ORAM Forms— Multipurpose Machine Gun (MPMG) Range and Combat Pistol Qualification Course (CPQC) 509 Acres, Camp Ravenna, Paris and Windham Townships, Portage County, Ohio

Ohio Environmental Protection Agency's (EPA) Ohio Rapid Assessment Method for wetlands (ORAM v.5) forms were completed for the two wetlands in the study area. Wetlands are given a numeric Category of 1, 2, or 3, with Category 3 being the highest quality wetlands. The table below provides a summary of the ORAM scores and categories for the site at Camp Ravenna.

Wetlands	Type	Connectivity to Waters of the U.S.[1]	Area (Acres)	ORAM Score	ORAM Category
1	emergent, forested, scrub/shrub	Non-isolated	2.033	60	3
2	forested	Non-isolated	0.094	41.5	Modified 2
3	emergent, scrub/shrub, forested	Non-isolated	2.176	59.5	2
4	scrub/shrub	non-isolated	0.024	39	Modified 2
5	forested	non-isolated	0.115	49	2
6a	emergent, forested	non-isolated	3.858	61	3
6b	emergent, forested	non-isolated	0.928	53.5	2
7	forested	non-isolated	0.197	57	2
8	forested, scrub/shrub	isolated	0.717	66.5	3
9	forested	isolated	0.167	43.5	Modified 2
10	forested	isolated	0.015	45	2
11	forested	isolated	0.011	45	2
12	emergent	isolated	0.139	58	2
13	forested	isolated	0.051	47.5	2
14	forested	isolated	0.047	47.5	2
15	forested	non-isolated	0.537	59	2
16	forested	non-isolated	0.014	51	2
17	forested	non-isolated	0.209	49	Modified 2
18	forested	non-isolated	0.071	51.5	2
19	forested	isolated	0.014	46.5	2
20	forested	non-isolated	0.178	56	2
21	emergent, forested	non-isolated	0.182	56	2
22	emergent	non-isolated	0.022	56	2
23	forested	non-isolated	0.075	56	2
24	forested	isolated	0.137	49	2
25	forested	non-isolated	0.339	56	2
26	forested	non-isolated	0.193	53	2

Wetlands	Type	Connectivity to Waters of the U.S.[1]	Area (Acres)	ORAM Score	ORAM Category
27	forested	isolated	0.008	39	Modified 2
28	emergent	non-isolated	0.167	35.5	Modified 2
29	emergent	isolated	0.009	32	Modified 2
30	forested	isolated	0.198	37.5	Modified 2
31	emergent, forested, scrub/shrub	non-isolated	9.709	74	3
32	forested	non-isolated	0.073	49	2
33	emergent, scrub/shrub	isolated	0.163	56	2
34	scrub/shrub	non-isolated	0.060	40	Modified 2
35	emergent, scrub/shrub	non-isolated	0.321	36	Modified 2
36	emergent	isolated	0.035	24	1
37	emergent	non-isolated	0.068	30	Modified 2
38	emergent	isolated	0.121	25.5	1
39	emergent	isolated	0.046	33	Modified 2
40	emergent, forested	non-isolated	0.264	33	Modified 2
41	emergent	non-isolated	0.134	35	Modified 2
42	emergent	non-isolated	0.123	34	Modified 2
43	emergent	non-isolated	0.101	33.5	Modified 2
44	emergent	isolated	0.034	32.5	Modified 2
45	emergent	isolated	0.019	33.5	Modified 2
46	emergent	non-isolated	0.227	34.5	Modified 2
47	emergent	non-isolated	0.039	33.5	Modified 2
48	emergent	isolated	0.024	33.5	Modified 2
49	emergent, scrub/shrub	non-isolated	4.430	40	Modified 2
50	emergent	non-isolated	0.117	34.5	Modified 2
51	scrub/shrub	non-isolated	0.021	33.5	Modified 2
52	emergent	isolated	0.018	32.5	Modified 2
53	emergent	isolated	0.017	31.5	Modified 2
54	emergent	isolated	0.004	31.5	Modified 2
55	emergent	isolated	0.051	31.5	Modified 2
56	emergent, scrub/shrub	non-isolated	0.149	35	Modified 2
57	emergent	isolated	0.044	32.5	Modified 2
58	emergent	non-isolated	0.144	33.5	Modified 2
59	emergent	non-isolated	0.074	33.5	Modified 2
60	scrub/shrub	non-isolated	0.130	37.5	Modified 2
61	forested	isolated	0.041	42.5	Modified 2
62	forested	non-isolated	0.127	42.5	Modified 2
63	emergent	isolated	0.324	34.5	Modified 2
64	emergent	isolated	0.019	33	Modified 2
65	emergent	non-isolated	0.684	34	Modified 2
66	emergent	non-isolated	0.114	36.5	Modified 2

Wetlands	Type	Connectivity to Waters of the U.S.[1]	Area (Acres)	ORAM Score	ORAM Category
67	forested	isolated	0.028	37.5	Modified 2
68	emergent, scrub/shrub, forested	non-isolated	10.848	59	2
69	emergent	non-isolated	0.277	32.5	Modified 2
70	emergent	non-isolated	0.037	31.5	Modified 2
71	emergent	non-isolated	0.161	32.5	Modified 2
72	emergent	non-isolated	0.341	33.5	Modified 2
73	emergent	non-isolated	0.209	32.5	Modified 2
74	emergent	non-isolated	0.030	31.5	Modified 2
75	emergent	isolated	0.049	31.5	Modified 2
76	emergent	non-isolated	0.026	31.5	Modified 2
77	emergent	non-isolated	0.086	31.5	Modified 2
78	emergent	isolated	0.054	31	Modified 2
79	emergent	non-isolated	0.096	31	Modified 2
80	emergent	non-isolated	0.049	31	Modified 2
81	emergent	non-isolated	0.062	32	Modified 2
82	emergent	non-isolated	0.206	33.5	Modified 2
83	emergent	non-isolated	0.453	32.5	Modified 2
84	emergent	non-isolated	0.138	33.5	Modified 2
85	emergent	non-isolated	0.152	33.5	Modified 2
86	forested, scrub/shrub	non-isolated	0.032	36	Modified 2
87	emergent	non-isolated	0.020	32.5	Modified 2
88	emergent	non-isolated	0.021	32.5	Modified 2
89	emergent	non-isolated	0.369	43	Modified 2
90	emergent	non-isolated	0.069	32.5	Modified 2
91	forested	non-isolated	0.157	40.5	Modified 2
92	forested	non-isolated	0.239	58.5	2
93	forested	isolated	0.091	53	2
94	forested	isolated	0.055	54.5	2
95	forested	non-isolated	6.632	58.5	2
96	forested	isolated	0.057	49	2
97	forested	non-isolated	0.334	58.5	2
98	forested	non-isolated	0.085	63.5	3
99	forested, scrub/shrub	non-isolated	0.347	67.5	3
100	forested	isolated	0.051	52	2
101	forested	isolated	0.183	53	2
102	forested	non-isolated	0.072	51	2
103	emergent	isolated	0.056	30.5	Modified 2
104	emergent	non-isolated	0.038	55.5	2
105	forested	non-isolated	0.388	70.5	3
106	emergent, forested	non-isolated	0.920	65.5	3

Wetlands	Type	Connectivity to Waters of the U.S.[1]	Area (Acres)	ORAM Score	ORAM Category
107	forested	non-isolated	0.311	61.5	3
108	forested	non-isolated	0.108	58.5	2
109	forested	non-isolated	1.609	76.5	3
110	emergent	isolated	0.160	34	Modified 2
111	emergent, forested	non-isolated	2.128	45	2
112	emergent	isolated	0.221	35.5	Modified 2
113	emergent, forested	non-isolated	0.799	41.5	Modified 2
114	emergent	non-isolated	0.034	31.5	Modified 2
115	emergent	isolated	0.019	31	Modified 2
116	emergent, forested, scrub/shrub	non-isolated	1.384	72.5	3
117	emergent, scrub/shrub	non-isolated	0.185	37.5	Modified 2
118	emergent	non-isolated	0.033	35.5	Modified 2
119	scrub/shrub	non-isolated	0.183	46.5	2
120	emergent, scrub/shrub, forested	non-isolated	0.782	65	3
121	Emergent	non-isolated	0.530	35.5	Modified 2
Total			**63.028**		

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 37	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2018, -81.0915
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 37
Wetland Size (acres, hectares)	0.068 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	30	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 37	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
10	10

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
21	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
29	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

29 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 37	**Rater:**	Todd Crandall

29 subtotal first page

29 (Subtotal) 0 (Points)

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

30 (Subtotal) 1 (Points)

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

30 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, 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	10	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	30	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 38	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2019, -81.0930
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 38
Wetland Size (acres, hectares)	0.121 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	25.5	**Category:**	1

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 38	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
7	6

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
17.5	10.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
25.5	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

25.5 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 38	**Rater:**	Todd Crandall

25.5 subtotal first page

Subtotal	Points
25.5	0

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

Subtotal	Points
25.5	0

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

25.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	6	
	Metric 3. Hydrology	10.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	25.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☒ Category 1	☐ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 39	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2031, -81.0937
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 39
Wetland Size (acres, hectares)	0.046 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 39	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
11	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
22.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [✓] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31	8.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 39	**Rater:**	Todd Crandall

31 subtotal first page

31	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

33	2
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
0	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 40	
Vegetation Communit(ies):Emergent, forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2027, -81.0928
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 40
Wetland Size (acres, hectares)	0.264 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 40	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
33	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

33 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 40	**Rater:**	Todd Crandall

33 subtotal first page

33 | 0
Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

33 | 0
Subtotal Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
0	Shrub
0	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
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	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	33	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 41	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2030, -81.0920
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 41
Wetland Size (acres, hectares)	0.134 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	35	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 41	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
33	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

33 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 41	**Rater:**	Todd Crandall

33 subtotal first page

33 | 0
Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

35 | 2
Subtotal Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
0	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

35 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	35	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 42	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2027, -81.0920
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 42
Wetland Size (acres, hectares)	0.123 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	34	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 42	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
33	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

33 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 42	**Rater:**	Todd Crandall

33 subtotal first page

33 | 0
Subtotal Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

34 | 1
Subtotal Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

34 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	34	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 43	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2036, -81.0914
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 43
Wetland Size (acres, hectares)	0.101 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 43	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
32.5	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

32.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 43	**Rater:**	Todd Crandall

32.5 subtotal first page

32.5 Subtotal | 0 Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33.5 Subtotal | 1 Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 47	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2025, -81.0901
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 47
Wetland Size (acres, hectares)	0.039 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 47	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
11	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
22	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 47	**Rater:**	Todd Crandall

31.5 subtotal first page

31.5 (Subtotal) 0 (Points)

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33.5 (Subtotal) 2 (Points)

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 48	
Vegetation Communit(ies):Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2031, -81.0999
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 48
Wetland Size (acres, hectares)	0.024 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 48	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
11	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
22	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	9.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 48	**Rater:**	Todd Crandall

31.5 subtotal first page

31.5 Subtotal | 0 Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33.5 Subtotal | 2 Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 49	
Vegetation Communit(ies):Emergent, scrub/shrub	
HGM Class(es): Riverine headwater	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2032, -81.0865
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 49
Wetland Size (acres, hectares)	4.430 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	40	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 49	**Rater:**	Todd Crandall

Subtotal	Points
3	3

Metric 1. Wetland Area (size). (max 6 pts)

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)
- [x] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Subtotal	Points
14	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
28.5	14.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [✓] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
39	10.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

39 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 49	**Rater:**	Todd Crandall

39 subtotal first page

39	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

40	1
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
0	Shrub
0	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

40 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	14.5	
	Metric 4. Habitat	10.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	40	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 68	
Vegetation Communit(ies): Emergent, scrub/shrub, forested	
HGM Class(es): Riverine headwater	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1992, -81.0776
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 68
Wetland Size (acres, hectares)	10.848 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	59	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 68	**Rater:**	Todd Crandall

Subtotal	Points
4	4

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
16	12

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
34	18

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [✓] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
49	15

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

49 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 68	**Rater:**	Todd Crandall

49 subtotal first page

49	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

59	10
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
1	Shrub
2	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

59 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	18	
	Metric 4. Habitat	15	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	10	
	TOTAL SCORE	59	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 72	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2019, -81.0796
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 72
Wetland Size (acres, hectares)	0.341 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 72	**Rater:**	Todd Crandall

Subtotal	Points
2	2

Metric 1. Wetland Area (size). (max 6 pts)

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)
- [x] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Subtotal	Points
12	10

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 72	**Rater:**	Todd Crandall

31.5 subtotal first page

31.5 (Subtotal) 0 (Points)

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33.5 (Subtotal) 2 (Points)

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	10	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 78	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2002, -81.0846
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 78
Wetland Size (acres, hectares)	0.054 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	31	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 78	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
11	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
22	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
29	7

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

29 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 78	**Rater:**	Todd Crandall

29 subtotal first page

Subtotal	Points
29	0

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

Subtotal	Points
31	2

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

31 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 80	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2007, -81.0866
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 80
Wetland Size (acres, hectares)	0.049 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	31	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 80	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
10	10

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
21	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
29	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

29 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 80	**Rater:**	Todd Crandall

29 subtotal first page

29	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

31	2
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

31 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, 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	10	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	31	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 82	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1998, -81.0882
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 82
Wetland Size (acres, hectares)	0.206 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 82	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 82	**Rater:**	Todd Crandall

31.5 subtotal first page

31.5 (Subtotal) 0 (Points)

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

33.5 (Subtotal) 2 (Points)

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 83	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2019, -81.0883
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 83
Wetland Size (acres, hectares)	0.453 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	32.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 83	**Rater:**	Todd Crandall

Subtotal	Points
2	2

Metric 1. Wetland Area (size). (max 6 pts)

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)
- [x] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Subtotal	Points
12	10

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 83	**Rater:**	Todd Crandall

31.5 subtotal first page

Subtotal	Points
31.5	0

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

Subtotal	Points
32.5	1

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

32.5 GRAND TOTAL (max 100 pts)

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	10	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	1	
	TOTAL SCORE	32.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 85	
Vegetation Communit(ies): Emergent	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2007, -81.0916
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 85
Wetland Size (acres, hectares)	0.152 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	33.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 85	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
12	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
23.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
31.5	8

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [✓] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

31.5 subtotal this page

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetland:	Wetland 85	**Rater:**	Todd Crandall

31.5 subtotal first page

31.5	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

33.5	2
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

33.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	33.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 86	
Vegetation Communit(ies): Forested, scrub/shrub	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.2002, -81.0909
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 86
Wetland Size (acres, hectares)	0.032 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	36	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 86	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
11	11

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
22.5	11.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
33	10.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [✓] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

33 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 86	**Rater:**	Todd Crandall

33 subtotal first page

33	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

- [ ] Bog (10 pts)
- [ ] Fen (10 pts)
- [ ] Old Growth Forest (10 pts)
- [ ] Mature forested wetland (5 pts)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10 pts)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5 pts)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10 pts)
- [ ] Relict Wet Prairies (10 pts)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migatory songbird/waterfowl habitat or usage (10 pts)
- [ ] Category 1 Wetland. See Question 1 of Qualitative Rating. (-10 pts)

36	3
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

- [ ] Vegetated hummocks/tussocks
- [ ] Coarse woody debris >15 cm (6")
- [ ] Standing dead > 25 cm (10") dbh
- [ ] Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

36 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	11.5	
	Metric 4. Habitat	10.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	36	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 91	
Vegetation Communit(ies): Forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1991, -81.0914
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 91
Wetland Size (acres, hectares)	0.157 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	40.5	**Category:**	Modified 2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 91	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
14	13

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
25	11

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [✓] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
37.5	12.5

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

37.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 91	**Rater:**	Todd Crandall

37.5 subtotal first page

37.5	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

40.5	3
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
0	Emergent
0	Shrub
1	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

	Vegetated hummocks/tussocks
	Coarse woody debris >15 cm (6")
	Standing dead > 25 cm (10") dbh
	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

40.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	13	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	12.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	40.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 92	
Vegetation Communit(ies): Forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1984, -81.0911
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 92
Wetland Size (acres, hectares)	0.239 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	58.5	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 92	**Rater:**	Todd Crandall

Subtotal	Points
1	1

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
15	14

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
34.5	19.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
52.5	18

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

52.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 92	**Rater:**	Todd Crandall

52.5 subtotal first page

52.5 Subtotal | 0 Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

58.5 Subtotal | 6 Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
0	Emergent
0	Shrub
2	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

58.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	19.5	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	58.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 93	
Vegetation Communit(ies): Forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1978, -81.0905
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 93
Wetland Size (acres, hectares)	0.091 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	53	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 93	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
14	14

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
30	16

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
48	18

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

48 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 93	**Rater:**	Todd Crandall

48 subtotal first page

48 Subtotal | 0 Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

53 Subtotal | 5 Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
0	Emergent
0	Shrub
2	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

53 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, 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	14	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	53	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 95	
Vegetation Communit(ies): Forested	
HGM Class(es): Riverine headwater	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1980, -81.0883
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 95
Wetland Size (acres, hectares)	6.632 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	58.5	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 95	**Rater:**	Todd Crandall

Subtotal	Points
3	3

Metric 1. Wetland Area (size). (max 6 pts)

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)
- [x] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Subtotal	Points
17	14

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
31.5	14.5

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [✓] ditch
- [ ] dike
- [✓] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
49.5	18

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

49.5 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 95	**Rater:**	Todd Crandall

49.5 subtotal first page

49.5	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

58.5	9
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
1	Emergent
1	Shrub
2	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

58.5 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, Category 3; may also be 1 or 2
	Question 10. Oak Openings	☐ YES ☒ NO	If yes, Category 3
	Question 11. Relict Wet Prairies	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	14.5	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	9	
	TOTAL SCORE	58.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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

Final Category

Choose One	☐ Category 1	☒ Category 2	☐ Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Todd Crandall
Date:	September, 2012
Affiliation:	Davey Resource Group
Address:	1500 North Mantua Street, Kent, Ohio 44240
Phone Number:	330-673-5685, ext. 8033
E-Mail Address:	Todd.crandall@davey.com
Name of Wetland: Wetland 96	
Vegetation Communit(ies): Forested	
HGM Class(es): Depression	
Location of Wetland: Include map, address, north arrow, landmarks, distances, roads, etc. See Water Resources Delineation Report	
Lat/Long or UTM Coordinate:	41.1964, -81.0884
USGS Quad Name:	Windham
County:	Portage
Township:	Windham
Section and Subsection:	n/a
Hydrologic Unit Code:	05030103
Site Visit:	September, 2012
National Wetland Inventory Map:	See Water Resources Delineation Report
Ohio Wetland Inventory Map:	n/a
Soil Survey:	See Water Resources Delineation Report
Delineation Report/Map:	See Water Resources Delineation Report

Name of Wetland:	Wetland 96
Wetland Size (acres, hectares)	0.057 acres

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.
See Water Resources Delineation Report

Comments, Narrative Discussion, Justification of Category Changes:

Final Score:	49	**Category:**	2

Scoring Boundary Worksheet

INSTRUCTIONS: The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances, this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large continguous 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.	x	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes, including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	x	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, *i.e.,* areas that have a high degree of hydrologic interaction are included within the scoring boundary.	x	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	x	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	x	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes, or rivers, or for dual classifications.	x	

End of Scoring Boundary Determination.
Begin Narrative Rating On Next Page.

Narrative Rating

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

#	Question	Check One	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 Minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 2	☒ NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of, federal or state-listed threatened or endangered plant or animal species?	☐ YES Wetland is a Category 3 wetland. Go to Question 3	☒ NO Go to Question 3
3	**Documented High-Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high-quality wetland?	☐ YES Wetland is a Category 3 wetland. Go to Question 4	☒ NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	☐ YES Wetland is a Category 3 wetland. Go to Question 5	☒ NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than 80% areal cover) by *Phalaris arundinacea*, *Lythrum salicaria*, or *Phragmites australis;* or 2) an acidic pond created or excavated on mined lands that have little or no vegetation>	☐ YES Wetland is a Category 1 wetland. Go to Question 6	☒ NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows; 2) supports acidophilic mosses, particularly *Sphagnum* spp.; 3) the acidophilic mosses have >30% cover; 4) at least one species from Table 1 is present; and 5) the cover of invasive species (see Table 1) is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 7	☒ NO Go to Question 7
7	**Ferns.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%.	☐ YES Wetland is a Category 3 wetland. Go to Question 8a	☒ NO Go to Question 8a

8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics; overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multi-layered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	☐ YES Wetland is a Category 3 wetland. Go to Question 8b	☒ NO Go to Question 8b
8b	**Mature forested wetlands.** Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	☒ NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	☐ YES Go to Question 9b	☒ NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, *i.e.,* the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, *i.e.,* the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	☐ YES Go to Question 9d	☐ NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance-tolerant native species can also be present.	☐ YES Wetland is a Category 3 wetland. Go to Question 10	☐ NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance-tolerant native plant species within its vegetation communities?	☐ YES Wetland should be evaluated for possible Category 3 status. Go to Question 10	☐ NO Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings).** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	☐ YES Wetland is a Category 3 wetland. Go to Question 11	☒ NO Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (*e.g.,* Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (*e.g.,* Darke, Mercer, Miami, Montgomery, Van Wert, etc.)	☐ YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	☒ NO Complete Quantitative Rating

Table 1. Characteristic Plant Species

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

End of Narrative Rating. Begin Quantitative Rating On Next Page.

Site:	MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio	**Date:**	October 11, 2012
Wetlands:	Wetland 96	**Rater:**	Todd Crandall

Subtotal	Points
0	0

Metric 1. Wetland Area (size). (max 6 pts)

Select one size class and assign score.

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

Subtotal	Points
14	14

Metric 2. Upland buffers and surrounding land use. (max 14 pts)

2a. Calculate average buffer width (select one, do not double check)

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

2b. Intensity of surrounding land use (select one or double check & average)

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

Subtotal	Points
30	16

Metric 3. Hydrology. (max 30 pts)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only 1.

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

3d. Duration inundation/saturation.
(select one or double check & average)

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

3e. Modifications to natural hydrologic regime.
(select one or double check & average)

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

Check all disturbances observed

- [ ] ditch
- [ ] dike
- [ ] tile
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other- list

Subtotal	Points
46	16

Metric 4. Habitat Alteration and Development. (max 20 pts.)

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

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

4b. Habitat development. Select one.

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

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

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

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [ ] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient emrichment

46 subtotal this page

Site: MPMG Range and CPQC, Camp Ravenna, Portage Co., Ohio		**Date:**	October 11, 2012
Wetland:	Wetland 96	**Rater:**	Todd Crandall

46 subtotal first page

46	0
Subtotal	Points

Metric 5. Special Wetlands. (max 10 pts.)

Check all that apply and score as indicated

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

49	3
Subtotal	Points

Metric 6. Plant Communities, interspersion, microtopography. (max 20 pts.)

6a. Wetland Vegetation Communities

Score all present using 0 to 3 scale

	Aquatic bed
0	Emergent
0	Shrub
1	Forest
	Mudflats
	Open water
	Other (list)

6b. Horizontal (plan view) interspersion

Select only one

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

6c. Coverage of invasive plants.

Refer to Table 1 ORAM long form for list.

Add or deduct points for coverage

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

6d. Microtopography

Score all present using 0 to 3 scale

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
moderate	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
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

Mudflat and Open Water Class Quality

0	Absent <0.1 ha (0.2471 acres)
1	Low 0.1 ha to <1 ha (0.2471 acres to 2.47 acres)
2	Moderate 1 ha to <4 ha (2.47 acres 9.88 acres)
3	High 4 ha (9.88 acres) or more

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 quality
3	Present in moderate or greater amounts and of highest quality

49 **GRAND TOTAL (max 100 pts)**

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		Check Answer or Insert Score	Result
Narrative Rating	Question 1. Critical Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	☐ YES ☒ NO	If yes, Category 3.
	Question 3. High-Quality Natural Wetland	☐ YES ☒ NO	If yes, Category 3.
	Question 4. Significant Bird Habitat	☐ YES ☒ NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	☐ YES ☒ NO	If yes, Category 1.
	Question 6. Bogs	☐ YES ☒ NO	If yes, Category 3.
	Question 7. Fens	☐ YES ☒ NO	If yes, Category 3.
	Question 8a. Old Growth Forest	☐ YES ☒ NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands – Restricted	☐ YES ☒ NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands- Unrestricted with native plants	☐ YES ☒ NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands – Unrestricted with invasive plants	☐ YES ☒ NO	If yes, 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	14	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	16	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	49	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet

Wetland Categorization Worksheet

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