Stratum (Plot size:)				Problematic Netrophytic Vegetation ¹ (Evaluate)
Inspirious Coprovis	<u>5</u>		FACW	
foren of		$-\!\!\!\!\!$		
Lacionship comercia	j.		FACW	 Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic
Charle & statutes	1		FAC	be present, amessionador de problematic.
				Dennitions of Four vegetation Strata:
·				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) of
l				more in diameter at breast height (DBH), regardless o
				height.
				Saolino/Shrub - Woody plants, excluding vines, less
				than 3 in. DBH and greater than or equal to 3.28 ft (1
٥				m) tall.
1				Herb – All herbaceous (non-woody) plants, repardles
	15	Total Cove	эг <u>–</u>	of size, and woody plants less than 3.28 ft tall.
50% of total cover: 19.51	20% of	total cover:	3	
Yoody Vine Stratum, (Plot size: 32)				Woody vine – All woody vines greater than 3.28 ft in baicht
/				nognu.
				Hydrophytic
·				Vegetation
		Total Cove	1	Present? Yes No
50% of total cover:	20% of	total cover_		
emarks: (include photo numbers here or on a separate sh	heel.)			L
At an interfect press and included in weaksh	/h			

Promie Desi	chpoon: toescribe t	io ine deprir r		nenc (ne li	naicator (a countin	i ine absence	or indicator	1. C	
Depth (inchos)	Color (moint)		<u>Redo</u> Color (moist)	x Features	i lyne'	Loci	Texture		Remarks	
turchest			0.0001010084							12.
014	2.57 4/1						<u> </u>	6° - 34° 41	e straking	974
	•									
									<u> </u>	
		—— —								
ĺ						_				
							_			
`Type: C≠C	oncentration, D=Dept	letion, <u>RM=Re</u>	duced Matrix, MS	S-Masked	Sand Gra	lins.	² Location: PI	=Pore Linin	g, <u>M=Matrix.</u>	
Hydric Soil	Indicators:						Indica	itors for Pro	blematic Hydrle	c Soils":
Histoso	I (A1)		Dark Surface	(\$7)			2	çm Muck (A	10) (MLRA 147)	
Histic F	pipedon (A2)	-	Polyvalue Be	low Surfac	:e (S8) (M	LRA 147,	148) 🔛 Ci	oast Prairie I	Redox (A16)	
Hlack H	istic (A3)	-	Thin Dark Su	inface (S9)	(MLRA 1	47, 148)		(MLRA 147	(146)	
Hydroge	an Sulfide (A4)		Loamy Gleye	d Matrix (I	F2}		Pi	iedmont Floo	dplain Soils (F1)	9)
Svaifie	d Layers (A5)	-	Depleted Ma	trix (F3)				(MLRA 136	(147)	
2 cm Mi	uck (A10) (LRR N)	-	Redox Dark	Surface (F	6)		V	ery Shallow I	Dark Surface (TF	12)
Deplete	d Below Dark Surface	a (A11)	Depleted Dar	k Surface	(F 7)		0	ther (Explain	in Remarks)	
Thick D.	ark Surface (A12)		Redox Depre	ssions (Fi	\$)					
Sandy M	Mucky Mineral (S1) (L	.RR N,	Iron-Mangan	ese Masse	s (F12) (RR N,				
MLR	A 147, 148)		MLRA 13	6)						
Sandy (Gleyed Matrix (S4)	-	Umbric Surfa	ice (F13) (MURA 13	6, 122)	³ Indi	cators of hyd	frophytic vegetal	tion and
Sandy f	Redox (S5)	-	Piedmont Flo	odplain Si	oils (F19)	(Mt FIA 14	8) wei	tiand hydrolo	igy must be pres	ent.
🗹 Stripped	I Matrix (S6)	-	Red Parent N	Aaterial (F	21) (MI.R.	A 127, 147	נחים (ess disturbo	d or problematic.	·
Restrictive	Layer (if observed):						1			
í ype:			_							
Depth (in	ches):						Hydric Soil	Present?	Yes N	lo0
Hemarks] -			
al	levin sell s	and y with	و متعدد ا	i leeski	n 1					
					/					
l										
l										

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

unionisian frances for the Con-		Diry Courses Green I ((a.	Sampling Dates 25 April 191
Applicant/Owner: Alward lower	7	_ chy/county	State: CH	Sampling Point: imL M -1
Investigatorial in the still of the	1. B. William	Section Township Rappa:	528 714 10 1	 & ~ ~
I pedferm (billsteps tempes at)		_ Gection, Formanip, Keinge		Slave (Sile 2. 9
t andronn (ninsippe, terrace, etc.): <u>444440</u>	<u></u>	ocarrenet (concave, convex, r	-11 0e13	
Subregion (LRR or MLRA):	Lat:eeeeee		(mat	
Soil Map Unit Name: Way for glass - C	cybudge silt ham	3 15-25 1: 5log-5 (NWI classific	ation: <u> </u>
Are climatic / hydrologic conditions on the si	te typical for this time of y	year? Yes 🔽 No 🔜	_ (If no, explain in R	emarks)
Are Vegetation, Soil, or Hyde	ology significant	ly disturbed? Are "Norm	ial Circuinstances* p	present? Yes <u> </u>
Are Vegetation, Soil, or Hyde	ology naturally p	roblematic? (If needed	i, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS - Attac	h site map showin:	g sampling point locat	tions, transects	, important features, etc.
	··· · · · /			
Hydrophydd Vegstation Present?	resNo	 Is the Sampled Area 	a	
Wetland Hwirolomy Present?		 within a Wetland? 	Yes	No
Permarke:	NU	-		
HYDROLOGY			–	
Wetland Hydrology Indicators:			Secondary Indica	(ors (minimum of two required)
Primary Indicators (minimum of one is requ	rired; check all that apply) — turut	Surface Sol	Cracks (B6)
Surface Water (A1)	True Aquatic	Plants (B14)	Sparsely Veg	jetated Concave Surface (B8)
High Water Table (A2)	Hydrogen Sul	hide Odor (C1) Hurde Codor (C1)	Drainage Pat	(tems (HTU)
Saturation (A3)	Oxidized Rhip Drosonon of S	rospheres on thying Roots (C3 Roduced Iron (C4)	Dou Season l	Jies (D⊺0) Walar Table (C?)
Sediment Dennsits (B2)	Recent from F	Reduction in Tilled Soils (C6)	Cravfish Bur	(0ws (C8)
Drift Deposits (B3)	Thin Muck Se	inface (C7)	Saturation Vi	sible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explai	n in Remarks)	Stunted or SI	trossed Plants (D1)
Iron Deposits (B5)			Geomorphic	Position (D2)
Inundation Visible on Aerial Imagery (i	37)		Shallow Aqui	itard (D3)
— Water-Stained Leaves (B9)			Microtopogra	phic Relief (D4)
Aquatic Fauna (813)			FAC-Neutral	fest (D5)
Field Observations:	/	-		
Surface Water Present? Yes	No Dopth (inche	is):		
Water Table Present? Yes	No Dopth (inche	(s):		~ ~ ~ ~
Saturation Present? Yes fincludes capitlary fringe)	No Depth (inche	is): Wettand	i Hydrology Presen	(? Yes No
Describe Recorded Data (stream gauge, m	ionitoring well, aerial pho	tos, previous inspections), if a	vailable:	
				<u>.</u>
Remarks:				
•				

VEGETATION (Four Strata) – Use scientific n	ames of plants.		Sampling Point: <u>ket Nort</u>
b	Absolute Domina	ni indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover Species	<u>s7 Status</u>	Number of Dominant Species
1. Alex sheep your	25 /	FALV	That Are OBL, FACW, or FAC: (A)
2. Querry color	15 /	Edix	Total Manhar of Deminant 1
3. Cress crists	10 /	Tace	Species Across All Strata: (8)
4			
с			Percent of Dominant Species
			That Are OBL, FACW, or FAC: (A/H)
D			Prevalence Index worksheet:
7			Total % Cover of: Multiply by:
1. P	Total C	over	OBL sparies v1 -
50% of total cover:2	20% of total cov	er: <u>///</u>	
Sapling/Shrub Stratum (Plot size:)	,		ACM Species X2 =
1. Kasa mu Hittay	<u>_15</u>	FAC-	FAC species X 3 =
2. Umri inten	_5	<u> ೯۸Ć</u>	FACU species x 4 =
3. Princy Specifica	_5	Face	UPL species × 5 =
4.	<u> </u>		Column Totals: (A) (B)
5.			
e			Prevalence Index = B/A =
u			Hydrophytic Vegetation Indicators:
<i>I</i>			1 - Rapid Test for Hydrophytic Vegetation
۶			2 - Dominance Test is >50%
9			3 - Prevalence Index is ≤3.0°
	25 = Total C	over _	A - Mombological Adaptations' (Provide supporting
50% of total cover: 12.5	20% of total cov	er: <u>ን</u>	data in Remarks or on a separate sheet)
Herb Stratum (Plot size: 5)	4		Umblemetic Hurkenbutic Mediation (Cycloin)
1. Polyadichum ders teh by	_5/	Face	Problematic Mydrophysic Vegetadon" (Explain)
2. Com combanis	7	FAIL	
3 Row mildely -		Face	Indicators of hydric soil and welland hydrology must
1 Minte seconda	<u> </u>	FAC	be present, unless disturbed or problematic.
- A. P. astalia	_ ,	EA.0	Definitions of Four Vegetation Strata:
S. Salar Cherry	<u> </u>	<u> </u>	Tree - Woody plants, excludion vices, 3 in, (7.6 cm) or
5. fronzy Sansfirm (Stelling)	_ <u> </u>		more in diameter at breast height (DBH), regardless of
7			height.
8			SaolinaShrub - Woody plants, evolution vines, less
9			than 3 in, DBH and greater than or equal to 3.28 ft (1
10.			m) tall.
11.			Und Bill burkesseure (see wearly) pinets segargings
	Total C		of size, and woody plants less than 3.28 ft tall.
50% of total cover: 11.5	20% of total cov	er: 3.7	
Wordy Vine Stratum (Plot size)			Woody vine – All woody vines greater than 3.28 ft in
			neigns
· · · · · · · · · · · · · · · · · · ·			
۷			
3			
4			Hydrophytic
5			Vegetation
	= 1 o lal C	OVUť	Present? Yes No
50% of total cover:	_ 20% of total cov	ei:	
Remarks: (include photo numbers here or on a separate si	heel.)		·
	-		

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth <u>Matrix</u>		Redox	Features						
(inches) Color (moist)	<u>%</u>	Color (moist)	<u> </u>	<u>lype'</u>	<u>loc'</u>	Texture	Re <u>mar</u> ks		
<u>C-6 1048413</u>	100					5.10			
6-12 + 1-54 + 11.	100		 _		-	sile.			
<u> </u>									
·									
		· — •							
<u> </u>									
¹ Type: C-Conceptration D-Den	etion BM=R	educed Matrix, MS	-Masked 3	Sand Gra	ains	² Location: P	L=Pore Lining, M=Matrix,		
Hydric Soil Indicators:		Cancele man <u>na, me</u>				Indic	ators for Problematic Hydric Soils ³ :		
Histosol (A1)		Dark Surface	(SI)			7	cm Muck (A10) (MLRA 147)		
Histic Epipedon (A2)		Polyvalue Bel	ow Surface	e (S8) (M	LRA 147, 1	146)	oast Prairie Redox (A16)		
Black Histic (A3)		Thin Dark Sur	face (S9) i	(MLRA 1	47, 148)		(MLRA 147, 148)		
Hydrogen Sulfide (A4)		Loamy Gleyco	d Matrix (F	2)		F	iedmont Floodplain Soils (F19)		
Stratified Layers (A5)		Depleted Mat	rix (F3)				(MLRA 136, 147)		
2 cm Muck (A10) (LRR N)		Redox Dark S	Surface (F6	5)		Very Shallow Dark Surface (TF12)			
Depleted Below Dark Surface	e (A11)	Depleted Dari	k Surface ((F7)		_ 0	Mher (Explain in Remarks)		
Thick Dark Surface (A12)		Redox Depres	ssions (F8))					
Sandy Mucky Mineral (S1) (I	RR N,	Iron-Mangane	se Masse:	s (F12) (l	_RR N,				
MLRA 147, 148)		MLRA 136	0			1			
Sandy Gleyed Matrix (S4)		Umbric Surfac	te (F13) (N	MLRA 13	6, 122) An Estat	nna 	licators of hydrophysic vegetation and		
Sandy Redox (S5)		Piedmont Flox	odplain So Interim (CD	ns (F 19) Dù Am Di	(MUKA 14)	5) We	eliano hydrology must be preservi.		
Stripped Mattix (S6)			iateriai (F2	- -	A 127, 147;		illess disturbed of problematic.		
Resulctive Layer (# observed):									
Type:		_							
Depth (inches):						Hydric Soil	Present? Yes No		
Remarks:									

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

	i de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l
Project/Site: <u>Carrol</u> City/County: <u>Carrol</u> City/County: <u>Carrol</u>	
Applicant/Owner: ////www.	State: <u>CTT</u> Sampling Point: **** *
Investigator(s):	tange: 328, 71414 1/5 ~
Landform (hillslope, terrace, etc.): 1 comes way 1 see Local relief (concave, co	nvex, none): <u>לאראשא</u> Stope (%): <u>אשאיי</u> איז איז איז איז איז איז איז איז איז איז
Subregion (LRR or MLRA): LEE N Lat: 44.6494 Lo	ong: <u>~31.0676</u> Datum: <u>/////35</u>
Soil Map Unit Name: Library derived silt lower, 5-34 ships	NWI classification:735
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	e "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology naturally problematic? (If r	needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site map showing sampling point	locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No Is the Sample Hydric Soil Present? Yes No No Weiland Hydrology Present? Yes No No Remarks: No No	ed Area and? Yes <u>No</u> <u>No</u>
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Sufface Water (A1) Inter Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (ISB)
High Water Table (A2) Mydrogen Solide Oddr (C1)	Drainage Patterns (B10) ble (C3) Moes Trim Lines (B16)
Water Marks (R1) Oxidized Rinzospheres on CMing Add	Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduction in Titled Soits	(C6) Cravish Burrows (C8)
Drift Deposits (B3) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagory (C9)
Algal Mat or Crust (B4) Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes Yes Depth (inches): Yes Wes Wes Very No Depth (inches): Yes Wes Very No Yes Very No Yes	Vetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspection	ns), if available:
Remarks.	
Kernanks.	
produce might in private of mations	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: <u><u></u> <u></u></u>

	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30	% Cover	Species?	Status	Number of Dominant Species
L				That Are OBL, FACW, or FAC: (A)
2				2 Your Market of Demonstration (2
3.				Speries Across All Strata:
4				
				Percent of Dominant Species $I c \dot{U}$
] D				That Are OBL, FACW, or FAC: (A/B)
б				 Prevalence Index worksheel
7				Tatat & Cavar of Multiply by
		= Total Cov	er	
50% of total cover:	20% of	total cover:		
Sapling/Shrub Stratum (Plot size: 15				FACW species X 2 =
1. Somering night K & completions	50	1	Frie	FAC species x 3 =
2 Rose my Hellow	5		FAIL	FACU species x 4 =
2. Where weller	5		CAL	UPI. species x 5 =
a				Column Totals: (A) (B)
4				
5				Prevalence index = 8/A =
G				Hydrophytic Vegetation (odicators-
<i>I</i>				1. Dueld Test for Understation Measure
8.				
a				2 - Dominance Fest is >50%
۵	60	Tabal Care		3 - Prevalence Index is ≤3.0 ⁴
		 Total Covi 	ยก มา	4 - Morphological Adaptations' (Provide supporting
SU% di total obver:	2076.01	total cover;	<u> </u>	data in Remarks or on a separate sheet)
Herb Stratum (Plot size)		1		Problematic Hydrophytic Vegetation ¹ (Explain)
1. Investing expension	_/>	<u></u>	FACW	
2. Corris Victory	10		-A	Tradition of a state of the order of the state of the sta
3. Complex sonaility	5		FALW	be present upless disturbed or problematic
4. Laserten constrainte	5		EAC	De present, uniess ustal des drip dorennotes.
5				Dennitions of Four Vegetation Strate:
				Tree – Woody plants, excluding vines, 3 m. (7.6 cm) or
b				more in diameter at breast height (DBH), regardless of
7				height.
В				Santing/Shrub - Woody plants, excluding vines, less
9,				than 3 in. DBH and greater than or equal to 3.28 ft (1
10				m) tall.
11.				Verb All berbasanus (con unodu) plants reportions
	30	Total Cov		of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover:	6	
Woody Ving Sketum (Diet size: 3:)			¥	Woody vine - All woody vines greater than 3-28 ft in
1 <u>, -</u>				
7				
3				
4				Hudrophylia
5.				Vegetation
		- Total Cove	 M	Present? Yes No
50% of total cover:	20% of	total cover:	-	
Remarks, findurfa phote numbers here or on a supportions				
Remarks. (Include proto humbers here of on a separate si				

	Color (maist)	95	Color (moist)	<u>v resultes</u> %	1000	Loc ²	Cexture	Remarks
	1 20 01/1	<u>~</u> .	a www.c-k				<u> </u>	Homany
6-16 4	A-51 -11		7.598 976	_/•	<u> </u>	m		
								<u> </u>
							·	
Гуре: С=Со	ncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S-Masked	Sand Gra	ins.	Location: PL-	-Pore Lining, M-Matrix.
ydric Soil Ir	ndicalors:						Indicat	ors for Problematic Hydric Soils':
_ Histosol (A1)		Dark Surface	e (S7)			_ 2 ¢	m Muck (A10) (MLRA 147)
_ Histic Epi	pedon (A2)		Polyvalue Be	low Surfac	e (S8) (M	LRA 147,	148) <u> </u>	ast Prairie Redox (A16)
Black His	tic (A3)		Thin Dark Su	irface (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
_ Hydroger	Sulfide (A4)		Loamy Gleye	id Matrix (F	-2]		Pie	edmont Floodplaan Soils (F19)
Stratified	Layers (A5)		Dopleted Mai	trix (F3)			t	(MLRA 136, 147)
_ 2 cm Muc	:k (A10) (LRR N)		Redox Dark 3	Surface (F	6)		Ve	ry Shallow Dark Surface (TE12)
_ Depleted	Below Dark Surface	(A 1 1)	Depleted Dar	rk Surface	(F7)		04	ner (Explain in Remarks)
_ Thick Dar	k Surface (A12)		Redox Depre	ssions (Fe	l) 			
_ Sandy Mi	ucky Mineral (S1) (L	RRN,	Iron-Mangan	ese Møsse	is (F12) (L	.RR N,		
MLKA	147, 148) 		MLRA 13	6) /5175//			1	always of backgood descention and
_ Sandy Gi	eyed Matrix (54)		Umoric Suria	ice (F 13) (i 	MENA 130 3- (630) (), 122) Dal Ida 4a	niaiç a)	ators of hydrophytic vegetation and
_ Sandy Re	200X (55) Matrix (56)		Pleamont rid	Koopiain St Jatorial (E)	215 (F19) (215 (F19) ((MLIKA 14) 5 1 2 1 4 2	a) wear	and hydrology must be present.
_ Suippeur	wanix (36)				CIT OMERO	4 127, 147) (inter-	ss distributor problematic.
Time	ayer (il observed);							
туре:								
Depth (incl	nes):		<u> </u>				Hydric Soll P	resent? Yes <u>~</u> No

_____

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Picomont Region

+C/C/								
Project/Site: <u>Carrel</u> (a	conto Ener	·> -	City/C	ounty: <u>Cov</u>	cell G		Sampling Date:	23 April 20
Applican/Owner:						State: C//	_ Sampling Poi	nt: wet 2° cy
Investigator(s): ////////////////////////////////////	semeli and	Coller V.	L _{r.J} Section	on, Township,	Range:	525, 714M	RSW	
Landform (hillslope, terrace, e	scy fully	lumber 1		ief (concave, c	onvex, non	e): (2.140x	\$ic	ipe (%): <u>3-7</u>
Subregion (LRR or MLRA):	LARN	Lat:	40.614	I	ong: 📑 🕇	1.0414	Datu	m: NOSS
Soil Map Unit Name: Cock	milen - Ke	me silt	hans 3.8%	Stan (C		NWI classifica	ation:???	
Are climatic / hyprologic condi	itions on the s	ite typical fo	or this time of year? Y	'es 🔽 No	o (lf no, explain in Re	emarks.)	
Are Vegetation, Soil	🟒 , or Hyd	Irology	significantly distur	bed? A	re 'Normal	Circumstances" p	resent? Yes	<u></u> No
Are Vegelation Soil	, or Hyd	irology		atic? (If	fineeded, e	xplain any answer	s in Remarks.)	
SUMMARY OF FINDIN	IGS – Atta	ch site m	ap showing sam	pling poin	t locatio	ns, transects,	, important f	eatures, etc.
Hydrophytic Vegetation Pres Hydric Soil Present? Wetland Hydrology Present?	sent? ?	Yes Yes Yes	_ No _ No _ No	Is the Samp within a Wel	led Area Lland?	Yes	_ No	-
Remarks:								
HYDROLOGY								
Wetland Hydrology Indicat	tors:					Secondary Indical	tors (minimum o	f two required)
Primary Indicators (minimum	n of one is reg	uired; chec)	k all that apply)			Surface Soil (Cracks (86)	
Surface Water (A1)			True Aquatic Plants (B14)		Sparsely Veg	etated Concave	Surface (88)
High Water Table (A2)		_	Hydrogen Sulfide Od	or (C1)	4	Drainage Pat	terns (B10)	
Saturation (A3)		—	Oxidized Rhizosphere	es on Living R	00(s (C3)	Moss Trim t in	nes (H16)	
Water Marks (81)			Presence of Reduced	d Iron (C4)		Dry-Season V	Mater Table (C2)	J
Sediment Deposits (B2)	J	—	Recent Iron Reductio	yn in Tilled Soil San	\$ (CB)	Craylish Dum	ows (CH) Vible on Ansiel Im	
Drift Deposits (B3)		_	Thin Muck Surface (C	27) 		Saturation Vis	sible on Aerial In 	nagery (CB)
Algal Mat or Crust (B4)			Other (Explain in Ref	панкъј		Stunied of St	Desition (D2)	,,,
Iron Deposits (65)	arial Imagoor (ודט				Geomorphic Shallow Actui	taid (D3)	
Weter Stained Leaves (sharimayeryit (RG)	I D 7)				Micrologona	như Helief (D4)	
Acualic Fauna (B13)	(03)					EAC-Neutral	Test (D5)	
Field Observations:								
Surface Water Present?	Yes	No /	Depth (inches):					
Water Table Present?	Yes	No 🔽	Depth (inches):					~
Saturation Present?	Yes	No 🖊	Depth (inches):		Wetfand H	ydrology Presen	t? Yes	No
(includes capillary fringe) Describe Recorded Data (sti	ream gauge. (nonhoring v	vell, aerial photos, pre	vious inspectio	ons), if avai	lable:		
Domarke								

L

. .

VEGETATION (Four Strata) – Use scientific i	names of	plants.		Sampling Point: 4200
	Absolute	Dominant I	ndicator	Dominance Test worksheet:
1)	% Cover	Species?	Status	Number of Dominant Species That Are OBL, FACW, or FAC:(A)
2				Loral Number of Dominant d
3				Species Across All Strata:
4				Breast of Brazilant Brazilan
5.				Percent of Dominant Species (A/B)
G.				
7.				Prevalence Index worksheet:
		= Total Cove	<u> </u>	Total % Cover of: Multiply by:
50% of total cover:	20% of	total cover:		OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 75")				FACW species x 2 =
1,				FAC species x 3
7.				FACU species x 4 =
3.				UPL species x 5 =
4.	_			Columo Totals: (A) (B)
5				
<u></u> 6				Prevalence Index = B/A =
7				Hydrophylic Vegetation Indicators:
0				1 Rapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
ə		 - Total Cove	,	3 - Prevalence Index is ≤3.0'
50% of Intal cover:	20% of	= TokarCove 'intal cover:		4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size: 5				data in Remarks or on a separate shoet)
1 The fellow of the second	57	1	Farm	Problematic Hydrophytic Vegetation ¹ (Explain)
2 R. h. en valueris			EAC	
1 Shillerin and			VAI	Indicators of hydric soil and wetland hydrology must
A Parana AA				be present, unless disturbed or problematic.
R				Definitions of Four Vegetation Strata:
e				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
ס				more in diameter at breast height (DBH), regardless of
·				negru.
0				Sapling/Shrub - Woody plants, excluding vines, less
9				than 3 m. DBH and greater than or equal to 3.28 ft (1
10				
II	- 17			Herb – All herbaceous (non-woody) plants, regardless
50% of lotal cover 6.1	2094 -	= 10(8) Cove Total cover:	2.6	or size, and vocidy plants less than a.26 it tak.
Weach Vine Strailum (Blot size)		total cover.	<u> </u>	Woody vine - All woody vines greater than 3.28 ft in
17				
7				
2				
ə				
P				Hydrophylic
5				Present? Yes No
5/0% of total source	20% of	 Lotal COVC Lotal cover; 	r	
30% of total coverses	20.6 U		- ·]
Remarks: Takinge photo runders here of on a separate	alear)			

of plante VECETATION (C 11. . - ***** - **`** ____

Profile Dosc	ription: (Describe t	o the dept	h needed to docum	ient the in	dicator	or confirm	the absence	of indicate	irs.)	
Depth	Matrix		Redox Features							
(inches)	Color (moist)	- %	Color (moist)	<u> </u>	Тура'	Loc	Texture		Remarks	
2 123	1048 413	-93	2.542 416	2	<u> </u>	in-	5:10			
	·									
							·			
				<u> </u>						
				•						
							2			
Type: C=Ct Hydric Soil I	ncentration, D-Depi	etion, MM-I	Reduced Matrix, MS	-Masked	Sand Gra	1115.	Location: P	L=Pore Linii stors for Pr	ng, M=Matux. Ablematic Hud	Iric Soils ³
Historial	(A1)		Dark Surface	(97)			7	non Musik (J		7)
Histic Fr	aioedori (A2)		Polyvalue Bel	tovi Surface	e (58) (M	L RA 147.	148) (oast Prairie	Redox (A16)	1)
Black Hu	stic (A3)		Thin Dark Su	face (S9) (MLRA 1	47, 148)	···· - ·	(MI,RA 14	7, 148)	
📃 Hydroge	n Sullide (A4)		Loanry Gleyer	d Matrix (F	Z)		I ³	iedmont Flo	odplain Soils (I	F19)
Stratified	Et ayers (A5)		Depleted Mat	rix (F.3)				(MLRA 13	6, 147)	
2 ¢in Mu	ck (A10) (LRR N)		Redox Dark S	Surface (F6	i)			ery Shallow	Dark Surface ((TF12)
Depleted	Helow Dark Surface	(A11)	Depleted Dail	k Surface ((F7)			ilher (Explai	in in Remarks)	
Thick De Seedu U	irk Suitace (A12)	00 N	Redox Depres	ssions (F8)	. (1:3 7). <i>(</i> 1	66 N				
Sandy M	IUCKY MINERAL (ST.) (LI 147 148)	rire (N,	Internet in the second se	se masse: S	S (F 12) (I	FOR N,				
Sandy G	leved Matrix (S4)		Umbric Surfac	~ :e (F13) (N	ILRA 13	6, 122)	³ Ind	icators of by	drophylic yege	tation and
Sandy R	edox (55)		Predmant Flor	odplain So.	uls (F 19)	(MI RA 14	6) we	iland hydrol	logy must be pr	esent,
Stripped	Matrix (S6)			laterial (F2	1) (MLR/	A 127, 147	i) un	less disturb	ed or problema	tic.
Restrictive L	ayer (if observed):									
iype:										
Depth (inc	:hes):						Hydric Soil	Present?	Yes	No
Remarks:							1			
۱.	11 11- 61		11							
715-0	Thurly Candid	4) 1 (54)	1101							

<i>.</i>						
Project/Site: Current County Energy	City/d	County: <u>ConstH_G_</u>		Sampling Date: 25 Apr. 1.22		
Applicant/Owner: / Adv. me. L. Perri			_ State: CH	_ Sampling Point:		
Investigator(s): M.K. Massernel rol 6	lii Vilana Secti	ion, Township, Range:	SIS TIMM	<u>(5~~</u>		
Landform (hillslope, terrace, etc.):	Local re	lief (concave, convex, no	ne): <u>fanter</u>	Slope (%): <u>> - 1</u>		
Subregion (LRR or MLRA); LR F ~	Lat: MV, UCAL	Long: 1	1 0705	Datum: MAD 11		
Soil Map Unit Name: Briks 1.1. 5.77	10.m. 15-281- Stope	(BKO)	NWI classific	ation: PEr (not moved)		
Are climatic / hydrologic conditions on the site ty	pical for this time of year?	Yes No	 (If no, explain in R	emarks.)		
Are Vecetation . Soil . or Hydrolog	sionificantly distu	rbed? Are 'Normal	l Circumstances" r	oresent? Yes 🖌 No		
Are Vegetation . Soil , or Hydrolog	y naturally problem	atic? (If needed, o	explain any answe	as in Remarks.)		
SUMMARY OF FINDINGS - Attach s	ite map showing sar	npling point locatio	ons, transects	, important features, etc.		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No No No	Is the Sampled Area within a Wetland?	Yes_	, No		
Remarks:						
29575 37779m						
Weiland Hydrology Indicators			Secondary Indica	ilors (minimum of two required)		
Primary Indicators (minimum of one is required	check all that anniv)		Surface Soil	Cracks (B6)		
Surface Water (A1)	Love Aquatic Plants	(814)	Snarsely Ver	related Concave Surface (B8)		
Hinh Water Table (A2)	Hydronen Sulade Ox	(ans) in (Cl)	Drainage Pal	lierns (B10)		
\checkmark Saturation (A3)	Oxidized Rhizosohor	res on Living Roots (C3)	Moss Trim Li	ines (B16)		
Water Marks (H1)	Presence of Reduce	d Iron (C4)	Dry-Season	Water Table (C2)		
Sediment Deposits (B2)	Recent Iron Reductin	on in Tilled Soils (C6)	Craviish Burrows (C8)			
Drift Deposits (B3)	Thin Muck Surface (/	C <i>1</i>)	Saturation Vi	sible on Aerial Imagery (C9)		
Algal Mat or Crust (B4)	Other (Explain in Re	marks)	Stunted or St	ressed Plants (D1)		
Iron Deposits (B5)			Geomorphic	Pasitian (D2)		
Inundation Visible on Aerial Imagery (B7)			Shallow Aqui	lard (D3)		
Water-Stained Leaves (B9)			Microtopogra	phic Relief (D4)		
Aquatro Fauna (B13)			FAC-Neutral	Test (D5)		
Field Observations:						
Surface Water Present? Yes No	Depth (inches): <u>C.</u>	1,5"				
Water Table Present? Yes 🔀 No.	Depth (inches):			/		
Saturation Present? Yes 🗹 No	Depth (inches):		iydrology Preser	(? Yes No		
_(includes capillary longe) Describe Recorded Data (stream dauge, monity	oring well, aerial photos, pri	vious inspections) if ava	ilable:			
Remarks:						
5- Anne maker in the dias of a	arthat					

VEGETATION (Four Strata) – Use scientific r	names of	plants.		Sampling Point: w/ r
· ·	Absolute	Dominant I	ndicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>30</u>)	% Cove	Species?	Status	Number of Dominant Species
2				Total Number of Domanavi) (
3				Species Across All Strata (B)
5				Percent of Dominant Species $/C_U$ That Are OBL, FACW, or FAC; (A/B)
6				Prevalence index worksheet:
7		- Tatul Cove		Lotal % Cover of: Multiply by:
50% of total cover:	20% of	lotal cover:_		OBL species × 1
Sapling/Shrub Stratum (Plot size: 15)				FACW species x 2 =
1		. <u> </u>		FACU species x 4 -
3				UPL species x 5 =
4				Column Totals: (A) (B)
5				Prevalence Index = B/A =
6 7				Hydrophytic Vegetation Indicators:
8		·		1 - Rapid Test for Hydrophytic Vegetation
9				3 - Prevalence Index is ≤3.0'
5D% of total cover	20% о	= Total Cove Inial cover	r	4 - Morphological Adaptations ¹ (Provide supporting
Herb Stratum (Plot size:)	2076 0			data in Remarks or on a separate sheet)
1. forene se. *	20	\checkmark		Problematic Hydrophytic Vegetation' (Explain)
2. Importance organois	<u></u>		<u> </u>	¹ Indicators of hydric soil and wetland hydrology must
3. V. d. Sey 22 j			<u>-46</u>	be present, unless disturbed or problematic.
5				Demitions of Four Vegatation Strata:
6				Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in drameter at breast height (DBH), regardless of
7				heighl.
8 9.				Sapling/Shrub – Woody plants, excluding vines, less than 3 in DBH and greater than or equal to 3,28 ft (1
10				m) tall
11				Herb – All herbaceous (non-woody) plants, regardless
50% of total cover:	<u>-75</u> <u>4</u> 20% оf	 Total Cove total cover: 	/1	or size, and woody plants less than 3.26 in tail.
Woody Vine Stratum (Plot size: 3:)		_		woody whe – An woody vines greater than 3.28 it in height.
1				
z 3				
4				Hydrophylic
5				Vegetation Presont? Yes No
5D% of total cover:		 1otal Cove total cover: 	r	
Remarks: (include photo numbers here or on a separate	sheel.)			L ··
A conclustified gross not included in weeks	unt; del.	en in tim		til it sails and had along

Profile Description: (Desc	ribe to the dept	needed to docur	nent the li	ndicator o	or confirm	the absence	of indicators.)		
Depth <u>Mai</u>	trix	Redo	x Features			_	-		
(inches) Color (mois	<u>st) % .</u>	Çolor (mpisf)	<u>%</u>	Type	100	<u>l'exture</u>	R	temarks	
CIT 2.57 4	12 15	7.571 5/6	/5		m	5.10			
<u> </u>									
									
——— ———	·								:
·				· · ·					
	·								1
Twos: C-Consoptration D	Danielien RM-	Poducod Molicia, Mi	-Mackad	Eand Cra				A. Maneix	
Hyder Spillodicelors:	=Depletion, RM=r	REGUCED MAD IX, MR	S≖Maskou	58IN 018	m5.		tors for Proble	matic Hydr	ric Soils ³
Listene (41)		Dask Contra-	1001					AII DA 147	1. 00131
Initiosof (A1)		Dark Surface	(37) Jan 6		0.04	149) - 20	un muck (ATU)	(MLRA 197 low (A10)	,
Insue Epipedon (A2) Divale Martin (A2)		Horyvalue Be	NOW SUITAC	ла (58) (М ани с 4 4	LKA 147,	(48) <u> </u>		UX (A 15)	
Lilack flistic (A3)		Thin Dark SU	iuace (Sa)	(MERA P	47, (48)		(MENA 147, 14	HOJ Laine Stanlag ()	
Hydrogen Suinde (A4)		Loarny Gleye	ю мастх ці	- 2)		Pi	еотопі насарі	am Sons (F	191
Strauned Layers (AS)		Depieted Ma	((1X (1+3) Constants (C	a			(MLNA 136, 14	(7) 5 E 10	
2 cm Muck (A10) (LRR	N)	Redox Dark	Sunace (F	6) (F 7)		Ve	ary Shallow Dari	k Sunace (I	IF [2]
Depicted Below Dark Si	urtace (ATT)	Depleted Usi	их Sunace	(<i>i</i> /)		_ 0	ner (Explain in i	Remarks)	
Frick Dark Surface (Al.		Redox Depre	SSIONS (FO	9 - 751 05 71	DD N				
Sandy Mucky Minoral (:	SIJ (LKK N,	Iron-Mangan	ese masse ex	5 (F 12) (L	.KK N,				
MLRA 147, 140) Seedy Clayed Matrix /E	-	MUKA 13	0) 	DA 194	1 1 2 1	نامید با ³		dentile under	mine and
Sandy Gleyed Matrix (3	·•·	Oriedmont Fig	vodelnie Sr	NIC (C101)), (<i>21.)</i> (Mi () a 1 <i>4</i>)	1000 Internet	land betraloov.	must he pro	angir ang Seori
Skipped Matrix (SS)		Preomon(Fit	Jatorial (E)	3115 (* 1994) 311 000 100 100 100 100 100 100 100 100	(MLKA 14) 137 147	oy wet 'h soule	and Hydrology i www.dwtudood.co	nost de pre nostiamati	-Sent.
Supped Madix (So)	- meth		naterial (ra			7 Quint [ріфивники	с
-	veu):								
Туре:		_						/	
Depth (inches):		_				Hydric Soil I	Present? Yes	s	No
Remarks:	-								

WETLAND DETERMINAT	ION DATA FORM -	 Eastern Mountains a 	nd Piedmont Region

Project/Site: Correll Conty Energy	City/County: Canal Co Sampling Date: 25 April 23
Applicant/Owner: Advanced Power	State: Q_{f} Sampling Point: $w_{f} q - p$
Investigator(s): mile Messen li and Codie Vila	Section, Township, Range: SPT, 114A, RS-
Landform (hillslope, terrace, etc.): k. 1/s/vp/	Local relief (concave, convex, none): CANNY Slope (%): E7C
Subranian (I BB or MI BA): LAA ~ Lat be (Level 1000 31 07:55 Datum 1/40 51
Sold March and Microsy.	Joint alice (244) hill describering (44
Sou Map Unit Name: 5 . R. Shart, S. F.7. (****** 7)	
Are climatic / hydrologic conditions on the site typical for this tir	ne of year? Yes No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology sign	ificantly disturbed? Are "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology natu	rally problematic? (If needed, exploin ony answors in Remarks.)
SUMMARY OF FINDINGS – Attach site map sh	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	
Hydric Soil Present? Yes No	I is the Sampled Area
Wetland Hydrology Present? Yes No	
Remarks:	<u>·</u>
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that	t apply] Surface Soil Cracks (B6)
Surface Water (A1)	quatic Plants (B14) Sparsely Vegetated Conceve Surface (B8)
High Water Table (A2) Hydrog	en Sulfide Odor (C1) Drainage Patterns (B10)
Saturation (A3) Oxidize	d Rhizospheres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presen	ce of Reduced from (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent	Iron Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3) Thin Mi	uck Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algai Mator Crust (B4) Other (I	Explain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (89)	Microtopographic Relief (D4)
Aquatic Fauna (BT3)	
Field Observations:	
Surface Water Present? Yes No Depth	(INCINES):
Water Table Present? Yes No Depth	(inches):
Saturation Present? Yes No Depth fincludes capillary fringe)	(inches): Wetland Hydrology Prosent? Yes No
Describe Recorded Data (stream gauge, monitoring well, aen	al photos, previous inspections), if available:
· · · · · · · · · · · · · · · · · · ·	
Remarks:	

_....

VEGETATION (Four Strata) -	Use scientific names of	of plants.
--------------	----------------	-------------------------	------------

Sampling Point: We Per

2.	Absolute	Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size:)	<u>% Cover</u>	<u>Species?</u> Status	Number of Dominant Species C
1. Lever and a second		<u> </u>	That Are OBL, FACW, or FAC: (A)
2. 1		<u> </u>	Total Number of Dominant
3		·	Species Across All Strata:
4		·	Percent of Dominant Species
5		·	That Are OBL, FACW, or FAC: (A/B)
Б		·	Prevalence index worksheet:
7			Total % Cover of: Multiply by:
	40	= Total Cover	OBI species x1 =
50% of lotal cover:	<u>~</u> 20% of	ftotal cover: J	La Citta Species x
Sapling/Shrub Stratum (Plot size: / 2)			EAC species x3-
1. Kom melletkin		<u> </u>	EACII species x 4 -
2		·	LIPI spacios
3		· · · · · · · · · · · · · · · · · · ·	Column Totalinu (A) (U)
4		· ·	
5		·	Prevalence Index = B/A =
б			Hydrophytic Vegetation Indicators:
7		·	1 Rapid Test for Hydrophytic Vegetation
8		·	7 - Dominance Test is >50%
9			3 Prevalence Index is <3.0 ¹
,	<u></u>	= Total Cover	4 - Morphological Adaptations ¹ (Provide supporting
50% of total cover: 2	20% of	f total cover:	data in Remarks or on a separate sheet)
<u>Herb Stratum</u> (Plot size:)			Problematic Hydrophytic Vegetation ¹ (Explain)
1 Podephyllin self tom	<u></u>	FAIL FAIL	
2. Telsstubym gerustichilly			¹ Indicators of hydric soit and wetland hydrology must
3		·	be present, unless disturbed or problematic.
4,		·	Definitions of Four Vegetation Strata:
5		·	Tree Weedu elaste excludue views 2 in (7.6 cm) or
б		·	more in diameter at breast height (OBH), regardless of
7	-	· ···-	height.
β		·	Sapling/Shrub - Woody plants, excluding vines, less
9		·	than 3 in. DBH and greater than or equal to 3.28 R (1
10	· ·	·	າກ) ເອຟ.
11		·	Herb – All herbaccous (non-woody) plants, regardless
		- Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover: 🦉 🔄	Woody vine - All woody vines greater than 3.28 ft in
Woody Vine Stratum (Plot size:)			height
1		·	
2	<u> </u>	·	
3		·	
4		·	Hydrophytic
5		·	Vegetation
		 Total Cover 	
50% of lotal cover:	20% of	total cover:	
Remarks: (Include photo numbers here or on a separate s	iheel.)		

Sampling Point: we feet

Profile Dosc	ription: (Describe (to the depth	needed to docur	nent the li	ndicator	or confirm	n the absence of Indicators.)
Depth	Matrix		Redo	x Feature:	s		
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u> </u>	lype ¹	1.0C ²	lexture Remarks
0-9	1041 413	102 .	-				<u>s:15</u>
<u>9-121</u>	loge 4pg	100	^	-			
			<u> </u>				·······
¹ Type: C=Ct	ncentration, D-Depl	etion, RM∈R	educed Matrix, MS	SMasked	Sand Gra	ins.	² Location: PL=Pore Lining, M-Matrix,
Hydric Soil I	ndicators:						Indicators for Problematic Hydric Soils ³ :
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfac	te (S8) (M	LRA 147.	148) Coast Prairie Redox (A16)
Black Ho	stic (A3)		Thin Dark Su	face (S91	(MLRA 1	47.148)	(MLRA 147, 146)
Hydrone	n Sulfide (A4)		Loamy Gleve	d Matrix (I	C25		Piedmont Floodplain Soils (E19)
Shalified	Li avers (A5)		Depleted Mat	rix (F3)			MI BA 116 147)
2 cm Mu	~ 2 (A10) (I DO N)		Redox Dark 9	Rufaca /F	6)		Merry Shallow Dark Surface (TE12)
	Helow Dark Surface	(411)	Replated Dat	k Surface	(E 71		Other (Evaluin in Remarks)
	n Leiviy Cark Juliace uk Sudara (A13)		Depieted Dat	n Junioce esione /ED	(* *) N		
Prock De	nk Surjace (A12) historiate (233/11				9) 		
SanoyM	iucky Minerai (ST) (Li 141-149)	KK N,		ese masse es	75 (F 12) (I	. KK N,	
Candy C	iner, 1901 Kund Malay (St)		MERIA 134	97 50 (532) (1	DI DA 19		³ Inducators of histophytic upgot tion and
Sandy G	nayeo man x (34) minin (25)		Online Suna	ue (r i s) (i ue (r i s) (i	- 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2	9, 122) (18 62 - 14)	modules of hydrophysic vegetation and
Sandy R	euux (55) Makin (55)		Pleanon: Plo	oupian St totaciot (C)	27) (F19) 27) (F19)	(MLHA 198 197 141	b) weband nyurology must be present,
Outpeu	aver (i observed)				21) (MCR)	N 127, 147)	i onessioned or proventatio.
Lone:	ayar (ii oosaraad):						
Depth (inc	- shes):		_				Hydric Soil Present? Yes No
	······		-				

Remarks:

WETLAND DETERMINATION DA	ATA FORM – Eastern M	Iountains and Piedmont R	leaion

Project/Sile: Constit (e-al, forman	City/County:/	Sampling Date: <u>Configuration</u>
Applicant/Owner: /-/// //////	e 40	State: Sampling Point: Q
Investigator(s): <u>PUK Proton Cond</u>	Charlense Section, Township, Rang	ge: 525 114N RSW
Fandform (hillslope, terrace, etc.): <u>4.00.007</u> /	المعنى Local relief (concave, conve	ex. none): <u>representative</u> Slope (%): <u>r-J</u>
Subregion (LRR or MLRA): URA ~	Lat: 7 4 6 7 10 Long	-81, 01-7 Datum: 1240 15
Soil Map Unit Name: 13- Ks shak all 1-	in 15:15th shire (BKO)	NWI classification: 12m (n-1 must)
Are climatic / hydrologic conditions on the site t	voical for this time of year? Yes / No	uf no. explain in Remarks)
Are Venetation Soil or Hydrolo	ypeer te distante of jets	
Are Vegetation, Soil, or Hydroid	ay naturally problematic? (If near	ded, exploin any answors in Remarks.)
SUMMARY OF FINDINGS - Attach	site map showing sampling point lo	cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yos Weiland Hydrology Present? Yos	No Is the Sampled A No No within a Wetland	Area 17. Yes No
Welland Hydrology Present? Yes	No	
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	d; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegetated Concave Surface (BB)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Saturation (A3)	Uxidized Rnizospheres on Living Roots I Presence of Reduced Iron (C4)	(C3) Moss Trim Lines (B15)
Sediment Deposits (B2)	Presence of Reduction in Titled Soils (Cf	Cray(ish Burrows (CR)
Dift Deposits (B3)	<u>1hin Muck Surface (C7)</u>	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Remarks)	Stunted or Stressed Plants (D1)
Iron Deposits (B5)		Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)		Shallow Aquitard (D3)
Water-Stained Leaves (B9)		Microtopographic Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes No	Depth (inches):	
Water Table Present? Yes / No	Depth (inches): 7	
Saturation Present? Yes <u>/</u> No (includes capillary fringe)	> Depth (inches): Wetk	and Hydrology Present? Yes No
Describe Recorded Data (stream gauge, mon	noning well, aenal photos, previous inspections).	if available:
Demoker		
Kemarks.		
	·	

VEGETATION (Four Strata) - Use scientific n	ames of	plants.		Sampling Point: 🖆 🖉 🦉
·····	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>≯</u>) 1. ∽	<u>_% Cover_</u>	<u>Species?</u>	Status	Number of Dominant Species 47 (A)
2.				
3				Species Across All Strata: (B)
4				
5.				Percent of Dominant Species / $\omega C'$
Б.				
7.				Prevalence Index worksheet:
		= Total Cove	 Br	Total % Cover of:Multiply by:
59% of total cover:	20% of	total cover:		OBL species x 1 =
Sopling/Shrub Stratum (Plot size: 15				FACW species X 2 =
1. Sandress when was isondereds	10		FAINT	FAC species x 3
2.				FACU species x 4 =
3.				UPL species x 5 =
4.				Column Totals: (A) (B)
5.				
6.				I Yevalence Index = B/A =
7.			•	Hydrophytic Vegetation Indicators:
8.				1 - Hapid Test for Hydrophytic Vegetation
9				2 - Dominance Test is >50%
v	10	- Total Cove	<u> </u>	3 - Prevalence Index is ≤3.0'
50% of total cover:	20% of	total cover:	<u>፝</u> ጉ	4 - Morphological Adaptations' (Provide supporting
Herb Stratum (Protisize: 5)		-		data in Remarks or on a separate sheet)
1. Course adamenta	15	~	FACW	Problematic Hydrophytic Vegetation' (Explain)
2 Our lan securit	19		OBL	
3 her dien expension	العرب المراجب ا		FAIN	¹ Indicators of hydric soil and wetland hydrology must
a land hered.			282	be present, unless distuibled of promematic.
5 June 1 41		-		Definitions of Four Vegetation Strata:
c				Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
o				more in drameter at breast height (DBH), regardless of height
۲				neight.
0				Sapling/Shrub - Woody plants, excluding vines, less
3				i than 3 in. DBH and greater than or equal to 3.28 K (1
10				
16,	50	Tabal Carro		Herb – All herbaccous (non-woody) plants, regardless
50% of total coular 2 5	20% of	 Total cover 	# 20	or are, and hoody plants is stant 5.20 it ton.
Woody Mine Stratum (Plat size:	_ 20/8 0	toto cover.		Woody vine - All woody vines greater than 3.78 ft in
1				
1				
2				
J				
a				Hydrophylic
ə		Tabal Cause		Present? Yes Wo
5D% of total cover:	2096 of	 Total Cove 	3r	
Reputer (actude abole numbers have or on a constate)	20,800			
rvemarks: (include photo numbers here or on a separate s	1991.)			

VECETATION (Four Strate) Lice colontific names of plants

.

Sampling Point: 444 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth <u>Mahix</u>	Rediox Features	5					
(inches) Color (moist] %	<u>Color (moist)</u> <u>%</u>	(oc ²	Textura Rema	arks			
0.17+ 2.54 412 90	1042416 10	c 100	5.14				
			_				
							
				<u></u>			
· · · · · · · · · · · · · · · · · · ·			Zi za mi za se statego ka ka				
Type: C=Concentration, D=Depletion, RM: Under C=201 = discussion.	Reduced Matrix, MS=Masked	Sand Grains.	Location: PL=Pore Lining, M=Mi	avix. in Undrie Colle ³ .			
Hydric Soll Indicators:			indicators for Propertia	ne riyune buns :			
Histosol (A1)	Dark Surface (\$?)		2 cm Muck (A10) (ML	RA 147)			
Histic Epipedon (A2)	Polyvalue Below Surface	ce (S8) (MLRA 147,	148) Coast Prairie Redox (A16)			
Black Histor (A3)	Thin Dark Surface (S9)	(MLRA 147, 148)	(MLRA 147, 146)				
— Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2]	Piedmont Floodplain 5	Soils (F19)			
Stratified Layers (A5)	Depleted Matrix (F3)		(MLRA 136, 147)				
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F	6)	Very Shallow Dark Su	iface (TF12)			
Depleted Below Dark Surface (A11)	Depleted Dark Surface	(F 7)	Other (Explain in Rem	iarks)			
Thick Dark Surface (A12)	Redox Depressions (FI	8)					
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Mass	es (F12) (LRR N,					
MLRA 147, 148)	MLRA 136)						
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	Indicators of hydrophytic	c vegetation and			
Sandy Redox (S5)	Piedmont Floodplain S	oils (F19) (MLRA 14	8) wetland hydrology mus	t be present,			
Stripped Matrix (S6)	Red Parent Material (F	21) (MLRA 127, 147) unless disturbed or pro	blematic.			
Restrictive Layer (if observed):							
1уре:				/			
Depth (inches):			Hydric Soil Present? Yes	No			
Hemarks			-				

WETLAND DETERMINATION DATA FORM -	 Eastern Mountains and Piedmont Region
-----------------------------------	---

Project/Site: Correll Conty English	City/County:	sail (s Sa	ور مرجع mpling Date: <u>25 موردا ک</u>
Amplicant Owner Advant Porrie	; ;	State: OH	Sampling Point: W4 4 -7
townshortstate mile At an I all (1	1. Kilow & Basting Lowerhig	Banna 526 71414 1	1
investigator(s): <u>prove trasported to the to t</u>	Section, rownship,	Kange: <u>7 7, 7 7, 7</u>	(a) 10-12
Landform (hillslope, terrace, etc.): <u>6.79997</u>	Local relief (concave. (;onvex, none):	Slope (%):
Subregion (LRR or MLRA): <u>LAR</u> I	al: 40.6045	Long:	Datum: //// D
Soil Map Unit Name: BK+ 3 half silt los	- 15-152 shops (BRO)	NWI classificatio	n: <u>UPL</u>
Are climatic / hydrologic conditions on the site typica	al for this time of year? Yes N	o (If no, explain in Rema	arks)
Are Vegetation Soil, or Hydrology _	significantly disturbed?	re "Normal Circumstances" presi	ent? Yes 🧹 No 🔜
Are Vegetation, Soil, or Hydrology _	naturally problematic? (f	f needed, explain any answers in	i Remarks.)
SUMMARY OF FINDINGS - Attach site	map showing sampling poir	t locations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yos Hydric Soil Present? Yes Wetland Hydrology Present? Yes	No Is the Samp No No within a We	eled Area Nand? Yes	No
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; cf	reck all that apply)	Surface Soil Cra	cks (B6)
Surface Water (A1)	True Aquatic Plants (B14)	Sparsely Vegeta	ted Concave Surface (H8)
High Water Table (A2)	Hydrogen Sulfide Odor (C1)	Drainage Pattern	is (810)
Saturation (A3)	Oxidized Rhizospheres on Living R	loots (C3) Moss Trim Lines	(816)
Water Marks (B1)	Presence of Reduced Iron (C4)	Dry-Season Wat	er Table (C2)
Sediment Deposits (B2)	Recent Iron Reduction in Tilled Soi	Is (C6) Crayfish Burrows	s (C8)
Drift Deposits (133)	Toin Mack Surface (C7)	Saturation Vision	a on Aenar Intagery (C9)
Algai Mat of Crust (84)	Other (Explain in Remarks)	Stunied of Sires:	ition (D2)
I mon Deposits (65)		Shallow Aquitard	L(D3)
Water-Stained Leaves (B9)		Microtopographic	Relief (D4)
Aquatic Fauna (B13)		FAC-Neutral Tes	.t (D5)
Field Observations:	·		· · · · · · · · · · · · · · · · · · ·
Surface Water Present? Yes No	Depth (inches):		
Water Table Present? Yes No	Z Depth (inches):		
Saturation Present? Yes No	Z Depth (inches):	Wetland Hydrology Present?	Yes No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitorin	ig well, aenal photos, previous inspecti	ons), if available:	·
Remarks			

VEGETATION (Four Strata) – Use scientific n	ames of	plants.		Sampling Point: <u> </u>	/
	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 3-/)	% Cover	Species?	Status	Number of Dominant Species 7	
1. Burling robbe	30	<u> </u>	FAIN	That Are OBL, FACW, or FAC: (A	Ŋ
2. Acre sucherm	10		FAIN	Total Number of Dominant 2	
3. Vimes rules	10		FAC	Species Across All Strata:	3)
4 a way allo	,2		5ACV		
5 lever survivor	-5			Percent of Dominant Species 25	Vas
					νDį
				Prevalence Index worksheet:	
<i>I</i>	- 15	7		Total % <u>Cover of:</u> Multiply by:	
FOR effort enurs 21	5 200 -	= TOLOL COV	а /2	OBL species x1 -	
50% of (0xar cover: <u>57%</u>	1 2076 01	total cover:	- 2	FACW species x 2 =	
Sapling/Shrub Stratum (14ot size: 77777)	<i>(</i> -	1	Eac		
1. Clms, robin		<u> </u>	<u></u>	Lacillanaciae x 4	
2. Ken mellitter	>		140		
3				UPL species x 5 =	
4				Column Lotals: (A)	[H]
5				Provolence Index - B/A -	
G.					
7	_			Hydrophytic Vegetation Indicators:	
·				1 - Rapid Test for Hydrophytic Vegetation	
8				2 Dominance Test is >50%	
۵	· 13	Telel Cert		3 - Prevalence Index is ≤3.01	
CRW - Line of a survey 5	- <u>/-</u>	 Total Cove 	er – 4.	4 - Morphological Adaptations' (Provide suppor	rting
50% of tokas cover:	200%_01	total cover:		data in Remarks or on a separate sheet)	
Herb Stratum (Plot size:)	• -	./	•	Problematic Hydrophytic Vegetation ¹ (Explain)	
1. Contamine Contribunity		<u> </u>	- 1410		
2 Pode shall me set taken	<u> </u>		^	¹ Indicators of hydric soil and wetland hydrology mus	51
3. The Kickeym the liceraily	<u> </u>		<u>Facu</u>	be present, unless disturbed or problematic.	
4. Powers SP				Definitions of Four Vegetation Strata:	
5					
6.				Tree – Woody plants, excluding vines, 3 in. (7.6 cm,) or
7				height	5 01
°	·			hoight	
o				Sapling/Shrub - Woody plants, excluding vines, le	<u>55</u>
9				than 3 m, DBH and greater than or equal to 3.28 ft ((I
10					
13				Herb - All herbaceous (non-woody) plants, regardle	85 5
	<u></u>	 Total Cov 	er n	of size, and woody plants less than 3.78 ft tall.	
50% of total cover: <u>10, 7</u>	20% of	total cover:	<u>4</u> , *	Woody vine - All woody vines greater than 3-28 ft	ILI
Woody Vine Stratum (Plot size:)				height.	
1					
7					
3					
4.				I had a she dia	
5				Venetation	
· · · · · · · · · · · · · · · · · · ·		– Total Cov		Present? Yes No	
50% of total cover:	20% of	total cover:			
Remades: floclude photo numbers here or on a senarale s	heel			I	
nomenos, vinciado proto runtro o tiere or un e oppetere o					

_...

VEGETATION (Four Strata) – Use scientific names of plants.

_. _

Profile Dasc	ription: (Describe to	o the dept	h beeded to docur	nenl the i	ndicalor	or confirm	m the absence of indicators.)	
Oepth Geebas	Matrix Coler Amendo	~ ~	Redo:	<u>x Feature:</u> %	s Turnal	1 == 2	Tautura Bauwuku	
		<u> </u>		<u>_ 70</u>	ype		< /. Remarks	
<u> </u>	1042 411	/+ _ /						
9-121	1040 4/4	10,7					3.70	
							· <u> </u>	
		· •			•	· ·	··· · · · · · · · · · · · · · · · · ·	
'Type: C⇔Co	oncentration, D∞Deple	ation, RM=	Reduced Matrix, MS	3≂Masked	Sand Gra	ains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I	Indicators:						Indicators for Problematic Hydric Soils	':
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)	
Histic Ep	pipedon (A2)		Polyvalue Be	low Surfac	ca (S8) (N	ILRA 147.	. 148) Coast Prairie Redox (A16)	
Black Hi	stic (A3)		Thin Dark Su	rfaco (S9)	(MLRA 1	47, 148)	(MLRA 147, 148)	
Hydroge	n Sulfide (A4)		Loarny Gleye	d Matrix (F2)		Piedmont Floodplain Soils (F19)	
Stratified	I Layers (A5)		Depicted Mai	rix (F3)			(MLRA 136, 147)	
2 cm Mu	кк (A10) (LRR N)		Redox Dark 5	Surface (F	6)		Very Shallow Dark Surface (TF12)	
Depleted	Below Dark Surface	(A11)	Depleted Dar	k Surface	(F7)		Other (Explain in Remarks)	
Thick Da	wk Surface (A12)		Redox Depre	ssions (F8	B) 			
Sandy M	lucky Mineral (S1) (LI	RR N,	Iron-Mangani	ese Masse	es (F12) (LRR N,		
MLRA	A 147, 148j		MLRA 130	5)			à e a ca a ca a ca	
Sandy G	leyed Matrix (S4)		Umbric Suita	ce (F13) (MLRA 13	6, 122)	Indicators of hydrophytic vegetation and	1
Залоу к	edox (SS)		Pleamont Ho	oopiain Se	ouz (r. 1.a)	(MURA 14	46) wetland hydrology must be present,	
Supped	Matrix (56)		Red Marent M	alenar (F	ZI) (MER	A 127, 147	7) Unless disturbed or problematic.	
Restrictive L	ayer (il observed):							
Type.								-
Depth (mo	thes):						Hydric Soil Present? Yes No <u>~</u>	
Remarks:								

WETLAND D	ETERMINATION	DATA FORM - Easter	m Mountains	s and Piedo	nont Region
Project/Sile: Confl local	Foring	City/County:	Const la		_ Sampling Date: $2 \in A \rho (J) \eta_j$
Applicant/Owner: Alward /	Sec. 6			State: 214	Sampling Point: <u></u>
Investigator(s): mig_ plassing	to ush latter V	Less Section, Towns	hip, Range:	15 11414,	19m
Landform (hillslope, terrace, etc.):	A	Local relief (concav	/e, convex, none): home	Slope (%):
Subregion (I RR or MLRA): LAR	≁Lat:	406051	Long:	0645	Datum: NAU 13
Soil Map Unit Name: B. 1. 3k	ab sill from it	YACK Story (BKO)		NWI classif	ication: \$55 (not majord)
Are climatic / hydrologic conditions of	on the site typical for th	is time of year? Yes	No (If	no, explain in	Remarks.)
Are Vegetation . Soil	. or Hydrology	significantly disturbed?	Are "Normal C	ircumstances"	present? Yes No
Are Vegetation . Soil	. or Hydrology	naturally problematic?	(If needed, ex	plain any answ	ers in Remarks.)
	- Atlach site man	showing sampling o	oint location	is transect	s important features elc.
	- Attach site map	showing sampling p		13, 11 di 1360 (a, important restares, etc.
Hydrophytic Vegetation Present? Hydric Soit Present? Wetland Hydrology Present? Remarks: jiller 15 Strawy	Yes M Yes M	No is the S4 No within a No	ampled Area Wetland?	Yes	No
HYDROLOGY Wetland Hydrology Indicators:		 		Secondary India	ators (minimum of two required)
Primary Indicators (minimum of on	ie is required; check all	that apply)		Surface So	il Cracks (B6)
Surface Water (A1)	Tru	e Aquatic Plants (B14)		 Sparsely Ve	egetated Concave Surface (B8)
High Water Table (A7)	Hyd	drogen Sulfide Odor (C1)	-	🗹 Urainage P	atterns (B10)
Saturation (A3)	Oxi	dized Rhizospheres on Livir	g Roots (C3)	Moss Trup	Lines (B15)
Water Marks (81)	Pre	sence of Reduced Iron (C4)	-	Dry-Seasor	Water Table (C2)
Sediment Deposits (B7)	Rec	cent from Reduction in Tilled	Soils (C6) _	Craylish Bu	inows (C8)
Drift Deposits (B3)	Ihi	n Muck Surface (C7)	-	Saturation *	Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Oth	ier (Explain in Remarks)	-	Stunled or :	Stressed Plants (DT)
Iron Deposits (B5)	(1) T		-	<u>-</u> Geomorphi	e Position (D2)
Inundation Visible on Aerial Im	laderà (RV)		-	Snallow Aq	untaru (133) America Rediof (134)
Water-Stained Leaves (B9)			-	Microlopog	Taphic Relief (174)
Aquatic Fauna (BT3)				FAC-Neura	
Field Observations: Surface Water Dresont? Ve	s No V De	nib (inches):			
Water Table Prosent? Va		min (oches):			
Saluration Present? Ye	<u>- ヽ</u> ヽ	orth (inches):	Wetland Hy	drology Prese	ant? Yes No
(includes capillary fringe)	· · · · · · · · · · · · · · · · · · ·	·			
Describe Recorded Data (stream g	Jauge, monitoring well,	aenai photos, previous insp	ections), it availa	30ie:	
Remarks:					

VEGETATION (Four Strata) – Use scientific	names of plants.	Sampling Point: <u>b.c.A</u>
The Station (Balance 3.4	Absolute Dominant Indicator	Dominance Test worksheet:
1. <u></u>) 1. <u></u>)	Species?Status	Number of Dominant Species
2		Tatal Number of Dominant
3		_ Species Across All Strata: (B)
4		
5		Percent of Dominant Species
E		- That are OBL, FACW, or FAC: (A/B)
•		Prevalence Index worksheet:
<i>I</i>	· · ·	Lotal % Cover of: Multiply by:
	= Total Cover	
50% of total cover:	20% of total cover:	
Sapling/Shrub Stratum (Plot size: /)		FACW species x 2 =
1. Acre negration	<u>40 540</u>	FAC species x 3 =
Ζ		FACU species x 4 =
3.		UP1 species x 5 =
		Column Totals: (A) (B)
۲		-
»- <u></u>		Prevalence Index = B/A =
5		Hydrophytic Vegetation Indicators:
7		A - Rapid Test for Hydrophylic Vegetation
B		
9		2. Considered today is 42.0 ¹
	Te = Total Cover	- J - Prevalence Index is \$3.0
50% of total cover:	20% of total cover:	4 - Morphological Adaptations' (Provide supporting)
Herb Stratum (Dist size)		data in Remarks or on a separate sheet)
• J. *		Problematic Hydrophytic Vegetation ¹ (Explain)
- / ·		•
2. Company perpetrion		¹ Indicators of hydric spit and wetland hydrology must
3. Lilmos robin (Soulling)	FAC	 be present, unless disturbed or problematic.
4		Definitions of Four Venetation Strata
5.		
 6.		Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or
		 more in diameter at breast height (DBH), regardless of
	· · · · · · · · · · · · · · · ·	neigra.
۶		Sapling/Shrub – Woody plants, excluding vines, less
9		than 3 in. DBH and greater than or equal to 3.28 ft (1
10		m) tall
11		Herb – All herbaceous (non-woody) plants, considiess
	🖌 – Total Cover	of size, and woody plants less than 3.28 ft tall.
50% of total cover; 7	7 20% of total cover: 17. 6	, · · · · · · · · · · · · · · · · · · ·
Woody Vine Stratum (Plot size: 🤌)		 Woody vine – All woody vines greater than 3.28 ft in ballet
······································		neight-
· <u> </u>		•
<u> </u>		•
3		-]
4		Hydrophytic
5		Vegetation
	 Total Cover 	Present? Yes No
50% of total cover:	20% of total cover:	
Remarks: (Include photo numbers here or on a separate	sheet.)	
x + 111		
T Kenturk (Agenss and includion or	· Kshiit	

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth	Maţrix		Redox Features			_		
<u>(inches)</u>	Color (moist)	_%	Color (moist)	<u>%</u>	Type'	<u>l oç'</u>	Texture Remarks	
0.121	2.54 4/2	15	10-12 5/6	<u> </u>	C	in	s.//.	
							· ·	
		<u> </u>						
					-			
<u> </u>								
	· · · -						· · ·	
¹ Type: C-C	oncentration, D-Depl-	etion, RM-Re	duced Matrix, MS	S=Masked	Sand Gra	sins.	² Location: PL=Pore Lining, M-Matrix,	
Hydric Soil	Indicators:						Indicators for Problematic Hydric Soils ³ :	:
Histosol	(A1)		Dark Surface	(S7)			2 cm Muck (A10) (MLRA 147)	
Histic E	pipedon (A2)		Polyvalue Be	low Surfac	e (S8) (M	ILRA 147,	148) Coast Prairie Redox (A16)	
Black H	istic (A3)		Thin Dark Su	rfaça (S9)	(MLRA 1	47, 148)	(MLRA 147, 148)	
Hydroge	en Sulfide (A4)		Loamy Gleye	d Matrix (F	2)		Piedmont Floodplain Soils (F19)	
Stratifier	d Layers (A5)		Depleted Mat	lrix (F3)			(MLRA 136, 147)	
2 cm Mu	JCK (A10) (LRR N)		Redox Dark :	Surface (F6	5]		Very Shallow Dark Surface (TFT2)	
Deplete	d Helow Dark Surface	(A11) .	Depicted Date	K SUITBOOL	(1-7)		Other (Explain in Remarks)	
Thick Di	ark Surrade (A12) Avelas Managal (S1) (11		Redox Depre	issions (Pa	, (513) (I	DD AI		
Sandy N	AUCKY MINERAL (ST) (CT A 147-148)	ки IN, .	IION-Manyan MI DA 191	678 WAZZ A	5 (F 1 2) (I	_KK N,		
Saudy (Seved Matrix (S4)		Umbrie Surfa	чу се (Е13) (К	ALRA 13	6. 127)	³ Inducators of hydrophytic vegetation and	
Sandy F	(sol) Redox (S5)		Piedmont Flo	odplain So	ils (F19)	(MLRA 14)	 wetland hydrology must be present. 	
Suipped	Matrix (S6)		Red Parent N	Aaterial (F2	1) (MLR	A 127, 147	 unless disturbed or problematic. 	
Restrictive	Layer (if observed):				-		<u> </u>	
Туре:	-		-					
Depth (in	ches):		_				Hydric Soil Present? Yes No	_
Remarks:								

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Correll Count	Farmer	City/County:	will be	Samoling Date: 25 Arr. 7 2012		
Applicant/Owner: Advant R	 .ma /		State: 277	Sampling Point: Wikk W		
Investigatorie) In K III - 6	and letie Vilens	Section Township	Button: 523 71414			
Investigation (a)	l del se	Section, Township,	nange. <u>v.v.y.tr</u>	Since 1922 16: 17		
Landrorm (noisiope, tenace, etc.):	<u>n raiwir</u>	Local reliet (concave, (<- >	. ~ ~ ? / ハイクイ	Slope (%)		
Subregion (LRR or MLRA): <u>(RR</u>	<u>. </u>	<u>) (</u>]	long: <u>97, 0099</u>	Datum: <u>~~4~ 57</u>		
Soil Map Unit Name: DJ-K; . h	4 sill lang 15-25%	- stope (BKO)	NWI classifi	cation:/L		
Are climatic / hydrologic conditions on	the site typical for this time of	l year? Yes 🗹 N	o (If no, explain in F	lemarks.)		
Are Vegetation, Soir, o	x Hydrology significar	ຟy disturbed? A	re "Normal Circumstances" (present? Yes No		
Are Vegetation, Soil, o	Hydrology naturally	problematic? (i	r needed, explain any answ	ers in Remarks.)		
SUMMARY OF FINDINGS -	Attach site map showi	ng sampling poir	t locations, transects	s, important features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No Yes No	 Is the Samp within a We 	iled Area tland? Yes	No		
Wetland Hydrology Presem?	Yes No	<u> </u>				
HYDROLOGY						
			Secondary India	ators (unruruum of two required)		
Primary Indicators (minimum of ane	is required; check all that and	tut	<u>Sudace Soil</u>	Cracks (B6)		
Surface Water (\$1)	<u>rs regulies, check as that app</u> True Aquetic	Dianis (B14)	Sonace Son	nelated Concaue Surface (B9)		
High Water Table (A2)	Hvdmaen Sc	ulfide (Idor (C3)	Drainane Pa	Sparsely vegetated Concave Surface (56)		
Saturation (A3)	Oxidized Rh	izosoberes on Living R	cools (C3) Moss Tam L	ines (B16)		
Water Marks (B1)	Presence of	Reduced Iron [C4]	Dry-Season	Water Table (C2)		
Sediment Deposits (B2)	Recent Iron	Reduction in Tilled Soi	ls (C6) 📃 Crayfish Bur	rows (CB)		
Doft Deposits (83)	Thin Muck S	orface (C7)	Saturation V	isible on Aenal Imagery (C9)		
Algal Mat or Crust (B4)	Other (Expla	in in Remarks)	Stunted or S	tressed Plants (D1)		
Iron Deposits (B5)			Geomorphic	Position (D2)		
Inundation Visible on Aerial Imagenetic Strategies (2014)	gery (B7)		Shallow Aqu	alard (D3)		
Water Stained Leaves (B9)			Microkopogra	aphic Relief (D4)		
Aquatic Fauna (B13)				1 16St (DS)		
Field Observations:	No. of Danih (inch	oc).				
Water Table Brendy 2 Ver	No <u> </u>	es):				
Solucition Present: Tes	No Depth (men	es);	Weiland Hedrology Brees	NO NO		
(includes capillary fringe)		ea):	inetiand hydrology meser			
Describe Recorded Data (stream ga	uge, monitoring well, aerial ph	otos, previous inspecti	ons], if available:			
Remarks						
Nemarks:						

	Absolute	Dominan ¹	ndicator	Dominance Test worksheet
free Stratum (Plot size: 3.7 ')	% Cover	Species?	Status	
- Perny greation	40		F1 iv	That Are OBL, FACW, or FAC:
·				Total Number of Dominant
		·		Species Across All Strata:(B)
·				Percent of Dominant Spacies
				That Are OBL, FACW, or FAC:
·				Prevalence Index worksheet:
	10	 ≂ Total Cove		Total % Cover of:Multiply by:
50% of total cover:	20% of	total cover:_	<u>`</u> }	OBL species x 1 =
apling/Shrub Stratum (Plot size: 75)		/		FACW species x 2 =
Bin condi	10		<u>-4</u> (FAC species X 3
Russ meltiflers			PAIN	FACU species x 4 =
				UPL species X5 =
				Prevalence Index = B/A =
				Hydrophytic Vegetation Indicators:
				1 Rapid Test for Hydrophytic Vegetation
				2 - Dominance Lest is >50%
	15	- Total Cove	r_	3 - Prevalence Index is \$3.0
ِ 50% of total cover: <u>۲, ۶</u>	201% of	total cover:_	3	data in Remarks or on a separate sheet)
ents Stranum (Plot size:)	<u>م</u> .–	1	F 4.4.4	Problematic Hydrophytic Vegetation ¹ (Explain)
ZIUT D	<u> </u>	_ <u> </u>	1.404	
			- 192	Indicators of hydric soil and wetland hydrology must
- france preparente and	<u> </u>		- CArne	be present, unless disturbed or problematic.
Carta in the state	<u> </u>		FAIN	Definitions of Four Vegetation Strata:
				Tree - Woody plants, excluding vines, 3 in. (7.5 cm) c
·				 more in diameter at breast height (DBH), regardless of height.
				Sapling/Shrub – Woody plants, excluding vines, less than 3 in, DBH and preater than or equal to 3.28 ft (1)
J				m) tall.
l				Herb – All herbaccous (non-woody) plants, regardles
A • •	<u>_75</u> ,	= Total Cove	'a	of size, and woody plants less than 3.28 ft tall.
50% of total cover:	20% of	total cover:	<u> </u>	Woody vine - All woody vines greater than 3.28 ft in
/oody Vine Stratum (Plot size:32)				height.
. <u>-</u>				
······································				
·	·			Hydrophytic Vegetation
		- Total Cove	 г	Present? Yes No
50% of total cover:	20% of	total cover:_		
emarks: (Include photo numbers here or on a separate sh	ieet.)			1

Profile Description: (Describe to the depth	n needed to docum	ent the in	ndicator (or confirm	the absence of indi	cators.)
Depth	Redox	Fealures	<u>i .</u> .			
(inches) Calor (moist) %	Color (moist)	_%	Type ¹	Loc'	<u>Texture</u>	Remarks
0-7 104A 412 100	-	-			s.lo	
7-123 10404/4 100					- 1-	•
	_					
·						
·						
					 _	
¹ Type: C=Concentration, D=Depletion, RM=F	educed Matrix, MS	-Masked	Sand Gra	ins.	² Location: PI = Pove	Linum, M-Matrix
Hydric Soil Indicators:					Indicators fo	r Problematic Hydric Soils ³
Histosol (A1)	Dark Surface ((57)			2 cm Mur	
Histic Epipedon (A2)	Polycalue Beld	w Surfaci	e (SR) (M	RA 147	1490 Coost Dra	Non Reday (A16)
Black Histic (A3)	Thin Dark Sud	face (S9) ((M) RA 1/	47. 14R)	(MIRA	147 14R)
Hydrogen Sulfide (A4)	Loarny Gleved	l Matrix (F	2		Piedmont	Floodalain Soils (E19)
Stratified Layers (A5)	Depleted Matri	ix (F3)	-,		MI RA	135 147)
2 cm Muck (A10) (LRR N)	Redox Dark S	urface (Fé	5		Very Sha	llow Dark Surface (TE12)
Depleted Below Dark Surface (A11)	Depleted Dark	Surface (, (F7)		Other (Ex	non our conduct, (112)
Thick Dark Surface (A12)	Redox Depres	sions (F8))			prant in the not (6)
Sandy Mucky Mineral (S1) (LRR N,	Iron Mangane:	se Masses	s (F12) (L	RR N.		
MLRA 147, 148)	MLRA 136	1				
Sandy Glayed Matrix (S4)	Umbric Surface	e (F13) (N	ALRA 136	i, 122)	³ Indicators o	f hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floo	dplain Sol	ils (F19) (MI RA 148) wetland hy	drology must be present.
Stripped Matrix (S6)	Red Parent Ma	nerial (F2	1) (MLRA	127, 147)	unless dist	urbed or problematic,
Restrictive Layer (if observed):						
Туре:						
Depth (inches):					Hydric Spil Present	2 Yos No have
Remarks	_					
ron-ana.						

APPENDIX B

ORAM FORMS

Background Information

Name: Mille Alexandi		
Date: 23 Apr. 1 2013		
Attiliation: Tela Tech Inc		_
Address: 661 Andress	1) 1: +1. b. b. 14 15220	
Phone Number: 4112 - 930	7007	
e-mail address: mithel, sive	somethe deterdet com	· · · · ·
Name of Wetland: A		
Vegetation Communit(les): $p \in r$	<u> </u>	
HGM Class(es):	Riverine	
Location of Wetland: Include map, a	iddress, north arrow, landmarks, distances, roads, et	
Lat/Long or UTM Coordinate	14.5 6.123 - 21 mett	
USGS Quad Name	(
County	Carroll G.	
Township	TIMM	
Section and Subsection	525, R5W	
Hydrologic Unit Code	05010001	
Site Visit	23 April 2013	
National Wetland Inventory Map	Fip 3n	
Ohio Wetland Inventory Map	Fis 33	
Soil Survey	Fig. d	
Delineation report/map	a 44. , Led	


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 casy 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 Obio 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 property establishing scoring boundaries	done?	not applicable
Step 1	Identify the welland area of Interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single welland	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.	~	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		-

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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 babitat" 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 welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NU-
	been designated by the U.S. Fran and Wildhie Service as "Critical hebitati (as any threatened as regional species?	meuano snoulo de avatuatori far onssible	GD to Question 2
	Note: as of Jacuacy 1, 2001, of the federally listed endangered of	Category 3 status	
	threatened species which can be found in Ohio, the Indiana Bat has	contigor) e charac	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	
	has had chtical habitat proposed (65 FR 41812 July 6, 2000).		\square
2	Threatened or Endangered Species. Is the wetland known to contain	YES	N9
	an individual of, or documented occurrences of federal or state-listed		Calls Overline 2
	threatened or endangered plant or animal species?	ywerland is a Calegory	Go to Question a
		Go to Question 3	\square
3	Documented High Quality Wetland. Is the wetland on record in	YES	NO
	Natural Heritage Database as a high quality wetland?	Michard is a Ostagon	Colla Ouerlies d
		3 wetland	Go io Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	(NO)
	contain documented regionally significant breeding or nonbreeding	Marker of the or Continuous	Contra Dunation 5
	waterfowl, neotropical songbird, or shorebird concentration areas?	Averand is a Category	Go to Question 5
		C MERDINI	-
		Go to Question 5	
5	Category 1 Wetlands, is the wetland less than 0.5 hectares (1 ecre)	YE\$	NO
	in size and hydrologically isolated and either 1) comprised of	<u>-</u> .	
	vegetation that is dominated (greater than eighly per cent areal cover)	Welland is a Category	Go to Question 6
	by Phalans arundinacea, Lymrum salicana, or Phragmites australis, or	1 WBUARD	
	no vegetaling?	Go to Question 6	
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO/
	significant inflows or outflows, 2) supports acidophilic mosses,		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see hable 1) is \$25%?	Go to Question 7	In
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	1NO/
-	is saturated during most of the year, primarily by a discharge of free		
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Calegory	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 wetland	
	invasive species listed in Table 1 is <25%?	Go to Duestion Ba	
	"Old Growth Forget " is the wetland a forested wetland and is the	YES	
Ģа	forest characterized by, but not limited to, the following characteristics:		
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Ge to Question 6b
	projected maximum attainable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100		
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Question an	
	canopy trees interspersed with carupy gaps, and significant numbers		
	Li or avairand agaa sudde and detured indie:	1	

			()
86	Mature forested wetlands. Is the wetland a forested wetland with	YES	NO/
	50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17 7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		C- to Outsting Ba	<u></u>
	and the second	USB to Question 98	NO
9a	Lake Erie coastal and tributary wetlands. Is the welland located at	TE5	000
	an elevation less than 575 teel on the USGS map, abjacent to this	Go to Question 9b	Go to Question 10
	elevation, or along a tilbulary to Lake Electric is accessible to them.	YES	NO
aD	provide provide and the loss of anualic plants, i.e. the wettand is		
	partially hydrologically restricted from Lake Evic due to lakeward or	Wetland should be	Go to Question 90
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
90	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NÔ
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Ga to Question 9d	Go to Question 10
	"estuarine" welland with lake and river influenced hydrology. These		
	include sandbar deposition wellands, estuenne wellands, river moun		
	Wellands, or those dominated by submerseo aquatic vegetation.	YES	NO
90	Does the weband have a predominance of have species within the	120	
	native species can also be oresent?	Welland is a Category	Go to Question 9e
		3 wetland	
			l i i i i i i i i i i i i i i i i i i i
		Go to Question 10	
90	Does the wettand have a predominance of non-native or disturbance	TES	
	tolerant harve hight species within its vegetation continuances:	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		On the Owner King 10	· · · ·
	the second second second second second second second second second second second second second second second se		
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	1 123	C
	Lucas, Funder, Henry, or Yvood Coondes and can be weden be	Wetland is a Category	Go to Question 11
	substrate with interspersed proanic matter, a water table often within	3 wetland.	
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in contirming this		<u>م آ</u> ک
	type of welland and its quality.		
11	Relict wat Prairies, is the watand a relict wat prairie community	120	
	gominated by some of all of the party Plains (Madison and Union	Wetland should be	Complete
	Countles) Sandusky Plains (Wyando) Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative	
	1	Rating	

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	Dak Opening species	wet prairie species
Lythrum saticaria	Zygademus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Cares utlantica var. capillacea	Carex lasiocurpa	Calamogrostis stricta
Najas minor	Carex flava	Cares echinata	Cures stricto	Carex otherodes
Phalaris arundinarea	Carex sterilis	Carex oligosperma	Cladium manscoides	Carex huxbaumii
Phragmites australus	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Polamogetan crispus	Deschampsia caespitosa	Chamoedophne culyculata	Calamagrostis canadensis	Carex sartwellii
Rammeulus ficaria	Eleocharis rostellota	Decodon verticillatus	Quercus palustris	Cientiana andrewsii
Rhammes frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Lorix Inrivina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus macronatus		Lysimachia quadrijiora
	Parnassia glauca	Schechzeria polustris		Lythrum alatum
	Potentilla fruticasa	Subagnum spp.		Pyrnanthemam virginianam
	Khamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	<i>Vaceinium corymbosum</i>		Sorghastrum nutans
	Safer candida	Vaccinium axycoceas		Spurtina pectinata
	Salar myricoider	Waadwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glatinosa			
	Triglochin marilimum			
	Triglochin palustre			

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
------	---------	-----------

		circle	
		answer or	
		insert	Result
		SCOR	
Narrative Rating	Question 1 Critical Habitat	YES (NQ/	If yes, Calegory 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 habital	YES NØ	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO/	If yes, Category 1.
	Question 6. Boga	YES NO	If yes, Category 3.
	Queslion 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Calegory 3.
	Question 8b. Mature Forested Welland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Eric Wetlands - Restricted	YES NO	If yes, evaluate for Calegory 3; may also be 1 or 2.
	Question 9d. Lake Erie Wellands – 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	Ø	
	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	14	
	Melric 4, Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microlopography	6	
	TOTAL SCORE	52	Category based on score breakpoints
		<u> </u>	·

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circlé one	-	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions. Narrative Rating Nos 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland		Is quantitative rating score less than the Calegory 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the calegory of the wetland using the narrative cnteria 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: Namative Rating Nos. 1, 6b, 9b, 9e, 11	YES Welland should be evaluated for possible Category 3 status	NO C	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score of 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 end/or functional essessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Welland is categorized as a Category 1 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 (all within the scoring range of a Celegory 1, 2, or 3 welland?	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 welland to the higher of the two categories or to assign a category based on the results of a nonrapid welland 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	Welland Is assigned to category as determined by the ORAM	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's blotc communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:		
michael Alussonali		
Date: 23 Ap. (1) 13		
Affiliation: Tels Tech Inc		
Address: 661 Anders. V. 1.	Historyh, PA 15220	
Phone Number: 		
e-mail address:	det da	
Name of Wetland: 8	and the second second	
Vegetation Communit(les):	· · · · · · · · · · · · · · · · · · ·	
HGM Class(es):		
Location of Wetland: Include map, address,	north arrow, landmarks, distances, roads, e	tç.
ser attribut rope. A		
Lat/Long or UTM Coordinate	40.6053 -81,0064	
USGS Quad Name	Correction	
County	Corroll Co.	
Township	THM	
Section and Subsection	528, 85W	
Hydrologic Unit Code	05040001	
Site Visit	23 Am 1 2013	
National Wetland Inventory Map	Fy 3A	
Onio Welland Inventory Map	Fix. 34	
Soil Survey	Fo)	
Delineation report/map	944-chel	



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 repidly. Such evidence includes both netural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	/	
Step 3	Delineate the boundary of the watland 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 wellands that could be scored separately.		/
Step 6	Consult ORAM Menual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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 welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	Nº .
	been designated by the U.S. Fish and Wildlife Service as "critical	Welland should be	Go to Question 2
	hebitat" for any threatened or endangered plant or animal species?	evaluated for possible Category 3 status	1
	threatened species which can be found in Ohio, the Indiana Bal has	Caregory o option	1
	hed critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	a
2	Threatened or Endangered Species. Is the wetland known to contain	YES	10/
	an individuat of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Calegory 3 watland.	Go to Question 3
		Go to Question 3	\cap
3	Documented High Quality Wetland. Is the wetland on record in	YËS	NO/
	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\cap
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO)
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Collo Question 5	
5	Category 1 Wetlands. Is the welland less than 0.5 heclares (1 acre)	YES	
•	in size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover)	Welland is a Category	Go to Question 6
	by Phelans aronomaces, cymrum sercene, or Phagmates absinets, or (2) an acidic bond created or excavated on mined lands that has little or		•
	no vegetation?	Go to Question 6	<u>(</u>
5	Bogs. Is the welland a peat-accumulating welland that 1) has no	YES	No /
	particularly Sphaonum spc., 3) the acidophilic mosses have >30%	Wetland is a Calegory	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is <25%?	Go to Question 7	α
7	Fans. 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		
	f flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 6a
	invasive species listed in Table 1 is <25%?		-
		Go to Question 8a	(m)
83	"Old Growth Forest." Is the welland a forested wetland and is the forest characterized by . But any lighted to the following characteristics:	YES	I.₩
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
	projected maximum attainable age for a species); little or no evidence	3 welland.	ł
	of human-caused understory disturbance during the past 80 to 100	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question of	

			\sim
Bb	Mature forested wetlands Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous (rees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible	(NO) Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands its life wetland located at	YES	(NO)
	an elevation less than 575 feet on the USGS map, adjacent to this	Co to Ouerfine Oh	
	Does the watend's bytelacy result from measures designed to		NO
90	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Welland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		De la Duradia da	
-0-	Are Lake Cristianter levels the wetlend's primery butterionical ist-reaso		
90	For Lake the water reversitive wetrand's primary hydrotogical innushes, i.e. the watered is hydrotoologically intrestricted (no takeward or unland).		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wellands, or those dominated by submarsed aquatic vegetation.		NO
90	Does the wetland have a predominance of native species within its meantailon communities, although non-pative or disturbance tolerable	169	
	native species can also be present?	Wetland is a Calegory	Go to Question 9e
		3 welland	
		Go to Question 10	100
90	Does the wetland have a predominance of non-native or disturbance telerent native plant species within its vegetation communities?	YES	NO
	toler and name promy species within the registration communities:	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Contra Charaction 10	
40	Lake Plain Sand Project (Oak Openians) Is the welland located in	VES	
10	Lucas, Fulton, Henry, or Wood Counties and can the wetland be		\mathbb{C}
	characterized by the following description: the wetland has a sendy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 welland.	
	several inches of the surface, and often with a dominance of the	Contro Outersteen 44	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Obio Denormant of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		()
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YE\$	(NO)
	dominated by some or all of the species in Table 1. Extensive prairies	Julational about the	
	were tormeny located in the Darby Plains (Madison and Union Countries), Sandusky Plaine Attrandet, Crewford, and Marian	evaluated for possible	Orantitative
	Counties), paradosky Prains (vyjandot, Grawovu, and Martor) Counties), parthwest Obio (sin Erle, Humon Lucas, Wood Counties)	Calegory 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Marni.	1 3 01, 4 010100	
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

invasive/exotic spp	fen species	bog species	Cak Opening species	we <u>t prairie species</u>
Lythrum solicaria	Zygadenus elegans var glaucus	Culla palustris	Carex cryptolepis	Calumagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Cares flava	Carex echinata	Carez stricto	Carex atherodes
Phalaris arundinacea	Carex sterilis	Cares oligosperma	Cladium mariscoides	Carex huxbaumii
Phragmites australis	Carex stricta	Carez trisperma	Calamagrastis stricta	Curex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne colyculato	Calamogrostis canadensis	Carex sartwellii
Ranunculus ficuria	Eleocharis rostetlata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhammus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helionthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglanca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glavca	Scheekzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagmen spe		Pyrnanthemum virginianum
	Rhammus alnifolia	Vaccinium macrocarpon		Sulphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartino pectinato
	Salix myricoides	Woodwardaa virginica		Solidago riddettii
	Salix serissima	Xyris difformis		
	Solidago ahioensis			
	Tofieldia glutinosu			
	Triglochin maritimum			
	Triplachen palustre			

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







End of Quantitative Rating. Complete Categorization Worksheets.

Z

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
------	---------	-----------

		circle	
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Calegory 1 Wellands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Calegory 3.
	Question 7. Fens	YES NO	If yes, Calegory 3.
	Question 8a. Old Growth Forest	YES (NO	If yes, Category 3.
	Question 8b. Mature Forestad Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES NO	If yes, evaluate for Calegory 3; may also be 1 or 2.
	Question 9d. Lake Erie Wallands - 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, Calegory 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	Ô	
	Metric 6. Plant communities, intersperalon, microtopography	8	
	TOTAL SCORE	60	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choires	Circle one		Evaluation of Categorization Result of ORAM
VIIVLBA		\bigcirc	
Did you answer "Yes" to any of the following questions:	YES Wetland is	∞∕	Is quantitative rating score less man the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland	\sim	assessments to determine if the welland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES	$\mathbb{N}^{\mathbb{N}}$	Evaluate the wetland using the 1) namative ontenia in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If
	Welland should be		the weiland is determined to be a Category 5 weiland using
Narrauve Rating Nos. 1, 80, Ob. Ro. 11	evaluated for		welland Detailed biological and/or functional assessments
ao, ae, 11	3 status	_	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES /		Is quantitative rating score greater than the Category 2
Did you answer Tes to	(<i>]</i> *	scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland is	r I	reevaluate the category of the welland using the narrative
•	categorized as a		criteria in OAC Rule 3745-1-54(C) and biological and/or
	Category 1 wetland	ł	functional assessments to determine if the wetland has
		<u>es</u> t	been under-categorized by the OKAM
Does the quantitative score	YES		If the score of the watand is located within the scoring
fail within the sconing range	10 fatland is	\cup	assigned to that category. In all instances however, the
or a Category 1, 2, 01 3 wattend?	assigned to the		namative criteria described in OAC Rule 3745-1-54(C) can
Welland .	appropriate		be used to clarify or change a calegorization based on a
	category based on		quantitative score.
	the scoring range		
Does the quantitative score	YES/	NO	Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for			of the two categories or to assign a category based on the
Calegory 1 or 2 or Category	welland is		results of a nonitatilo wettand assessment metrod, c.g. functional excessment, biological assessment, etc. 20d 2
2 or 3 wetlands?	biobec of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	category based on		
	detailed		
	assessments and		
	the narrative		
Boas the voltand otherwise		Ko)	A wetland may be undercategorized using this method, but
exhibit moderate OR superior	120	l 🔍	still exhibit one or more superior functions, e.g. a welland's
hydrologic OR habital, OR	Wetland was	Wetjand is	biotic communities may be degraded by human activities,
recreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
the wetland was not	by this method. A	category as	functions because of its type, landscape position, size, local
categorized as a Category 2	written justification	determined	or regional significance, etc. In this circumstance, the
wetland (in the case of	for recalegorization	by the	narrative criteria in UAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) of a	on Backpround	CHUANI.	corrected A written justification with supporting reasons or
case of superior functions) by	Information Form		information for this determination should be provided.
this method?			• • • • • • • • • • • • • • • • • • • •



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	
Date: 23 Ar. 1 3.9/3	·
Affiliation:	[
Address: C. / J. A. J. Y) ALLEL 1. 20	
Phone Number: Wig and and	
michael more til tota fich room	
Name of Wetland: Cant D	
Vegetation Communit(ies): PErn	
HGM Class(05): dependent	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	_
see attacked sep-1	
Let/Long or UTM Coordinate 40. 6343, SPJ 0663	
USGS Quad Name	
County	_
Township Ttyn	
Section and Subsection 526, RSW	
Hydrologic Unil Code OSSY DOD 1	
Site Visit 23 A1 2013	
National Wetland Inventory Map	
Ohio Wetland Inventory Map Fis 33	.
Soil Survey 23 Apr. 1 . 2013	
Delineation report/map	

Name of Wetland: Cand Ø Wetland Size (acres, hectares): 0. 0 | w(combined) Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. ı. Forgeld Thinks assisted -- 1 Store - dispersion diversion Comments, Narrative Discussion, Justification of Category Changes: Depression 1 ares in historic direction ditch. 1 21 Category: Final score :

Scoring Boundary Worksheet

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

*	Steps in property establishing scoring boundaries	done?	not applicable
Step 1	Identify the welland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
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.		
81ep 3	Delineate the boundary of the wetland to be reled 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 embankmants, 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 wellands that could be scored separately.	/	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for weblands 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.dur.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	<u> </u>
1	Critical Habitat, is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NO
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Ga to Question 2
	habitat for any threatened or endangered plant or animal species?	evaluated for possible Cetenney 3 status	
	Note: as of January 1, 2001, of the federally listed engangered of (breatened scenics which can be found in Ohio, the Indiana Bal has	Category 5 status	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		<u> </u>
2	Threatened or Endangered Species. Is the wetland known to contain	YES	/∾ /
	an individual of, or documented occurrences of federal or state-listed threatened or endergeted plant or animal apenies?	Wetland is a Category	Go to Question 3
	mesteneo or engangarao prantior animai species?	3 wetland.	-24 14 H-261611 C
		Ga to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Network Heatana Detabase as a bigh curtike wolland?	YES	
	i usietet ⊔eurage roerspase as é trêu diteurê, merendik.	Welland is a Category	Go to Question 4
		3 welland	
		Co to Ourseline A	6
	OlealReant Provides a Concentration Arms Described the united	YES	
4	aignificant preeding or concentration Area. Does the wedand contain documented regionally significant breading or nonbreeding		
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 wetland	
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YFS	NO
-	in size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover)	Vetland is a Category	Go to Question 6
	by Phatans anundinacea, Lytonum salicana, or Phragmies australis, or 2) an acidin pond created or excauated on mined lands that has little or	T WBGZIG	22
	no vegetation?	Go to Question 8	$\left(\mathcal{L} \right)$.
6	Bogs. Is the wetland a peal-accumulating wetland that 1) has no	YES	NO/
	significant inflows or outflows, 2) supports acidophilic mosses,	Wellend is a Category	Go to Question 7
	particularly Sphagnum spp., 3) the actoophilic mosses have >30.5 cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	NOVIN WHEEKIDIT P
	cover of invasive species (see Table 1) is <25%?		
		Go to Question 7	
Z	Fens. Is the welland a carbon accumulating (peat, muck) welland that	YES	
	is saturated during most of the year, primarily by a discharge of ree flowing, mineral rich, around water with a circumdeutral of (5.5-9.0).	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 wetland	
	invasive species listed in Table 1 is <25%?	On the Owner Hand Pro-	
<u> </u>	Office Provide Except 1 to the configuration formulation state in the	YES	
88	forest characterized by, but not limited to the following characteristics		
	overstory canopy trees of great age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
	projected maximum attainable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100	Go Io Overties Ph	
	years; an all-aged structure and multilayered catioples; aggregations of capport trees interspecied with capport pages; and significant numbers	Go to Question BD	
	of standing deed snags and downed logs?		

			\sim
8b	Nature 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	Welland should be	Go to Question 98
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	
		Category 3 status.	
		Go to Question 9a	F
93	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 Inbutary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the welland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Walland should be	Go to Question 90
	landward dikes or other hydrological controls?	evaluated for possible	
		Category a status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence.	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	Co. In Ourselven Orl	On to Ourstion 10
	border alterations), or the wetland can be characterized as an Testusine' welland with lake and fuer iofuenced hydrology. These	Go to Quesubit ad	Go to Question To
	estuante, weitand with take and tiver this entranced hyprology. These located a sublement weitands and weitands		
	wetlands, or those dominated by submersed aquatic vegetation.		
- Sel	Does the wetland have a predominance of native species within its	YES	NO
••	venetation communities, although non-native or disturbance (olerant		
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wettand	
		Go to Question 10	10
9e	Does the wetland have a predominance of non-native or disturbance telescoll paties plact species within the vegetation communities?	TES	NO
	tolerant native plant species within its vagatation continuitioes:	Welland should be	Go to Duestion 10
		evaluated for possible	
		Category 3 status	
			~~
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	
	Lucas, Futton, Henry, or Wood Counties and can the welland be	Materia - Calarres	Colo Ouestion 11
	characterized by the following description: The wetland has a sandy	webano is a calegory	Go to Question 11
	substrate with interspersed organic matter, a water table often within neuronal inches of the surface, and often with a dominance of the	a wegano.	
	oraminoous venetation listed in Table 1 (whork species may also be	Go to Question 11	
	present) The Ohlo Department of Natural Resources Division of		_
	Natural Areas and Preserves can provide assistance in confirming this		$\sqrt{-}$
	type of wetland and its quality.		
11	Reflect Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1 Extensive prairies		
	were formerly located in the Darby Plains (Madison and Union	Welland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crewford, and Marion	evaluated for possible	Quantilative
	Counties), northwest Ohio (e.g. Ene, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Unio Counties (e.g. Darke, Mercer, Miami, Mastanemaa, Man Mort dia)	Complete Quantitative	
	mungunery, van men ew.)	Rating	

Table 1.	Characteristic	plant species.

invasive/exotic spp	fen species	bog species	Cak Opening <u>species</u>	wet prairie species
Invasivaloxotic spp Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Patamogeton crispus Ranunculus ficaria Phanunculus ficaria Phanunculus	fen species Zygadenus elegans var. glaucus Cacalua plantaginea Carex flava Carex sterilis Carex stricta Deschampsia cuespilusa Eleocharis rostellata Evionkoure viriliargingum	bog species Calla palastrix Carex atlantica var capillacea Carex echinata Carex oligasperma Carex trisperma Chamaedaphne calyculata Decodon verticillatus Erioabacem vievinicum	Oak Opening species Carex cryptolopis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrossis strictu Calamagrossis canadensis Quercus palustris	wet prairie species Calanagrostis canadensis Calanagrostis stricta Carex atherodes Carex buzbannii Carex pellita Carex sartwellii Gentiana andrewsii Helianthus grosseserratus
raamas yangun Typha angustifolia Typha xglauca	Gentianopsis spp. Lobelia kalmii Parnussia glauca Potentilla fruticosa Rhummus dinifolia Rhynchaspora capilluceu Satix candida Satix myricoides Satix serissima Satidago ahioensis Tofieldia glutinosa Triglochin maritimum Triglochin palustre	Larix laricina Nemopanihus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium asycoccas Woodwardia virginica Xyris difformis		Liatris spicata Lysimachia quadriflora Lysimachia quadriflora Lythrum ulatum Pyenanthemum virginiarum Silphium terebinihinaceum Sorghastrum mulans Spartinu pectinata Solidago riddethii

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





27

End of Quantitative Rating. Complete Categorization Worksheets.

3

Present in moderate or greater amounts

and of highest quality

		circle	
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habilat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES O	If yes, Category 3.
	Question 3. High Quality Natural Welliand	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 (KO)	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 KO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Calegory 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
-	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	7	
	Metric 4, Habitat	_11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	27	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
of the following questions:	TEO	(™) /	throshold (evolution area zone)? If yes, reevaluate the
or the following docarona.	Welland is	\sim	category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3,	categorized as a		Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 welland		assessments to determine if the welland has been over-
		\sim	categorized by the ORAM
Did you answer "Yes" to any	YES	/NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	It let a should be	\sim	Rule 3745-1-54(C) and 2) the quantitative rating score. If
Negative Paling Nos. 1 8h	evaluated for		althor of those it should be estenorized as a Category 3
9b 9a 11	oossible Category		wetland. Detailed biological and/or functional assessments
00,00,11	3 status	\sim	may also be used to determine the wetland's category.
Did you answer "Yes" to	YFS	NO /	Is quantitative rating score greater than the Category 2
-			scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Welland is		reevaluate the category of the wetland using the narrative
	categorized as a		critena in OAC Rule 3745-1-54(C) and biological and/or
			been under-caleconzed by the ORAM
Does the quantitative score	TYES /	NO	If the score of the wetland is located within the scoring
fall within the scoring range	C		range for a particular category, the wetland should be
of a Category 1, 2, or 3	Welland is		assigned to that category. In all instances however, the
wetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	Calegory based on	\sim	quantitative score.
Does the quantitative score	veš		Rater has the onlight of assigning the wetland to the higher
fall with the "oray zone" for			of the two categories or to assign a category based on the
Category 1 or 2 or Category	Wetland is	\sim	results of a nonrapid wetland assessment method, e.g.
2 or 3 wetlands?	assigned to the		functional assessment, biological assessment, etc, and a
	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	detailed		
	assessments and		
	the narrative		
	criteria	\sim	
Does the wetland otherwise	YES	(NO)	A wetland may be undercategorized using this method, but
exhibit moderate OK superior	Mielle ed word	14(atland la	still exhibit one or more superior functions, e.g. a weight a biolic communities may be degraded by burner activities
recreational functions AND	vieuano was undercalegorized	essigned to	but the wetland may still exhibit superior hydrologic
the wetland was oot	hy this method A	category as	functions because of its type, landscape position, size, local
categorized as a Category 2	written justification	datermined	or regional significance, etc. In this circumstance, the
wetland (in the case of	for recategorization	by the	narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background		corrected. A written justification with supporting reasons or
case of superior functions) by this method?	Intormation Form		imormation for this determination should be provided.
ene neuroar			
	1		1



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Date:
23 April 23 3
Amilation: Teles Tech
Address: 661 Anteren Pr. Pittsburgh 1A 15220
Phone Number: 412 - 930 - 700 7
e-mail address: michael museulic datastech a.
Name of Wetland: E and E
Vegetation Communit(les):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
see attribut aprit
Lavi ong or UTM Coordinate 40.6030 81.0646
Lavi ong or UTM Coordinale 40.6030, -81.0646 USGS Quad Name
Lavi ong or UTM Coordinale 40.6030, -81.0646 USGS Quad Name Currollium County Currollium
LaVI ong or UTM Coordinale 40, 6030, -81, 0646 USGS Quad Name Currollium County Currollium Township TW/M
LaW ong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currellum County Currellum Township TW/N Section and Subsection 526, R5W
LaW ong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currellium County Currellium Township TM/N Section and Subsection 526, R 5 m Hydrologic Unit Code 05040001
LaW ong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currellum County Currellum Township TM/N Section and Subsection 526, R5W Hydrologic Unit Code 05040001 Site Visit 23
LaW ong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currellum County Currellum Township TM/N Section and Subsection 526, R.5 m Hydrologic Unit Code 05040001 Site Visit 23 National Wetland Inventory Map Fils 3n
Lattiong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currellton County Currellton Township THUN Section and Subsection 526, R5w Hydrologic Unit Code 05040001 Site Visit 23 National Wetland Inventory Map Fits 3n Ohio Wetland Inventory Map Fits 3g
Latit ong or UTM Coordinate 40.6030, -81.0646 USGS Quad Name Currelltim County Currelltim Township THUN Section and Subsection 526, R.5 m Hydrologic Unit Code 05040001 Site Visit 23 National Wetland Inventory Map Fits 3n Ohio Wetland Inventory Map Fits 3n Soil Survey Fits, 2



Scoring Boundary Worksheet

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

*	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single welland.	1	
Slep 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 watlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <u>http://www.dur.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	6
1	Critical Habitat Is the wetland in a lownship, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YE\$	NO
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	"Go to Question 2
	habitat for any threatened or endengered plant or animal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered of	Calegory 3 status	
	Inteatened species which can be found in Onio, the industra Bat has had actional babitat designated (50 CER 17 95(a)) and the minion plove(Go to Question 2	
	has had critical habitat proposed (65 FR 41812 July 5, 2000).		
2	Threatened or Endengered Species. Is the wetland known to contain	YES	NO/
	an individual of, or documented occurrences of federal or state-listed		
	Inreatened or andangered plant or animal species?	wettand is a Calegory 3 wetland.	Go to Question 3
		Go to Question 3	<u>()</u>
3	Documented High Quality Wetland. Is the wetland on record in Network Mediana Database as a bish quality wetland?	1ES	U
	Natural Hentage Datapase as a high quality webailtur	Wetland is a Cetegory 3 wetland	Ga to Question 4
		Go to Question 4	
	Significant Breeding or Concentration Area. Does the welland	YES	No7
4	contain documented regionally significant breeding or nonbreeding		
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 wettand	
		Ga to Question 5	\sim
5	Category 1 Wetlands, is the wetland less than 0.5 hectares (1 acre)	YES	NO/
-	in size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Calegory	Go to Question 5
	by Phalaris erundinaces, Lythrum salicaris, or Phragmites sustralis, or	n wettand	
	2) an actoic pono createo or excavateo on mineo lanos trat rias little or no vegetation?	Go to Question 6	\sim
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO /
÷	significant inflows or outflows, 2) supports acldophilic mosses,		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is \$25% (Go to Question 7	6
7	Fons, 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		\bigvee
	flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 Welland	
	invasive species bsted in Table 1 is <25%?	Go to Question 8a	
Re	"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	Weffand is a Category	Go to Question 8b
	projected maximum stialnable age for a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 60 to 100	Ge to Ouestion 8h	
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Question of	
	of standing dead snags and downed logs?		

			\sim
85	Meture 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 a breast height (dbh), generally	YES Welland should be	NO Go to Question 9a
	diameters greater than 45cm (17.7in) don?	Category 3 status	
		Go to Question 9a	
92	Lake Erie coastal and tributary wetlands Is the welland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Leke Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology rosult from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the website is partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 90
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
- R a	Am Loka Eria unter lougie the wellend's primary bytrological lofuence	Ge la Question 10	NO
90	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an "estuarine" wetland with take and river influenced hydrology. These	Go to Question 9d	Go to Question 10
	include sandbar deposition wellands, estuarine wellands, river mouth		
- Sci	Does the welland have a predominance of native species within its	YF\$	NO
	vegetation communities, although non-native or disturbance tolerant	Wotland is a Catenory	Go to Question Se
	Have shedes call dist be higherin	3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance topscol pative plant species within its venetation communities?	YE\$	NO
	theranciante plant species infinitive expension during inter-	Welland should be	Go to Question 10
		Calegory 3 status	
		Go to Ouestion 10	A
10	Lake Plain Sand Prairies (Oak Openings) is the welland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the welland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this		<u></u>
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies	YES V	
	were formenty located in the Darby Plains (Madison and Union	Welland should be evaluated for possible	Complete
	Counties), Sandusky Plains (vyyandot, Crawford, and Menan Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties).	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomen, Van Mert etc.)	Complete Quantitative	
	workgoniciy, yan yver etc.).	Rating	

Invasive/exotic spp	fen species	bog species	Oak Opening species	wet prairie species
Invasivelaxotic spp Lythrum salicaria Myriophyllum spicatum Najas mnor Phalaris arundinocea Phragmites australis Potamogeton crispus Ranunculus ficaria Rhamnus frangula Typha argustifolia Typha argustifolia	fen species Zygadenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex sterilis Carex stricta Deschampsia caespitosa Elencharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmii Parnussia glauca Potentilla fruticosu Rhamnus alnifolia Rhynchospora capillacea	bog spacles Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex trisperma Chamavdaphne catyculata Decodon verticillatus Eriophorum virginicum Larix taricina Nomopanthus macronatus Schechzeria palustrus Sphagnum spp. Vaccinium macrocarpon Vaccinium corymbosum	Oak Opening Specias Carex cryptolepis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	wet prairie species Culamogrostis canadensis Calamogrostis canadensis Carex atherodes Carex buxbaumii Carex pellita Carex sartwellii Gentiana andrewsii Helianthus grosseserratus Liatres spicata Lysimachia gwalriflora Lysimachia gwalriflora Silphium terebinthinawum Sorghasirum mitans
	Salix vandoda Salix myricoides Salix serixsima Solidago ohiaensis Tofieldia glutinosa Triglochin maritimum Triglochin maritimum	Vaccinium oxycoucos Woodwardia virginica Xyrus difformis		Spartina pectinata Solidago riddettii

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






End of Quantitative Rating. Complete Categorization Worksheets.

2

З

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
------	---------	-----------

		circle	
		answer or	
		insert	Result
		score	
Narrative Raling	Question 1 Critical Habitat	YES NØ	If yes, Category 3.
	Question 2. Threatened or Endangered	YES VOO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Calegory 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, Calegory 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 Erle Wetlands - Restricted	YES (NO/	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wellands – 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, Calegory 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Calegory 3; may also be 1 or 2.
Quantitative	Melric 1. Size	0	
Namg	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	23	
	Metric 4. Habitat	17	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	52	Calegory based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

··	·		
Choices	Circle one		Evaluation of Calegorization Result of URAM
Did you answer "Yes" to any of the following questions:	YES Welland is	0	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 welland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Category 3 weiland		Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-
4, 0, 1, 00, 30, 10	- Ourogoily o motorio	(A)	categonzed by the ORAM
Did you answer "Yes" to any of the following questions:	YES	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If
Narrative Rating Nos. 1, 8b,	evaluated for		either of these, it should be categorized as a Calegory 3
9b, 9e, 11	possible Calegory	\sim	wetland. Detailed biological and/or functional assessments
Did you answer "Yes" to	YES		Is quantitative rating score greater than the Category 2
		Ŭ	scoring threshold (including any gray zone)? If yes.
Narrative Rating No. 5	Wetland is ratenorized as a		reevaluate the calegory of the wetland using the narrative ortena in OAC Rule 3745-1-54/C) and biological and/or
	Category 1 wetland		functional assessments to determine if the wetland has
Does the quartitative score	NES)	NO	been under-categorized by the ORAM If the score of the welland is located within the scoring
fall within the scoring range			range for a particular category, the wetland should be
of a Calegory 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the parative criteria described in OAC Rule 3745-1-54(C) can
WEDDING	appropriate		bs used to clarify or change a categorization based on a
	category based on		quantitative score.
Does the quantitative score	YES		Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for	Adams and a		of the two categories or to assign a category based on the
Category 1 or 2 or Category 2 or 3 wetlands?	assigned to the		functional assessment, biological assessment method, e.g.
	higher of the two	E	consideration of the namalive criteria in OAC rule 3745-1-
	categories or assigned to a		54(C).
	category based on		
	detailed essessments and		
	the narrative		
Does the wetland otherwise	criteria YES		A wetland may be undercategorized using this method, but
exhibit moderate OR superior	123		still exhibit one or more superior functions, e.g. a wetland's
hydrologic OR habitat, OR recreational functions AND	Wetland was	Wetland is assigned to	blotic communities may be degraded by human activities. but the wettand may still exhibit superior hydrologic.
the wetland was not	by this method. A	category as	functions because of its type, landscape position, size, local
categorized as a Category 2 wetland tio libe case of	written justification	determined by the	or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the case of supedor functions) by	on Background		corrected. A written justification with supporting reasons or information for this determination should be provided.
this method?			the second s



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:
Affiliation:
Address:
661 Anderson Dr.
Phone Number: 412-910-7007
e-mall address: michael, missionel
Name of Wetland: C.
Vegetation Communit(les): PE
HGM Class(05): Lypassional
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc.
see attacked exect
: Lat/Loop or LITM Coordinate
40.6553 -81.062h
Carrollton
County Carrell
Township TIY N
Section and Subsection 528 Ksw
Hydrologic Unit Code 0405000)
Sile Visit 24 April 2013
National Wetland Inventory Map
Ohio Wetland Inventory Map Fig. 36
Soil Survey
Defineation report/map



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 scoting 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 wellands or parts of a single wetland.	1	
Step 3	Delineate the boundary of the wetland to be reled 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 watlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or overs, 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 Foentain 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 Laways 1, 2001, of the federally listed endangered or	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	6
2	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Welland is a Category 3 wetland.	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Go to Question 3 YFS Welland is a Category 3 welland 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 Calegory 3 watland Go to Question 5	Go to Question 5
5	Category 1 Watlands . Is the walland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegelation that is dominated (greater than eighly per cent areal cover) by <i>Phelaris arundinacea, Lythrum salicaria, or Phragmites australis, or</i> 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the welland a peat-accumulating welland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly Sphagnum spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to <u>Question 7</u>	NO Go to Question 7
7	Fans. 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 Calegory 3 wetland Go to Question Ba	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

			M
80	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 targe diameters at breast height (dbh), generally diameters greater than 45cm (17.7m) dbh?	YES Watand should be evaluated for possible Calegory 3 status.	Go to Question 9a
		Go to Question 9a	<u></u>
9a	Lake Erip coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, edjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NØ Ge te Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question Be
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, allhough non-native or disturbance tolerant native species can also be present?	YES Welland is a Category 3 welland Go to Question 10	NO Go to Question 9e
90	Does the welland 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 welland located in Lucas, Fulton, Henry, or Wood Counties and can the welland be characterized by the following description: the welland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohlo Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its quality	YES Wetland is a Category 3 wetland Go to Question 11	Go to Question 11
11	Relict Wet Praines. Is the welfand a relict wet praine community dominated by some or all of the species in Table 1. Extensive praines were formerly located in the Darby Plains (Madison and Union Countles), Sandusky Plains (Wyendot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Countles (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Reting	Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	len species	bog species	Oak Opening species	wel prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla polustris	Cares cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Covalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrossis stricta
Nayas minor	Cares flava	Curex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carer oligosperma	Cladium mariscoides	Carex buxbaumit
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Patamogeton crispus	Deschampsia caespitasa	Chamaedaphne calyculata	Calumagrostis canadensis	Cares surtwellii
Ranunculus ficaria	Eleocharis rostellata	Decodor verticillatus	Quercus palustris	Gentiana andrewsii
Rhommus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Heliamhus g r osseserratus
Typha ang ustifidia	Gentianopsis spp.	Larix laricina		Luatris spicata
Typha xylanca	Lobelia kalmli	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Semechaeria palustris		Lythrum alatum
	Potentilla fraticosa	Sphagnum spp.		Pycnonthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphum terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbasum		Sorghestrum nutures
	Solix candidu	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin pulustre			

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





52

End of Quantitative Rating. Complete Categorization Worksheets.

3

Present in moderate or greater amounts

and of highest quality

ORAM Summary Worksheet

		circle answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES NO	if yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Calegory 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Calegory 3.
	Question 4. Significant bird habitat	YES NO	If yes, Calegory 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 (A)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES (10)	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 Wellands - 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. Rellct Wet Prairies	YES NO	If yes, evaluate for Calegory 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	Õ	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	52	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	- Can -	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 G	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,	YES Wetland should be evaluated for	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category 3 status	\sim	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 nerretive oriteria 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 Calegory 1, 2, or 3 welland?	VEU and 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 Calegory 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 besed on detailed assessments and the narrative criteria	ŇO	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 welland otherwise exhibit moderate OR superior hydrologic OR habital, OR recreational functions AND the welland was not categorized as a Category 2 welland (in the case of moderate functions) or a Category 3 welland (in the case of superior functions) by this method?	YES Welland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Milly Mussaineli	· · · · · · · · · · · · · · · · · · ·	
Date: 24 April 2013	· · · · ·	
Affiliation: Tetes Tech Two		
Address: 661 Alie	A AJULI DA 15220	
Phone Number:	17. P. 1180-17. P. 17210	
e-mail address:	rodulodul .	
Name of Wetland: U	while terms free. Com	
Vegetation Communit(ies):		
HGM Class(es):		
Location of Wetland: include map, addr	化ルイントー ress, north arrow, landmarks, distances, roads, etc.	
5-2 - +14-2 (1p-2)		
Lat/Long or UTM Coordinate	the case of erec	:
USGS Quad Name	for all de a	
County	Carcoll	
Township		
Section and Subsection	525, R5W	
Hydrologic Unit Cade	090-10001	
Site Visit	24 April 2013	
National Welland Inventory Map	Fis 35	
Ohio Wetland Inventory Map	Fiz 30	
Soil Survey	Fig. 2	
Delineation report/map	a Hechel	

.

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 he 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	dona? 🦯	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.	5	
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.		
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, takes 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	Çircle one	<u> </u>
1	Critical Habitat. Is the welland in a township, section, or subsection of a United Steles Geological Survey 7.5 minute Quedrangle that has	YES	Co to Cupthon 7
	been designated by the U.S. Fish and Wildlife Service as "ontical	evaluated for cossible	Go to Question 2
Ì	habitat" for any threatened or endangered plant or animal species?	Category 3 status	
	Note: as or vanuary 1, 2001, or the receiving relied and ingeled of the indiana Bat has	Saleger, Colores	
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	
	has had critical habital proposed (55 FR 41812 July 6, 2000).		ka
2	Threatened or Endangered Species. Is the welland known to contain	YES	CY .
	an individual of, or documented occurrences of federal or state-listed threatened or and accord plant or animal anorite?	Welland is a Category	Go to Question 3
	л∎еацелео ог влозлустео рынсок анитатэречных	3 welland.	l
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in	TES	
	Natural Hentage Database as a high quality wetland?	Wetland is a Celebory	Go to Question 4
		3 wetland	l
			1
4	Significant Breeding or Concentration Area. Does the wetland sectors documented realocally significant breeding or needing		\odot
	waterfowl, neotropical sonobird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 welland	
		Go to Duartion 5	
-	Category 1 Wetlands Is the wetland less than () 5 hectares (1 acre)	YES	1 Np
9	in size and hydrologically isolated and either 1) comprised of	·	$M_{\rm eff}$
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phateris erundinacea, Lythrum salicaria, or Phragmites eustralis, or) wedand	
	2) an acidic pond created or excavated on mined lands that has little of the venefation?	Go to Question 5	\sim
6	Bods. Is the wetland a peat-accumulating wetland (hat 1) has no	YFS	(NO)
-	significant inflows or outflows, 2) supports acidophilic mosses.		Go to Ourseline 7
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	weband is a Category 3 webland	
	cover, 4) at least one species from 1 able 1 is present, and 5) the cover of lowasive species (see Table 1) is <25%?	A MOUGUA	
	WYDE OF BEELEN APPENDE (DEC 1 BEELE 1) IN THE REAL	Go to Question 7	
2	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	Welland is a Calegory	Go to Question 82
	flowing, mineral non, ground water with a circumneutral ph (5.5-8.0) and with one of more plant sparies listed in Table 1 and the cover of	3 welland	and to an approximately and
	invasive species listed in Table 1 is <25%?	_	5
_		Go to Question 8a	4-2 −
8a	"Old Growth Forest." Is the welland a forested welland and is the	YES	V"V
	torest characterized by, but not limited to, the following characteristics:	Wetland is a Category	Go lo Question 8b
	projected maximum attainable age for a species); fittle or no evidence	3 welland.	
	of human-caused understory disturbance during the past 80 to 100		
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Questian Bb	
	canopy trees interspersed with canopy gaps; and significant numbers		
	l ot stauning dead straßs and nowned joßs .	1	•

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	~
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, edjacent to this	YES	NO I
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 90	Go to Question 10
90	Does the wellend's hydrology result from measures designed to prevent erosion and the loss of aqualic plants, i.e. the welland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
9c	Are Lake Erie water levels the welfand's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no takeward or uptand border alterations), or the welland can be characterized as an "estuarine" wetland with take and dver influenced hydrology. These include sandbar deposition wellands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
Şđ	Does the welland 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 10	Go lo Question 99
Se	Does the well and have a predominance of non-native or disturbance	YES	NO
••	Iglerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YF\$	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the welland has a sandy substrate with Interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	present). The Onio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
11	Relict Wet Prairies Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marlon Countles), nonthwest Ohio (e.g. Erie, Huron, Luces, Wood Counties), and portions of western Ohio Countles (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Welland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

invasivelexotic spp	fen species	bog species	Dak Opening species	wet prairie species
Invasivojokatic Spp ythrum salicaria dyriophyllum spicatum sajas minor Phalaris arundinacea Phragmites australis Potumogeton crispus Ranunculus ficaria thamius ficaria thamius ficaria Typha angustifolia Typha aglauca	Zygademis elegans var glaucus Cacalia plantaginea Cares flava Cares sterilis Cares stricta Deschampsia caespilosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmit Purnassia glauca Potentila fruticosa Rhammus alnifolia Rhynchospora capillacea Salix candida Salix myricoides Salix serissima Soliikago ohneensis Tofieldia glutinosa Triglochin maritimum	Calla palustris Calla palustris Carex allantica vur. capillacea Carex echinata Carex eligosperma Carex trisperma Chamaeduphne calyculata Decodon verticillatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Schechceria palustris Sphognum spp. Vaccinium mocrocarpon Vaccinium mocrocarpon Vaccinium corymbosum Vaccinium corymbosum Vaccinium corymbosum Vaccinium corymbosum Vaccinium corymbosum	Curex cryptolépis Curex cryptolépis Carex lasiocarpa Carex stricta Chedium metriscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calanagrostis canadensi Calanogrostis canadensi Calanogrostis strich Carex atherode Carex bazhaum Carex pellit Carex sartwell Gentiana andrews Helianthus grossoerratu Liatris spicat Lysimachia quadriflor Lysimachia quadriflor Lystrum alatu Pyenanthemun virginianu Silphium terebinthinaceu Swyhastrum nutan Sparlina peetinat Solidago riddell

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







End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

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

ORAM Summary Worksheet

	· · · · · · · · ·	circle	
		answer or	
		insert	Result
		SCORE	resere
Novetine Detice	Quartles 1. Critical Habital	VES AN	If yes Category 3
Narrative Rating	Question 1 Offical Habitat		in yes, ouregory o.
	Question 2. Threatened or Endangered	YES NO	If yes, Category 3.
	Species	<u> </u>	
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Calegory 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Calegory 1.
	Question 6. Bogs	YES NO	If yes, Calegory 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 (NG)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wellands – 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 NUD	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	- 8	
	Metric 3. Hydrology	21	
	Melric 4. Habitat	11	
	Metric 5. Special Wetland Communities	д	
	Metric 6. Plant communities, interspersion, microlopography	1	
	TOTAL SCORE	53	Calegory 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, 6a, 9d, 10	YES Welland is categorized as a Category 3 welland	6	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, 85, 95, 9e, 11	YES Welland should be evaluated for possible Category 3 status	\odot	Evaluate the wetfand 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 calegorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 welland?	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	<u>(</u>	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 Cetegory 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 biolic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, tocal 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: Mike Myssonali
Date: 27 April 2013
Affiliation: Tetra Tech Inc
Address: 661 Anderson Dr. Pittsbush PA 15220
Phone Number:
e-mail address: michael, missionelie tetertah, com
Name of Wetland:
Vegetation Communit(les): IEm
HGM Class(es): R: Verince
Location of Wetland: Include map, address, north errow, landmarks, distances, roads, etc.
see attacked report
Lat/Long or UTM Coordinate 40.6062 - 31.0559
USGS Qued Name
County Curroll
Township T14N
Section and Subsection 528, R5w
Hydralogic Unit Code O Son 000 /
Site Visit 24 April 2013
National Welland Inventory Map
Ohio Wetland Inventory Map Fib. 3 g
Spil Survey
Delineation report/map



Scoring Boundary Worksheet

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

	Steps in properly establishing scoring boundaries	do <u>ne?</u>	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 berns or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic Interaction are included within the scoring boundary.	1	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, atc., 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 logether wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a petchwork on the landscape. divided by artificial boundaries, contiguous to streams, takes 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 (pbone), 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 designed 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	YES Wetland should be evaluated for possible Calegory 3 status	Go to Queslian 2
	threatened species which can be found in Ohio, the Indiana Bar has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 5, 2000).	Ga to Question 2	<u> </u>
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 Cabegory 3 wetland.	Go to Question 3
		Galla Question 3	
3	Documented High Quality Wetland. Is the welland 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	$ \langle \rangle \rangle$
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding	YES	
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Calegory 3 wetland Go to Question 5	Go to Question 5
	O denses 4 Wettendo, Ir the upilized less than 0.5 beclares (1 arre)	YES	NOZ
ð	in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighly per cent areal cover) by <i>Phalaris arundinacea, Lythrum salicaria, or Phragmites eustralis,</i> or 2) an acidic pond created or excavated on mined lands that has little or	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
	no vegetation?	YES	
6	Bogs. Is the wetrand a peat-accumulating wetrant interview in as the significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
		Go to Question 7	
I	Fens. Is the wetland a carbon accumulating (peet, 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 Ba	Go to Question 8a
8a	"Old Growth Forest." Is the welland a forested welland 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 interspecies with canopy gaps; and significant numbers of standing dead snags and downed logs?	YFS Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

			e -
BD :	Mature forested wetlands. Is the welland a forested welland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous frees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Calegory 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary watlands. Is the wetland located at an elevation lass than 575 feet on the USGS map, adjacent to this	YES	
	elevation, or along a tribulary to Lake Erie that is accessible to fish?	Go to Question 95	Go to Question 10
9b	Does the welland's hydrology result from measures designed to prevent existion and the loss of anyalic plants, i.e. the wetland is	YF\$	NO
	partially hydrologically restricted from Lake Ene due to lakeward or landward dires or other hydrological controls?	Wettand should be evaluated for possible	Ga to Question 95
		Category 3 status	
	. <u> </u>	Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YFS	NQ
	border atterations), or the wetland can be characterized as an "seturations" wetland with take and river influenced hydrology. These	Go to Question 9d	Go to Queslion 10
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vagetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 98
		3 wetland	
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
		Wetland should be evaluated for possible	Go to Question 10
		Category 3 status	
		Go to Question 10	\sim $-$
10	Lake Plain Sand Prairies (Oak Openings) is the wetland tocated in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	NO
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wettend is a Calegory 3 wetland.	Go to Question 11
	saveral inches of the surface, and often with a dominance of the	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	type of wetland and its quality.		l
11	Relict Wet Prairies. Is the welland a relict well prairie community	YES	100
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandol, Crawford, and Mañon Counties), porthwest Ohio (e.g. Eria, Huron, Lucas, Wood Counties),	evaluated for possible Calegory 3 status	Raling
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.

invesive/exotic spp	fen species	bog species	Oak Opening species	wet prairie species
Lythrum salicaria	Zygademus elegans var. glaucus	Callo palustris	Carex cryptolepis	Calamogrostis canadensis
Myriophyllum spicetum	Curalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Cares flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladum mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwelln
Ranunculus ficaria	Eleocharis rostellata	Decodor verticillatus	Quercus palastris	Gentiana androwsii
Rhammus frangula	Eriophorum viridwarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Litaris spicata
Typha zglanca	Lobeka kalmu	Nemopanthas migranatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria pulustris		Lythrum alatum
	Potentilla fruticasa	Sphagnum spp.		Pyenantnemum virginianum
	Rhammis alnifotia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccenium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium asycoceos		Spartina pectinala
	Salix myricoides	Wondwardia virginica		Solidago riddellii
	Salia serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglex hin maritimum			
	Triglochin palustre			
				_

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



ORAM v. 5.0 Fleld Form Quantitative Rating



76

End of Quantitative Rating. Complete Categorization Worksheets.

7

а

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

and of highest quality

ORAM Summary Worksheet

		circle	
		answer or	
		insert	Result
		score	
Narralive Rating	Question 1 Critical Habitat	YES (1)	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 blrd habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wellands	YES NO	If yes, Calegory 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 Welland	YES (NG)	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 Erle Wetlands – Unrestricted with native plants	YES NO	If yes, Calegory 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 WO	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	
i taniy	Metric 2. Buffers and surrounding land use	- T	
	Metric 3. Hydrology	32	· · · · · · · · · · · · · · · · · · ·
	Metric 4. Habitat	19	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	12	
	TOTAL SCORE	16	Category based on score breakpoints 3

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	\overline{C}	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Raling Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitetive reting score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in QAC 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	6	Evaluate the wetland using the 1) narrative oriteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	0	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	VES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in QAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fail with the "gray <i>zone"</i> for Category 1 or 2 or Category 2 or 3 weflands?	YES Welland 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 QR superior hydrologic QR habitat, QR recreational functions AND the wetland was not categorized as a Calegory 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 blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrotogic functions because of lts type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or Information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Mike Massoneli		
Date: 24 April 2013		
Affiliation: Tetre Tech Inc		
Address: 661 A 1	D DULL I DA 15220	· · · · · · · · · · · · · · · · · · ·
Phone Number:	M. P. TISBUSH, M. DALL	
e-mail address: , , , ,		
Mama of Wotland:	stmalie tetration room	
Vegetation Communit(les):		
	·	
HGM Class(05): directos lans	/	
Location of Walland: include map, ad	dress, north arrow, landmarks, distances, roads, -	atc.
see attacked append		
LavLong or UTM Coordinate	40.6004, -81.0557	
USGS Quad Name	GerolHon	
County	Carroll Co.	
Township	TIMM	
Section and Subsection	528,85~	
Hydrologic Unit Code	05040001	
Sile Visit	24 April 2013	
National Wetland Inventory Map	Fis 3n	
Ohio Wetland Inventory Map	F> 30	
Sail Survey	F. 2. 2	
Delineation report/map		···
L		



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 Obio 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 is groupply octablishing 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	Defineate the boundary of the wetland to be rated such that all areas of Interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic Interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, reilroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	1	
Stap 5	In all Instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, takes 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	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Guadrangle 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 endangered back the service of January 1, 2001, of the federally listed endangered to back the service of January 1, 2001, of the federally listed endangered to back the service of January 1, 2001, of the federally listed endangered or endangered or endangered back the service of January 1, 2001, of the federally listed endangered or endangered or endangered back the service of the s	YES Wetland should be evaluated for possible Calegory 3 status	NO Go to Question 2
	threatened species which can be found in Onio, the Indiana Barnas had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	<u></u>
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federat or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 welland.	Go to Question 3
		Go to Cluestion 3	<u> </u>
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 Welland is a Celegory 3 wetland Go to Queslion 5	Go to Question 5
	a to multiful and a lothe uniford less than 0.5 heriares (1 arre)	YES	V NO
5	Category 1 Wattands. Is the Wenthulless that U.S nectored (1 200) in size and hydrologically isolated and either 1) comprised of vegetation their is dominated (greater than eighty per cent area! cover) by <i>Phalaris arundinecea</i> . Lythrum selicaria, or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Wetland is a Calegory 1 wetland	Ga to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Questian 7
Z	Fens. Is the watland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarity by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 60 to 100 years; an ell-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of stending dead snags and downed logs?	YES Wetland is a Category 3 wetland Go to Question 8b	Go to Question Bb

			<u> </u>
85	Mature forested wetlands. Is the wetland a forested wetland with	YE\$	(NO)
	50% or more of the cover of upper forest canopy consisting of	tablight should be	Go to Question 9a
	deciduous trees with large diameters at breast height (dbh), generally	avaluated for missible	Go ta Gaobaon ba
	diameters greater than 45cm (17.7m) don?	Calegory 3 status	
]		Carefferty & craner	
		Go to Question 9a	<u>A</u>
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		Contra Charactions 10
	elevation, or along a indutary to Lake Erie that is accessible to fish?	Go to Question 90	Go to Question To
9b	Does the wetland's hydrology result from measures designed to	YF.S	NO
	prevent erosion and the loss of aquatic plants, i.e. the welland is	Motional should be	Go to Question 85
	partially hydrologically restricted from Lake Fine due to lakeward of	evaluated for possible	
	andward dikes or other hydrological controls?	Cateory 3 status	
		Go to Question 10	
90	Are Lake Erle water levels the wetland's primary hydrological influence.	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or uptand	On In Ourseling Od	Go to Question 10
	border alterations), or the wetland can be characterized as an	Go to Coesnon ao	Go to Gassasi to
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estualitie wetlands, five include		
	wetlands, or mose dominated by submersed aquality vogetation:	YES	NO
90	possible wettand have a predominance of have operate to the tolerant		
	native species can also be present?	Welland is a Calegory	Go to Question 90
		3 wetland	
		Contraction 10	
90	Does the wetland have a predominance of non-native or disturbance	I TEO	
	tolerant native plarπ species would us vegetation contributions	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Co to Ouestion 10	100
	a the wetter of the sector of	VES	TNO / -
10	Lake Plain Sand Praines (Car Openings) is the weiter obtailed in Lucas Culton Henry of Wood Counties and can the welland be		\sim
	characterized by the following description: the wetland has a sandy	Wetland is a Calegory	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 welland.	
	several inches of the surface, and often with a dominance of the	-	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	Į.
	present). The Ohio Department of Natural Resources Division of	1	
	Natural Areas and Preserves can provide assistance in conluming this		2
	type of wetland and its quality.	YES	NO/
11	Relict wat manager, is the wetland a renot wet prana comptently dependent by some or all of the species in Table 1. Extensive prairies		
	were formedy located in the Darby Plains (Medison and Union	Wetland should be	Complete
	Counties) Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Calegory 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantilative	
		Rating	<u> </u>

invasive/exotic spp	fen specios	bog species	0ak Opening <u>species</u>	wet prairie species
Lythrum salicaria Myriuphyllum spicatum Vajas minor Phalaris arundinuccu Phrugmites australis Potamogeton crispus Ramunculus ficarua Rhamnus ficarua Rhamus ficarua Typha xglaucu	Zygademis elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex stricta Deschampsia cue spitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelia kalmin Parnassia glauca Potentilla fruticosa Rhamnus alnifolia Rhynchosporu capillacea Salix canaida Salix myricoides Salix serissima Salidago ohioensis Tofieldia glatinosa Triglochin malustre	Calla palustris Carex atlantico var. capillocea Carex echinula Carex oligosperma Carex trisperma Chumaedaphne valyculata Decodon verheitlatus Friaghorum virginicum Laris toricina Nemopuathus mucronatus Schechceria pulustris Schechceria pulust	Carex cryptologis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	Calamogrostis canadensis Calamogrostis stricta Carex atherodes Carex atherodes Carex pellita Carex sartwelli Gentiana andrewsu Helianthus grosseserratus Licaris spicata Lysimachia quadriflora Lytheum alatum Pycnanthemum virginianum Silphium terebinthinas com Sorghastrum nuturus Sorghastrum nuturus Spartina pectinata

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



ORAM v. 5.0 Field Form Quantitative Rating



33

End of Quantitative Rating. Complete Categorization Worksheets.

З

quality or in small amounts of highest quality.

Present in moderate or greater amounts

and of highest quality

ORAM	Summary	Worksheet
------	---------	-----------

•		circle	
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Calegory 3.
	Question 4. Significant bird habitat	YES NO	If yes, Calegory 3.
	Question 5. Calegory 1 Wellands	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, Catagory 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wellands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluale for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NØ)	If yes, Category 3
	Question 11. Relict Wet Prairles	YES NO	If yes, evaluate for Calegory 3; may also be 1 or 2.
Quantilative Rating	Metric 1. Size	0	
2	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	8	
	Metric 4. Habilat	15-	
	Metric 5. Special Welland Communities	0	
	Metric 6. Plant communities, interspersion, microlopography	2	
	TOTAL SCORE	33	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	YE\$	(NO)	Is quantitative rating score less than the Calegory 2 scoring
of the following questions:			Inreshold (excluding gray zone)? If yes, reevaluate the
Nemalica Delice Nee 2 2	Wetland is		category of the watland using the harrative chtena in OAC
4 6 7 8a 9d 10	Category 3 wetland		assessments to determine if the wetland has been over-
		6	categorized by the ORAM
Did you answer "Yes" to any	YES	[(NO)	Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions:	Welland should be		Rule 3745-1-54(C) and 2) the quantitative rating score. It has wellaged is determined to be a Category 3 wellaged using
Narrative Rating Nos. 1, 8b.	evaluated for		either of these, it should be categorized as a Category 3
9b, 9e, 11	possible Category		wetland. Detailed biological and/or functional assessments
	3 status	$\left(\begin{array}{c} \end{array} \right)$	may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	No l	Is quantitative rating score greater than the Category 2 sported threshold lidelyding any great range? If yes
Narralive Ratino No. 5	Wetland is		reevaluate the category of the welland using the narrative
· - · · - · - · · - · · - · · - · · - · · · ·	categorized as a		criteria In OAC Rule 3745-1-54(C) and biological and/or
	Category 1 welland		functional assessments to determine if the wetland has
Deep the cuestitative second	VER	60	been under-categorized by the ORAM
fall within the scoring range	160		rance for a particular category, the welland should be
of a Category 1, 2, or 3	Wetland is		assigned to that category. In all instances however, the
wetland?	assigned to the		narrative criteria described in OAC Rule 3745-1-54(C) can
	appropriate		be used to clarify or change a categorization based on a
	Ahe sconno range		dual ritative score.
Does the quantitative score	(YES/	NO	Rater has the option of assigning the wetland to the higher
fall with the "gray zone" for			of the two categories or to assign a category based on the
Category 1 or 2 or Category	Welland is		results of a nonrapid wetland assessment method, e.g.
2 of 3 Wenality	higher of the two		consideration of the narrative criteria in OAC rule 3745-1-
	categories or		54(C).
	assigned to a		
	category based on detailed		
	assessments and		
	the narrative		
	criteria	10	A well and many her we describe a street when this posthood had
exhibit moderate OR superior	TES	NU	A wettang may be undercategorized using uns metricu, uut still exhibit one or more superior functions, e.o., a wetland's
hydrologic OR habilat, OR	Welland was	Welland is	biolic communities may be degraded by human activities.
recreational functions AND	undercategorized	assigned to	but the wetland may still exhibit superior hydrologic
the wetland was not	by this method. A	category as	functions because of its type, landscape position, size, local
categorized as a Category 2 welland (in the case of	for cecateoprization	by the	nametive criteria in OAC Rule 3745-1-54(C)(2) and (3) are
moderate functions) or a	should be provided	ORAM.	controlling, and the under-categorization should be
Category 3 wetland (in the	on Background		corrected. A written justification with supporting reasons or
case of superior functions) by	Information Form		information for this determination should be provided.
una memoo /			
	1	1	1



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

·		
Date: 24 Apr. (2013	· · · · · · · · · · · · · · · · · · ·	
Affiliation:		
Address:		
Phone Number:	. P. Hist. , 1 / 15270	
-(12 - 520-		
michel, mist	serve to P. definition, com	
Name of Wetland: k		·
Vegetation Communit(ies):	pp P55	
HGM Class(es):	Russie	
Location of Wetland: include map, addr	ress, north errow, landmarks, distances, roads, etc	c
st. attach		
Lat/Long or UTNi Coordinate	40.6031,-81.0545	
Lat/Long or UTM Coordinate	40.6081, -81.0545 Carrollton	
Lat/Long or UTM Coordinate USGS Quad Name	40.6021, -81.0545 Carrollton Carroll 6	
Lat/Long or UTM Coordinate USGS Quad Name County Township	40.6021, -81.0545 Carrollton Carroll Co.	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection	40.6021, -81.0545 Carrollton Carroll Co. 714N S28, RSW	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	40.6021, -81.0545 Carrollton Carroll Co. 714N 528, RSW OSD40001	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit	40.6021, -81.0545 Carrollton Carroll Co 714N 528, RSW USD40101 24 April 2013	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map	40.6021, -81.0545 Carrollton Carroll Co. 714N 528, RSW OSO40001 24 April 2013 Fis 3A	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map Ohio Wetland Inventory Map	40.6021, -81.0545 Carrollton Carroll Co. 714N 528, RSW OSOHOWIT 24 April 2013 Fis 3A Fis 3A Fis 3g	
Lat/Long or UTM Coordinate USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map Ohio Wetland Inventory Map Soil Survey	40.6021, -81.0545 Carrollton Carroll Co. 714N 528, RSW 05040001 24 April 2013 Fis 3A Fis 3A Fis 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 Obio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

*	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the sile of a proposed impact, a reference site, conservation site, etc.		
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 berns or dikes, points where the water velocity changes rapidly et rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland		
Step 3	Delineate the boundary of the wetland to be rated such that all areas of Interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary	1	
S1ep 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 ereas where the hydrologic regime changes.	/	
Step 5	In all Instances, the Refer may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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	<u></u>
1	Critical Habitat. Is the wetland in a lownship, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	Nº/
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible	1
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status	
	Inreatened species which can be found in Ohio, the Indiana Bat has	Callo Question 2	
	had critical habitat designated (50 CFR 17.90(a)) and the piping prover the bad critical babitat aronased (65 EO 41812, July 6, 2000)	Go to Question 2	\square
	These tao (Alicer habitat proposed to FR 4 to 12 soly 0, 2000).	YES	
1	an individual of or documented occurrences of federal or state-listed		
	threatened or endangered plant or animal species?	Wetland is a Calegory 3 wetland.	Go to Question 3
		Go to Question 3	\bigcirc
3	Documented High Quality Wetland. Is the wetland on record in	YES	1.60
	Mathtai Heurage Database as a tiidu dhainA wanauns	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\square
4	Significant Breeding or Concentration Area. Does the welland	YES	
	contain documented regionally significant breeding or nonbreeding		
	waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 Wetland	
ļ		Go to Question 5	$\langle \rangle$
6	Category 1 Wellands, is the welland less than 0.5 hectares (1 acre)	YES	NO /
•	in size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris arundinacea, Lythrum saliceria, or Phragmites australis, or	1 welland	
	 an acidic pond created or excavated on mined lands that has little or ne reported and the second seco	Go to Question 6	15
	no vegetation?	YES	
v	significant inflows or outflows. 2) supports acidophilic mosses.		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Welland is a Calegory	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is <25%?	De la Duardina Z	
	The second s	Go to Question 7	
7	Fons, is the welland a carbon accumulating (peat, muck) welland that is solutated during most of the year, primarily by a discharge of free	160	
	for saturated during most of the year, prenamy by a discharge of ree flowing mineral rich oround water with a nircumneutral on (5.5.9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 welland	
	invasive species listed in Table 1 is <25%?		\sim
		Go to Question 8a	
82	"Old Growth Forest." Is the welland a forested welland and is the	YES	
	torest characterized by, but not limited to, the following characteristics:	Welland is a Category	Go to Question 8b
	projected maximum attainable age (exceeding acted) 50 A bits	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100]	
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers		
	of standing dead snags and downed logs?		1

			17
₿b	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 Welland should be evaluated for possible	NO Go to Question 9a
		Category 3 status. Go to Question 9a	<u> </u>
φ.	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, edjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
96	Does the welland'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 90
-9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border elterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aguatic vegetation.	YES Ga to Question 9d	NO Go to Question 10
9d	Does the welland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Gala Question 9e
90	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 sendy 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.	YFS 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 Welland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

invasive/exotic spp	spp fen species	bog species	Oak Opening species	wet prairie species
nvasivarezone spp ythrum salicaria dyriophyllum spicatum lugas minor "kaluris arundinacea Phragmites australis Patamogeton crispus Ranuncidus ficaria thamnus ficaria thamnus ficargula Typha agustifolia Typha xglanca	Spp Ten sportes Zygadenus elegans var. glaucus tum Cacalta plantaginea Carex flavia ea Carex stricta es Carex stricta es Deschampsia conspitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelta kalmii Parnassia glauca Potentilla fruitosa Rhammas alnifolia Rhynchospora capillarea Salix serissima Salix serissima Solidago ahioensis Teifeldia glutinosa Teifeldia glutinosa Triglochir maritimum	Calla palastris Carex atlantica var. vapillacea Carex atlantica var. vapillacea Carex oligasperma Carex trisperma Chamaedaphne colyculata Decodon verucillatus Eriophorum virginicum Larix laricma Nemopanthus mucronatus Schuchzeria palustris Sphagnum spp. Vaccinum macrocarpon Vaccinum macrocarpon Vaccinum macrocarpon Vaccinum mocrocas Woodwardia virginica Xyris difforms	Cures cryptolepis Cares lasiocarpa Cares stricta Cladium mariscoides Calamagrostis stricta Calamagrostis conudensis Quereus palustris	Calamagrostis conadensis Calamagrostis conadensis Carex atherodes Carex buxbanmu Carex pellita Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex surtwelli Carex atherodes Carex atherodes

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



ORAM v 5.0 Field Form Quantitative Rating



56

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

· · · · · · · · · · · · · · · · · · ·		circle	
		answer or	
		insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Calegory 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Calegory 3.
	Question 4. Significant bird habitat	YES NO	If yes, Calegory 3.
	Question 5. Category 1 Wetlands	YES 00	If yes, Category 1.
	Question 6. Bogs	YES (00/	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES MUZ	If yes, Category 3.
	Question 8b. Mature Forested Welland	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 Wellands – Unrestricted with native plants	YES (NØ	If yes, Category 3
	Question 9e. Laka Erie Wellands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Calegory 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	8	
	Metric 3. Hydrology	21	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microlopooraphy	10	
	TOTAL SCORE	58	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	10	Evaluation of Calegorization 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 calegorized as a Category 3 wetland	RO T	Is quantitative rating score less than the Category 2 scoring Inreshold (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: Namative Rating Nos. 1, 85, 95, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	1 6	Evaluate the watland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the watland is determined to be a Category 3 watland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Welland is categorized as a Category 1 wetland	W	Is quantitative rating score greater than the Category 2 scoring threshold (Including any gray zone)? If yes, reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the welland 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	ŇO	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 quanitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Welland 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 welland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the welland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Welland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A welland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a welland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the nerrative 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: Mille M-sseneli		
Date: 24 April 2013	· · · · · · · · · · · · · · · · · · ·	
Affiliation: Teta Jech J.		
Address: 661 Andersen	Dr. Pittelink PA 15120	
Phone Number: 412-920-7	<u>ຜ</u> າ	
e-mail address:	malia totatechican	
Name of Wetland: L		
Vegetation Communit(ies): $ ho_{E}$.		
HGM Class(es):		
Location of Wetland: Include map, a	iddress, north arrow, landmarks, distances, roada	, etc.
	<u> </u>	
LaM ong or UTM Coordinale	40.6074 -81 0540	
USGS Quad Name	Carnellton	
County	Garroll Co.	
Township	114M	
Section and Subsection	528, RSW	
Hydrologic Unit Code	Oscypeel	
Site Visit	24 April 2013	
National Welland Inventory Map	Fis 30	
Ohio Wetland Inventory Map	<u>Fig. 39</u>	
Soil Survey	£ , 2	
Delineation report/map	attark/	

Name of Wetland:			-
Wetland Size (acres, hectar	85): [B.O]ac		
Wetland Size (acres, hectar Sketch: Include north arrow	PS): <i>CB.Olac</i> w, relationship with other surface waters, vegetation <i>W</i> , <i>relationship</i> with other surface waters, vegetation <i>W</i> , <i>relationship</i> with other surface waters, vegetation <i>W</i> , <i>relationship</i> with other surface waters, vegetation	zones, etc.	
Comments, Nerretive Discu Emergent wetten	assion, Justification of Category Changes: I et factor of Stoff		
Final score :	50	Category:	<u>ک</u>

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.		
Step 3	Delineste 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, reilroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 5	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 Oata 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 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.

		Circle one	
#	Question	Circle one	\square
1	Critical Habitat. Is the welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildhife Service as "critical habitat" for any lineatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	threatened species which can be found in Ohlo, the Indiana Bat has had critical habitet designated (50 CFR 17.95(a)) and the piping plover has had critical habitet proposed (65 FR 41812 July 6, 2000).	Go to Question 2	harpi
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed Ihreatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
	Documented High Quality Wetland, Is the welland on record in	YF\$	
-	Natural Heritage Database as a high quality watland?	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	\square
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or conbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 watland	Go to Question 5
	• • • • • • • • • • • • • • • • • • •	VES	
5	in size and hydrologically isolated and either 1) compression of actery 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 an uncertained.	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
- 6	Boos Is the welland a pest-accumulating welland (hat 1) has no	YES	(NO
2	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
	Free to the united a carbon accumulation (real much) wetland that	YES	
Ĺ	rons, is the wedarid a caroun accombining (pear, mack) wedarid 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%?	Wetland is a Category 3 wetland Go to Question Ba	Go to Question 8a
5a	"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 snegs and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	Ga to Question Bb

			\sim $-$
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest carboay consisting of	YES	NO
	deciduous frees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Catenory 3 status.	
		Balloger) v vierte	
		Ge to Question 9a	<u> </u>
9a.	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation loss than 575 feet on the USGS man, adjacent to this	TES	\mathbb{C}
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wettand is partially by the total president from Lake Frie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erle water levels the wetland's primary hydrological influence,	YES	NO
	i e, the weltand is hydrologically unrestricted (no lakeward of upland border atterations), or the welland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" weiland with lake and river influenced hydrology. These	-	
	include sandbar deposition wellands, estuarine wellands, river mouth		
	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		Coto Ouestion 86
	native species can also be present?	3 wetland is a Calegory	Go to Diestion se
	Dente the second s	Go to Question 10	
90	tolerant native plant species within its vegetation communities?		
		Wetland should be	Go to Question 10
		Category 3 status	
		87	-
		Gp to Question 10	
10	Lake Plain Sand Praines (Oak Openings) is the wetland localed in Lucas Fulton Henry or Wood Countles and can the wetland be	103	0
	characterized by the following description: the welland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic maller, a water table often within	3 wetland	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in continning this two of wetland and its quality.		()
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	No
	dominated by some or all of the species in Table 1. Extensive preiries	Wetland should be	Complete
	Counties). Sandusky Plains (Wyandol, Crawford, and Marion	evaluated for possible	Quantilative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami. Montoomery, Van Wert etc.).	Complete Quantilative	
		Rating	

invasive/exotic spp	fen species	bog species	Oak Opening species	wet prairie species
invasivelaxotic spp Lythrum salicaria Myriophyllum spicatum Najas minur Phalaris arundinacea Phragmites australis Potamogeton crispus Ranunculus facaria Rhammus frangula Typha angustifolia Typha xglauca	fon spoclós Zygodenus elegans var. glaucus Cacalia plantaginea Carex flava Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Deschampsia cacapitosa Eleocharis rostellata Eriophorum viridicarinatum Gentionopsis spp. Lobelta kalmit Parnassia glauca Potentilla fraticosa Rhamnas alnifolia Rhynchospora capillacea Salix candida Salix myricuides	bog spacies Calla palastris Carex atlantica var capillacea Carex oligosperma Carex oligosperma Carex trisperma Chamadaphne colyculata Decodon verticillatus Eriopharum virginicum Larix laricina Nemopanthus mucronatus Schecheeria palastris Schecheeria palastris	Gak Opening species Carex cryptalepis Carex lasiocarpa Carex stricta Clalium mariscoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	wet prairie species Calamagrustis canadensis Calamogrustis variadensis Carex atherodes Carex baxbaunti Carex prellita Carex sartvetti Gentiana andrewsti Helianthus grosseserratus Liatris spicula Lysimachia quadriflara Lysimachia quadriflara Lysimachia quadriflara Siphium terebinthimaceum Sitphium terebinthimaceum Sorghastrum nutans Spartina paetinata Solidago riddellii
	Saita serissimu Salidago ohiaensis Tafieldia glutinasa Triglochin martimum Triglochin nartimum	zyris algornus		

End of Narrative Rating, BegIn Quantitative Rating on next page.



ORAM v. 5 0 Field Form Quantitative Rating



50

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

		circle	
		answer or	
		insort	Result
		SCOTA	
Maria Dation	Overtice 1. Critical Habilat	VES (NO)	If yes, Category 3
Narrative Rating			i jee, onegoi je.
	Question 2. Threatened or Endangered	YES NO	If yes, Category 3.
	Species		
	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. Calegory 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Calegory 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Calegory 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES (10)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands –	YES NO	If yes, Category 3
	Question 9e. Lake Erle 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, Calegory 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	//	
	Metric 3. Hydrology	11_	
	Metric 4. Habitat	16	
	Metric 5. Special Wetland Communities	0	· · · · · · · · · · · · · · · · · · ·
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	50	Category based on score breakpoints
		L	<u> </u>

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Chalong	Circle onn		Evaluation of Catenorization Result of ORAM
	Circle one		Creitation of Galagonzanon result of orean
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland		Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (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		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 Calegory 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, recvaluate 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?	Velland is assigned to the appropriate calegory 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 narrativo 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 wellands?	YES Welland 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 QR superior hydrologic QR habitat. QR 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	Welland is assigned to category as determined by the DRAM.	A welland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narretive 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: Mike Mussureli		
Date: 24 April Juiz		
Affiliation: Total Y		
Address: CCLAL		
Phone Number:	Dr. Y. HS6-36, 1A 1532-1	
712-920-7687 e-mail eddress: 1 1		
michiel, aristing	10 th the way	
Vagacauon Communiquest. / Em		
HGM Class(es): Depressions 1		
Location of Watland: include map, addr	ess, north errow, landmarks, distances, roads, etc.	
see attached report	r	
LaVLong or UTM Coordinate	40.6069 - 81.0954	
USGS Quad Name	Carnellin	
County	Correll	
Township	<u>א</u> צור	
Section and Subsection	528 Row	
Hydrologic Unit Code	OSoyane 1	
Site Visit	24 Ap. 11 2013	
National Wetland Inventory Map	Ris 3.4	
Ohio Wetland Inventory Map	Fig 3g	
Soil Survey	Fig h	
Delineation report/map		- -
	· ·	



Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland heing 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, bowever, 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 he scored as a single welland. 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 property establishing scoring boundaries	done?	not applicable
Step 1	Identify the welland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human- induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wellands or parts of a single wetland.		
Stop 3	Defineate the boundary of the wetland to be rated such that all areas of Interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic Interaction are included within the scoring boundary	/	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	7	

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.dor.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 listed endangered or listed endangered by the part he found is Oble. The Indiana Bet has	YES Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	$\langle \rangle$
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 Welland is a Category 3 welland. Go to Cuestion 3	NO Go to Question 3
-	Decumantad High Quality Wetland Is the wetland on record In	YES	NO/
3	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	12
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neutropical songbird, or shorebird concentration areas?	YES Wetland Is a Category 3 wetland Go to Question 5	Ng Ga to Question 5
-	Category 1 Wattande Is the wattand loss than 0.5 hectares (1 acre)	YES	
5	in size and hydrologically leolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent ereal cover) by <i>Phaleris erundinaces, 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?	Wetland is a Calegory 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum spp.</i> , 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 (peal, muck) wetland that is seturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
- Ba	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Welland is a Calegory 3 welland. Go to Question Bb	Go to Question 8b

			1
8b	Mature forosted wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous (rees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Weiland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	\sim
94	Lake Erie coastal and tributary wetlands. Is the welland located at	ŶE S	(°)
	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Questian 9b	Go to Question 10
9lo	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wedations 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 8c
		Go to Question 10	
90	Are Lake Ede water levels the wetland's primary hydrotogical influence, i.e. the wetland is hydrologically unrestricted (no takeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an "estuarine" wetland with take and river influenced hydrology. These include searcher denosition wetlands, estuarine wetlands, river mouth	Ge to Question 9d	Go to Question 10
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YFS	NO
	regetation communities, although non-native of distologance toterant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YE\$	NO
	······································	Wetland should be evaluated for possible	Go to Question 10
		Category 3 status	4
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the welland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	(NO/
	characterized by the following description: the watland has a sandy substrate with interspersed organic matter, a water table often within expension increase of the surface, and often with a dominance of the	Wetland is a Category 3 wetland.	Go to Question 11
	gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in continning this type of wetland and its quality		
11	Relict Wet Prairies. Is the welland a relict wet prairie community	YES	(NO
	dominated by some or all of the species in Table 1. Extensive praines were formedy located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyendot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and continue of western Ohio Counties (e.g. Darke, Morcer, Miami	Category 3 stelus	Raung
	Montgomery, Van Werl etc.)	Complete Quantitative Rating	

invasive/exotic S0D	fon species	bog species	Oak Opening species	wet prairie species
Lythrum salivaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Patamogeton crispus Ramuculus ficaria Rhammis frangula Typha angustifolia Typha zglanca	Zvgadamus elegans var. glaucus Cacalia plantagonea Carex flava Carex sterilis Carex sterilis Elegenature Carex sterilis Elegenature Carex sterilis Carex ste	Calla palustris Carex allantica var, capilladea Carex adlantica var, capilladea Carex trisperma Chamaedaphne calyculata Decodon verticillatus Errophorum virginicum Larix laricina Nemopanihus mucronatus Schechenia palustris Schechenia palustris Schechenia palustris Sphagnum spp Vaccinium macrocorpon Foocinium nacrocorpon Foocinium corymbasun Vacernum oxycoccos Waodwardia virginicu Xyris difformis	Carex cryptolopis Carex lasiocarpa Carex stricta Cladium mariscoides Calamagrostis stricta Calamagrostis canodensis Quereus palustris	Calamagrostis canadensis Calamogrostis stricta Carex atherodes Carex bathaunii Carex satherodes Carex satherolli Gentiana andrew si Helianthus grosseserratus Liatris spicata Lysimachia quadriflora Lysimachia quadriflora Lysimachia quadriflora Silphium terebinthinaveant Silphium terebinthinaveant Sorghostrum nutans Sportina pectinata Solidago riddellii

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



ORAM v. 5.0 Field Form Quantitative Rating





End of Quantitative Rating. Complete Categorization Worksheets.

2

Э

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

	-	circle		
		answer or		
		insert	Result	
		score		
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.	
	Question 2. Threatened or Endengered 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, Calegory 1.	
	Question 6. Bogs	YES NO	If yes, Calegory 3.	
	Question 7. Fens	YES NO	If yes, Calegory 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 Wellands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
	Question 9d. Lake Erle Wellands – Unrestricted with native plants	YES NO	If yes, Category 3	
	Question 9e. Lake Erie Watlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
	Question 10. Oak Openings	YES NO	If yes, Category 3	
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0		
Ŷ	Metric 2. Buffers and surrounding land use	11		
	Metric 3. Hydrology	21		
	Metric 4. Habitat	17		
	Metric 5. Special Wetland Communities	0		
	Matric 6. Plant communities, interspersion, microtopography	1		
	TOTAL SCORE	56	Calegory based on score breakpoints	

Complete Wetland Categorization Worksheet.
Wetland Categorization Worksheet

Choicag	Circle one		Evaluation of Categorization Result of ORAM
onereas		a n l	
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8e, 9d, 10	YES Welland is categorized as a Category 3 welland		Is quantitative rating score less than the Category 2 sconing throshold (<i>axcluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in DAC 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	YFS Wetland should be evaluated for possible Category 3 status		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	1	Is quantitative rating score greater than the Category 2 scoring threshold <i>(including any gray zone)?</i> If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 welland?	VES Welland is assigned to the appropriate category based on the scoring rande	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 quantifative score (all with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria		Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not calegorized as a Category 2 wetland (in the case of moderate functions) or a Calegory 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland Is assigned to category as determined by the ORAM	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type. lendscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Milly Al-sacarli
Date: 25 April 2013
Affiliation: John John
Address: 661 Anton Drive, Pittstust PA 15220
Phone Number: 412-910-7007
e-mail address: michael, missinglip totatoch com
Name of Wetland: N
Vegetation Communit(ies):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
ser attack riport
Lat/Long or UTM Coordinate
USGS Quad Name
County Currill Co.
Township 114 M
Section and Subsection 528
Hydralogic Unit Code RTw
Site Visit 25 No. 1 2013
National Welland Inventory Map Fig. 3 A
Ohio Wetland Inventory Map Fib 3g
Soil Survey Fing a
Delineation report/map



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 wellands or parts of a single welland.		
Step 3	Delineate the boundary of the welland to be rated such that ell 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 antificial 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.	/	
Štep 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wellands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Obio 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 bas 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	\square
1	Critical Habita1. Is the welland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	Nº
I	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Go to Question 2
	habitat" for any threatened or endangered plant or enimal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered of	Category 3 status	
	threatened species which can be found in Ohio, the Indiana Bat has		
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover	Go to Question 2	-
	has had critical habitat proposed (65 FR 41812 July 6, 2000).		\frown
2	Threatened or Endangered Species, is the welland known to contain	TYES	/MO/
_	an individual of, or documented occurrences of federal or state-listed		\sim
	(hreatened or endangered plant or animal species?	Welland is a Calegory	Go to Question 3
		3 wetland	6
		Go to Question 3	<u> </u>
3	Documented High Quality Wetland. Is the wetland on record in	YES	NOT
	Natural Heritage Database as a high quality wetland?		Contro Ourcelling A
		Wetland is a Category	Go to Question 4
		3 wetland	
			1/2
		Ga to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	TES	
	contain documented regionally significant breeding or nonbreeding	While and is a Coloroom	Go to Ouestion 5
	waterfowl, neotropical songbird, or shorebird concentration areas?	2 welland is a Category	Go to Guession 5
			1
		Go to Question 5	
-	Cotopour 4 Watenda, is the watend less than 0.5 bectares (1 acre)	YES	NO
	in size and hydrologically isolated and either 1) comprised of	1.2.4	
	vonetation that is dominated (oreater than eighty per cent area) cover)	Wetland is a Category	Go to Question 6
	tw Phalaris arundinacea. Lythrum salicaria, or Phragmites australis, or	1 wetland	
	2) an acidic pond created or excavated on mined lands that has little or		_
	no vegetation?	Go to Question 6	\sim $-$
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	(NO
	significant inflows or outflows, 2) supports acidophilic mosses,		
	particularly Sphagnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover, 4) at least one species from Table 1 is present, and 5) the	3 welland	
	cover of invasive species (see Table 1) is <25%?	Colla Duration 7	177
Ţ	Fens, is the wetland a carbon accumulating (peak, muck) wetland that	100	19 S
	is saturated during most of the year, primarily by a discharge of field	Wetland is a Category	Go to Question Be
	towing, mineral non, ground water with a circumeteriar prints.o-a.o/	3 welland	
	and with the bir more prant species integration rable 1 who are solver at a species integration and the solver at a species integration of the solver at the		
	Interplace shering international tip -50 with	Go to Question 8a	M_{∞}
R.o.	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO 2
	forest characterized by, but not limited to, the following characteristics:		
	overstory canopy trees of oreat age (exceeding at least 50% of a	Wetland is a Category	Go to Question 8b
	projected maximum attainable age (or a species); little or no evidence	3 wetland.	
	of human-caused understory disturbance during the past 80 to 100		
	years; an all-aged structure and multilayered canopies; aggregations of	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers		
	of standing dead snags and downed logs?	1	

			G
-Bb	Mature forested wetlands. Is the wetland a forested wetland with	YES (NO T
	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 9e
		Go to Question 9a	\sim _
9a	Lake Erie coastal and tribulary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	NO /
	elevation, or along a tributary to Lake Erie that is accessible to 1917	YES	NO
90	Does the wettand's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Ga to Question 95
		Go to Question 10	
9c	Are Lake Ene water levels the wetland's primary hydrological influence,	YES	NO
	Le, the wetland is hydrologically unrestituted (no takeward of up and border alterations), or the wetland can be characterized as an "estuarine" wetland with take and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, as these deminated by submorsed anualit venetation.	Go to Question 9d	Ga to Question 10
91	Does the wetland have a predominance of native species within its	YES	NO
φu	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Questian Be
		Ga la Question 10	
90	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities:	Wetland should be evaluated for possible Category 3 status	Go to Question 10
		Colta Question 10	0
10	Lake Plain Sand Prairies (Oak Openings) is the wetland localed in	YES	[NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the 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	Go to Question 11	
	type of wetland and its quality.		
11	Rolict Wet Prairles to 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 (Wyandol, Crawford, and Marion Counties), northwest Ohio (e.g. Ede, Huron, Lucas, Wood Counties).	YES Wetland should be evaluated for possible Category 3 status	Complete Quantitative Rating
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	

Table 1. Characteristic plant species.				
Invasive/exotic spp	fen species	bog species	Dak Opening species	wet prairie species
Invasivelexotic spp Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Potamogetan crispus Romunculus ficaria Rhamnus frangula Typha angustifolia Typha xglaucu	fon spoclób Zygadenus elegans var. glaucus Cacalu plantaginea Carex flava Carex stribta Deschampsia caespitosa Eleocharis rostellata Eriophorum viridic arinatum Genhanopsis spp. Lobelia kalmit Parnassia glauca Patentilla fruticosa Rhampus alnifalia Rhynchospora cupillacea Salix candida Salix myricoides Salix serissima Salix serissima Salix serissima Salic serissima Salic serissima Salic glutinosa Triglochit maritimum	bog species Calla palustris Carex atlantica var capillaceo Carex echinata Carex oligosperma Carex trisperma Chamaedaphne calyculata Decodon verticittatus Eriophorum virginicum Larix laricina Nemopanthus mucronatus Scheyhzeria palustris Sphognum spp Vaccinium mocrocorpon Vaccinium corymbosum Vaccinium corymbosum Vaccinium oxycoceos Woodwardia virginica Xyris difformis	Dak Opening species Carex cryptologis Carex tasiocarpa Carex strictu Cladium maruscoides Calamagrostis stricta Calamagrostis canadensis Quercus palastris	wet praina species Calanagrostis canadensis Calanagrostis canadensis Carex atherodes Carex buzbamii Carex publito Carex pellito Carex pellito Carex sartvettii Gentiana andrewiti Helianthus grosseser ratus Liatris spicata Lysimuchia quadriflora Lysimuchia quadriflora Lysimuchia quadriflora Lysimuchia quadriflora Lysimuchia quadriflora Suphium terebinthinaceum Sorghustrum nutans Spartina pectinata Satidago riddellii
	Triglochin palustre			

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





59

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

		circle	
		answer or	
		insert	Result
		score	
Narralive Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered	YES NO	If yes, Calegory 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant blrd habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES 😥	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES MO	If yes, Calegory 3.
	Question 8a. Old Growth Forest	YES 🚺	If yes, Calegory 3.
	Question 8b. Mature Forested Wetland	YES (C)	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 (1)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Calegory 3
	Question 11. Relict Wet Prairies	YES (0)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Ratino	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	28	
	Metric 4. Habitat	17	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopooraphy	6	
	TOTAL SCORE	รา	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	e.	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland is categorized as a	™ ′	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional
4, 6, 7, 8a, 9d, 10	Category 3 wetland	C-	assessments to determine if the welland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland should be	NO/	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using
Narrative Rating Nos 1, 85. 95, 9e, 11	evaluated for possible Category 3 status		either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	6	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes,
Narrative Rating No. 5	Wetland Is categorized as a Category 1 wetland		reevaluate the category of the wetland using the narrative critena 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 essigned to the appropriate category based on the scoring range		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 quantilative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland Is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	₩0	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1- 54(C)
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:
Date: 25 April 2013
Affiliation: Jeta Jeck Jack
Address: G61 Address Dr. 2. Habrah PA 15273
Phone Number: 112-920-7007
e-mail address: michael mussemeli @ ktatech, com
Name of Wetland: O
Vegetation Communit(ies): PSS
HGM Class(09): Slope/houlunder
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
see attacked report
LavLong or UTM Coordinate 40,6099 - 31 06/6
USGS Quad Name CaIldan
County Carroll Co.
Township 7/4 r
Section and Subsection 528, RSw
Hydrologic Unit Code 050'yaoc
Site Visit
National Wetland Inventory Map
National Wetland Inventory Map Fig. 36 Ohio Wetland Inventory Map Fig. 36
National Wetland Inventory Map Fig. 3A Ohio Wetland Inventory Map Fig. 3B Soll Survey Fig. 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 property 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 divers, or other factors that may restrict hydrologic interaction between the watlands or parts of a single wetland.		
Step 3	Delineate the boundary of the watland 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. ereas 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 wellands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

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

			<u> </u>
#	Question	Circle one	6
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has	YFS Wetland should be evaluated for possible Calegory 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover hes had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	6
2	Threatened or Endangered Species. Is the welland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland.	NO Go to Question 3
	Degumented Mah Ouglity Wetland Is the welland on record in	YES	the
3	Natural Heritage Database as a high quality welland?	Welland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the welland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Welland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acldic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp, 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Welland is a Category 3 welland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a cerbon 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 Celegory 3 wetland Go to Question 8a	Go to Question 8a
62	"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 Welland Is a Category 3 welland. Go to Question 85	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 campy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7m) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Calegory 3 status.	
		Go to Question 9a	<u> </u>
9a	Lake Erie coasts) and tributary wetlands. Is the wetland located at	YFS	NO)
	elevation, or along a tribulary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
	, -	Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence.	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland	On to Question 9d	Go to Duestion 10
	estuarine" wetland with take and river influenced hydrology. These	Go to Question SV	Go to question to
	include sandbar deposition wetlands, estuarine watlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.	VES	NO
âq	vegetation communities, although non-native or disturbance tolerant	120	
	native species can also be present?	Wetlend is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the welland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	6
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	Welland is a Category	Gn to Ouestion 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	0010 2003000
	several inches of the surface, and often with a dominance of the	0.1.0	
	gramineous vegetation listed in Table 1 (woody species may also be present). The Obio Department of Natural Resources Division of	Ga la Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		_
	type of welland and its quelity.		
11	Relict Wot Prairies Is the watland a relict wet praine community dominated by some or all of the species in Table 1. Extensive prairies	162	
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandol, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), nontiwest Unio (e.g. Ene, Huron, Lucas, wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Mramu		rvatury.
	Monigomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.

Invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Invasivoloxotic spp Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arandinacea Phrognites australis Potamogetan crispus Ranunculus ficaria Rhummus frangula Typha angustifolia Typha sglauca	fan Spacias Zygadenus elegans var. gluucus Cacalia plantaginea Carex flava Carex sterilis Carex sterilis Carex stricta Deschampsun conspilosa Eleocharis rostellata Eriophorum viridicarinatum Gentumoptis spp. Lobelia kalmu Parnassia glauca Potentilla fruticosa Rhymchospora capillucea Salix candida Salix myricoides	bog species Calla palustris Carex atlantica var. capillacea Carex echinata Carex oligosperma Carex risperma Chamaedaphue calyculata Decodon verticillatus Eriophoram virginicum Larix laricina Nemopanthus mucronatus Schechzeria palustris Sphagnum spp. Vaccinium macrocarpon Vaccinium macrocarpon Vaccinium axyeoccos Waceheartha virginica	Oak Opening species Carex cryptolenis Carex lasiocarpu Carex stricta Cladium mariceoides Calamagrostis stricta Calamagrostis canadensis Quercus palustris	wet prairia species Calamagrostis canadensis Calamagrostis stricta Carex atherodes Carex buxbaumii Carex pelitia Carex sartwella Gentiona andrewsii Helianthus grosseserrotus Liotris spicotta Lysimachia qundriflora Lysimachia qundriflora Lythrum alatam Pyenanthemum virginianum Silphium terebinthinaceum Sorghastrum nutans Spartina peelinata Solidago radiettii
	Salis myricoides Salis senssima Solidago ohioensis Tofieldia glutinosa Triglochus murilimum Triglochin palustre	Waadwardia virginica Xyris diffarmis		Solidago raddettii

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





56

End of Quantitative Rating. Complete Categorization Worksheets.

2

з

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

		circle answer or	
		insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Welland	YES (0)	If yes, Category 3.
	Question 4. Significant bird habitat	YES 10	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Calegory 3.
	Question 7. Fens	YES 👩	If yes, Calegory 3.
	Question 8a. Old Growth Forest	YES 😡	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yas, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erle 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, Calegory 3
	Question 9a. Lake Erie Wetlands - Unrestricted with Invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
1.00.19	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	1	
	Metric 4. Habitat	19	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, Interspersion, microtopopraphy	<u>[]</u>	
		56	Category based on score breakpoints R

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Círcle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland		Is quantitative reting score <i>less</i> than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the namalive 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 enswer "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	0	Evaluate the wetland using the 1) narrative criteria in QAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	0	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the watland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the watland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Calegory 1, 2, or 3 welland?	Wetland is essigned to the appropriate category based on the sconng range	NO	If the score of the welland 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 'grey zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland Is assigned to the higher of the two categories or essigned to a category based on detailed essessments 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 habital, 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 Beckground Information Form	Welland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more supartor functions, e.g. a wetland's blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, fandscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Date: 25 April Jols		
Affiliation: Jeles Yest Inc.		
Address: 661 Antonio	Dr. pittsbuch 1A	
Phone Number: 411-930 700	<u> </u>	
e-mail address: mit het messen	tie tetatuh com	
Name of Wetland: $\rho_{\rm track}$	۹	
Vegetation Communit(ies): PE m		
HGM Class(es):		
Location of Watland: include map, addre	ess, north arrow, land marks, distances, roads, etc	
son attacked report		
Lat/Long or UTM Coordinate	40.6041, -81,0705	
USGS Quad Name	Carrollion	
County	Carcollion	
County Township	Carcollidon Carcollidos TIMAN	
USGS Quad Name County Township Section and Subsection	Currellion Currell Co. TIYN S28, RSW	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code	Carcollion Carcoll Co. TIYN S28, RSW OS040001	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Gode Site Visit	Currellion Currellion TIMN S28, RSW OSCHOROL 25 April 2013	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Gode Site Visit National Welland Inventory Map	Currellion Currellion TIYN S28, RSW OSOMOROL 25 April 2013 Fis.3n	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Code Site Visit National Wetland Inventory Map Ohio Wetland Inventory Map	Currellion Currellion Tlynv S28, Rsw OSOMOROL 23- April 2013 Fis.3n Fis.3g	
USGS Quad Name County Township Section and Subsection Hydrologic Unit Gode Site Visit National Wetland Inventory Map Ohio Wetland Inventory Map Soil Survey	Currellion Currellion Tlynv S28, RSW OSOMOROL 23 April 2013 Fis.3n Fis.3g Fis.2	

Name of Welland: Pan Q	
Wetland Size (acres, hectares):	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
Ť	
For all with P 515 For all a 515 F	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 61 Category:	<u>ہ</u>
	ľ ľ

-

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 welland 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	do <u>ne?</u>	n <u>ot applicable</u>
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, reilroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		

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

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <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	YES	(NO) —
	been designated by the U.S. Fish and Wildlife Service as "critical	Weiland should be	Go to Question 2
	habitat" for any threatened or endangered plant or animal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status	
	Inreatened species which can be found in Ohio. The Indiana Bat has	Co to Ounstian 1	
	nao ontical nabitat designated (St. CFR 17.95(a)) and the piping prover has bed oritical babitet proposed (85 EP 41812, July 6, 2000).	GO TO CIDESITOR 2	~
	Threatened or Endengered Species Is the wetland known to contain	YES	
Ľ	an individual of or documented occurrences of federal or state-listed	• = = =	
	threatened or endangered plant or animal species?	Wetland is a Category	Go to Question 3
		3 welland.	
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in	YES	109
	Natural Hentage Database as a high quality wettand?	Wolland is a Calenon	Go to Ouestion 4
		3 weiland	Cicito Question 4
		Go to Question 4	\square
4	Significant Breeding or Concentration Area. Does the weiland	YES	N9
	contain documented regionally significant breeding or nonbreading		
	waterlowf, neotropical songbird, or shorebird concentration areas?	Wetland is a Category	Go to Question 5
		3 Wetland	
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre)	YES	NO)
	in size and hydrologically isolated and either 1) comprised of		
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phaleris erundinacea, Lythrum salicaria, or Phragmites eustralis, or	1 wetland	1
	 an acidic pond created or excavated on mined tands that has little or as inactorian? 	Co to Overtion 6	$ \cap$
6	Root is the welland a cest accumulating welland that 1) has no	YES	
°.	significant inflows or outflows. 2) supports acidophilic mosses.	120	
	particularly Sphegnum spp., 3) the acidophilic mosses have >30%	Wetland is a Category	Go to Question 7
	cover. 4) at least one species from Table 1 is present, and 5) the	3 welland	
	cover of invasive species (see Table 1) is <25%?		~
_	Free is the configuration of the second state of the stat	vce	
1	rens. is the weitang a carbon accumulating (peak, muck) weitang that is saturated during most of the wear, odmarily by a discharge of free	120	
	fewing mineral rich, ground water with a circumneutral on (5.5-9.0)	Wetland is a Category	Go to Question 8a
	and with one or more plant species listed in Table 1 and the cover of	3 welland	
	invasive species listed in Table 1 is <25%?		
		Go to Question 8a	\square
84	"Old Growth Forest." Is the wetland a forested wetland and is the	YFS	l ™
	forest characterized by, but not limited to, the following characteristics:	Minfland is a Catacoo	Co to Ouestion Ph
	overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a spanies); little or no suidentte	3 wolland	Go to question au
	of human caused understany disturbance during the past 80 to 100		
	years; an all-aged structure and multilayered canopies; addregations of	Go to Question 8b	
	canopy trees interspersed with canopy gaps; and significant numbers		
	of standing dead snags and downed logs?		

			4-2
6b	Mature forested wetlands. Is the welland a forested welland with	YES	(NO)
	50% or more of the cover of upper forest canopy consisting of		No. and a
ļ	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
1	diameters greater than 45cm (17.7in) dbh?	evaluated for possible	
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands is the wetland located at	YES	
	an elevation less than 575 feet on the USGS map, adjacent to this		A
	elevation, or along a tributary to Lake Fria that is accessible to fish?	Go to Question 9b	Cibro Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	L9
	prevent erosion and the loss of aquatic plants, i.e. the wetland is	Miniland abouid bo	Ge to Ougetion Ro
	partially hydrologically restricted from I ake Ene due to lakeward or	wegang should be avaluated for possible	GD to Question ac
	landward dikes of other hydrological controls?	Catenory 3 status	l i
		Carefort A starts	
		Go to Question 10	<u> </u>
90	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	(°')
	1.6. the wetland is hydrologically unrestricted (no lakeward or upland	Go to Question 9d	Go to Question 10
	concer anerations), of the wenang can be characterized as an "extremine" welland with lake and river influenced by droingy. These		
	Include sandbar deposition watants estuarine wetlands, river mouth	1	
	wetlands, or those dominated by submersed aduatic vegetation.		1
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant		\bigvee
	native species can also be present?	Welland is a Category	Go to Question 99
		3 weitand	
		Go to Question 10	~
98	Does the wetland have a predominance of non-native or disturbance	YES	(NO)
~*	Iglerant native plant species within its vegetation communities?		∇
		Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 1D	
10	Lake Plain Sand Prairies (Oak OpenInds) is the wetland located in	YES	(NO)
14	1 ucas Fulton, Henry, or Wood Counties and can the weiland be		\mathcal{N}
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland	
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of		
	Natural Areas and Preserves can provide assistance in confirming this		$ I \propto 1$
- 44	Type of weiterio and its quality. Reflect Wet Preizies I is the welfand a relict wet graine community	YES	thuo) —
1	dominated by some or all of the species in Table 1. Extensive oraines		
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandol, Crawford, and Manon	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erle, Huron, Luces, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.

invesivelexotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Culla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spiratum	Cacalia plantaginea	Carex atlantica var copillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carez stricta	Carex atheristes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Claduum mariscoides	Carex bushaumii
Phragmites australis	Curex stricta	Carex trisperma	Calamagrastis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculato	Culumagrostis canadensis	Cares sartwellii
Rammenlus ficaria	Eleacharis rostellata	Decodon verticillatus	Quercus pulustris	Gentiana andrewsii
Rhammes frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifalia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha zglanca	Lobelia kalmii	Nemopanihus mucronatus		Lysimachia quadriflara
	Parnassia glauca	Schechzeria pulustris		Lythrum alutum
	Potentilla fruticosa	Spragmum spp.		Pycnanthemum virginiamum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium wrebinthinaceum
	Rhynchospora capillacea	Vaccinium carymbasum		Sorghustrum nutans
	Salix candida	Verginium axyencens		Spartina pectinata
	Salix myricoides	Waadwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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



ORAM v. 5.0 Field Form Quantitative Rating



61

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

		circle	
		answer or	Bacult
		insert	Result
		score	
Narrative Raling	Question 1 Critical Habitat	YES NO?	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES 🙆	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Calegory 3.
	Question 4. Significant bird habitat	YES NO	If yes, Calegory 3.
	Question 5. Category 1 Wetlands	YES 0	If yes, Calegory 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 O	If yes, Category 3
	Question 9e. Lake Eric Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES Q	If yes, Category 3
	Question 11. Rellct Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	26	
	Metric 4. Habitat	17	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	61	Category based on score breakpoints 2-3 9/17

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	\sim	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 6a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	10	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the welland has been over-
Did you answer "Yes" to any	YES	(NO)	categorized by the ORAM Evaluate the wetland using the 1) narrative criteria in OAC
of the following questions: Narrative Rating Nos. 1, 85, 95, 96, 11	Wetland should be evaluated for possible Category 2 stores		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 Wettand is categorized as a Category 1 wetland		Is quantitative rating score greater than the Category. Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biotogical and/or functional assessments to determine if the welland has been under-categorized by the ORAM
Does the quantitative score fall within the sconng range of a Calegory 1, 2, or 3 welland?	YES Wetland is assigned to the appropriate category based on We Expring range	G	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 "grey zone" for Category 1 or 2 or Category 2 or 3 wetlands?	Vetland Is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the parrative criteria	NO	Rater has the option of assigning the welland to the higher of the two categories or to assign a category based on the results of a nonrapid welland essessment 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	Welland is assigned to calegory 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 biolic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

In Programmer,				
Date: 25 April 2013				
Affiliation: Tetre Jack Jack				
Address: 661 And ison Dr gittstrigh VA 15220				
Phone Number: 412 - 920 - 7007				
e-mail address: michet: mussomelie totatich com				
Name of Wetland: R				
Vegetation Communit(ies): P55				
HGM Class(es):				
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, atc.				
Ser al-Inchal				
Lat/Long or UTM Coordinate				
Lat/Long or UTM Coordinate 40, 6051 - 81, 6698				
Lat/Long or UTM Coordinate <u>40,6051, -81,8698</u> USGS Quad Name <u>Currell Han</u>				
Lat/Long or UTM Coordinate 40, 6051, -81, 8698 USGS Quad Name Currellfor County Currell Co.				
Lat/Long or UTM Coordinate 40,6051, -81.8698 USGS Quad Name Concellibler County Concellible Township T14 N				
Lat/Long or UTM Coordinate 40,6051, -81.8698 USGS Quad Name (1111/4m County (1111/4m Township 714 m Section and Subsection 528 R5w				
Lat/Long or UTM Coordinate $40, 6051 - 81, 8698$ USGS Quad Name $(n-n)114n$ County $(n-n)114n$ Township $T14N$ Section and Subsection $528 R_5 w$ Hydrologic Unit Code 05040001				
Lat/Long or UTM Coordinate $40, 6051, -81, 8698$ USGS Quad Name $(1,,11)$ /un County $(1,,11)$ /un County $(1,,11)$ /un Township $T14N$ Section and Subsection $528, R5W$ Hydrologic Unit Code 05040001 Site Visit 25 April Joil				
Lat/Long or UTM Coordinate $40, 6051, -81, 6698$ USGS Quad Name $(necoll form)$ County $(necoll form)$ Township T14N Section and Subsection 528, R5w Hydrologic Unit Code 0504000 f Site Visit 25 April Jois National Wetland Inventory Map Fig. 3A				
Lat/Long or UTM Coordinate $40, 6051 - 51, 8693$ USGS Quad Name $(accultion$ County $(accultion$ County $(accultion$ Township THW Section and Subsection 52.6 R.5 w Hydrologic Unit Code 0.504000 [Site Visit $25.4m(1.301)$ National Welland Inventory Map Fi_2 . $3A$ Ohio Welland Inventory Map Fi_2 . $3g$				
Lat/Long or UTM Coordinate $40.6051 - 81.6498$ USGS Quad Name $(11110n)$ County $(11110n)$ County $(11110n)$ Township T34 N Section and Subsection $525 R 5 W$ Hydrologic Unit Code 05040001 Site Visit $25 Her.1.2013$ National Welland Inventory Map $Fi.5.34$ Onio Welland Inventory Map $Fi.5.34$				



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.

· · · ·	Stops in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the welland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.		
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 perts of a single wetland.	/	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.		
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		/
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for watlands 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.

		O (1)	·····
*	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	(N9/
	been designated by the U.S. Fish and Wildlife Service as "critical	Wetland should be	Ga to Question 2
	habitat for any threatened or endangered plant or animal species?	evaluated for possible	
	Note: as of January 1, 2001, of the federally listed endangered or	Category 3 status	
	threatened species which can be found in Ohio, the indiana Bat has here affined behave designated (SO CER 47 05(a)) and the plater player	Ge to Ouestion 2	
	has bad official babilat proposed (65 EP 41812 July 6, 2000)	GO TO QUESTION 2	1-2
	Threatened or Endangered Species Is the wetland known to contain	YES	NO/
-	an individual of, or documented occurrances of federal or state-listed		$ \bigcirc$
	threatened or endangered plant or animal species?	Wetland is a Category 3 wetland	Go to Question 3
		Colo Question 3	
	The summer of the big of the Method is the wetland as recard in		
3	Network Heritage Catabase as a high quality welland?	120	
	Titolorof Fierrage Database in a high downly regards.	Welland 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		\vee
	waterfowl, neotropical songbird, or shorebird concentration areas?	Welland is a Category	Go to Question 5
		3 wetland	
		Ge to Ougetion 5	6
	Category 4 Wotlands Is the wetland less than 0.5 hortages (1.809)	YES	
•	in size and hydrologically isolated and either 1) comprised of	120	
	vegetation that is dominated (greater than eighty per cent areal cover)	Wetland is a Category	Go to Question 6
	by Phalaris erundinacea, Lythrum salicaria, or Phragmites australis, or	1 welland	
	2) an acidic pond created or excavated on mined lands that has little or		14
	no vegetation?	Go to Question 6	
6	Bogs. Is the weiland a peal-accumulating weiland that 1) has no	TES	
	signingant innows or outnows, 2) supports actiophate mosses,	Welland is a Calegory	Go to Question 7
	cover. 4) at least one species from Table 1 is present, and 5) the	3 wetland	
	cover of invasive species (see Table 1) is <25%?		1-
		Go to Question 7	$\frac{1}{2}$
7	Fens. Is the wetland a carbon accumulating (pest, muck) wetland that	YES	
	is saturated during most of the year, primarily by a discharge of free	Welland is a Category	Go to Question 8a
	nowing, mineral non, ground water with a discuminedual pri (5.5-5.0)	3 wetland	Oute Measures
	invasive species listed in Table 1 is <25%?		
		Go to Question 8a	l
8a	"Old Growth Forest." Is the welland a forested wetland and is the	YES	(NO)
	forest characterized by, but not limited to, the following characteristics:		Co to Ourstion Pb
	overstory canopy trees of great age (exceeding at least 50% of a	wegano is a Category	Go to Question an
	projected maximum attainable age for a species), inte or no evidence	o wedand.	
	or numan-caused understory distorbance outing the past of to the	Go to Question 8b	
	canopy trees interspersed with canopy paps; and significant numbers		1
	of standing dead snags and downed logs?		

			1	
85	Mature forested wotlands. Is the welland a forested welland 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	<u> </u>	
91	Lake Erie coastal and tributery wetlands. Is the wetland located at an elevation less than 575 feel 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	100/ 	
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	Go to Question 9c	
90	Are t ake Erie water levels the welland's primary hydrological influence, i.e. the welland is hydrologically unrestricted (no lakeward or upland border alterations), or the welland can be characterized as an "estuarine" welland with lake and river influenced hydrology. These include sandbar deposition wellands, estuarine wellands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	Go to Question 10	
9d	Does the welland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland	NO Go to Question 96	
90	Doos the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status	(NO Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description. the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of welland and its guality.	YES Wetland is a Category 3 wetland. Go to Question 11	(NO) Go to Question 11	
11	Relict Wet Praines. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive preiries were formerly located in the Darby Plains (Medison 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 vvetiand should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitetive Rating	
invasive/exotic SDD	fen species	bog species	Oak Opening species	wet prairie species
--	---	--	--	---
Lythrum salicaria Myriophyllum spicatum Najas minor Phalaris arundinacea Phragmites australis Patamogeton crispus Runanculus ficaria Rhamnus frangula Typha angusifalia Typha sglauca	Zygadenus elegans var glaucus Cacalia plantaginea Carex flavu Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Carex sterilis Deschampsia caespitosa Eleocharis rostellata Eriophorum viridicarinatum Gentianopsis spp. Lobelu kalmii Parnossia glauca Potentilla fruicosa Rhummes alnifolia Rhynchospora capillacea Salix candida Salix serussima Solidago ohioensus Tofieldia glutinosa Yriglochun maritimum Trieleckin ralustre	Calla palustris Carex allantica var. capillaced Carex ochinuta Carex trisperma Carex trisperma Chamaedaphne catyculata Decadon verticillatus Eriaphorum virginicum Larix taricina Nemopanthus mucronatus Schechzersa palustris Schechzersa palustris Schechzersa palustris Schechzersa palustris Vaccinium vacrocarpon Vaccinium corymhosum Vaccinium oxycoccos Waodwardta virginicu Xyris difformis	Carex cryptolepis Carex lasiocarpa Carex stricta Cladum mariscaides Calamagrostis stricta Calamagrostis canadensis Quereus palustris	Calamagrastis canadonsis Calamagrastis stricta Carex atherodes Carex buxhaamii Carex pellita Carex sartwellii Gentiana andrewsii Helianthus grosseserratus Liatris spicata Lysimachia quadriftora Lysimachia quadriftora Lythrum alatum Silphium ferebinthinaceum Silphium ferebinthinaceum Sorghastrum nutaus Spartina pectanata Sutidago riddelin

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



ORAM v. 5.0 Field Form Quantitative Rating





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

		circle	· · · · · · · · · · · · · · · · · · ·
		answer or	
		insert	Result
		SCOLE	
Narrative Rating	Question 1 Crilical Habilat	YES NO.	If yes, Category 3.
_		\overline{a}	
	Question 2. Threatened or Endangered	YES NO	If yes, Calegory 3.
	Species Overling 3 High Overlink Natural Method	VES NO	If yes, Caledory 3
	Question 5. Figh Quality National Wetland		n yes, oalegory o.
	Question 4. Significant bird habitat	YES C	If yes, Calegory 3.
	Question 5. Category 1 Wetlands	YES (0)	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES 👰	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES 10	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wellands - Restricted	YES (0)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wellands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3 Hydrology	25	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	59	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	4-2	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:	YES Welland is	(NO)	Is quantitative rating score less than the Calegory 2 scoring Ihreshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC
Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	categorized as a Category 3 watland	6	Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions:	YES Wetland should be	NO/	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If (he wetland is determined to be a Category 3 wetland using
Narrative Rating Nos 1, 8b, 9b, 9e, 11	evaluated for possible Calegory 3 status	α	either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to	YES	6	Is quantitative rating score greater than the Category 2 scoring threshold (including any g/ay zone)? If yes,
Narrative Rating No. 5	Wetland is categorized as a Category 1 wetland		reevaluate the category of the welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 welland?	Vetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative critena described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(^{№0})	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
coes 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?	TES Wetland was undercalegorized by this method A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM.	A weather may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.



End of Ohio Rapid Assessment Method for Wetlands.

APPENDIX C

HHEI FORMS

ChieEPA Primary H	leadwater H	abitat Evaluation HHEI Score (sum of)	Form metrics 1, 2, 3) :	q
SITE NAMEA OCATION _ Concell (4001, 8	14125 - 31 VM	Pions took		
SITE NUMBER	۸۹ RMEN BA	SIN MON PIPS Fork SP	Fail DRAINAGE AREA (mi²) <u>(</u>	1m2
LENGTH OF STREAM REACH (IL)	LAT. <u>90.0674</u> LO	IG YI.ULA RIVER CODE		
DATE 23 April 2-BSCORER M. Proving	COMMENTS	Shinger Changel + brief	or for aring sail	
NOTE: Complete All Items On This Form	- Refer to *Field Ev	' Justion Manual for Ohio's Pi	WH Streams" for instr	uctions
7	.		d	
	URAL CHANNEL LU R	ECOVERED LU RECOVERING	LU RECENT OR NO RECA	MERY
NODIFICATIONS:				
1 SUSSTEATE (Exilmate berced of ever	v tent of substraie me	ent Chack ONI Yiwo oredominat	a substate TYPE bores	
(Max of 40). Add total number of significa	ni substrale types found	(Max of 8). Final metric score is su	m of boxes A 6 B.	HHEI
	RCENT TYPE		PERCENT	Points
[] [] BLUR SLASS [16 ph] [] BOL# OFR (>256 mm) [15 mm]	- "Chi	SILT [3 pG] LEAF PACKANOOOY OEBRIS D	_ <u>/00</u>	
	88	FINE DETRITUS (3 plu)		Substrate
CO68LE (65-256 mm) [12 pls]	<u> </u>	CLAY & HARDPAN (0 pt)		Max = 40
GRAVEL (2-84 mm) [# pis)	00	MUCK (U pra)		ų 🖬
🗖 🗖 🛛 BAND (<2 mm) [\$ pis]	00	ARTIFICIAL (3 ptr)		1
Total of Persentages of	~ w 🗖		(8)	
Bidr Stabs, Boulder, Cobble, Bedrock	<u> </u>		1	A-b
SCORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES:	TOTAL NUMBER OF SUB	STRATE TYPES:	
2. Maximum Pool Depth (Measure the ma	ximum pool depth with	in the 61 meter (200 ft) evaluation	reach at the time of	Pool Depth
evaluation. Avoid plunge pools from road	culverts or slorm water p	ipes) (Check OWLY one box):		Max = 30
→ 30 centimeters (20 pts) → 22.5 → 30 cm (50 mts)	H,	> 5 cm - 10 cm (15 pta) < 5 cm (5 pta)		0
□ > 10 - 22.5 cm [23 pts]		NO WATER OR MOIST CHAN	NEL (0 pts)	
			0	
			n (commonero):	
3. BANK FULL WIDTH (disastured as the (warage of 3-4 measure	nents) (Check ONLY on	e box):	Bankfull
□ > 3.0 m + 4.0 m (> 13) [30 ptr] □ > 3.0 m + 4.0 m (> 677 + 13) [35 ptr]	สี	ין רְשָׁיאַייּגַיאַייּאַ אָיוּער איזע איז איזער איז איזער איז איזער איז איז איז איז איז איז איז איז איז איז	is perul	Max=30
□ > 1.5m - 3.0m (> 4'6' - 9'7') [20 plu]	_			
COMMENTE		AVERAGE BANKELLL		2
	This information p	nyst also be completed		
RIPARIAN ZONE AND FLOODPI		DTE: River Left (L) and Right (R) a	s looking downstreamstr	
RIPARIAN WIDTH	FLOOOPLAIN QUALT	T <u>Y</u> milanalaas Baaki I. B.		
GIGI Wete≻10m	Mature Fore	sl, Wetland	Conservation Telage	
D Biochante 5-10m		sed, Shrub or Old	Urben or industrial	
			Onen Paehute Row	
UU Nerow <5m	UU Residentiel,	Park, New Field UU	Crep	
	Fenced Pas		Mining or Construction	
COMPLETIS				-
FLOW REGINE (At Time of Evalu	(Check ONLY or	ie box):		
Stream Pic-ving Subsurface flow with incheied post	(intersitival)	Minist Channel, weigted	pools, no tow (internations) Ephameral)	
COMMENTS				_
) — JE MAY SETY (Monthes of London of	r 51 m (200 #) of channel	I) /Check ONI Vices have		
	1.0		O 30	
O 0.5 O		□ > 5	□ <u>.</u> .	
	1.9	L/ 1.7		
BTREAM GRACIENT EATMATE	ł. >			

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI FERFORMED? - 🗍 Yes 🕑 No - QHEI Scare (If Yes, Atlach Completed OHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: P: yes CWH Name: Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream Devin Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: NRCS Sol Map Page: NRCS Sol Map Stream Order
County: Carroll Township/City: Carrollyan
MISCEL LANEOUS
Base Row Conditions? (YAI): Note of last precipitation: 1/1 31/2-1 2013 Quantity 0.21
Photograph Information:
Elevated Turbidity? (Y/N) Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note tab sample no. or id. and attach results) Lab Number
Field Measures: Temp (*C) <u>Pr ()</u> Dissolved Oxygen (mgil) <u>Pr ()</u> pH (S.U.) <u>Pr ().</u> Conductivity (µmhas/cm) <u>Pr ()</u>
is the sampling reach representative of the stream (Y/N) If not, please explain
Additional commentationary polition impacts: desired Commentations of a second of a second of the
BOTIC EVALUATION
Performed? (YAN):
Fish Observed? (YAN)_ <u>P</u> Voucher? (YAN)_ <u>P</u> Galemanders Observed? (YAN)_ <u>M</u> Voucher? (YAN)_ <u>F</u> Frogs of Tadpoles Observed? (YAN)_ <u>P</u> Voucher? (YAN)_ <u>A</u> Aquatic Mecroinvertebrates Observed? (YAN)_ <u>P</u> Voucher? (YAN)_ <u>F</u>
Comments Regarding Biology
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
include important bindmarks and other features of interest for site evaluation and e pertaints description of the stream's location
f part of
Elan-Has 1
FLOW



ChieEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

26.5

SITE NAMELOCATION SALES SALES ST UNT PIELS FOR
SITE NUMBER 52 RMER BASIN Piges File Still Firk DRAINAGE AREA (mi) _ C.I.m.
LENGTH OF STREAM REACH (R) 200 LAT. 40. 6070 LONG. 181. 6590 RIVER CODE RIVER MILE
DATE 23 April 143 SCORER (M-MASSING). COMMENTS from pipe

NOTE: Complete All Kerns On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL ON NONE / NATURAL CHANNEL OR RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:

1. SUB3TRATE (Estimate percent of ever (Max of 40). Add total number of signification (Max of 40). Add total number of signification BLOR SLABS [16 pts] 1. BLOR SLABS [16 pts] 1. BLOR SLABS [16 pts] 1. BOULDER (>256 mm) [16 pts] 1. BEDROCK [16 pt] 1. BEDROCK [16 pt] 1. COBBLE (65-256 mm) [12 pts] 1. GRAVEL (2-64 mm) [1 pts] 1. SAND (<2 mm) [16 pts] 1. Total of Percentages of Bid: Stebs. Boulder, Cobble, Bedroch BCORE OF TWO MOST PREDOMINATE SUBST	y type of substrate great nt substrate types found INCENT TYPE IS IS IS IS	IGANI, Check ONLY <u>wo</u> pi (Max of 6), Final matric s SILT (3 pt) LEAF PACKAWOODY C FINE DETRITUS (3 pt CLAY of HARDPAN (0 MUCK (0 pts) ARTIFICIAL (3 pts)	edonikant sut core is sum of XEBRIS (3 pbs) *] • pi] • pi]	(B)	HHEI Metric Points Bubstrate Max = 40 /4.5 A + B		
 Maximum Pool Depth (Measure the ma avaluation. Avoid plunge pools from road > 30 centineters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] 	extmum pool depth wis culverts or storm water	hin the 51 meter (200 ft) (pipes) (Check OWLY on > 5 cm - 10 cm [15 pi < 5 cm [5 pis] NO WATER OR MOS	iveluelian rue: 10 box): 1] ST CHANNEL	th at the time of	Posl Depth Max = 30		
CONNENTSNAXINUM POOL DEPTH (curtimeters):							
3. BANK FULL WIDTH (Blassured as the average of 3-4 measurements) (Check OHL Y one box): > 4.0 meters (> 177 10 pic) > 1.0 m - 1.5 m (> 37 37 - 4" iff) [15 pm] > 3.0 m - 4.0 m (> 57 77 - 137) [26 pm] > 1.0 m (≤ 37 37 (5 pic)) > 1.5 m - 3.0 m (> 4" 87 - 37 7) [20 pm] AVERAGE BANKFULL WIDTH (meters)							
This information must also be completed RIPATIAN ZONE AND ELCODELAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream of							
RIPARIAN WIDTH	FLOODPLAIN QUAL	TY		and south the second second second second second second second second second second second second second second			
L A (Per Bank)	L R (Most Pred	ominani per Bank) est Weileod		Consumption Tillage			
		areal, Shaub or Cild	ΠΟ	Urban or industrial			
				Open Pasture, Row			
		, Park, New Field		Crop Mala a se Cranda sellos			
	UL Fonced Pa	Maic		in a fa construction			
PLOW REGALE (At Time of Evalue Streem Plowing Subsurface flow with isolated pool	ration) (Check OALY o h (Internation)	ne box):	i, iscinieči poci o weler (Ephi	s, no llow (intermittent) emeral)			
COMMENTS							
COMMENTS BINLOBITY (Number of bends pe Ly None D	er 61 m (200 ft) of chann 1.0	el) (Check ONLY one bo	^{x):} D	3.0			
COMMENTS BINUOBITY (Number of bends pe None D 0.5 D	er 61 m (200 ft) of chann 1.0 1.5	el) (Check ONLY one bo 2.0 2.5	»»): B	3.0 >3			

QMELPERFORMED? - 🖸 Yes 🗹 No. QHELScore	_ (If Yes, Attach Completed OHE) Form)
/ DOWNSTREAM DESIGNATED USE(S)	Distance from Exclusion Commun. 4 States
CWH Name:	Distance from Evaluated Stream
EWH Neme:	Cistance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPE, INCLUDING THE ENTIRE	WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
3GS Quadrangle Name: Constalling NRV	CS Soil Map Page: NRCS Soil Map Stream Order
unly: <u>Currall</u> (d. Township)	Ory Charullian
MRCELLAREOUS	
ise Flow Conditions? (Y/N): $\underline{\forall}$ Date of tast precipitation: $\frac{D}{2}A_{\mathcal{C}}$	
otograph Information; <u>511 http://</u>	
evalted Turalday7 (Y/N). N Canopy (Ni open): 70	
ere semples collected for water chemistry? (YAN); IV (Note tab semi	de no. or id. and attach results) Lab Number:
	ри (a.c.) Сопсиетику (ринковуст)
The sampling reach representative of the stream (YAN) $\underline{\gamma}$. If not, pleas	e expelin:
	· · · · · · · · · · · · · · · · · · ·
ditional commentativescription of pollution impacts: <u>Additional</u> Arrow f	·····
	··· ·
NOTIC EVALUATION	
rformed? (Y/N): (if Yee, Record all observations. Voucher colle ID number. Include appropriate field date shee	ctions optional. NOTE: all youther samples must be labeled with this from the Primary Headwaler Habitat Assessment Manual)
h Observed? (YAN) Voucher? (YAN) Selemenders Observ ags or Tadpoles Observed? (YAN) Voucher? (YAN) Aquetic Max	ed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) croinvertetrates Observed? (Y/N) Voucher? (Y/N)
mments Regarding Biology	

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

willing si film

FLOW

CHIEFER Primary H SITE NAMEALOCATION / ~****!! (U***) SITE NUMBER SITE NUMBER SITE NUMBER SITE NUMBER SITE NUMBER SITE AND A CHAINE SORE (****) DATE 241 Apr (*) 2443 SCORER (*****) NOTE: Complete All Items On This Form STREAM CHANNEL IN NONE / NATURE MODIFICATIONS:	HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HHEI Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3): HIE Score (sum of metrics 1, 2, 3):	1
1. SUBSTRATE (Estimals percent of every (Max of 40). Add total number of signification (Max of 40). Add total number of signification (Max of 40). Add total number of signification (Max of 40). Add total number of signification (Max of 40). Add total number of signification (States) (State	Image: state types in the second contract of type of substrate present. Check ONL Y two predominent substrate TYPE boxes in substrate types found (Max of 8). Finel metric score is sum of bores A & B. Image: substrate types found (Max of 8). Finel metric score is sum of bores A & B. Image: substrate types found (Max of 8). Finel metric score is sum of bores A & B. Image: substrate types Image: substrate types Image: substrate types;	HHEI Metric Points Max = 40 19 A + B
2. Maximum Pool Cepth (Neasure the max evaluation. Avoid plunge pools from road > 30 centimeters [20 pts] 2. > 30 centimeters [20 pts] 2. > 22.5 - 30 cm (30 pts) 2. > 10 - 22.5 cm (25 pts) COMMENTS 3. BANK FULL WIDTH (Measured as the a > 4.0 meters (> 13) [30 pts] 2. > 3.0 m - 4.0 m (> 5' 7' - 13) [25 pts] 2. > 1.5 m - 3.0 m (> 4' 8' - 9' 7') [20 pts]	ximum pool depin within the 61 meter (200 f) evaluation reach at the time of culverts or storm water pipes) (Check ONLY one box); > 5 cm - 10 cm [15 pts] < 5 cm [5 pts]	aol Dapth Max = 30 /5 Bankfull Width Max=10 20
COMMENTS	AVERAGE BARKFULL WID IF (meters) This information must also be completed AN QUALITY AVERAGE BARKFULL WID IF (meters) Image: Completed state of the sta	
FLOW REGIME (At Time of Evelver) FLOW REGIME (At Time of Evelver) Stream Flowing Subsurface flow with isolated pools COMMENTS haven the pools SINUOSITY (Number of bends peols None None STREAM GRADIENT ESTIMATE	Variants Check ONLY one box). Moist Channel, Isolated pools, no flow (Infermittant) 6 (Interstitial) Dry channel, no water (Ephemeral) r 61 m (200 R) of channel) Check ONLY one box); 1.0 2.0 3.0 1.5 2.5 >.3	

ADDITIONAL STREAM INFORMATION (This information Num Areo be Completed):
QHEI PERFORMED? • 🗍 Yes 🗍 No - OHEI Score (If Yes, Albach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) 「WWH Name: P:P45 たこド K Distance from Evaluated Stream もらいっこ
CWH Name: Distance from Evaluated Stream
Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Cuadrangle Name: (
County: Carroll (J Township/City: Carrolldam
MISCELLANEOUS
Base Flow Conditions? (Y/N). M Date of last precipitation: <u>211 April 2113</u> Quantity: 0.57
Photograph Information: Share a second
Elevated Turbidity? (Y/N) Canopy (% open); 5
Were samples collected for water chemistry? (Y/N): (Note tab sample no_ or id, and attach results) Lab Number:
Field Monsures: Temp (*C) <u>MM</u> Dissolved Oxygen (mg4) <u>F [2]</u> pH (S.U.) <u>IV [2</u> . Conductivity (pmhos/om) <u>P [2]</u>
is the sampling reach representative of the stream (Y/N) (f not, please explain;
Additional comments/description of pollution impacts: <u>riers</u> defining and epopulity multile RI; also Parriag <u>readable fraining</u> ; Scare <u>BIOTIC EVALUATION</u>
Performed? (Y/N):
Fish Observed? (Y/N)M Voucher? (Y/N)M Salamanders Observed? (Y/N)M Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N)M Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)M Voucher? (Y/N)
Commants Regarding Biology
·
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

June 20 XICS Mensor

ChieFPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

|--|

SITE NAMELOCATION					
SITE NUMBER SY RMER BASIN FIND DA. SUIL (. DRAINAGE AREA (mit)					
LENGTH OF STREAM REACH (R) 240° LAT. 40, LO 30 LONG \$1, DLY S RIVER CODE RIVER MILE					
DATE 23 Av-1243 SCORER m-Massier COMMENTS					
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions					
STREAM CHANNEL STNONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY					
MODIFICATIONS:					
1. SUBSTRATE (Estimate percent of every type of substrate present. Check OVLY two predominant substrate JYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A 6 B. The present of the prese					
$\begin{array}{c} \begin{array}{c} \hline P \\ \hline \Box \\ \hline \Box \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline BLDR \\ SLABS [10 ptb] \\ \hline \hline \hline \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline P \\ \hline \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline P \\ \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \end{array} \\ \begin{array}{c} \hline \end{array} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \hline \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \end{array}$	S				
BOULDER (>256 mm) [16 pts] [4] ULEAF PACKAVOODY DEBRIS [3 pta] _//2 Substra	te				
□ □ COBBLE (65-250 mm) [12 pts] □ □ □ CLAY or HARDPAN [0 pt] □ □	Ĵ.				
C GRAVEL (2-64 mm) [1] pts] C D MUCK [0 pts] [] γ					
BKA' Slabs, Baulder, Cobble, Bedrock 6 BKA' Slabs, Baulder, Cobble, Bedrock 6 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:					
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 mater (200 ft) evaluation reach at the time of Pool De	4h				
invaluation. Avoid plungs pools from road culverts or storm water pipes) (Check OWLY one box): #Rax =: > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	i.				
$ \boxed{\begin{array}{c} > 22.5 - 30 \text{ cm} [36 \text{ pts}]} \\ \hline{\end{array} > 10 - 22.5 \text{ cm} [25 \text{ pts}]} \\ \hline{\end{array}} \\ \hline{\end{array}} $					
	-				
3. BANK FLLL WDTH (Massured as the everage of 3-4 measurements) (Check OMLY one box): Bank% □ > 4.0 meters (> 13) D0 ptet □ / > 1.0 m - 1.6 m (> 3'3'- 4'8') [15 pm] Width	M				
□ > 3.0 m - 4.0 m (> 67 7 - 13) [25 pin)	٤.				
This information <u>margi</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY · 쇼NOTE: River Laft (L) and Right (R) as looking downstream 쇼 bioAgian MADTH EL CONDELAIN QUALITY					
Ly R / (Per Bank) L R (Most Prodominant per Bank) L R					
🖸 🕐 Wide >10m 🛛 💭 🔲 Meture Forest, Wetland 🔅 🗇 Conservation Tillege					
Moderate 5-10m Pield Moderate 5-10m Pield					
Nerrow <5m O Residential, Park, New Field O O Cop Cop					
O None O Fenced Pasture O Mining or Construction COMMENTS					
Stream Flowing Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS COMMENTS					
SNUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):					
SINUOSITY (Number of bends per 61 m (200 %) of channel) (Check ONLY one box): // Hone 1.0 2.0 3.0 0.5 1.5 2.5 >3					
SINUOSITY (Number of bends per 61 m (200 R) of channel) (Check ONLY one box): V Hone 1.0 2.0 3.0 0.5 1.5 2.5 >3 stream GRADIENT ESTIMATE					

ADDITIONAL STREAM INFORMATION (This information Must Also be Comple	ited):
GHE PERFORMED? . O Yes O'No GHE Score (ITY	es, Attach Completed QHE! Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream 1.75 m
CWH Name:	Distance from Evaluated Stream
	Distance from Evoluated Stream
MAPPING: ATTACK COPIES OF MAPS, INCLUDING THE ENTIRE WATE USGS Quadrande Name: Carry JNuc NBCS ON	RSHED AREA. CLEARLY MARK THE SITE LOCATION
County: Township / City	(urrel filing
MISCEL LANEOUS	
Base Flow Conditions7 (YM): <u>Y</u> Date of last precipitation. <u>14 April</u> Photograph Information: <u>414.4</u>	<u>3313</u> Quantity: <u>0.77¹¹</u>
Elevated Turbidity7 (YAN) M Canony (Macoan): 3.2	······
Were samples collected for water chamistry? (YM): (Note leb sample no.	or id. and ettech results) Lab Number:
Fletd Meesures: Temp ("C) <u>~ U^</u> Dissolved Oxygon (mpl) <u></u> pH (5	\$U.) <u>Pr1²¹</u> ConductN9γ (µmhos/em) <u>Pr1²¹</u>
is the sampling reach representative of the stream (Y/N) \underline{Y} . If not, please explicitly	in:
Additional comments/description of pollution impacts: $I_{CD} _{C^{-}D^{-}}$ ($i = C_{C}$)	1
BIOTIC EVALUATION	
PerformedT (Y/N): (if Yes, Record all observations. Voucher collections i 10 number, include appropriate field data sheets from	spionel. NOTE: all voucher samples must be labeled with the site. The Primary Headwater Habital Assessment Manual)
Fish Observed? (VA) N Viryber? (VA) - Selemendary Observed? (V	
Frogs or Tedpoles Observed? (YA) // Voucher? (YA) // Aquatic Macroinve	riabrates Observed? (Y/N) Vouchar? (Y/N)
Comments Regarding Biology	
······································	
DRAWING AND NARRATIVE DESCRIPTION OF STRE	EAM REACH (This <u>must</u> be completed):
include important landmarks and other features of interest for alle evalua	tion and a manufive description of the stream's location
(∄ ≈11	
Page - Internet forder	
5.5ml	
· · · · · · · · · · · · · · · · · · ·	
A device of	
(NU L# 	
- BALL	

.

· · · · ·

OnleEPA Primary Headwater Habitat Evaluation Form

HHEI SCORE (sum of metrics 1, 2, 3) :

NOTE: Complete All items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL SHORE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY

1. SUBSTRATE (Estimule percent of ever (Nex of 40). Add total number of significant	y type of substrate prese at substrate types found (i	nt. Check ONLY <u>two</u> pn Asx of 6). Final metric so	comment sub-	itato 77PE baxes ares A & B.	нне
TYPE PE		64LT [3 pl]		FERCENT	Metric Points
		LEAF PACKWOODY D	EBRIŠ (7 pm)		Bubstrate
		CLAY & MADDOAN IN	i) Lan		Max = 40
	<u>is nn</u>	MUCK für nin1			1
	00	ASTIFICIAL D plu)			17
Total of Percentages of Bidr Stabs, Boulder, Cabble, Bedrock BCORF OF TWO MOST PERTICALINA TE AURST		TOTAL MUMARUPE	ST SUBSTRAT	(8)	A+ 6
 Milkimum Pool Depth (measure ine ma evaluation. Avoid plange pools from road 	culveris or storm water pig	inne Strimeber (200 m) e ves) (Check OWLY on	vislundion react () bos):	i pri čnej birnje of	Max = 30
> 30 centimeters [20 pts]		> 5 cm - 10 cm [\$5 pt)		
□ > 22.5 - 30 cm [90 pte] □ _> 10 - 22.5 cm (25 pts)		< 5 cm [5 pts] NO WATER OR MOIS	T CHANNEL [pets]	L
COMMENTS		MAXIMUM POO	L DEPTH (con	(imeters):	
3 BANK FULL WIDTH (Measured as the a	werage of 3-4 measurem	ents) (Check (MELY one box):	BankMi
□ > 4.0 meters (> 127) [30 pts] □ > 3.0 m - 4.0 m (> 177 - 137) [24 pts]	ल	->1.0 m +1.5 m (>3*3* - < 3.0 m (< 3*3*)Biotel	• 4° 87 (15 pie)		Width MaxedQ
> 1.5 m - 3.0 m (* 4*8* - 6*7*) [20 ptm]					
COMMENTS		AVERAGE BAN	KFULL MOTH	l (metere)	,
	This information m	<u>al</u> also be completed			
RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH	AIN QUALITY SHOT	FE: River Left (L) and Re '	ht (R) es looki	ng downstree mår	
L/R (Per Bank)	L/R (Most Predom	inent per Bank)	LR		
🗹 🗊 🛛 🖬 🖬 🖓 🖬	D Makure Forest	Walend	ه ۵۵	onservation Tillage	
	en en later interditure Ferr	He Shain or Old			
LILI Moderate 5-10m	Pied		00 0	ten or Industrial	
ID ID Noterate 5-10m ID ID Narrow <5m	Piekd C C Residential, P	ark, New Field	റാറ ം റാദ് ഉ	ben or Industrial pen Pasture, Row	
Moderate 5-19m Nerrow <5m None COMMENTS	Platd Platd Platd Platd Platd Platd Platd Platd Platd Platd	ark, New Field Ie		ben or Industrial pen Pasture, Row top ming or Construction	
	Flatd Flatd Fonced Pastu Fonced Pastu Check ONLY one	ark, New Field re	00 v 00 °	ben or Industrial pen Pasture, Row rop ming or Construction	
Id Noderate 5-10m Noderate 5-10m None COMMENTS FLOW REQRIE (A! Time of Evelue Szcem Flowing	Platd P	ark, New Field re box): Molat Channel,		ben or Industrial pen Pasture, Row rop ming or Construction no flow (Intermittant)	
	Interstitial) Interstitial) Interstitial)	ark, New Field re box): D Molal Channel, re	I C U	ten or Industrial pen Pasture, Row rop ming or Construction no Sow (Intermitiant) noral)	
		ark, New Field re box): Div channel, no (Chark GAN Yone box	Isolated pools, water (Epher	ben or Industrial pen Pasture, Row rop ming or Construction nong or Construction nong or Construction nong)	
Noderate 5-10m Noterate 5-10m None COMMENTS	Interstitial) Interstitial)	ark, New Field re box): Dry channel, no (Check GA2 Y one box 2.0	isdated pools, water (Esher	ten or Industrial pen Pasture, Row rop ming or Construction no Sow (Intermitiant) norel) 3.0	
Noderate 5-10m Nerrow <5m None COMMENTS	Interstitient of the second seco	ark, New Field re Molet Channel, Dry channel, re (Check GA2 Y one box 2.0 2.5	Isolated pools, water (Eoher	toen or Industrial pen Pasture, Row rop sning or Construction norel 3.0 >3	
	Interstitien (Interstitien) Interstitien) Interstitien) Interstitien) Interstitien) Interstitien(Interstitien) Interstitien(Inters	ark, New Field re box): Diy channel, no (Check GAZ Y one box 2.0 2.5	iscialed pools, water (Esher	toen or Industrial pen Pasture, Row rop ming or Construction no Sow (Intermitiant) norel) 3.0 >3	

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):
QHE/PERFORMED? - C Yes No OKE Score (If Yes, Alluch Completed QHE) Form)
/ DOWNSTREAM DESIGNATED USE(S)
Wwwwww.Name: <u>Viris Fack</u> Distance from Evolveled Stream <u>1.95 million</u>
CWH Name Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPR, INCLUDING THE <u>Entire</u> water shed area. Clearly mark the site location
USGS Orndrangle Name: (NRCS Soil Map Page NRCS Soil Map Stream Order
County. Carroll to Township/Cky. Carrollian
MISCELLANEOUS
Base Row Conditions? (Y/N): Y Date of last precipitation: 19 April 2213 Quantar 0.21
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemisiny? (Y/N): (Note lab sample no or id. and attach results) Lab Number:
Fleid Measures: Temp (°C) / Dissolved Orygen (mpl) / PLA pH (S.U.) / PLA Conductivity (umhos/om) / PLA
is the sampling reach representative of the stream (YAI) 📩 - If not, please explain:
Additional commentaldescription of pollution impacts: design of Commental Comme
BIOTIC EVALUATION
Performed? (Y/N): (if Yee, Record all observations. Voucher collections optional. NOTE: all voucher aamples must be labeled with the size ID number. Include appropriate field state sheats from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (YA)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):
include important landmarks and other leatures of interest for alte availation and a namative description of the stream's location
ĸ
Fisher
FLOW * 165 /4
- Vsm
As 1
FXIII Y

· _ _ _ _ _

ChieEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

28

SITE NAMELOCATION	and wants faring 56
s	ITE NUMBER 56 RIVER BASIN BASIN BASIN BASIN SHIT (141) ORAINAGE AREA (mit) 41 m. *
LENGTH OF STREAM REACH	(1) 200 LAT. 40.606 3 LONG. 41,0034 RIVER CODE RIVER MILE
DATE 21.4001241 SCOR	ER Man Massen 1; COMMENTS dealargy from bed had
NOTE: Complete All hem	s On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for instructions
STREAM CHANNEL	

MODIFICATIONS:

1. SUB9TRATE (Extimals percent of every type of substrate present. Check OM, Y <u>here</u> predominant substrate <i>TYPE</i> boxes (Max of 40). Add total number of significant substrate hores band (Max of 8). Final matrix score is sum of boxes A & B.				HHEI	
TYPE Pi D PLOR &LABS (16 pts)	PRCENT	TYPE JD SILT (J pd) D LEAF PACKWOOD D D FINE DETRITUS (J D CLAY of HAROPAN	Y OE8845 [] pro] pla] [] pl]	JC	Metric Points Bubetrate Max = 40
GRAVEL (2-84 mm) (8 pts)	13				8
Total of Percentages of Bidr Stabs, Boulder, Cobbie, Bedrock BCORE OF TWO MOST PREDOMINATE SUBST	10 10 1rate typ		ER OF SUBATRAT	(B)	A+B
 Maximum Pool Depth (Ressure the pro evaluation. Avoid plunge pools from road 	odinam po I culvens or	of depth within the 61 meter (290 storm weter pipes) <u>(Crie</u> ck ONL)	/ij evaluation reach Y one box).) of the time of	Pool Depth Max = 30
□ > 30 centimeters (20 pts) □ > 22.5 - 30 cm (30 pts)		5 cm - 10 cm [15	š pils)		15
> 10 - 22.5 cm [25 pts]			ICIET CHANNEL [) pts) E C J	L
		MAXNUM (POOL DEPTH (con	(imelers):	
3. BANK FULL WIOTH Bleasured as the : → 4.0 meters (> 15) (30 pte) → 3.0 m - 4.0 m (> 6' 7' - 12') (25 pte) → 1.5 m - 3.0 m (> 4' 8' - 6' 7') (20 pte)	zverage of	3-4 məzəsrəmənis) (Chə □ > 1.0 m - 1.5 m (>) □ s 1.0 m (s 3*3*) p • s 1.0 m (s 3*3*) p	ick ONE,Yone box) 3 37 - 4 37 (15 pie) 9 piej 9 piej): 2. 76	Bankfult Wildth Minore30
COMMENTS		AVERAGE	BANKFULL WIOTH	l (meters)	
COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN MOTH	This LAIN QUAI FLOODI	AVERAGE I Information <u>musi</u> also be complete LITY & CHOTE: River Left (L) en PLAIN QUALITY	BANKFULL WIDTH Led d Right (R) as looki	ng downstreemstr	L
COMMENTS RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIDTH</u> L.R./ (Per Bank) J. Wide >10m	This LAIN QUAI <u>FLOODI</u> L R L D	AVERAGE I Information <u>musi</u> also be complet LITY CHOTE: River Left (L) as <u>PLAIN QUALITY</u> (Most Predominani per Bank) Mature Forest, Wetland	Led Led Led Chipht (R) as kooki	ng downstreemstr	L
COMMENTS RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIOTH</u> L.R./ (Per Bank) J. J. Wide >10m Moderate 3-10m	This LAIN QUAI <u>FLOODI</u> L R C D	AVERAGE I Information <u>musi</u> elso be complet LITY & MOTE: River Left (L) en <u>PLAIN QUALITY</u> (Most Predominant per Bank) Meture Forest, Wellend Immature Forest, Shrub or Old Parid	BANKFULL WIOTH Led d Right (R) as kooki L R () () c c u u	i (metars)	Ľ8
COMMENTS RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIOTH</u> L.R./ (Per Bank) 	TNS LAIN QUAI F <u>LOODI</u> L R D D D D D	AVERAGE I Information <u>musi</u> elso be complet LITY Or MOTE: River Left (L) en <u>PLAIN QUALITY</u> (Most Predominant per Bank) Mature Forest, Welland Immature Forest, Shrub or Old Paid Residential, Park, New Field	Lad d Right (R) as looki C C C C C C C C C C C C C C C C C C C	ng downstream fr onservation Tillage ritan or Indwittiel pen Pasture, Row	Ľ
COMMENTS		AVERAGE I Information <u>musi</u> elso be complet LITY CHOTE: River Left (L) en PLAIN QUALITY (Most Predominani per Bank) Meture Forest, Wellend Immature Forest, Shrub or Old Plaid Residentiel, Park, New Field Fonced Pasture	BANKFULL WIOTH Led d Right (R) as kooki () () c () () c () u () () u () () u () () u () () u	ng downstreamstr onservation: Tillage rban or industriel pen Pasture, Row rop Ining or Construction	Ľ
COMMENTS RIPARIAN ZONE AND FLOODP <u>RIPARIAN WIOTH</u> L.R./ (Per Bank) G.W.Mds >10m Moderate 3-10m Moderate 3-10m Name COMMENTS FLOW REGINE (At Time of Eval Stream Flowing Subsurface flow with isolated pool COMMENTS	This LAIN QUAI <u>FLOOD</u> L R C C C C C C C C C C C C C C C C C C C	AVERAGE I Information (7)(2) elso be complet LITY & MOTE: River Left (L) en PLAIN QUALITY (Most Predominant per Bank) Meture Forest, Welland Immature Forest, Shrub or Old Paid Residential, Park, New Field Fonced Pasture hock OALY one box) Moist Char	Led I Right (R) as kooki L R () () C C C C C C C C C C C C C C	I (metars)	
COMMENTS	This LAIN QUAI <u>FLOOD</u> L R C C C C C C C C C C C C C C C C C C C	AVERAGE I Information (<u>musi</u>) elso be complet LITY & MOTE: River Left (L) en <u>PLAIN QUALITY</u> (Most Predominant per Bank) Meture Forest, Welland Immature Forest, Welland Immature Forest, Shrub or Old Paid Residentiel, Park, New Fletd Fenced Pasture Nock OALY one box) Moist Char) O R) of channel} (Check OALY one 2.0 2.5	BANKFULL WIOTH Led Id Right (R) as kooki I R (R) as kooki	I (metars)	

ADDITIONAL STREAM INFORMATION (This information Nust Also be Completed):
GHEI PERFORMED7 - 🗖 Yes 🛃 No. GHEI Score (If Yes, Atlach Completed GHEI Form)
DOWNSTREAM DESIGNATED USE(S) Image: Image
NAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSKED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name; NRCS Soil Map Page; NRCS Soil Map Stream Order
County Carroll (J Township/Oky Corroll for
MIBCELLANEOUS Base Flow Conditions? (Y/N): <u>Y</u> Oale of last precipitation: <u>COP7976-1130</u> Overnity. <u>ag</u> -7) ^{**} Photograph information: <u>a-hi-c</u> bi
Elevaled Turbidity? (Y/N): Canopy (% open): <u>Y</u> Were samples collected for water chemistry? (Y/N): _/ (Note tab sample no. or ki. and attach results) Lab Number: Field Measures: Temp (*C) <u>>///</u> Dissolved Oxygen (mg4)//? pH (S.U.) <u>_r//</u> Conductivity (µmhos/om) <u>>///</u> Is the sampling reach representative of the stream (Y/N)_Y (Firot, please explain:
Additional commentadescription of polution impacts:
NOTIC EVALUATION
Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ske ID number. Include appropriate field data chaets from the Primary Needwater Habital Assessment Menual)
Fish Observed? (YAN) M Voucher? (YAN) — Salamandara Observed? (YAN) M Voucher? (YAN) — Frags or Tadpoles Observed? (YAN) M Voucher? (YAN) M Aquatic Macroinvertebrates Observed? (YAN) M Voucher? (YAN) — Commence Regarding Biology
DRAWING AND NARRA'TIVE DESCRIPTION OF STREAM REACH (This must be completed); Include important landmarks and other features of interest for site evaluation and a narrality description of the stream's location





ChieEPA Primary Headwater Habitat Evaluation Form

HHE! Score	(sum of metrics	1, 2, 3):
------------	-----------------	---------	----

48

SITE NAMEA OCATION <u>(accell (acc)</u> <u>Sector</u> <u>OCT (IPV)</u> <u>Gov K</u> SITE NUMBER <u>S7-(</u> RIVER BASIN <u>(1905 Fr.K - 51))</u> (1000 AREA (mm)) <u>C1 m.*</u> LENGTH OF STREAM REACH (R) <u>J00</u> LAT. <u>40.</u> <u>W71</u> LONG. <u>31.059</u> RIVER CODE <u>RIVER MILE</u> DATE <u>27 April J013scorer m. Missonell</u> <u>COMMENTS</u> <u>Sample point</u>] NOTE: Complete All items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL <u>O NONE / NATURAL CHANNEL</u> <u>RECOVERED</u> <u>RECOVERING</u> <u>RECENT OR NO RECOVERY</u> MODIFICATIONS:

1. SUBSTRATE (Estimate percent of every (Mex of 40). Add total number of significant (Mex of 40). Add total number of significant (Mex of 40). Add total number of significant (Substrate States). Add total number of significant (Substrates). Add total	(type of substrate present. Check ONLY two prices is substrate types is und (Max of 6). Finel metric substrate types is und (Max of 6). Finel metric substrate types is und (Max of 6). Finel metric substrate types; Site of the present of the	edominant substrate TYPE boxes HHEI core is sum of boxes A & B. HHEI PERCENT 20 EBRIS (3 pla) A N N N <td< th=""></td<>	
2. Muximum Pool Depth (Measure the max evaluation. Avoid plunge pools from road o > 30 centimeters [20 pts] > 22.5 - 30 cm (30 pts] > 10 - 22.5 cm (25 pts) COMMENTS	rimum pool depth within the 51 mmter (2001) o culvents or storm water pipes) (Check ONLY on S cm - 10 cm [15 pts] C S cm (5 pts) NO WATER OR MOIS	Valuation reach at the time of e box): 6] IT CHANNEL [0 pts] AL DEPTH (camtimature):	
3. BANK FULL WID7H (Measured as the at □ > 4.0 meters (> 13) (20 pcd) □ / > 3.0 m - 4.0 m (> 6' 7' - 13') [25 pts] □ / > 1.5 m - 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS	verage of 3-4 measurements) (Check : 	Aff LY one Box): -4'47 [15 ptn] (.6) (KFULL WOTH (metars)	
RIPARIAN ZONE AND FLOODPL <u>RIPARIAN WID7H</u> L. R. (Per Bank) L. Wide >10m	This information <u>must</u> also be completed AIN QUALITY Δ -NOTE: River Left (L) and Ri <u>FLOODPLAIN QUALITY</u> L/R / (Most Predominent por Bank) [] [] Image: Region of the predominent of the p	ght (R) as looking downstream \$ L R D D Conservation Tillage D Urban or industrial	
Nerrow <5m None COMMENTS	Residential, Park, New Field Fenced Pasture	Open Pasture, Row Orop Orop Orop Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Cneck ONLY one boz): Stream Flowing Maist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) COMMENTS			
SINUOETY (Number of bends jit) Note 0.5 ETREAM GRADIENT ESTIMATE	:51 m (200 ft) of channel) (Check ONLY one bo 1.0 □ 2.0 1.5 □ 2.5	x):	

ADDITIONAL STREAM INFORMATION (This information Must Also be Compiled):
GHEI PERFORMED? - D Yes 3 No GHEI Score(If Yes, Atlantic Completed CHEI Form)
DOWINSTREAM DESIGNATED USE(S) I WWH Name: Pictor D WWH Name: Pictor D WWH Name: Distance from Evaluated Stream D WWH Name: Distance from Evaluated Stream D WWH 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: Current Hillion NRCS Soil Map Page NRCS Soil Map Stream Order
County Currell Co. Township/City. Currellion
MIBCELLANEOUS
Base Flow Conditions? (Y/N) Date of last precipitation: <u>2-1</u> April 2e13 Quantity. 0.52
Photograph Information: 41 \$ 4-4 \$ 4
Elevated Twittidky? (Y/N): Canopy (% open)
Were samples collected for water chemistry? (Y/N):/ (Note isb sample no, or id, and attach results) Lab Number:
Field Measures: Temp (*C) <u>~1.4</u> Dissolved Oxygen (mg/) <u>~1.4</u> pH (S.U.) <u>~1.4</u> Conductivity (umhos/cm) ~1.4
is the sampling reach representative of the stream (YAI) If not, please explain:
Additional commentations of pollution impacts: lewinese from Gell/Aster
BOTIC EVALUATION
Performed? (Y/N): (if Yee, Recard all observations. Youcher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Hasdwater Habitet Assessment Manuel)
Fish Observed? (YAI)
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
However important accurates and during encodes of interest for the evaluation and a pair may description of the streams location $A_{\infty}= { m Fig}H$
All fully From Sing Sing (Sing
FLOW TO For ap (f As field simple pt 1 Small
242

.

....

.....

ChipEPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3) :	55 In: 2		
SITE NUMBER <u>5772</u> RIVER GASIN <u>1775 101 (1785 100 (1785</u>	uctions WERY		
MODIFICATIONS:			
1. SUBSTRATE (Estimate percent of every type of substrate present. Check OAL Y two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Finet metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] PERCENT TYPE BOULDER (>256 mm) [16 pts] SILT [3 pt] PERCENT BEDROCK [16 pt] TYPE CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] TS CLAY or HARDPAN [0 pt] SAND (<2 mm) [16 pts]	HHEI Metric Points Bubstrate Nax = 40 JC		
Total of Percentages of (A) (B) Bidr Sløbs, Boulder, Cobble, Bedrock 20 (A) (B) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 2. Maximum Pool Depth (Neasure the maximum pool depth within the 61 meter (200 fil) evaluation teach at the time of	A + B Pool Depih		
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check OWLY one box): > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 ptu] < 6 cm [5 pts]	15 15		
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check OWLY one box); > 4.0 meters (> 13') [30 pte] > 1.0 m - 1.5 m (> 3' 3' - 4' 8') [15 pte] > 3.0 m - 4 0 m (> 6' 7' - 13') [25 pte] > 1.0 m (\$ 5' 3') [5 pte] > 1.5 m - 3 0 m (> 4' 8' - 9' 7') [20 pte] AVERAGE BANKFULL WIDTH (meters)	Sank Mil Width Max-10 20		
This information <u>must</u> also be completed			
RIPARIAN ZONE AND FLOODDPLAIN OUALITY ANOTE: River Left (L) and Right (R) as kooking downstreems'r RIPARIAN WIDTH FLOODPLAIN QUALITY 1 R (Per Bank) L R 1 Mde >10m Mature Forest, Wellend D Conservation Tillage 1 Moderate 5-10m Image: Simulation of Conservation Tillage Simulation of Conservation Tillage 1 Narrow <5m			
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing D Moist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS_k			
SINUCISITY (Number of bends per/ 61 m (200 k) of channel) (Check ONLY one box) None 1.0 2.0 3.0 0.5 15 2.5 >3			
STREAM GRADIENT ESTIMATE	Q #:		

CHEI PERFORMED? - TYPE S No CHEIS	core (If Yes, Attach Completed QHE) Form)
/ DOWNSTREAM DESIGNATED USE(S)	
WWH Name: <u>Fipes Firk</u>	
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDIN	NG THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name:	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Current to.	Township / City: Carroll tor
MISCELLANEOUS	
Base Flow Conditions? (Y/N): <u>V</u> Date of last precipit	labon, 24 April 2013 Quantity: 0.57
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open)	т <u>ч5</u>
Vere samples collected for water chamistry? (Y/N)	(Note lab sample noor id, and attach results) Lab Number:
wid Measures: Temp ("C) <u>\sim]/4</u> Dissolved Oxygen ((mol) $\underline{\mathcal{M}}_{2}^{d}$ pH (S.U.) $\underline{\mathcal{M}}_{2}^{d}$ Conductivity (µmhos/cm) $\underline{\mathcal{M}}_{2}^{d}$
s the sampling reach representative of the stream (Y/N)_ $\frac{1}{2}$	/ If not, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observation ID number _ incluse approprie	ns. Voucher collections optional. NOTE: all voucher sumples must be labeled with the field data sheats from the Primary Headwater Habilat Assessment Manual)
ah Observed? (Y/N)_/ Voucher? (Y/N) Sela Nogs or Tedpoles Observed? (Y/N) Voucher? (Y/N)_	manders Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)Y Voucher? (Y/N)
	star - Ann an

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



June 20, 2008, Revision

ChieEPA Primary He	eadwater Habitat Evalu HHEI Score	ation Form (sum of metrics 1, 2, 3): 22
SITE NAMELOCATIONSITE NUMBERSITE NUMBERSITE NUMBERSI	RIVER BASIN SOUTH FUS F.1	/SHIL(DRAINAGE AREA (mi ²) _ C/; 2
LENGTH OF STREAM REACH (R) _ 50 _ U	AT. 40.00 08 LONG 34.057 1 RIV	
NOTE: Complete All trens On This Form -	Refer to "Field Evaluation Manual for	Ohio's PHWH Streams" for Instructions
MODIFICATIONS:	AND CRAMMER DIRECTIONED DIREC	
 SUBSTRATE (Estimate percent of every (Max of 40). Add total number of significant 	type of substrate present. Check ONLY <u>two</u> t substrate types found (Max of 6). Final metric	predominant substrate TVPE boxes : score is sum of boxes A & B.
		PERCENT METRIC Points
BOULDER (>256 mm) [16 pts]		(DEBRIS (3 pis)
		pis] Max = 40
GRAVEL (2-64 mm) [9 pts]		
□ 🗇 SAND (<2 mm) (8 pls) 2	C ARTIFICIAL (2 prs)	
Total of Percentages of		(8)
SCORE OF TWO MOST PREDOMINATE SUBSTR		R OF SUBSTRATE TYPES:
2. Maximum Pool Dupth (Measure the max	imum pool depth within the 61 meter (200 fi	() evaluation reach at the time of Pool Depth
evaluation. Avoid plunge pools from road o	uriverts or storm water pipes) (Check ONLY	one box): Max = 30
○ > 30 centameters [20 pm] ○ > 22.5 - 30 cm [30 pts]	⊡ < 5 cm [5 pls]	
	U NO WATER OR MO	DIST CHANNEL [0 pts]
	MAXIMUM P	OOL DEPTH (centimeters):
3. BANK FULL WIDTH (Measured as the av	rarage of 3-4 measurements) (Check Check - 10 m - 15 m /2 3	:k CMLY one box): Bankluki r 3r-4'4™ M5 otel Width
□ > 3.0 m - 4.0 m (> 87 7 • 13) [25 pte]	S 1.0 m (≤ 3'3') [5]	
J > 1.5 m - 3.0 m (> 4′ 8″−8′ 7″)[20 pm)]		0.61
COMMENTS	AVERAGE B	ANKFULL WIDTH (meters)
······································	This information <u>must</u> also be complete	ed
RIPARIAN ZONE AND FLOODPL PIDARIAN WOTTH	AIN QUALITY ANOTE: River Left (L) and FLOODPLAIN QUALITY	l Right (R) as looking downstream ûr
L/R/ (Per Bank)	L.R. (Most Predominant per Bank)	
[개 [개] Wide > 10m	[1] L. Mature Forest, Wetland	Conservation Tillage
⊥ L Modenate 5-10m	Field	Onen Pasture Row
D Narrow <5m	Residential, Park, New Field	
LJLJ None COMMENTS	Fenced Pesture	
FLOW REGIME (A! Time of Evaluation Subsurface how with isolated pools COMMENTS	ation) (Check ONLY one box):	nel, isofated pools, no flow (intermittent) I, no water (Ephemeral)
SNUOSITY (Number of bands per	61 m (200 ft) of channel) (Check OVLY one	(box):
L- None L) 0 05 0	$1.0 \qquad \square 2.0 \\ 1.5 \qquad \square 2.5$	
STREAM GRADIENT ESTIMATE	Moderale (2 0100 m) OKođerale	to Severe D Severe 110 t/100 t)

ADDITIONAL STREAM (NFORMATION (This information Must Also be Completed):	
GHEI PERFORMED? - 🛛 Yes 🍠 No. GHEI Score (If Yes, Alact	Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(\$) Image:	, Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED A USGS Ouradrangle Name. <u>Carrollyan</u> NRCS Soil Map Pa	REAL CLEARLY MARK THE SITE LOCATION
MISCELLANEOUS	<u></u>
Base Flow Conditions? (YAN) Date of last precipitation: <u>J-1_Apr. 1_Jor.3</u> Photograph Information4	Quantity: <u> </u>
Elevated Turbidity? (Y/R): Cenopy (% open): U \cup Wore samples collected for water chemisiny? (Y/N): (Note tab sample no. or id. an Field Measures Temp (*C)L ⁴ Dissolved Oxygen (mg/) $\mu \mu^{-1}$ pH (S.U.) Is the sampling reach representative of the stream (Y/N) If not, picese explain:	d attach results) Lab Number r_/.] ConductiMty (µmhos/cm)/./_]
Additional comments/description of potietion impacts:	
BIOTIC EVALUATION Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. ID number. Include appropriate field data sheets from the Print	NOTE: all voucher samples must be labeled with the ske ary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N)_MVoucher? (Y/N)_ <u>M/A</u> Salamanders Observed? (Y/N)_ <u>M/</u> Frogs or Tadpoles Observed? (Y/N)_MVoucher? (Y/N)_ <u>M/A</u> Aquatic Macroinvartebrate Comments Regarding Biology:	Voucher? (Y/N)_ <u>**/</u> 4 s Observed? (Y/N)_ <u>**</u> Voucher? (Y/N) <u>**</u> //

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



June 70, 2016 Merrison

......

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

	GE AREA (mi ¹) <u></u>				
LENGTH OF STREAM REACH (R) 40 LAT. 404054 LONG 1410400 RIVER CODE - RIVER MILE - RI					
NOTE: Complete All Rems On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH St	NOTE: Complete All items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions				
STREAM CHANNEL ONNE / NATURAL CHANNEL OR RECOVERED RECOVERING PRECENT OR NO RECOVERY					
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of box TYPE Image: Destination of the state present of the substrate types found (Max of 8). Final metric score is sum of box TYPE Image: Destination of the state present of the substrate types found (Max of 8). Final metric score is sum of box TYPE Image: Destination of the state present of the sta	PERCENT HHEI Max = 40				
	<u> </u>				
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock(A) BCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:TOTAL, NUMBER OF SUBSTRATE	(B) TYPES: 4+B				
2. Maximum Pool Depth (Messure the maximum pool depth within the 61 meter (200 ft) evaluation reach (ei the time of Pool Oepth				
Image: provide state of the second					
COMMENTSMAXIMUM POOL CEPTH {cenil	imeters):				
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 meters (> 13) [40 pts] [47 pts] (37 - 4'8') [15 pts]	Bankfull Width				
[) > 3.0 m - 4.0 m (> 9 → 13) [20 pts] □ > 1.5 m - 3.0 m (> 4 € 7 - 9 7) [20 pts]					
COMMENTS	(meters) (6.4)				
COMMENTS AVERAGE BANKFULL WIDTH COMMENTS AVERAGE BANKFULL WIDTH This information must also be completed RIPARIAN ZONE AND FLOOOPLAIN QUALITY ANOTE: River Left (L) and Right (R) as fooking RIPARIAN WIDTH FLOOOPLAIN QUALITY	(meters)				
COMMENTS AVERAGE BANKFULL WIDTH COMMENTS AVERAGE BANKFULL WIDTH This information must also be completed RIPARIAN ZONE AND FLOOOPLAIN QUALITY ANOTE: River Left (L) and Right (R) as fooking RIPARIAN WIDTH L R (Per Bank) L R Q Q Weter State	(meters)				
COMMENTS AVERAGE BANKFULL WIDTH COMMENTS AVERAGE BANKFULL WIDTH This information must also be completed RIPARIAN ZONE AND FLOOOPLAIN QUALITY ANOTE: River Left (L) and Right (R) as fookin, RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R Moderate 5-10m C Moderate 5-10m	(meters)				
COMMENTS AVERAGE BANKFULL WIDTH COMMENTS AVERAGE BANKFULL WIDTH This information must also be completed RIPARIAN ZONE AND FLOOOPLAIN QUALITY Stronge also be completed RIPARIAN WIDTH FLOOOPLAIN QUALITY L R (Per Bank) L R (Per Bank) I R Moderate 5-10m Imature Forest, Wetland I Narrow <5m	(meters)				
Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial) Comments Average BankFull with isolated pools (interstilial)	(meters)				
> 3.0m - 4.0m (** / - 13) [20 pta] > 1.5m - 3.0m (> 4*5 - 5*7*) [20 pta] AVERAGE BANKFULL WIDTH This information must also be completed RIPARIAN ZONE AND FLOOOPLAIN QUALITY	(meters)				

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):	
GHET PERFORMED? - D Yes TND OHE Score (If Yes, Attach C	completed QHEI Form)
Z DOWNSTREAM DESIGNATED USE(S)	
Owwell Name Diers 12-14 D	istance from Evaluated Stream
D CWH Name D	stance from Evaluated Stream
D EWB Name: D	stance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED ARG	A CLEARLY MARK THE SITE LOCATION
USGS Ousdrangle Name: Carrol Hem NRCS Soil Map Page	NRCS Soil Map Stream Order
CountyCountyTownship / CityCounty	if G.
MISCELLANEOUS	
Base Flow Conditions? (Y/N): N Date of last precipitation: 2-1.4 av (1-24-13	Quantity, 4.52
Photograph Information: 911.16	
Elevated Turbidity? (Y/N) Canopy (% open):?2	
Were samples collected for water chamistry? (Y/N): (Note lab sample no, or id, and a	itach (esuits) Lab Number:
Field Measures: Temp (°C) Dissolved Orygen (mg/) pH (S.U.)	Conductiv ity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) <u>Y</u> if not, please explain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N):	TE: all youcher samples must be labeled with the site Headwater Habilat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Frogs of Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates C	Voucher? (Y/N) Ibserved? (Y/N) Voucher? (Y/N)
Comments Regarding Biology	<u>_</u>
	· · · · · · · · · · · · · · · · · · ·

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

P SIN SA mubili RI FLOW

June 20, 2005, Newson

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

LENGTH OF STREAM REACH (I) ______LAT. YULUISLE LONG. YI, USLE RIVER CODE _____ RIVER MILE _____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's FHWH Streams" for Instructions

STREAM CHANNEL ON NONE / NATURAL CHANNEL OR RECOVERED OR RECOVERING OR RECENT OR NO RECOVERY MODIFICATIONS:

1. SUBSTRATE (Estimate percent of every (MEX of 40). Add total number of significan (MEX of 40). Add total num (MEX of 40). Add total number of signifi	Impose of substrate present I substrate types lound (Magnetic types lound) RCENT TYPE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	I. Check ONLY <u>two</u> predominani at of 8). Final metric score is ear ILT [3 pt] EAF PACKWOOCTY DEBRIS [3 INE DETRITUS [3 pts] ILAY of HAROPAN [0 pt] IUCK [0 pts] RTIFICIAL [3 pts] TOTAL NUMBER OF 6065	Rubstrate TYPE baces HHEI nof baces A & B. HHEI PERCENT Point: 10 Substrat 10 Substrat	
 Maximum Pool Depth (Measure the max evaluation. Avoid plunge pools from road of [] > 30 centimeters [20 pts] > 22.5 - 30 cm (30 pts] > 10 - 22.5 cm [25 pts] 	dimum pool depth within th adverts or storm water piper 2 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	the 61 meter (200 ft) evaluation s) (Check OVLY time box): > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANK MAXIMUM BOOM DEET	reach at the time of Pool Cop Max = 3 EL [0 pts] I U	Kh M
3. BANK FULL WIDTH (Measured as the average of the second se	verage of 3-4 measurement	ts) (Check OKLY on) > 1.0 m - 1.5 m (> 3 3" - 4"6") [16 s 1.0 m (> 3"3") [5 ptn] AVERAGE BANKFULL W	(Enternitional): (Dent): (proj Max=30 JC ADTH (maters)	
RIPARIAN ZONE AND FLOODPLI <u>RIPARIAN WIDTH</u> L, R; (Per Bank) I I Wide >10m	This information <u>mys</u> AIN QUALITY & CHOTE FLOOOPLAIN QUALITY L. R. (Most Predomin 20 I Mature Forest, V I Mature Forest Flaid	taiso be completed Rever Left (L) and Right (R) as ent per Bank) L R Wetland D D t, Shrub or Old D D	looking downstree my?r Conservation Tillage Urban or Industrial	
O Nerrow <5m None COMMENTS	Residential, Par Fenced Parkure	1. New Field	Орел Pasture, Row Стор Minking or Construction	
FLOW REGIME (At Time of Evaluated Stream Flowing Subsurface flow with industed pools COMMENTS	ation) (Check OALY one b (Interatitial)	ox); Moist Channel, isolated ; Dry channel, no water (i	cols, no flow (informitient) Ephemeral)	
BINUOSITY (Number of bends per None I 0.5 7	:61 m (200 %) of channel) 1.0 [1.5 [()Check ONLY one box): 2] 2.0 (2.5 (] 3.0] 32	
BTREAM GRADIENT ESTIMATE Flat (0 5 ± 100 t) Flat to Moderate	Modennie (2 1/109 n)	D Moderate to Severa	Sevier e (10 kr) (0 k)	r

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed);

QHEI PERFORMED? - 🖸 Yes 🖄 No. QHEI Score	(If Yes, Altach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WAAM Nemo: P-p-> I-rk	Distance from Evaluated Stream
CWH Name:	Ontence from Evaluated Stream
JEWH Name:	Distance from E-slualed Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING T	HE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name: Correct the A	NRCS Soil Map Page: NRCS Soil Map Stream Order
ounty <u>larrette</u>	Tourship 10ty Corritt for
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation	x 27 April 1 Journally 0.57"
holograph Information: <u>4 Hacked</u>	
leveled Turbidity? (Y/N) Canopy (% open)	<u>)5.2.</u>
ere samples collected for water chemistry? (۲/N): <u>سا</u> ر (N-	ote leb sample no. or id. and atlach results) Lab Number
eld Measures: Temp ("C <u>) ////</u> Dissolved Oxygen (mpf) <u> ////</u> pH (S.U.) <u>///</u> Conductivity (µmhos/em) _///
s the sampling reach representative of the stream (Y/N). $\underbrace{\checkmark}$	if not, please explain:
dellians comments description of polution impacts: <u>Printy</u> Dub. 10 ft <u>1</u> <u>3</u> <u>1</u> 1) or after that there trings for
BIOTIC EVALUATION	-
aformed? (Y/N): [] (If Yes, Record at observations, V	/oucher collections collions). NOTE: all youcher samples must be labeled with the size
ID number. Include appropriate fie	eid data sheets from the Primary Headwater Habitat Assessment Nanual)
ish Observed? (Y/N) Voucher? (Y/N) Salaman irogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) comments Regarding Biology	ders Observed? (Y/N) Voucher? (Y/N) Aqualic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIP	TION OF STREAM REACH (This must be completed):
include important landmarks and other features of inter	rest for site evaluation and a narrative description of the stream's location
$\sum \hat{I}_{i}^{2} (\mu_{i})$	
	priz under an a
	inclast incrash
5 1	5-0-
LOW To utter	シトー
	- (j)
	21*



June 20, 2039, Perison

2

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



SITE NAMEAOCATION <u>LARVILL</u> (Work, <u>EARLY - S)</u> <u>MMT</u> <u>PIPER FUR</u> ________SITE NUMBER_<u>S11</u> RIVER BASIN <u>Piper FUR - S111 FUR</u> DRAINAGE AREA (mi²) <u>41+.³</u> LENGTH OF STREAM REACH (x) <u>50</u> LAT. <u>40.4040</u> LONG <u>S1.504</u> RIVER CODE <u>_____</u> RIVER MILE <u>____</u> DATE <u>23 April 208</u> SCORER <u>MUMPINIAL</u> COMMENTS <u>JULIES V</u> (CON CUTVE)¹

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL IN NONE / NATURAL CHANNEL IN RECOVERED IN RECOVERING IN RECENT OR NO RECOVERY

1. SUBATRATE (Estimate percent of ever	y type of substrate present. Check OWLY ive p	redominant substrate TYPE boxes	
TYPE PI BLOR SLARS (16 pts) PI BOULDER (>256 mm) (16 pts) PI BEDROCK (11 pt) PI G COBBLE (65-256 mm) (12 pts) G GRAVEL (2-64 mm) [11 pts) G SAND (<2 mm) [15 pts)	Image: State of the state o	CORE IS SUM OF DECESIA & 6 B. <u>PERCENT</u> <u>SC</u> DEBRIS [3 pds] [10] 2 pl) <u></u>	Metric Points Bubstrate Max = 40
Yotal of Percentages of Bior Stebs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBST	30 (A) 75 NATE TYPES: TOTAL NUMBER		A+B
 Maximum Pool Depth (Measure the many eveluation. Avoid plunge pools from road > 30 centimaters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] 	nimum pool depth within the 51 meter (200 fp ndverts or storm water pipes) (Check ONLY or 0, >5 cm - 10 cm [15 pi 3 <5 cm [5 pin] No WATER OR MOR	evaluation reach at the time of ne box): n) ST CHANNEL [0 pis]	Pool Depth Max = 30 5-
COMMENTS	MAXIMUM PO	OL DEPTH (centimeters):	
3. BANK FULL WIDTH (Neasured as the a 	iverage of 3-4 measurements) (Check □ > 1.0 m - 1.5 m (> \$ 3 □ ≤ 1.0 m (≤ 3 3) (5 pic 	OMLY one box): *- 4*67 (15 pte) 터 NKFULL WIDTH (maters)	Benkka Width Max=30 JJ
RIPARIAN ZONE AND FLOODPL	This information <u>muni</u> taise be completed ANOTE: Sherri (1) and E	iohi (R) es koaring dawnstreum fr	
RIPARIAN WEDTH L R (Per Bank) I II Wide >10m III Moderate 5-10m	FLOODPEAIN QUALITY L R (Mosi Predominant per Bank) D Hature Forest, Weiland P Flood Flood Flood	L R D D Conservation Titlege D D Urban or Industrial	
D D Narrow <5m	Desidential Rate New Field	Control Optim Pasture, Row	
COMMENTS	C C Fenced Pasture	Crap Mining or Construction	
Nane COMMENTS FLOW REGIME (A! Time of Evalue Steam Flowing Subsurface flow with isolated parks COMMENTS	Interaction (Check ONLY one box):	I, isolated pools, no flow (intermittent)	
Nans COMMENTS FLOW REGIME (A! Time of Evalue Stream Flowing Substrince flow with isolated packs COMMENTS SINUOSITY (Number of bends per V None 0,5	Image: Construction of the second s	L solated pools, no flow (intermittent) werer (Ephemeral) X): 3.6 3.6 3.6	

	Score (If Yes, Atlach Completed OHEI Form)
, DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Cifes Ren	Distance from Evaluated Stream _ # 52
CWH Name:	
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUD	ING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Constalling	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Correct	Township / City: Core of Harn
IN ICEL LANEOUS	
Base Flow Conditions? (YM): Date of last precip	Retion: M @av.1. 2013 Quantity. (8, 21
Photograph Information: 444-664	
Elevaled Turbidity? (Y/N): Canopy (% oper	w <u>. 75</u>
Were samples collected for water chemistry? (Y/N):	_ (Note lab sample no. or id. and attach results) Lab Number
Field Measures* Temp (*C) <u>A-1/</u> ² Dissolved Oxygen	(mpl) _ <u>M []</u> pH (S.U.) _ <u>M []</u> Conductivity (pmhos/cm) /C [] 4
is the sampling reach representative of the stream (Y/N)	¥ lifnot, please explain:
Additional commermittlescription of pollution impacts; <u>f</u>	mberg darings
NOTIC EVALUATION	
	ane. Voucher collections optional, NOTE: all voucher eamples must be labeled with the site
Performed? (Y/N): (if Yee, Record all observatio ID number. Include appropri	ate field date shoels from the Primary Haadwater Habitel Assessment Macualy
Performed? (Y/N):	iste field data sharets from the Primary Haadwaller Habitel Assessment Maxual) emanders Observed? (Y/N)_ <u>?</u> Voucher? (Y/N)_ <u>.</u> Aquatic Macroinvertebrates Observed? (Y/N)_ <u>?</u> Voucher? (Y/N)
Performed? (Y/N):	iste field data sheets from the Primary Haadwater Habitel Assessment Macual) manders Observed? (YM)_ <u>**</u> Voucher? (YM)_ <u>**</u> Aquatic Macrofinverlebrates Observed? (YM)_ <u>**</u> Voucher? (YM)_ <u>*</u>
Performed? (Y/N):	iste field date sheets from the Primery Headwater Habitel Åesessment Meruel) Invenders Observed? (Y/N)_ <u>?''</u> Voucher? (Y/N) <u>-''</u> Aquatic Macroinvertebretes Observed? (Y/N) <u>-/'</u> Voucher? (Y/N)
Performed? (Y/N):	iste field data shavis from the Primery Haadwater Habitel Assessment Marual) misenders Observed? (Y/N)*/_ Voucher? (Y/N)*_ Aquatic Macroinvertebrates Observed? (Y/N)// Voucher? (Y/N)
Performed? (Y/N):	iste field data sheets from the Primary Haadwater Habitel Assessment Macual) manders Observed? (Y/N)_ <u>**</u> Voucher? (Y/N)_ <u>**</u> Aquatic Macroinvertebrates Observed? (Y/N)_ <u>**</u> Voucher? (Y/N)_ <u>*</u>

FLOW A Brog SID CL- -mulile R1 FLOW SII Garristhater

ChieFPA Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3) : 36				
SITE NAMERLOCATION Great Grant STATE VAT PLAN TO THE STATE OR ANAGE AREA (mit) Clm; 2				
LENGTH OF STREAM REACH (R) 244 LAT. 40, 66 LONG - 100 RIVER CODE RIVER MILE	·			
DATE <u>15 Apr-1011</u> SCORER (1)-17-22-17-11 COMMENTS <u>15 Apr-1011</u> COMMENTS <u>15 Apr-1011</u> COMMENTS	structions			
	ECOVERY			
MODIFICATIONS:				
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE baxes (Max of 40). Add totel number of significant substrate types found (Max of 8). Final metric score is sum of baxes A & B.	HHEI			
	Points			
EQUIDER (>256 mm) [16 pts] LEAF PACKWOODY DEBRIS [3 pts] LEAF	Substrate Max 7.40			
COBBLE (65-258 mm) (12 pts)				
[] [] GRAVEL (2-64 mm) [9 pts] [] $ [] [] MOCK [0 pts] $ $ [] [] SAND (<2 mm) [6 pts] [] [] [] $	K.			
Yotal of Percentages of (A) to (B) (I)	A+B			
Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	1			
2. Naximum Pool Depth (Neesure the maximum pool depth within the 51 meter (200 ft) evaluation reach at the time of	Pool Depin			
evaluation. Avoid plunge points from road culverts or storm water pipes) (Check $OALY$ one box).	Max = 30			
$\bigcirc > 22.5 - 30 \text{ cm} [30 \text{ pts}]$ $\bigcirc < 5 \text{ cm} [5 \text{ pts}]$ $\bigcirc 10 \text{ 27.5 cm} [5 \text{ pts}]$ $\bigcirc NO \text{ WATER OR MOIST CHANNEL [2015]}$	- 5			
COMMENTS				
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check OMLY one box):	Bankfull Width			
> 3.0 m - 4.0 m (> \$7 - 13) [25 pm] > 3.0 m - 4.0 m (> \$7 - 13) [25 pm]				
$[J] > 1.5 \text{ m} - 3.0 \text{ m} (> 4^{\circ} \text{ c}^{-} \text{ s}^{\circ} T) (20 \text{ pts})$	21 15			
This information must also be completed				
RIPARIAN ZONE AND FLOODPLAIN GUALITY (FNOTE: RIVER Left (L) this right (R) as looking contracted in p RIPARIAN WIDTH FLOODPLAIN QUALITY	I			
L R, (Per Bank) L R, (Most Predominant per Bank) L R I S Wide > 10 m I S Mature Forest, Wetland I S Conservation Tilles	la			
Moderate 5-10m Immature Forest, Shrub or Ctd D Urban or Industrial Evel				
	1			
None () Fenced Pasture D Mining or Construct	llon			
COMMENTS <u>AGAINAT COMMENTS COMMENTS</u>				
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) Subsurface flow with isolated pools (Interstitial) COMMENTS	tent)			
SINUCSITY (Number of bends per 61 m (200 k) of channel) (Check DNLY one box):				
Uy Nons U 1.0 U 2.0 D 3.0 I⊈ 0.5 D 1.5 D 2.5 D >3				
STREAM GRADIENT ESTIMATE Moderate (2 L ¹¹ 00 ft) Moderate to Severe I Severe (1	0 n/100 h:			

ADDITIONAL STREAM INFORMATION (This information Must Also be Co	mplated):
	(If Yes, Allech Completed QREI Form)
OOWNSTREAM DESIGNATED USE(S) ØWVH Name:	Distance from Evaluated Stream
. T CWH Name:	Distance from Evaluated Stream
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> W	ATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Obadrangle Name: <u>Carcolline</u> NRCS	Sail Map Page NRCS Sail Map Stream Order
County Benvir (unity township/Cr	N. Christlyin
MISCELLANEOUS	
Base Flow Conditions? (Y/N): <u>P</u> Date of last precipitation. <u>24 APA</u> Photograph Information: <u>4社社</u> 社社	0uantity: 0.50
Elevaled Turbidity? (Y/N) Canopy (% open)	
Were samples collected for water chemistry? (Y/N): <u>V</u> (Note iab sample Field Measures: Temp (*C) <u>F $\frac{1}{2}$</u> Dissolved Oxygen (mgA) $\frac{N \frac{1}{2}}{2}$ p	e no. or id. and attach results) Lab Number:
is the sampling reach representative of the stream (Y/N) <u> </u>	explain:
Additional comments/description of pollution impacts: $A_{1,m1,s} = a_{2,m1,s}$	a Haml field
BIOTIC EVALUATION	
Performed? (Y/N): (I/Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheets	ions optional. NOTE: all voucher samples must be labeled with the t from the Primary Headwaler Habital Assessment Manual)
Fish Observed? (Y/N) 📂 Voucher? (Y/N) 🗂 Salemanders Observed From a Technical Observed XAD X Voucher? (YAD 📼 Actuality Ham	ſ? (Y/N)_ <mark>/</mark>
Liefts of Lachones Opseined: (1991) - Academic (1994) - Seferric Method	

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



June 20, 2005, Revision

	eadwater Habitat Evaluat HHEI Score (su	tion Form un of metrics 1, 2, 3) : 24
SITE NUMBER 51	<u>2-1</u> RIVER BASIN <u>1175 H-K-54</u> AT 90 005 LONG -81, 004 S RIVER	CODE RIVER MILE
DATE 13 AN: 1 343 SCORER _M. MAN	- k comments	
NOTE: Complete All Rems On This Form	- Refer to "Field Evaluation Manual for O)	tio's PHWH Streams" for Instructions
STREAM CHANNEL ONNE / NATU	IRAL CHANNEL 🔲 RECOVERED 📓 RECOV	FERING CIRECENT OR NO RECOVERY
RODIFICATIONS.		
1. SUBSTRATE (Estimate percent of every (Max of 40). Add total number of significant	r type of substrate present. Check <i>ONL</i> Y <u>two</u> pre it substrate types found (Mex of 6). Final metric so	ndominant substrate TYPE boxes ore is sum of boxes A & B. Motric
TYPE PER BLOR SLABS [16 pis]	RCENT TYPE TID SILT (3 pt)	
□ □	$\frac{1}{2} = \frac{1}{2} \frac{1}{2} = \frac{1}{2} \frac{1}{2} = \frac{1}{2} \frac{1}{2} = \frac{1}{2} \frac{1}{2} \frac{1}{2} = \frac{1}{2} $	EBRIS (Sprej Substrate
[] [] COB8LE (65-256 mm) [12 pts] <u>구</u> 미 데 데 GRAVEL (2-64 mm) [19 pts]	<u>5</u>	
□ □ _ <u>8AND (<2 mm) (6 pis)</u>	ARTIFIÇIAL (3 pls)	
Total of Percentages of Bidr States, Boulder, Cobble, Bedrock	<u> </u>	(B) A → B
SCORE OF TWO MOST PREDOMINATE SUB9TR	RATE TYPES: TOTAL NUMBER (
 Maximum Pool Depth (Newsure the max evaluation. Avoid plunge pools from road a 	kimum pool depth within the 61 meter (200 fi) = culverts or storm water pipes) — (Check ONLY on	valuation reach at the time of 1 Pool Depth e box): Max = 30
□ > 30 centimeters [20 pts] □ > 22.5 - 30 cm [30 pts]	□ > 5 cm - 10 cm [15 pts □ / < 5 cm [5 pts)	
□ > 10 - 22,5 cm (26 pts)	EM NO WATER OR MOUS	T CHANNEL [0 pts]
		Dep TH (centerers):
3. BANK FULL WID IF (Measured as the at > 4.0 meters (> 130 pis) > 2.0 meters (> 131 pio pis)	verege or 3-4 measurements) (Cinc. t □ / > 1.0 m + 1.5 m (> 3 3 ° □ / < 1.0 m (> 3 3 °) (5 m a)	-4'8') [15 pre] Width Max=10
$ [] > 3.0 \text{ m} - 3.0 \text{ m} (2 \text{ e}^{-7} - 13) \text{ get pine}] $		646 5
COMMENT8	AVERAGE BAN	KFULL WIDTH (meters)
	This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPL <u>RIPARIAN WIDTH</u>	AIN QUALITY ONDTE: River Left (L) and Ki FLOODPLAIN QUALITY	ght (H) es looking doemstreamstr
L R (Per Bank) □ (□ _ Wids >10m	L R (Most Predominant per Bank) $\Box \Box$, Mature Forest, Watland	L R
🗹 🗹 🛛 Moderate 5-10m	☐ ☐ Immature Forest, Shrub or Old Fleid	🗍 💭 Urban or Industrial
⊡ 🗹 Narrow <5m	🗍 🗍 — Residential, Park, New Field	Clopen Pasture, Row Crop
COMMENTS	UU Fenced Pesture	Mining or Construction
FLOW REGIME (At Time of Evelu: Stream Flowing Subsurface flow with isolated pools COMMENTS	ation) (Check ONLY one box): (Interstitial) V Dry channel, n	, isolated pools, no flow (intermittent) o water (Ephemeral)
SINUOSITY (Nomber of bends per V None C 05 C	r 61 m (200 ft) of channel) (Check DNLY one bo 1.0 D 2 0 1.5 D 2 5	x):
STREAM GRADIENT ESTIMATE	Moderate (2.0190.n)	Severe Severe (40.8/100.1)

ADDITIONAL STREAM INFORMATION	This information Must Also b	e Completed):	
QHEI PERFORMED? - 🗍 Yes	i 🗆 No - QHEI Score	(If Yes, Attach Con	apleted QHEI Form)
) USE(S)	Dist	ance from Evaluated Stream <u>1. 66 m</u> ance from Evaluated Stream
MAPPING: ATTACH COPIES O	F MAPS, INCLUDING THE ENTI	RE WATERSHED AREA.	CLEARLY MARK THE SITE LOCATION
USGS Ousdrangte Name: <u>Currath</u> County: <u>County</u> :County:	- Ost (R townshi		NRCS Soit Wep Stream Order
MISCELLANEOUS			
Base Flow Conditions? (Y/N): N D Photograph Information: $((H_{2})_{k})$	ate of last precipitation <u>19</u> 1	her 1 9413 0	aentity: (,) (`
Elevated Turbidity? (YAN)/A	Canopy (% open). 5 J		
Were samples collected for water chemist	ry? (Y/N): 📈 (Note lab s	ample no <i>o</i> rid, and atta	ch results) Lab Number:
Field Measures: Temp (*C) <u>M [3</u>]	issolved Oxygen (mg/)	с	_ Conductivity (umhos/em) _ $\sim l^{\Lambda}$
is the sampling reach representative of th	e streem (Y/N) lf not, pl	aase axplain:	
Additional comments/description of polluti	on impacts:	in Allania	4.7
BIOTIC EVALUATION			
Performed? (Y/N): (If Yes, Re ID number	cord all observations. Voucher o . Include appropriate field data s	elections optional. NOTE hests from the Primary H	E all voucher tamples must be labeled with the sit advater Habital Assessment Manual)
Fish Observed? (Y/N) <u>N</u> Voucher? Frogs or Tadpoles Observed? (Y/N) <u>M</u>	(Y/N) Selemenders Obs Voucher? (Y/N) Aquatic	erved? (Y/N) <u>/V</u> Vo Macroinvertebrates Obs	ucher? (YAN) erved? (YAN) Voupher? (YAN)
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





June 20, 2008, Revision

. . . . _ _ . . .

Original Primary Heads SITE NAMERLOCATION Control (1000) SITE NUMBER_513-1 SITE NUMBER_513-1 LENGTH OF STREAM REACH (1) 200 DATE 2-5 (2001) CAT. 90, DATE 2-5 (2001) SCORER NOTE: Complete All Items On This Form - Refer STREAM CHANNEL INONE / NATURAL CH MODIFICATIONS:	Water Habitat Evalua HHEI Score (DRAINAGE AREA (mi ²) DRAINAGE AREA (mi ²) ER CODE RIVER MILE > RIVER MILE Ohio's PHWH Streams" for Instructions OVERING RECENT OR NO RECOVERY
1. SUBSTRATE [Estimate percent of every type of (Max of 40). Add totel number of significant substreements of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of significant substreements and totel number of substreements and tot	Subsirale present. Check ONLY two Ite types found (Max of 8). Final metric TOPE SILT (3 pl) LEAF PACKWOODY FINE DETRITUS (3 pl CLAY or HARDPAN ARTIFICIAL (3 pls) (A) (PES: TOTAL NUMBER	Predominant substrate TYPE boxes score is sum of boxes A & B. PERCENT 70 DEBRIS [2 pts] ris] (B) R OF SUBSTRATE TYPES: HHEI Metric Points Substrate Max = 40 / 2 A + B
 Z. Maximum Pool Depth (Neesure the maximum p evaluation. Avoid plunge pools from road pulveris (> 30 centimeters [20 pts] > 22.5 - 30 cm (30 pts] > 10 - 22.5 cm [25 pts] COMMENTS	ool depth within the 61 meter (200 f(or storm water pipes) (Check ONLY > 5 cm - 10 cm (15) < 5 cm [5 pts] NO WATER OR MO MAXIMUM PC MAXIMUM PC (Chec > 1.0 m - 1.5 m (> 3 < 1.0 m (< 3 37) [5 pts]	Prob Depth Seveluation reach at the time of some box). xts] IST CHANNEL [0 pts] SOL DEPTH (centimaters): xt any [15 pts] xt any [15 pts]
CONINENTS	AVERAGE 8	
This RIPARIAN ZONE AND FLOODPLAIN OUX RIPARIAN WIDTH FLOOD L R (Per Bank) L R L R (Per Bank) L R L Wide >10m Image:	s Information <u>must</u> also be complete ALITY ANOTE: River Left (L) and <u>DPLAIN OUALITY</u> (Most Predominant per Bank) Mature Forest, Wetland Immature Forest, Shrub or Old Field Residential, Park, New Field Fenced Pasture Check ONLY one box? Moist Chenr fiel) Dry channel (Check ONLY one 2.0 2.0 2.5	d Right (R) as looking downstreams? Image: Conservation Tillage Image: Discrete Times I
STREAM GRADIENT ESTIMATE	derate (2 0/00 t) O Moderate (o Severe Severo 110 M100 M

ADDITIONAL STREAM INFORMATION (This Information Must Also be C	Completed):
QHEI PERFORMED? - U Yes DYND OHEI Score	(If Yes, Altach Completed QHE! Form)
DOWNSTREAM DESIGNATED USE(S)	Olimi
D WWOH Name: <u>Kips Koon</u>	Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>Entire</u>	WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadranole Name: (*** - + 1 H J	CS Soil Map Page: — NRCS Soil Map Stream Order
County:Township/	icity (ariel/ an
NISCELLANEOUS	
Base Flow Conditions? (Y/N): \mathcal{W} Date of last precipitation: \mathcal{M} \mathcal{A}_{i} Photograph Information: $\mathcal{A}_{i} + \mathcal{A}_{i}$	0,57
Elevated Turbidity? (Y/N): Canopy (% open):	-
Were samples collected for water chemistry? (YAI): (Note lab sam	ple no. or id. and attach results) Lab Numbor.
Field Measures: Temp (*C) <u>F //}</u> Dissolved Oxygen (mg/) <u>F //-</u>	_pH (S.U.)/.) _Conductivity (µmhos/em)//2/
is the sampling reach representative of the stream (YAN) \underline{Y} . If not, pleas	se explain:
Additional comments/description of pollution impacts: $\frac{1}{2\pi^2 m_D^2} \int_{C^2 D}$. RA S. fields
	<u></u>
BIOTIC EVALUATION	
Performed? (Y/N) (If Yes, Record all observations. Voucher colle ID number. Include appropriate field data sher	ections ophonal. NOTE: all voucher samples must be labeled with the r ets from the Primary Headwater Habitat Assessment Manual)
Fish Coserved? (Y/N) Voucher? (Y/N) Selamenders Observ Frags or Teldpoles Observed? (Y/N)Y Voucher? (Y/N) Aqualic Ma	ved? (Y/N) Voucher? (Y/N) acroinvertebrates Observed? (Y/N)/ Voucher? (Y/N)

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

F

Firlt Brinting - Rt A. For 12 (reh) (noternithed Firlt FLOW For of

June 70, 2008, Revision
ChieEPA Primary Headwater Habitat Evaluation Form

33

SITE NAMEAOCATION	(AND - LINT, P.F.) And DRAINAGE AREA (MI) </th <th></th>	
LENGTH OF STREAM REACH (R) 200 L	AT. YU, LAY LONG. YLUXY RIVER CODE RIVER MILE	
DATE 15 Av (D.II) SCORER (D. IN VISI	the COMMENTS indication to dive it that to	
NOTE: Complete All hems On This Form	 Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct 	tions
STREAM CHANNEL ONONE / NATU	IRAL CHANNEL DIRECOVERED DIRECOVERING DIRECENT OR NO RECOV	ERY
MODIFICATIONS:		
1. SUBSTRATE (Estimate percent of every (Max of 40). Add total number of significan	y type of substrate present. Check ONLY two predominant substrate 7YPE boxes at substrate types found (Max of 6). Final metric score is sum of boxes A & B ROENT TYPE PERCENT	HHE) Metric
Image: state state state state state state		Points
		Substrate Max = 40
COBBLE (65-256 mm) [12 pls]		
GRAVEL (2-64 mm) [9 pts] ☐ □ SAND (<2 mm) [6 ptn]		13
Total of Percentages of Bidr Stabs, Boulder, Cobbia, Badrock		A+ 6
SCORE OF TWO MOST PREDOMINATE SUBST	RATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:	
 Maximum Pool Depth (Bleasure the max evaluation Avrid plunge pools from read p 	ximom pool depth within the 61 meter (200 ft) evaluation reach at the time of culveds or storm water pipes) (Check ONLY one box):	Pool Depth Max = 30
> 30 centimeters (20 pts)	□ > 5 cm - 10 cm [15 pts] □ - 5 cm [5 cm]	
□) > 22 5 + 30 cm [30 prs] [] > 10 - 22.5 cm [25 pis]		2
COMMENT8	MAXIMUM POOL DEPTH (continueters):	
3. BANK FULL WIDTH (Measured as the a	werage of 3-4 measurgments) (Check OWLY one box):	Banistuli
→ 4.0 meters (> 13) [30 pt a] → 3.0 m - 4.0 m (> 97 7 - 13) [25 pt a]	. IOm (≤ 3'3', 4'8') (15 pis) (□ ≤ 1.0 m (≤ 3'3') (5 pis)	Width Mare 30
> 1.5 m - 3.0 m (> 4* 6* - 9* 7*) [20 pts]	tu r	15
COMMENTS	AVERAGE BANKFULL WIDTH (meters)	
·····	Tate Information must also be completed	
RIPARIAN ZONE AND FLOODPL	AIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstreams	
L_R_/ (Per Bank)	LR (Most Predominant per Bank) L R	
⊡⊡7 Wide>10m	Meture Forest, Wetland L.) Conservation 104ege mmature Forest, Shrub or Old mmature Forest, Shrub or Old	
JLJ Moderste 5-10m	Field	
□ □ Nerrow <5m	C Residential, Park, New Field Crop	
COMMENTS	Fenged Pasture	
FLOW REGIME (At Time of Evaluation)	zation] (Check ONLY on a box):	
Stream Flowing Subsurface flow with isolated pools COMMENTS	s (Interstitial) Moist Channel, isofated pools, no flow (Intermittent) Dry channel, no writer (Ephemeral)	
SINUOSITY (Number of bends at	r 61 m (200 ft) of channel) _[Check ONLY one box):	
SINUOSITY (Number of bendspec None D G 0.5	ar 61 m (200 ft) of channel) (Check ONLY one box): 1.0 □ 2.0 □ 3.0 1.5 □ 2.5 □ >3	
SINUOSITY (Number of bends pro None 0.5 STREAM GRADIENT ESTIMATE	er 51 m (200 ft) of channel) (Check ONLY one box): 1.0	
SINUOSITY (Number of bends per None 0.5 STREAM GRADIENT ESTIMATE Flet (0.5 m) Fiet to Moderate	er 63 m (200 ft) of channel) (Check ONLY one box): 1.0 2.0 15 2.5 Moderate (2: b) (00 n) Moderate to Severe	ń;

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):	
GHEI PERFORMED? - 🗍 Yes 🗹 No. GHEI Score (If Yes, Attach Completed OHEI Form)	
/ DOWNSTREAM DESIGNATED USE(S)	1.4
🖬 WWH Name: 🖉 🖓 👘 🖉 Distance from Evaluated Stream 🛄	(1.1. m)
CWN Name: Distance from Evaluated Stream	
🗇 EWK Name: Distançe from Evaluated Straam	
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE LOCA	ATION
USGS Quadrengle Name: NRCS Soil Map Page: NRCS Soil Map Stream C	×der
County Count Co	
MISCELLANEOUS	
Base Flow Conditions? (Y/N) <u>Y</u> Date of last precipitation: <u>J + Apr. 1 J + 13</u> Quantity <u>C.57</u>	
Photograph Information:	
Eleveled Turbidhy? (Y/N): Canopy (% open):	
Were samples collected for water chemistry? (Y/N): (Note tab sample no. or id. and attach results) Lab Number	
Field Measures: Temp ("C) Dissolved Oxygen (mg/) $\frac{\sqrt{2}/2}{2}$ pH (S.U.) $\frac{\sqrt{2}/2}{2}$ Conductivity (µmhos/om) $\frac{\sqrt{2}}{2}$,
is the sampling reach representative of the stream (Y/N) $\underline{\chi}$. If not, piease exclain:	
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N):	ded with the sile sal)
Fish Observed? (Y/N) Voucher? (Y/N) Selemenders Observed? (Y/N)/ Voucher? (Y/N) Frogs of Tadpoles Observed? (Y/N)/ Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N)_/ Voucher? (Y/	N) <u>, 74.</u>
Comments Regarding Biology. <u>Plysoden Terver</u>	

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

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

The shalls the stand ð FLOW Indemittent. Sil Back 4

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

	14 RIVER BASIN PIR AND DRAINAGE AREA (mi?)	clm.2
LENGTH OF STREAM REACH (1) 242 L DATE 25 JUNI 2015 SCORER C. V. 1100	LAT. <u>40.5034</u> LONG. <u>* 11.3549</u> RIVER CODE RIVER MILE /* ^{Comments}	
NOTE: Complete All Items On This Form		TUCTIONS
	URAL CHANNEL O RECOVERED O RECOVERING O RECENT OR NO RE	COVERY
MODIFICATIONS:		
4 CURSTRATE / Fellmade narcent of even	w two of substrate present. Check OALY two predominant substrate TYPE boxes	
(Max of 40). Add total number of significan	ni substrate types found (Max of 8). Final metric score is sum of boxes A & B	HHEI Metric
TYPE PED BLDR SLABS (16 pts)		Points
□ □ BOULDER (>256 mm) [16 pts]		Substrate
COBBLE (65-256 mm) (12 phs)		
GRAVEL (2-64 mm) [9 pts] G G SANO (<2 mm) [6 pts]		15
Total of Percentages of	(A) (B) 2	A+B
Bith Slabs, Baulder, Cablie, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTI	TOTAL NUMBER OF SUBSTRATE TYPES:	6
2. Maximum Pool Depth (Measure the max	eximum pool depth within the 61 mater (200 ft) evaluation reach at the time of	Pool Depth
evaluation. Avoid plunge pools from tosid (> 30 confirmeters [20 pis]	culventsorstorm waterpipes) (Check ONLY one boos): □> > 5 cm - 10 cm [15 pm/s]	Max = 30
> 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]		5
	AXINUM POOL DEPTH (conlimeters);	╏╎╵┲══┻╹
1 DAWN SULL MICTH Measured as the a	www.soe.of 9-4 measurements) ICheck OALY pre-buxi:	Bankfuli
3. BANK FULL WIOTH (Measured as life a 2.4.0 meters (> 13) [30 pts] 2.2.0 - 4.0 meters (> 13) [30 pts]	average of 3-4 measurements) [Check OALY one box):	Banktuli Width Max=30
3. BANK FULL WIOTH (Neasured as the a	average of 3-4 measurements) [Check ONLY one box]: □ > 10 m - 1.5 m (> 3 3" - 4"67) [15 pte] □ ≤ 1.0 m (≤ 3 37) [5 pte]	Bankfuli Width Naz=30
3. BANK FULL WIOTH (Neasured as the a 2. 4,0 meters (> 13) [20 pts] 3.0 m + 4 0 m (> 6' 7' - 13') [25 pts] 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS	average of 3-4 measurements) [Check ONLY one box):	Bankfuli Width Naz=30
3. BANK FULL WIOTH (Neasured as the a 2.4,0 meters (> 13) [20 pts] 3.0 m + 4 0 m (> 6' 7" - 13') [25 pts] 3.0 m (> 4' 6" - 6' 7") [20 pts] COMMENTS	average of 3-4 measurements) (Check ONLY one box): □ / > 10 m - 1.5 m (> 3'3'' + 4'5') (15 pte) □ ≤ 1.0 m (≤ 3'3') (5 pte) AVERAGE BANKFULL WIDTH (melers) This information must also be completed	Bankfuli Width Maz=30
3. BANK FULL WOTH (Neasured as the a	average of 3-4 measurements) [Check ONLY one box): □ > 10 m < 1.5 m (> 3' 3' · 4' 5') [15 pte] □ > 10 m (< 3' 3') [5 pte]	Bankfuli Width Naz=30
3. BANK FULL WIOTH [Neasured as the a > 4,0 meters (> 13) [20 pts] > 3.0 m + 4 0 m (> 6' 7'- 13') [25 pts] > 1,5 m + 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS RIPARIAN 20NE AND FLOODPL RIPARIAN VIDTH L R (Per Benk)	average of 3-4 measurements) [Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3" · 4" 5") [15 pte] □ < 1.0 m (< 3' 3") [5 pte]	Bankfuli Width Maz=30
3. BANK FULL WOTH (Neasured as the a	average of 3-4 measurements) [Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' · 4' 5') [15 pte] □ > 10 m (> 3' 3' · 4' 5') [15 pte] □ ≤ 1.0 m (< 3' 3') [5 pte]	Bankfuli Width Maz=30
3. BANK FULL WIOTH [Neasured as line a > 4,0 meters (> 13) [20 pts] > 3.0 m + 0 m (> 6* 7*- 13*) [25 pts] > 1.5 m + 3.0 m (> 4* 6* - 6* 7*) [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) I Wide >10m I Moderate 5-10m	average of 3-4 measurements) [Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' · 4' 5') (15 pte) □ > 10 m (≤ 3' 3') (5 pte) □ ≤ 1.0 m (≤ 3' 3') (5 pte) □ AVERAGE BANKFULL WIOTH (meters) □	Bankfuli Width Maz=30
3. BANK FULL WOTH (Neasured as the a	average of 3-4 measurements) [Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' · 4' 5') [15 pte] □ > 10 m (> 3' 3' · 4' 5') [15 pte] □ ≤ 1.0 m (< 3' 3' · 4' 5') [15 pte]	Bankfuli Width Maz=30
3. BANK FULL WOTH (Neasured as the a > 4,0 meters (> 13) [D0 pts] > 3.0 m · 4 0 m (> 6' 7'- 13') [25 pts] > 1.5 m · 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Benk) O Moderate 5-10m O Nancev <5m	average of 3-4 measurements) (Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' · 4' 5') (15 pte) □ > 10 m (≤ 3' 3') (5 pte) □ ≤ 1.0 m (≤ 3' 3') (5 pte) □ AVERAGE BANKFULL WIOTH (meters) □ ANOTE: River Left (L) and Right (R) as kooking downstreamfs FLCODPLAIN QUALITY L R □ Henture Forest, Shub or Old □ □ Inmature Forest, Shub or Old □ Urban or Industrial □ Residential, Park, New Field □ Open Pasture, Row □ Fenced Pasture □	Bankfuli Width Maz=30
3. BANK FULL WIOTH [Measured as the a > 4,0 meters (> 13) [20 pts] > 3.0 m + 4 0 m (> 6' 7'- 13') [25 pts] > 1.5 m + 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS	average of 3-4 measurements) (Check ONLY one box): □ > 1 0 m - 1.5 m (> 3' 3' · 4' 5') (15 pte) □ > 1 0 m (< 3' 3') [5 pte)	Bankfuli Width Maz=30
3. BANK FULL WOTH (Measured as the a	average of 3-4 measurements) [Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' - 4' 5') [15 pte] □ > 10 m (> 3' 3' - 4' 5') [15 pte] □ ≤ 1.0 m (< 3' 3' - 4' 5') [15 pte]	anktuli Width Maz=30
3. BANK FULL WOTH (Measured as the a > 4.0 meters (> 13) [20 pts] > 3.0 m + 0 m (> 6' 7'- 13') [25 pts] > 1.5 m + 3.0 m (> 4' 6'- 6' 7') [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPL <u>RIPARIAN WIDTH</u> L R (Per Bank) U Wide >10m Moderate 5-10m Moderate 5-10m Narrow <5m None COMMENTS / FLOW REGIME (At Time of Evalue Stream Flowing Subsurface flow with isolated pools COMMENTS 	average of 3-4 measurements) (Check ONLY one box): □ > 10 m - 1.5 m (> 3' 3' - 4' 5') (15 pte) □ > 10 m (> 3' 3' - 4' 5') (15 pte) □ ≤ 1.0 m (≤ 3' 3') (5 pte) □ AVERAGE BANKFULL WIDTH (meters) □ Avist Channel Right (R) as kooking downstream for FL □ Meature Forest, Shub or Old □ □ New Field □ Open Pasture, Row Crop □ Fenced Pasture □ Maining or Construct Walton) □ Avist Channel, isolated pools, no flow (intermittis an indust (intermittis an indust (intermittis an indu	ant)
3. BANK FULL WOTH (Neasured as the a 2. A,0 meters (> 13) [20 pts] 2. S.0 m + 0 m (> 6' 7'- 13') [25 pts] 2. S.0 m + 0 m (> 6' 7'- 13') [25 pts] 2. COMMENTS 2. COMMENTS 2. COMMENTS 2. COMMENTS 3. RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH 1. R (Per Bank) 3. Wide >10m 3. Moderate 5-10m 3. Moderate 5-10m 3. None COMMENTS 3. None COMMENTS 3. FLOW REGIME (At Time of Evalue 3. Stream Flowing 3. Subsurface flow with isotated pook COMMENTS 3. Subsurface flow with isotated pook COMMENTS 3. None COMMENTS 3. NONE 3. NONE 3. NONE 3. NONE 3. NONE 3. NONE 3. NONE 3. NONE 3. N	average of 3-4 measurements) (Check ONLY one box): □ > 10 m - 1.5 m (> 3'3' - 4'5') (15 pte) □ > 10 m (≤ 3'3') (5 pte) □ ≤ 1.0 m (≤ 3'3') (5 pte) □ AVERAGE BANKFULL WIOTH (meters) □ AVENOTE: River Left (L) and Right (R) as kooking downstreamfr FLOODPLAIN QUALITY \$\frac{1}{2}\$ PNOTE: River Left (L) and Right (R) as kooking downstreamfr FLOODPLAIN QUALITY \$\frac{1}{2}\$ PNOTE: River Left (L) and Right (R) as kooking downstreamfr FLOODPLAIN QUALITY \$\frac{1}{2}\$ PNOTE: River Left (L) and Right (R) as kooking downstreamfr □ Network (Row Cooking (Row Cooking (Row Cooking (Row Cooking (Row Cooking (Row Cooking (Row Cooking (Row Cooking (Row Cok	Bankfuli Width Maz=30
3. BANK FULL WOTH (Neasured as the a > 4.0 meters (> 13) [20 pts] > 3.0 m + 0 m (> 6' 7' - 13') [25 pts] > 1.5 m + 3.0 m (> 4' 6' - 6' 7') [20 pts] COMMENTS COMMENTS RIPARIAN 20NE AND FLOODPL <u>RIPARIAN WIDTH</u> L R (Per Bank) U R (Per Bank) Wide >10m Moderate 5-10m Moderate 5-10m Narrow <50 None COMMENTS FLOW REGIME (At Time of Evalue Stream Flowing Subsurface flow with isolated pook COMMENTS <u>None</u> COMMENTS <u>None</u> Subsurface flow with isolated pook COMMENTS <u>None</u> Subsurface flow with isolated pook COMMENTS <u>None</u> COMMENTS <u>None</u> C	average of 3-4 measurements) (Check ONLY one box): □ > 10 m - 1.5 m (> 3 3' - 4' 5') (15 pte) □ > 10 m (> 3 3' - 4' 5') (15 pte) □ ≤ 1.0 m (< 3' 3') (5 pte)	Bankfuli Width Maz=30 5
3. BANK FULL WOTH [Measured as the a > > 4,0 meters (> 13) [D0 pts] > > 3.0 m + 4 0 m (> 6 7 - 13) [D5 pts] > > 1.5 m + 3.0 m (> 4*6* - 6*7*) [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPL RIPARIAN ZONE AND FLOODPL RIPARIAN WIDTH L R (Per Bank) O Moderate 5-10m Moderate 5-10m O Nanew <5m	average of 3-4 measurements) (Check ONLY one box): □ > 10 m - 1.5 m (> 3'3' - 4'5') (15 pte) □ > 10 m (≤ 3'3') (5 pte) □ ≤ 1.0 m (≤ 3'3') (5 pte) □ AVERAGE BANKFULL WIOTH (meters) □ Average of Bank) L □ Noterret Forest, Shrub or Old □ □ Heature Forest, Shrub or Old □ □ Residential, Park, New Field □ Open Pasture, Row Crop □ Banking or Construct Maxing or Construct Wablon) (Check ONLY one box): 10	mit)

ADDITIONAL STREAM INFORMATION (This information Must Also be Completed):
GHEI PERFORMED7 - 🗖 Yes 🍠 No - OHEI Score(Il Yes, Allach Completed OHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Producted Stream CWH Name: Producted Stream CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream Distance from Evaluated Stream Dewin Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSKED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quedrangle Name: (4rs.1) for NRCS Soil Map Page: NRCS Soil Map Stream Order
County. County. (0. Township / Qity. County 1997
MISCELLANEOUS
Base Flow Conditions? (Y/N). <u>Y</u> Date of last precipilation: <u>29</u> April <u>Jul3</u> Quantity: <u>0.57</u>
Photograph Information:6 1 4. / Jul
Elevated Turbidity? (Y/N): Canopy (% open)3/2
Were samples collected for water chemistry? (Y/N):/V (Note lab sample no. or id. and attach results) Lab Number
Field Measures: Temp (*C) <u>NP</u> Dissolved Oxygen (mgl) <u>VP^2</u> pH (S.U.) <u>NP</u> Conductivity (µmhos/cm) <u>$VP^{\frac{1}{2}}$</u>
Is the sampling reach representative of the stream (YAI) 7 If not, please explain
Additional comments/description of polution impacts:
BIOTIC EVALUATION
Performed? (Y/N):
Fish Observed? (YAN)
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



......

APPENDIX D

PHOTOGRAPHS OF THE SITE



Photo 1 PEM Wetland A, located within the north-central portion of the Study Area, looking east, with abutting Stream 2 in background.



Photo 2 PEM Wetland B, located within the eastern portion of the Study Area, at toe-of steep slope and abutting unnamed tributary of Pipes Fork (Stream 10), looking south.



Photo 3 PEM Wetland C, located within the east-central portion of the Study Area in a historic, diversion, side slope ditch, looking north.



Photo 4 Wetland D, located within the east-central portion of the Study Area in a historic, diversion, side slope ditch, looking south.



Photo 5 PEM Wetland E, located adjacent to the south-central portion of the Study Area abutting Stream 4, looking north.



Photo 6 PEM Wetland F, located adjacent to the south-central portion of the Study Area, looking north.



Photo 7 PEM Wetland G, located within the north-central portion of the Study Area, looking north.



Photo 8 PEM Wetland H, located within the north-central portion of the Study Area, looking north from bank of abutting Stream 7.



Photo 9 PEM Wetland I, located within the eastern portion of the Study Area, at toe-of steep slope and abutting Stream 9 and Stream 10, looking south.



Photo 10 PEM Wetland J, a marginal drainageway/depression located within the eastern portion of the Study Area, looking southwest toward confluence with abutting Stream 10.



Photo 11 PSS Wetland K, marginal depression on steep slope adjacent to Stream 10, looking south within the eastern portion of the Study Area.



Photo 12 PEM Wetland L, marginal depression on steep slope adjacent to Stream 10, looking south within the eastern portion of the Study Area.



Photo 13 PEM Wetland M, located within the eastern portion of the Study Area Stream 10, looking southwest.



Photo 14 PEM Wetland N, located within the southeastern portion of the Study Area abutting Stream 10, looking west from head of adjacent slope.



Photo 15 PSS Wetland O, located within the northern portion of the Study Area, looking northeast.



Photo 16 PEM Wetland P, located within the southwestern portion of the Study Area abutting Stream 13 and Stream 14, looking west.



Photo 17 PEM Wetland Q, located within the southwestern portion of the Study Area abutting Stream 13, looking east.



Photo 18 PEM Wetland R, located within the southwestern portion of the Study Area abutting Stream 13, looking north.



Photo 19 Stream 1, ephemeral unnamed tributary (UNT) of Pipes Fork, looking south from access road.



Photo 20 Stream 2, intermittent, UNT of Pipes Fork, looking southeast.



Photo 21 Stream 3, ephemeral UNT of Pipes Fork, looking east toward collapsed culvert adjacent to Mobile Road NE.



Photo 22 Stream 4, ephemeral UNT of Pipes Fork, looking south.



Photo 23 Stream 5, ephemeral UNT of Pipes Fork, looking west across channel.



Photo 24 Stream 6, ephemeral UNT of Pipes Fork, looking north.



Photo 25 Stream 7, showing upper reach of intermittent UNT of Pipes Fork, looking east.



Photo 26 Stream 7, showing lower reach of intermittent UNT of Pipes Fork, looking west.



Photo 27 Stream 8, ephemeral UNT of Pipes Fork, looking east across channel.



Photo 28 Stream 9, ephemeral UNT of Pipes Fork within the eastern portion of the Study Area, looking west.



Photo 29 Perennnial UNT of Pipes Fork (Stream 10), looking north.



Photo 30 Intermittent UNT of Pipes Fork (Stream 11) within the eastern portion of the Study Area, looking west.



Photo 31Upper reach of ephemeral Stream 12 a UNT of Pipes Fork located within the northern
portion of the Study Area in between two (2) agricultural fields, looking north.



Photo 32 Lower reach of ephemeral Stream 12 a UNT of Pipes Fork, looking north.



Photo 33 Ephemeral portion of Stream 13 a UNT of Pipe Run, looking west.



Photo 34 Intermittent portion of UNT of Pipe Run (Stream 13), looking east.



Photo 35 Stream 14, ephemeral UNT of Pipe Run, looking south.

APPENDIX E

HYDRIC SOILS LIST

map unit symbol	map unit name	component name and phase	percent composition	landforms
BnD	Bethesda channery clay loam, 8 to 25 percent slopes	poorly drained soils	5	Depressions
BnF	Bethesda channery clay loam, 25 to 70 percent slopes	poorly drained soils	5	Depressions
BoF	Bethesda channery silty clay loam, 25 to 70 percent slopes	poorly drained soils	10	
Ek	Elkinsville silt loam, rarely flooded	Peoga	5	Depressions
FaD	Fairpoint channery clay loam, 8 to 25 percent slopes	poorly drained soils	5	Depressions
FbA	Fitchville silt loam, 0 to 2 percent slopes	poorly drained soils	10	Depressions
FbB	Fitchville silt loam, 2 to 6 percent slopes	Sebring	5 Drainageways	
FcA	Fitchville silt loam, 0 to 3 percent slopes	Flood pool areas	5	Flood plains
FcA	Fitchville silt loam, 0 to 3 percent slopes	Sebring	5	Depressions
FcB	Fitchville silt loam, 3 to 8 percent slopes	Flood pool areas	3	Flood plains
FcB	Fitchville silt loam, 3 to 8 percent slopes	Sebring	6	Depressions
GeB	Glenford silt loam, 2 to 6 percent slopes	poorly drained soils	5	Depressions
GfB	Glenford silt loam, 3 to 8 percent slopes	Areas of poorly drained soils	5	Depressions
GfC	Glenford silt loam, 8 to 15 percent slopes	Areas of poorly drained soils	5	Depressions
GhC	Glenford silt loam, 6 to 15 percent slopes	poorly drained soils	5	Hills
HkA	Holly silt loam, 0 to 2 percent slopes, frequently flooded	Holly	95	Flood plains
Но	Holly silt loam, ponded	Holly	90	Flood plains
Но	Holly silt loam, ponded	Flood pool areas	3	Flood plains
JwA	Jimtown silt loam, 0 to 3 percent slopes	poorly drained soils	5	Depressions
LbB	Library Variant silt loam, 3 to 8 percent slopes	Poorly drained soils	3	Draws
Lo	Lorain silty clay loam, silty substratum	Lorain	95	Terraces
Lo	Lorain silty clay loam, silty substratum	Sebring	5	Depressions
MrD	Morristown shaly silty clay loam, 8 to 25 percent slopes	Poorly drained soils	5	Depressions
Or	Orrville silt loam, occasionally flooded	Holly	5	Flood plains
OvA	Orrville silt loam, 0 to 2 percent slopes, occasionally flooded	Holly	5	Flood plains
Ре	Peoga silt loam, rarely flooded	Peoga	85	Terraces
Ре	Peoga silt loam, rarely flooded	Flood pool areas	5	Flood plains
Sb	Sebring silt loam	Sebring	85	Terraces
Sb	Sebring silt loam	Lorain	5	Depressions
Sg	Sebring-Urban land complex	Sebring	50	Drainageways

APPENDIX F

RESUMES

MICHAEL J. MUSSOMELI, PWS ENVIRONMENTAL SCIENTIST IV PITTSBURGH, PA

EDUCATION:	B.S., Natural Resources Management, Rutgers University, Jan. 1999
CERTIFICATIONS/ REGISTRATIONS:	Professional Wetland Scientist, PWS No. 2179
TRAINING:	Wetlands Delineation Certificate-Rutgers Professional Continuing Education, 2000 Endangered Species of New Jersey-Rutgers Professional Continuing Education, 2001 Advanced Techniques in Wetland Delineation- Massachusetts Conservation Commission, 2003 Hydrology of Wetlands- Rutgers Professional Continuing Education, 2005 Ecological Restoration Symposium- NJ Pinelands Nursery, 2006 Maryland State Highway Administration Soil Erosion and Sediment Control Training -MDE Introductory Training: June 2007 -Basic Erosion and Sediment Control Class: July 2007 -Recertification: October 2011 Identification of Freshwater Wetland Sedges, Grasses, and Rushes- Institute for Wetland and Environmental Education and Research, September 2007 Planning, Site Selection, and Hydrology Models for Constructed Wetlands- Wetlands Training Institute, September 2008 Wetland- Construction Design- Rutgers Continuing Education, December 2009 40 Hour HAZWOPER Health and Safety Training, March 2012

EXPERIENCE SUMMARY:

Michael Mussomeli is an environmental scientist with experience in wetland ecology, wildlife surveys, vegetation sampling, and construction monitoring throughout the northeast. Mike has performed hundreds of wetland delineations as well as numerous wildlife surveys and habitat assessments. He has provided environmental consultation to clients in the public and private sectors to ensure compliance with local, state, and federal environmental regulations and ordinances, guidance through the environmental permitting process, and minimization of impacts to aquatic and terrestrial resources. This permitting, documentation, and guidance includes the preparation of 404 and related state and local permits, environmental impact statements, GIS screenings, National Environmental Policy Act documentation, and preparation of other environmental reports.

PROJECT EXPERIENCE:

Senior Environmental Scientist; MarkWest Liberty Midstream and Resources, LLC; Various Gas Pipeline Projects; Washington, Greene, and Fayette Counties, PA; January 2012 to present. Conducted wetland delineations for over twenty (20) gas pipeline projects, totaling over 50 miles of right-of-way. Also prepared wetland delineation and stream assessment reports for each project in support of PASPGP-3 submissions.

Senior Environmental Scientist; Multiple Award Remediation Contract; Rock Island Arsenal Remediation Project; Rock Island, Illinois. March 2012- April 2012. Conducted wetland delineation on 20-acre landfill site in support of remediation activities. Also prepared a wetland report detailing findings for submission to USACE in support of permit requirements.

Senior Environmental Scientist; MarkWest Liberty Midstream and Resources, LLC; Boy Scout Camp Pipeline; Harrison County, Ohio; May 2012 to July 2012. Mr. Mussomeli led a team that conducted a wetland delineation, performed Ohio Rapid Assessment Method, and stream evaluation for Ohio a 3.5-mile pipeline. Mike also assisted in preparation and submission of preconstruction notice for Nationwide Permit 12 for the project.

Senior Environmental Scientist; U.S. Environmental Protection Agency; Sauer Dump Site; Baltimore County, Maryland. February 2012- April 2012. Conducted wetland delineation on 2.50-acre site in support of Superfund listing for hazardous waste site in Dundalk, Maryland. Also prepared wetland report detailing for submission to USEPA and responsible party.

Senior Environmental Scientist; Enervest Operating, LLC; Phase I Indiana Bat Assessment; Stark and Tuscarawas Counties, Ohio; May 2012 to July 2012. Conducted a Phase I habitat assessment for Indiana bat (*Myotis sodalis*) along a 1.5-mile corridor for proposed gas pipeline. Mr. Mussomeli also prepared a report of findings for submission to U.S. Fish and Wildlife Service for concurrence.

Senior Environmental Scientist; Chevron Appalachia, LLC; Wetland Delineation and Habitat Assessments for Water Withdrawal Activities; Various locations, Fayette, Greene, and Westmoreland Counties; January 2012 to present. Conducted wetland delineations and habitat assessments in support of water withdrawal activities. Mr. Mussomeli also prepared reports summarizing results of onsite resources as well as summarizing impacts associated with proposed activities. Habitat assessments/surveys at various sites for endangered, threatened, and species of special concern included Allegheny woodrat (*Neotoma magister*), heartleaf meehania (*Meehania cordata*), wild oats (*Chasmanthium latifolium*), purple rocket (*Iodanthus pinnatifidus*), harbinger-of-spring (*Erigenia bulbosa*), and white trout lily (*Erythronium albidum*).

Senior Environmental Scientist; Williams/Laurel Mountain Midstream Operations, LLC; Dunlap Creek Botanical Survey and Habitat Assessment; Luzerne and Redstone Townships, Fayette County, PA; June 2012 to July 2012. Conducted survey and habitat assessment for State-endangered tall larkspur (*Delphinium exaltatum*) along 3.5-mile corridor for proposed gas pipeline. Mr. Mussomeli also prepared a report of findings for submission to Pennsylvania Department of Conservation and Natural Resources.

Senior Environmental Scientist; Pennsylvania Department of Transportation; Tub Mill Run Bridge Replacement Project/Casselman River Bridge Replacement Project; Township of Elk Lick and Borough of Salisbury, PA; September 2010 to October 2011. Conducted wetland delineations and field investigations for two (2) bridge replacement/rehabilitation projects: SR 0669 over Casselman River and SR 0069 over Tub Mill Run. Mr. Mussomeli also prepared wetland reports for each project.

Senior Environmental Scientist; South Jersey Transportation Authority; Atlantic City International Airport Grassland Restoration and Invasive Species Control Project; Township of Egg Harbor, NJ; May 2005 to September 2008. Responsible for vegetation monitoring as part of Habitat Evaluation Procedure (HEP) for management of airport lands for grassland habitat restoration to enhance habitat for State threatened grasshopper sparrow (*Ammodramus savannarum*), State endangered upland sandpiper (*Bartramia longicauda*) and control of invasive plant species [Chinese bush clover (*Lespedeza cuneata*)]. Also responsible for conducting survey for State threatened frosted elfin (*Collophrys irus*) and assisted in supplemental planting of frosted elfin larval host plant, wild indigo (*Baptisia tinctoria*), to enhance frosted elfin habitat.

Environmental Scientist; New Jersey Transit; Access to the Region's Core. Secaucus, NJ and New York City, NY; October 2006 to November 2007. Responsible for assisting in preparation of Draft Environmental Impact Statement (DEIS) for proposed construction of fourtrack right-of-way from Secaucus, NJ to New York City, with a portion of the 9.3-mile project corridor bisecting the Meadowlands District. Responsibilities include preparation and review of technical reports, document preparation, subconsultant coordination/oversight, and agency coordination (Federal Transit Administration, NJDEP, USACE, NJ Meadowlands Commission).

Environmental Scientist; County of Monmouth (NJ); Monmouth County Bridges R4 and R7 Consolidated Coastal Wetland Mitigation Site; Township of Hazlet, Borough of Keyport, Borough of Union Beach, NJ. January 2006 to October 2007. Responsible for preparation of New Jersey Department of Environmental Protection (NJDEP) CAFRA, Waterfront Development Permit, and Coastal Wetland Permit and U.S. Army Corps of Engineers (USACE) Nationwide Permits for the replacement of Monmouth County Bridges R4 and R7. This also includes the development of the mitigation plan and NJDEP approval for the R4 Consolidated Mitigation Site, which is proposed to be utilized as mitigation credit for R4, R7, and up to eight other bridge replacement/rehabilitation projects.

Project Manager; Maryland State Highway Administration; MD 328 over Tuckahoe Creek Bridge Replacement and Wetland Mitigation Project; Counties of Caroline and Talbot, MD; October 2007 to December 2011. As onsite environmental consultant to Maryland State Highway Administration (MDSHA), Mr. Mussomeli was responsible for wetland delineation and preparation of Joint Permit Application for USACE Individual Permit and Maryland Department of Public Works Tidal Wetlands License, as well as supervising wetland mitigation site searches and wetland mitigation design for bridge replacement project. Mr. Mussomeli also prepared Invitation for Bids and other advertisement documents on behalf of MDSHA.

Environmental Scientist; PSE&G; Route 1/9T Gas Line Replacement; City of Jersey City, NJ; April 2005 to August 2005. Responsible for environmental screening, including GIS background data search and field investigations, to assess environmental impacts and identify necessary permits for PSE&G gas line replacement in Jersey City.

Environmental Scientist; New Jersey Department of Transportation; Route 49/55 Interchange Improvement Project; City of Millville, NJ; May 2006 to March 2008. During preliminary design for this interchange improvement project, responsibilities included wetland delineation, preparation of Category Exclusion Document (CED) including Technical Environmental Study (Ecology), environmental justice, Section 4(f) compliance, and Section 10 Reforestation Determination. During final design, responsibilities include preparation and submission of Statewide General Permits 10A and 11 for minor road crossing and construction of an outfall structure within wetlands, wetland transition areas, and State open waters, and preparation of Environmental Report and Individual Flood Hazard Area Permit and Hardship Waiver. Mr. Mussomeli also coordinated mitigation strategies for impacts to riparian zone.

Environmental Project Manager; Maryland State Highway Administration; I-695 MD 26 (Liberty Road) and Milford Mill Road Interchange Improvements; Baltimore County, MD. December 2007 to August 2011. As an onsite consultant for Maryland State Highway Administration (MDSHA), Mr. Mussomeli delineated wetlands within the 2.5-mile project corridor, identified significant trees within the project limits, prepared a wetland delineation report, and coordinated permitting requirements for Stimulus-funded bridge and roadway improvement project.

Environmental Scientist; United Water New Jersey/United Water New York; Various Projects in Bergen and Ocean Counties, NJ and Rockland County, NY; March 2006 to October 2007. Mr. Mussomeli was client point of contact for assessment of wetlands and wildlife permitting and issues for site improvements at a multitude of locations in northern and central NJ and southeastern New York. Responsibilities included client coordination, field investigations to determine the regulatory impacts for proposed site improvements and preparation of necessary permits (if applicable), wetland identification and delineation, permit preparation and submission, agency coordination, tree survey and location by GPS, GIS screenings, and report preparation.

Environmental Project Manager; Maryland State Highway Administration; U.S. 40 over Patapsco River Bridge Rehabilitation Project. Baltimore and Howard Counties, MD. October 2007 to December 2011. As an onsite consultant for Maryland State Highway Administration, Mr. Mussomeli served as environmental project manager for large bridge rehabilitation project and was responsible for wetland delineation, development of permitting/design strategies to minimize environmental impacts, consultant oversight, and agency coordination for replacement of structurally deficient bridge within high volume traffic corridor. Mr. Mussomeli also conducted a survey for State-listed rare ostrich fern (*Matteuccia struthiopteris*).

Environmental Scientist; Bordentown Hospitality; Bordentown Hospitality Hotel and Amenities Project. Township of Bordentown, NJ; August 2005 to October 2007. Responsible for wetland delineation, preparation of wetland report and preparation of General Permit 10A and Transition Area Waiver for development of 38-acre parcel for hotel, restaurant, offices, and amenities.

Wetland Scientist; Grumpy's Restaurant; Grumpy's Site Expansion Project. Town of Dennis, MA; July 2003 to August 2003. Responsibilities included wetland delineation, preparation of wetland report, and preparation and submission of Notice of Intent for proposed restaurant expansion.

Environmental Project Manager; Maryland State Highway Administration; U.S. 50 over Sinepuxent Bay Bridge Replacement; Ocean City, MD; October 2007 to September 2011. Project manager responsible for wetland delineation, mitigation site search, DEIS review, agency coordination, and preparation of Preferred Alternatives for Conceptual Mitigation Report for future replacement of U.S. 50 bridge to Ocean City. Mr. Mussomeli proposed an alternative form of mitigation that consisted of contribution to Maryland Department of Natural Resources' Coastal Wetlands Initiative involving wetland enhancement through plugging ditches. Mr. Mussomeli coordinated with state and federal regulatory agencies for approval of this cost saving approach.

CHRONOLOGICAL WORK HISTORY:

Environmental Scientist IV; Tetra Tech, Inc.; Pittsburgh, PA, January 2012 – Present.

Senior Environmental Scientist; Parsons Brinkckerhoff; Princeton, NJ and Baltimore, MD, October 2004 – December 2011.

Environmental Scientist; Gravatt, Geller, and Associates; Freehold, NJ, April 2004 – October 2004.

Wetlands Specialist; A.M. Wilson and Associates; Marstons Mills, MA, (May 2003 - April 2004).

Natural Resource Specialist; Northeast Environmental Management Systems; Lodi, NJ, May 2002 – May 2003.

OTHER:

New Jersey Meadowlands Commission- Environmental Program Leader/Naturalist - Lead special events and presentations, including canoe and boat trips; hikes; nature interpretation; and programs on wetlands, wildlife, Meadowlands ecology, and beekeeping; professional development seminars for teachers; and design of educational museum exhibits at the Meadowlands Commission's Environment Center, in Lyndhurst, New Jersey.

Maryland Quality Initiative (MDQI)- On behalf of PB and MDSHA, performed education outreach program for elementary and high school students interested in engineering and science careers.

Allegheny woodrat (*Neotoma magister*) population study- Picatinny Arsenal, Morris County, NJ. As an undergraduate student at Rutgers University, assisted in population study including trapping and radio telemetry tracking of State endangered Allegheny woodrat.

James A. McFaul Environmental Center- Worked as park naturalist leading special events and presentations, design of museum exhibits, wildlife rehabilitation, animal care, park security, administration, maintenance of grounds and trails, and park planning for environmental center in Wyckoff, New Jersey.

Bogota Environmental Commission- 1999 to 2001

Tenafly Nature Center- Part-time Naturalist

National Wildlife Federation Backyard Habitat Stewardship Program

North Jersey Beekeepers Association

PROFESSIONAL AFFILIATIONS:

Society of Wetland Scientists

Preston R Smith DEPARTMENT MANAGER/BIOLOGIST/ECOLOGIST PITTSBURGH, PA

EDUCATION: B.S. Biology (Environmental Science); University of Pittsburgh; Dec. 2000 M.S. Biological Sciences; Wright State University; March 2010

EXPERIENCE SUMMARY:

Mr. Preston Smith is a Biologist with 12+ total years of professional experience. Mr. Smith currently manages the Wetlands and Ecological Services Department for the Appalachian Basin Oil and Gas Services Group. Since starting at Tetra Tech, Mr. Smith has been involved in wetland delineations, habitat studies, and related report generation for commercial Oil and Gas clients in Western Pennsylvania, West Virginia, and Ohio. His current responsibilities including staff management, workload delegation including scheduling personnel for field work and report writing, and QA/QC of work products and deliverables. Mr. Smith has also been involved in NEPA Categorical Exclusion, Environmental Assessment, and Environmental Impacts Statement projects in several capacities serving as Project Manager, Deputy Project Manager, Water Resources Specialist, and Ecologist for various clients including the US Coast Guard, Department of Energy, Federal Energy Regulatory Commission, Nuclear Regulatory Commission, and Tennessee Department of Transportation. Additionally, Mr. Smith has served as an Ecological Risk Assessor for various DoD sites for the Navy and Air Force, and non-DoD sites for USEPA and commercial clients. He also has experience performing herpetological and small mammal surveys in Western Pennsylvania.

TRAINING:OSHA 1910.120 40-Hour HAZWOPER Training; June 22, 2007
OSHA 1910.120(e)(4) 8-Hour HAZWOPER Supervisory; October 17, 2008
OSHA 1910.120 8-Hour HAZWOPER Refresher; June 13, 2011
ACOE-based 40-hour Wetland Delineation Certification; June 26, 2009

RELEVANT PROJECT EXPERIENCE:

Project Biologist; Confidential Client; Fayette County, PA; 2010. As a Project Biologist, Mr. Smith completed a field survey for presence/absence and potential habitat survey for the Allegheny woodrat, *Neotoma magister*, and submitted the report to the PA Game Commission for expedited review for Marcellus Shale-related activities. The survey was approved by the PA Game Commission.

Biologist/Wetland Delineator/Manager; Confidential Client; Western PA/Northern West Virginia/Easter Ohio; 2009-present. As a wetland delineator, Mr. Smith conducts and manages wetland investigations based on the 1987 US Army Corps of Engineers Wetland Delineation Manual and Regional Supplements. The investigations involved identifying wetland vegetation, soils, and hydrology along linear pipelines and well pad sites and preparing Wetland Reports for Marcellus Shale-related activities. A post construction wetland investigation and report were also prepared.

Biologist/Wetland Delineator/Manager; Confidential Client; Eastern OH; 2011-present. As a wetland delineator, Mr. Smith conducted wetland investigations based on the 1987 US Army Corps of Engineers Wetland Delineation Manual and Regional Supplements. The investigations

involved identifying wetland vegetation, soils, and hydrology along linear pipelines and preparing Wetland Reports for Marcellus Shale-related activities.

Biologist; Confidential Client; Eastern OH; 2012. As a Biologist, Mr. Smith conducted a habitat survey for Indiana Bat roost tree suitability. The investigations involved identifying suitable habitat for the Indiana bat (*Myotis sodalis*) and preparing a report for submittal with a Nationwide Permit 12 to the Army Corps of Engineers.

Project Permit Manager; Confidential Client; West Virginia; 2011As the Project Permitting Manager, Mr. Smith coordinated with USFWS and WV Department of Natural Resources (WV DNR) to secure the permitting for Nationwide Permit 12 for a natural gas pipeline project. Mr. Smith also prepared a Stream Activity Application Report for submittal to the WV DNR as par tof this project.

Project Permit Manager; Confidential Client; Ohio; 2012. As the Project Permitting Manager, Mr. Smith coordinated with USFWS and US Army Corps of Engineers to secure the permitting for Nationwide Permit 12 for an approximately 5-mile natural gas pipeline project. Mr. Smith also prepared a Pre-Construction Notification for the ACOE as part of this permit.

Project Permit Manager; Confidential Client; Ohio; 2012. As the Project Permitting Manager, Mr. Smith coordinated with US Army Corps of Engineers to secure the permitting for Nationwide Permit 12 for an approximately 3.2-mile natural gas pipeline project. Mr. Smith also prepared a Pre-Construction Notification for the ACOE as part of this permit.

NEPA Analyst/Environmental Scientist; FERC-regulated Environmental Assessment for an Interstate Natural Gas Pipeline; West Virginia and Pennsylvania; 2010-present. As a NEPA analyst, Mr. Smith drafted the Aquatic Resource section of a FERC-regulated EA for a commercial Oil and Gas client for Marcellus Shale-related activities.

Biologist/Field Operations Leader; TX Energy Environmental Report; Eastman Chemical; Beaumont, TX; 2008. As the Field Operations Leader, Mr. Smith coordinated and participated in Biological surveys including fish and benthic sampling on the Neches River and a site habitat characterization in Beaumont, TX.

Ecologist; Endangered Species Review; Munitions Response Program; MCB Quantico; 2007-2008. As an Ecologist, Mr. Smith prepared the endangered species section of the Munitions Response Program at the Marine Corps Base Quantico. He gathered information on species occurring at the base and determined the Federal and State status of those species and identified locations where those species are likely to occur.

Project Manager; Wetland Delineation for the New Station Lake Charles; U.S. Coast Guard; Lake Charles, LA. 2011-present. As a project manager, Mr. Smith is currently managing all aspects of the Wetland Delineation for a proposed site of a new USCG facility in Lake Charles, LA. His duties included client management, budget monitoring, workload delegation, and review of the jurisdictional determination.

CHRONOLOGICAL WORK HISTORY:

Wetlands and Ecological Services Department Manager, Tetra Tech NUS, Inc.; Pittsburgh, PA; November 2011-present.

Biologist/Ecological Risk Assessor; Tetra Tech NUS, Inc.; Pittsburgh, PA; January 2007-November 2011.

Research Assistant/Lab Manager; Wright State University; Dayton, OH; September 2003-December 2006.

Managed an aquatic toxicology laboratory. Responsibilities included maintaining laboratory cultures and supplies, managing grant related research projects (see descriptions above), supervising undergraduate students, writing technical reports, conducting literature reviews, and maintaining laboratory and field equipment.

Research Assistant; Indiana University of Pennsylvania; Indiana, PA; September 2002-August 2003.

Provided support in maintaining laboratory insect cultures and supplies. Conducted small mammal surveys; endangered reptile surveys (Eastern Massasauga Rattlesnake); collected and identified amphibians and reptiles in Western Pennsylvania for the Pennsylvania Herpetological Atlas; identified benthic macroinvertebrates for Abandoned Mine Drainage projects.

CODIE VILENO ENVIRONMENTAL SCIENTIST PITTSBURGH, PENNSYLVANIA

EDUCATION: M.S., Environmental Geography, State University College at Buffalo, (anticipated) 2013 B.A., Anthropology, State University College at Buffalo, 2007

TRAINING:38 Hour ACOE Wetland Delineation Training Program, November 2009
Engineering for Ecosystem Restoration Workshop, June 2010
American Red Cross Adult First Aid/CPR/AED, October 2011
16 Hour Wilderness First Aid, November 2012
40 hours EPA 165.5 HAZWOPER Health and Safety Worker 2012
Williams Contractor Safety Training 2012

EXPERIENCE SUMMARY:

Mr. Vileno has worked in the environmental field for over five years. His experience includes conducting and assisting on wetland delineations, habitat assessments, and endangered species surveys. He has additional experience performing and supervising Phase 1 archaeological surveys. Mr. Vileno's educational background includes studies in wetland ecology, stream ecology, hydrology, wetland/stream restoration methods, geology, environmental impact assessments, and archaeology.

PROJECT EXPERIENCE:

Environmental Assesment

Environmental Scientist; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

Environmental Scientist; Antero Resources Appalachian Corp.; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ritchie and Doddridge Counties, West Virginia. Responsible for performing and assisting with wetland delineations for various proposed natural gas well pads and access roads in northern West Virginia. Specific tasks included field survey and report preparation.

Environmental Scientist; Stone Energy; Wetland Delineation for Mercer 1 Well Pad; Sisterville, Tyler County, West Virginia; September 2012. Performed wetland delineation for proposed natural gas well pad and associated access road. Specific tasks included field survey and report preparation.

Environmental Scientist; Laurel Mountain Midstream Operating, LLC; Endangered Species Survey (Yellow Passionflower) for Miller to Headlee Pipeline Project; Greene and Cumberland Townships, Greene County, Pennsylvania; September 2012. Assisted with botanical survey for yellow passionflower along the proposed Miller to Headlee natural gas pipeline right-of-way and access roads. Tasks included pre-survey research, field survey, and report preparation.

Environmental Scientist; Laurel Mountain Midstream Operating, LLC; Endangered Species Survey (Drooping Bluegrass) for Nickelville Pipeline Project; Nickelville, Venango County, Pennsylvania; July 2012. Assisted with botanical survey for drooping bluegrass along the proposed Nickelville natural gas pipeline right-of-way. Specific tasks included field survey and report preparation.

Environmental Scientist; Laurel Mountain Midstream Operating, LLC; Endangered Species Survey (Tall Larkspur) for Dunlap Creek Pipeline Project; Luzerne and Redstone Townships, Fayette County, Pennsylvania; June 2012. Assisted with botanical survey for tall larkspur along the proposed Dunlap Creek natural gas pipeline right-of-way and access roads. Specific tasks included field survey and report preparation.

Environmental Scientist; Laurel Mountain Midstream Operating, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey and report preparation.

Environmental Scientist; Enervest Operating, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southeastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

Environmental Scientist; NAVFAC Washington; Marine Corps Base Quantico Wetland Functional Analysis; Quantico, Virginia; April 2012. Assisted with wetland functional assessments in support of remedial activities.

Environmental Scientist; NASA; Wallops Flight Facility Remedial Action Contract; Wallops Island, Virginia; March 2012. Assisted with wetland delineation and wetland functional assessments in support of remedial activities.

Environmental Scientist; Burnett Oil Company, Inc.; New Salem, Pennsylvania; December 2011 to February 2012. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey and report preparation.
Scientist; Army Corps of Engineers; South Park Lake Dredge Project; Buffalo, New York; October 2011. Supervised Phase 1 archaeological survey in preparation of dredging activities.

Scientist; Dominion East Ohio; Monroe County Gas Pipeline Project; Indiana Bat Habitat Assessment and Wetland Delineation; Woodsfield, Ohio; July 2011 to September 2011. Assisted with Indiana Bat Habitat assessment and wetland delineation along a proposed natural gas pipeline right-of-way. Specific tasks included field survey and completion of Ohio EPA specific wetland and stream assessments. Other responsibilities included Phase 1A archaeological assessment

Archaeological Technician; National Grid; Lockport to Mortimer; Rochester, New York; May 2011 to October 2011. Performed Phase 1 archaeological survey in support of transmission line replacement. Assisted with report preparation.

Scientist; National Fuel Gas Company; Tioga Pipeline Expansion; Tioga County, Pennsylvania; June 2011 to September 2011. Assisted with wetland delineation along proposed natural gas pipeline right-of-way. Other responsibilities included performing a Phase 1A archaeological assessment and supervising a Phase 1 archaeological survey.

Archaeological Technician; National Fuel Gas Company; Allegheny National Forest Pipeline Project; Warren, Pennsylvania; September 2009 to October 2009. Performed Phase 1 archaeological survey along proposed natural gas pipeline right-of-way.

Archaeological Technician; Dominion East Ohio; Pipeline Replacement; Wooster, Ohio; June 2008 – July 2009. Performed Phase 1 archaeological survey along proposed natural gas pipeline right-of-way.

Archaeological Technician; Horizon Wind Energy, LLC.; Arkwright Wind Farm; Arkwright, New York; September 2008 – March 2009. Performed Phase 1 archaeological survey on proposed turbine pads and transmission lines.

<u>Sampling</u>

On-Call Research Assistant; City of Buffalo, NY; Buffalo, New York; May 2009 to August 2009. Utilized YSI multiparameter sondes, and collected water samples during storm events to support City of Buffalo Combined Sewer Overflow monitoring program.

CHRONOLOGICAL WORK HISTORY:

Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, Pennsylvania; 2011 – Present

Scientist I; Tetra Tech, Inc.; Buffalo, New York; June 2008 – November 2011

Research Assistant; State University of New York Research Foundation; Buffalo, New York; October 2009 – January 2010

On-Call Research Assistant; State University of New York Research Foundation; Buffalo, New York; May 2009 – August 2009

Report Writer; Test America Laboratories; Amherst, New York; November 2007 – June 2008

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/15/2013 1:23:45 PM

in

Case No(s). 13-1752-EL-BGN

Summary: Application Appendix F: Wetland Delineation and Stream Identification Report electronically filed by Ms. Miranda R Leppla on behalf of Carroll County Energy LLC