

Item 3: Waters Delineation Report

A wetland delineation of the 2.56 acre Cedar Creek Estates, Phase II Project Area (Project Area) was included in the original delineation report of the entire 27-acre (approximate) parcel performed in 2009 by Flickinger Wetland Services Group. Unfortunately, most of this original document has been lost. The document was, however, submitted to the Corps the same year and a Jurisdictional Determination letter (JD) for the parcel (including the Project Area) was issued on October 2, 2009 (see **Item 4a**). Additionally, HzW tenders the attached information, described below, to aid the Ohio Environmental Protection Agency (Ohio EPA) in their decision-making process:

Included Items (attached behind this list):

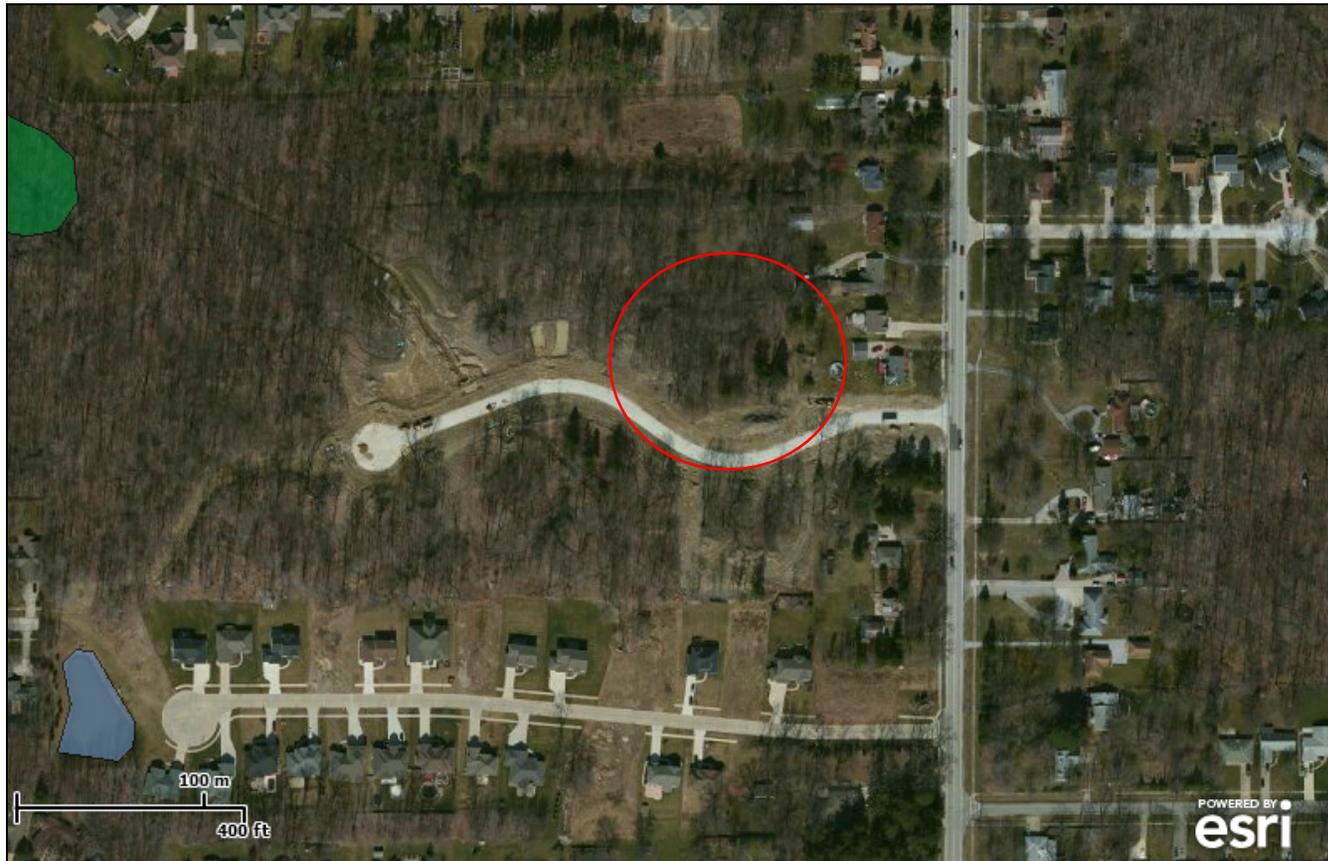
- **Item 3a** – Wetland Delineation Map
 - As included in the October 2, 2009 JD.
- **Item 3b** – National Wetland Inventory (NWI) Map
- **Item 3c** – National Resources Conservation Service (NRCS) Soil Survey Map
- **Item 3d** – Resource Photographs
 - Includes photographs from both the original delineation as well as HzW's February 25, 2015 site visit.
- **Item 3e** – Ohio Rapid Assessment Method (ORAM) Data Forms



U.S. Fish and Wildlife Service National Wetlands Inventory

Cedar Creek Estates, Phase II NWI Map

Feb 27, 2015



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

 Approximate Project Area

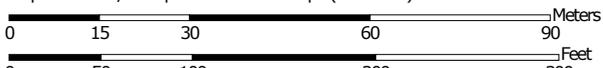
User Remarks:

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Soil Map—Cuyahoga County, Ohio
(Cedar Creek Estates, Phase II NRCS Soil Survey)



Map Scale: 1:1,250 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cuyahoga County, Ohio
Survey Area Data: Version 13, Sep 19, 2014

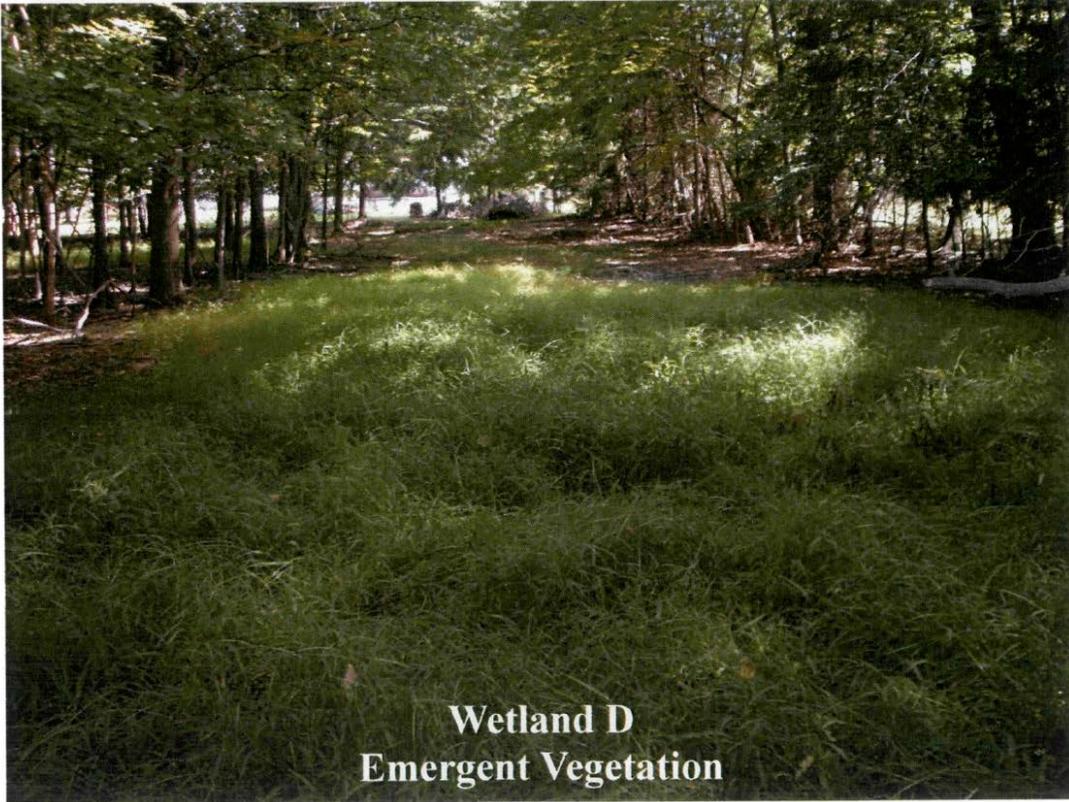
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 3, 2012—Mar 14, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Cuyahoga County, Ohio (OH035)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ct	Condit silty clay loam	0.0	0.3%
MgA	Mahoning silt loam, 0 to 2 percent slopes	6.8	93.0%
MgB	Mahoning silt loam, 2 to 6 percent slopes	0.5	6.7%
Totals for Area of Interest		7.3	100.0%





Background Information

Name:	Benjamin Latoche
Date:	02/25/2015
Affiliation:	HzW Environmental Consultants, LLC
Address:	6105 Heisley Road
Phone Number:	440-357-1260
e-mail address:	BLatoche@HzWEnv.com
Name of Wetland:	Wetland D
Vegetation Communit(ies):	Forested, Shrub, Emergent
HGM Class(es):	Depression (I) Surface Water (A)
Location of Wetland include map, address, north arrow, landmarks, distances, roads, etc. See PJD.	
Lat/Lon or UTM Coordinate	
USGS Quad Name	
County	Cuyahoga
Township	Strongsville
Section and Subsection	
Hydrologic Unit Code	
Site Visit	Yes
National Wetland Inventory Map	Yes
Ohio Wetland Inventory Map	No
Soil Survey	No
Delineation Report/Map	Yes

Name: Wetland D		
Wetland Size (acres, hectares)	0.604	
<p>Sketch (include north arrow, relationship with other surface waters, vegetation zones, etc.)</p> <p>See PJD.</p>		
<p>Comments, Narrative Discussion, Justification of Category Changes</p> <p>This ORAM was completed outside of appropriate field season due to extenuating circumstances. Prior authorization for such action was given verbally by Ms. Rachel Taulbee and Mr. Joe Loucek of the Ohio EPA 401 Department via conference call on 02/24/15. HzW understands the limitations of performing the ORAM with snow cover, but does not expect Ohio EPA's affirmation to lead to a drastic deviation (i.e., a category difference) from these scores.</p>		
Final Score:	51.0	Category 2

Scoring Boundaries 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 and isolated from 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 Unit 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 mitigation site, conservation site, etc.	Yes	
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 other parts of a single wetland.	Yes	
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.	Yes	
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.	Yes	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	N/A	
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.	Yes	

Narrative Rating

INSTRUCTIONS: Answer each of the following questions. Questions 1, 2, 3, and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/odnr/dnap/>. The remaining questions are designed to be answered primarily from the results of the field 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 and 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 Reynoldsburg Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle One	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001 of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federally or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland. Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or non breeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland. Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundunacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland. Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) <25%?	YES Wetland is a Category 3 wetland. Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one 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	<input checked="" type="radio"/> NO Go to Question 8a

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

Table 1. Characteristic plant species.

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

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

Site: Wetland D	Rater(s): BDL	Date: 02/25/15
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2	2
max 6 pts.	Subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- >50 acres (>20.2ha) (6 pts)
- 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- 10 to <25 acres (4 to <10.1ha) (4 pts)
- 3 to <10 acres (1.2 to <4ha) (3 pts)
- 2 0.3 to <3 acres (0.12 to <1.2ha) (2 pts)
- 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- <0.1 acres (<0.04ha) (0 pts)

8	10
max 14 pts.	Subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- 4 MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- NARROW. Buffers average 10m to <25 m (32 to <82ft) around wetland perimeter. (1)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter. (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- 5 LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- 3 MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

19	29
max 30 pts.	Subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- High pH groundwater (5)
- Other groundwater (3)
- 1 Precipitation (1)
- Seasonal/Intermittent surface water (3)
- Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- 1 100 year floodplain (1)
- 1 Between stream/lake and other human use. (1)
- 1 Part of wetland/upland (e.g. forest) complex (1)
- Part of riparian or upland corridor (1)

3c. Maximum water depth. Select only one and assign score.

- >0.7 (>27.6in) (3)
- 0.4 to 0.7m (15.7 to 27.6in) (2)
- 1 <0.4m (<15.7in) (1)

3d. Duration inundation/saturation. Score 1 or dbl chk.

- Semi- to permanently inundated/saturated (4)
- Regularly inundated/saturated (3)
- 2 Seasonally inundated (2)
- Seasonally saturated in upper 30cm (12in) (1)

3e. Modifications to natural hydrological regime. Score one or double check and average.

- 12 None or none apparent (12)
- Recovered (7)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> Ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> Tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> Dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> Weir | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other: |

14	43
max 20 pts.	Subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- 4 None or none apparent (4)
- Recovered (3)
- Recovering (2)
- Recent or no recovery (1)

4b. Habitat Development. Select only one and assign score.

- Excellent (7)
- Very good (6)
- Good (5)
- 4 Moderately good (4)
- Fair (3)
- Poor to fair (2)
- Poor (1)

4c. Habitat alteration. Score one or double check and average.

- None or none apparent (9)
- 6 Recovered (6)
- Recovering (3)
- Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input type="checkbox"/> Mowing | <input type="checkbox"/> Shrub/sapling removal |
| <input type="checkbox"/> Grazing | <input type="checkbox"/> Herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> X Clearcutting | <input type="checkbox"/> Sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> Dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> Farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> Nutrient enrichment |

43

Subtotal this page

Site: Wetland D	Rater(s): BDL	Date: 02/25/15
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43

Subtotal first page

0	43
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max 10 pts. Subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- Bog (10)
- Fen (10)
- Old growth forest (10)
- Mature forested wetland (5)
- Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- Lake Erie coastal/tributary wetland-restricted hydrology (5)
- Lake Plain Sand Prairies (Oak Openings) (10)
- Relict Wet Prairies (10)
- Known occurrence state/federal threatened endangered species (10)
- Significant migratory songbird/water fowl habitat or usage (10)
- Category 1 Wetland. See Question 1 Qualitative Rating (-10)

8	51
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max 20 pts. Subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale.

- Aquatic Bed
- 1 Emergent
- 1 Shrub
- 2 Forest
- Mudflats
- Open water
- Other:

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

6b. horizontal (plan view) interspersions

Select only one.

- High (5)
- Moderately high (4)
- Moderate (3)
- Moderately low (2)
- 1 Low (1)
- None (0)

Narrative Description of Vegetation Community

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity, and often, but not always, the presence of rare, threatened, or endangered spp

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for List. Add or deduct points for coverage

- Extensive >75% cover (-5)
- Moderate 25-75% cover (-3)
- 1 Sparse 5-25% cover (-1)
- Nearly absent <5% cover (0)
- Absent (1)

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

6d. Microtopography.

Score all present using 0 to 3 scale.

- 1 Vegetated hummocks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest qualities
3	Present in moderate or greater amounts and of highest qualities

51.0	GRAND TOTAL (max 100 pts)
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CATEGORY: 2

Refer to the most recent ORAM Score Calibration Report for scoring breakpoints b/w wetland categories at the following address:

<http://www.epa.state.oh.us/dsw/401/401.html>

last revised 1 February 2001 jjm

ORAM Summary Worksheet

		Circle answer or insert score	
Narrative Rating	Question 1. Critical Habitat	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 4. Significant bird habitat	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	<input checked="" type="radio"/> NO If yes, Category 1.
	Question 6. Bogs	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 7. Fens	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 8a. Old Growth Forest	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	<input checked="" type="radio"/> NO If yes, evaluate for Category 3: may be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	<input checked="" type="radio"/> NO If yes, evaluate for Category 3: may be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	YES	<input checked="" type="radio"/> NO If yes, evaluate for Category 3: may be 1 or 2.
	Question 10. Oak Openings	YES	<input checked="" type="radio"/> NO If yes, Category 3.
	Question 11. Relict Wet Prairies	YES	<input checked="" type="radio"/> NO If yes, evaluate for Category 3: may be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	14	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	8	
	TOTAL SCORE Consult most recent score calibration report at http://www.epa.state.oh.us/dsw/401/401.html to determine the wetland's category based on its quantitative score	51.0	Category based on score breakpoints Category 2

Complete Wetland Categorization Worksheet

Wetland D

Wetland Categorization Worksheet

Choices	Circle one		
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>Yes</p> <p>Wetland is categorized as a Category 3 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM.</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>Yes</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<input checked="" type="radio"/> No	<p>Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If 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.</p>
<p>Did you answer "Yes" to:</p> <p>Narrative Rating Nos. 5</p>	<p>Yes</p> <p>Wetland is categorized as a Category 1 wetland</p>	<input checked="" type="radio"/> No	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM.</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<p>If the score of the wetland is located within the scoring range of 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.</p>
<p>Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>Yes</p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria.</p>	<input checked="" type="radio"/> No	<p>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 the non-rapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC Rule 3745-1-54(C).</p>
<p>Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method ?</p>	<p>Yes</p> <p>Wetland was under-categorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<input checked="" type="radio"/> No	<p>A wetland may be under-categorized 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 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.</p>

Final Category

Choose one	Category 1	<input checked="" type="radio"/> Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Wetland D