## SURFACE WATER DELINEATION REPORT

SWAN CREEK RESTORATION PROJECT 1140-24-1922 UNIVERSITY OF TOLEDO HEALTH SCIENCES CAMPUS TOLEDO, OHIO

**JANUARY 2025** 

PREPARED FOR:

UNIVERSITY OF TOLEDO 2801 W. BANCROFT STREET TOLEDO, OHIO 43606

PREPARED BY:

THE MANNIK & SMITH GROUP, INC. 1800 INDIAN WOOD CIRCLE MAUMEE, OHIO 43537



# **SURFACE WATER DELINEATION REPORT**

SWAN CREEK RESTORATION PROJECT 1140-24-1922 TOLEDO, OHIO

Prepared by:	la Sueland
	JOHN A. FREELAND, PHD, SPWS
	SENIOR SCIENTIST

REVIEWED BY: Cin n. Suitela

ERIN SWITALA

NATURAL RESOURCES SCIENTIST



### **EXECUTIVE SUMMARY**

On November 6-8, and November 21, 2024, The Mannik & Smith Group, Inc. (MSG) performed a Surface Water Delineation (SWD) for an approximately 32.5-acre site found on the north side of Arlington Street, east of Byrne Avenue in Toledo, OH (approximate central coordinates (41.62292, -83.6166) (Site) (Figure 1). MSG performed the SWD in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast/Northcentral, Version 2.0. MSG identified six (6) wetlands (Wetland A, B, C, D, E, and F) and three streams (Stream A, B, and Swan Creek) within the Site. MSG believes, based on current federal policy, that all wetlands and streams mapped and characterized in this report qualify as Waters of the U.S. and thus regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and by Ohio EPA under Section 401 of the Clean Water Act due to their connection to Swan Creek, a tributary to the Maumee River. MSG's findings are preliminary until officially verified through a Jurisdictional Determination (JD) made by the USACE, Buffalo District. If our findings are confirmed by the USACE, any impact (e.g., placement of fill, including habitat restoration) to the wetlands or streams will require authorization from the USACE and Ohio EPA.

### **TABLE OF CONTENTS**

SECT	<u>ION</u> :		PAGE NO.:
EXEC	UTIVE S	UMMARY	ES-1
1.0	INTRO	ODUCTION	1
2.0	METH	IODS	1
	2.1	WETLAND DELINEATION	1
	2.2	ORAM SURVEY OF WETLAND FUNCTIONS	
	2.3	STREAM HABITAT ASSESSMENT	3
3.0	RESU	ILTS	3
4.0	REFE	RENCES	5
TABL		DEFINITIONS OF WELLAND INDICATOR CTATUS DESIGNATIONS	0
TABLE TABLE		DEFINITIONS OF WETLAND INDICATOR STATUS DESIGNATIONS OHIO RAPID ASSESSMENT CATEGORIES	
TABLE		SUMMARY OF WETLANDS	
TABLE		SUMMARY OF STREAMS.	
FIGUE			
FIGUR		SITE LOCATION	
FIGURE 2		NWI/SOILS MAP	
FIGUR	E 3	SURFACE WATER DELINEATION	
APPE	NDICES		
APPEN		WETLAND DETERMINATION DATA FORMS	
APPEN		SITE PHOTOGRAPHS	
APPEN	15.71	ORAM FORMS	
APPEN	NDIX D	QHEI / HHEI Forms	

### 1.0 INTRODUCTION

On November 6-8, and November 21, 2024, The Mannik & Smith Group, Inc. (MSG) performed a Surface Water Delineation (SWD) for an approximately 32.5-acre site (Site) (Figure 1). The Site is the location of a proposed streambank restoration project and currently contains a wooded stream corridor bordered by a mostly residential neighborhood to the north and the University of Toledo Medical Center property adjacent to the south. (Figures 1, 2, and 3). The purpose of a SWD is to identify any areas that may be considered a jurisdictional wetland or surface water, which are regulated under Sections 404 and 401 of the Clean Water Act or the State of Ohio's Isolated Wetlands Law. This information is intended to be used for planning purposes intended to minimize impacts to natural features during site construction and access.

Code of Federal Regulations 33 Part 328 defines a wetland as an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The United States Army Corp of Engineer's' (USACE) Wetland Delineation Manual further defines a wetland as having the following characteristics: hydric soils, evidence of inundated or saturated conditions (hydrology), and a predominance of hydrophytic vegetation. When all three of these criteria are met, a wetland is present and is subject to Federal and/or State regulations and permitting. Streams are defined as any channel that has a bed, bank and visible sign of an ordinary high-water mark.

### 2.0 METHODS

### 2.1 Wetland Delineation

MSG performed the SWD in accordance with the 1987 Corps of Engineers Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast/Northcentral Region, Version 2.0 (the "Manual"). The Manual defines a wetland as any area that contains a predominance of wetland vegetation, hydric soils and positive indicators of wetland hydrology.

During the surface water delineation, data were collected on the vegetation, soils and hydrology present in various plant communities to determine if the criteria for a jurisdictional wetland were met. Sample points for vegetation, soils and hydrology were placed on either side of the wetland boundaries. The wetland/non-wetland boundaries and the sample locations are surveyed and placed on the SWD map. From the SWD map, the acreage of each wetland is calculated. Streams and other surface waters are also mapped and characterized.

Vegetation observed in each sample plot was recorded according to vegetation stratum (tree, sapling/shrub, herb and woody vine). The Manual suggests plot sizes for each vegetation stratum. The tree and woody vine strata are sampled using a 30-foot radius. A 15-foot radius is recommended for the sapling and shrub stratum. The herb stratum is sampled using a five-foot radius. When necessary, plot sizes were adjusted to keep the plot sampling entirely within the limits of the wetland boundaries. Absolute cover was assessed by estimating the percent cover for each plant species. Once plant data were collected, the dominant species from each vegetation strata were recorded on the Wetland Determination Data Form. The wetland indicator status of each dominant species was determined using the *U.S. Army Corps of Engineers 2020, National Wetland Plant List, version 3.5* (2020). The wetland indicator status reflects the likelihood of a species occurring in a wetland or non-wetland area. The indicator status designations are described in Table 2.1.

 Table 2.1
 Definitions of Wetland Indicator Status Designations

Indicator Status	Symbol	Definition
Obligate Wetland Species	OBL	Almost always (estimated probability > 99%) occurs in wetlands
Facultative Wetland Species	FACW	Usually (estimated probability 67% – 99%) occurs in wetlands
Facultative Species	FAC	Equally likely to occur in wetlands and non-wetlands. (estimated probability 34% – 66%)
Facultative Upland Species	FACU	Usually occurs in non-wetlands (estimated probability 67% – 99%)
Obligate Upland Species	UPL	Almost always (estimated probability > 99%) occurs in non-wetlands

Soils were examined by digging a small test pit at each sample point. Soils were then inspected for hydric soil indicators, as identified in the *Field Indicators of Hydric Soils of the United States, A Guide for Identifying and Delineating Hydric Soils, Version 8.2 (2018)*, published by the United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). A hydric soil is "a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (Federal Register, 1994). Hydric soils are one of three parameters, along with hydrology and hydrophytic vegetation, used to identify wetland habitat. Primary and/or secondary indicators of wetland hydrology were also noted when present. Information from the online *Web Soil Survey* (USDA-NRCS) and the National Wetland Inventory (NWI) is available in Figure 2.

The wetland/upland boundaries were surveyed using a Trimble® Geo XH GPS receiver with submeter accuracy. Wetland Determination Data Forms are included in Appendix A. Digital images of the Site and wetlands are included in Appendix B. After the wetlands were delineated, MSG described the hydrological connections (if any) to waters of the United States and the probable jurisdictional status of the wetlands.

### 2.2 ORAM Survey of Wetland Functions

MSG also characterized the quality of each wetland using the Ohio Rapid Assessment Method (ORAM), version 5.0, included in Appendix C. The Ohio Environmental Protection Agency (EPA) (Mack, 2001) has established three primary and three intermediate categories of wetland quality which are based on a wetland's size, its hydrologic function, the types of plant communities present, the physical structure of the wetland plant community and the wetland's level of disturbance (Ohio Administrative Code (OAC) Rule 3745-1-54). The relationship between the various wetland categories and their respective ORAM scores is presented in Table 2.2.

Table 2.2 Ohio Rapid Assessment Categories

Category Number	Range of ORAM Scores
Category 1	0–29.9
Category 1 or 2 (Gray Zone)	30–34.9
Modified Category 2	35–44.9
Category 2	45–59.9
Category 2 or 3	60–64.9
Category 3	65–100

Category 3 wetlands have the highest quality and are generally characterized by a high level of biological diversity and topographical variation, large numbers of native species, or a high level of functional importance to its surroundings. Category 2 wetlands have the capability to support a moderate wildlife community or maintain mid-level hydrological functions. Category 2 also includes

wetlands that may be of lower quality or are otherwise considered to be degraded but have reasonable potential to be restored (Modified Category 2). Category 1 wetlands are of the lowest quality, and are generally characterized by hydrological isolation, lack of plant species diversity, insufficient habitat availability, and limited potential to perform major wetland functions (OAC Rule 3745-1-54).

### 2.3 Stream Habitat Assessment

Streams are identified based on the presence of a distinct bed, bank and ordinary high watermark. Streams are evaluated using one of two Ohio EPA methods. A stream containing pools greater than 40 cm (16 inches) deep or with a watershed greater than a square mile is evaluated using the Qualitative Habitat Evaluation Index (QHEI). Streams with pools less than 40 cm deep or a watershed less than a square mile are evaluated using the Primary Headwater Habitat Evaluation (HHEI). Swan Creek was evaluated using the QHEI and two small streams were evaluated using the HHEI.

### 3.0 RESULTS

The property is a mostly forested stream valley on both sides of Swan Creek found north of the University of Toledo Medical Center (Figures 1, 2, and 3). Desktop review of the NWI Mapper identified the presence of Swan Creek and extensive areas of forested/shrub wetland along the north side of the Swan Creek. No NWI wetlands are recorded along the south side of Swan Creek within the Site. Published data found in the online NRCS Web Soil Survey identifies five soil map units, one of which is considered a hydric soil, the Sloan silty clay loam (So), a very poorly drained floodplain alluvium soil. Additionally, the Sisson, Ottokee, and Bixler soils contain small areas (inclusions) of hydric soils.

Table 3.1 Summary of Published Soil Map Units

Map Unit Symbol & Name	Hydric?	Hydric Inclusions	Drainage Class
SmB Sisson loam, 2-6 percent slopes	No	10 percent	Well Drained
OtB Ottokee fine sand 0-6 percent slopes	No	7 percent	Moderately well drained
So Sloan loam, occasionally flooded	Yes	N/A	Very poorly drained
Uo Udorthents, loamy (fill)	Variable, Not characterized	Not characterized	Not characterized
BxA Bixler loamy fine sand 0-2 percent slopes	No	10 percent	Somewhat poorly drained

MSG identified six (6) wetlands (Wetlands A, B, C, D, E, and F) within the Site. Table 3.1 lists the wetland along with its size, wetland community type, and ORAM score and category. Photographs, USACE Wetland Determination Forms, and ORAM forms for each wetland are found at the end of this document in the Appendices.

Wetlands A, B, C, D, and F were all found to be forested wetlands dominated by trees including Eastern Cottonwood, (*Populus deltoides*), silver maple (*Acer saccharinum*), red maple (Acer rubrum), American elm (*Ulmus americana*), and green ash (*Fraxinus pennsylvanica*). Trees appeared to be older and larger in wetlands C, D, and F, compared to those found in wetlands A and B. Wetland E was found to be an emergent wetland dominated by sedges (*Carex spp.*) and reed canary grass (*Phalaris arundinacae*). Numerous damaged and downed trees were evident and herbaceous ground cover plants were more restricted to the areas of less mature trees and openings in the woodland canopy. Wetlands C, D, and F had scarce ground cover. All five

wetlands appear to receive hydrologic support from a combination of precipitation, creek flooding and upland runoff drainage into the Swan Creek valley. ORAM scores for all five wetlands landed within Category 2.

Table 3.3 Summary of Wetlands

Wetland	Sample Point	Delineated Acreage	Wetland Type <sup>1</sup>	ORAM Score	Wetland Category	Likely Regulatory Status <sup>2</sup>
Α	SP2	0.106	PFO	58	2	USACE
В	SP5	1.236	PFO	57	2	USACE
С	SP6	0.369	PFO	45	2	USACE
D	SP8	0.01	PFO	49	2	USACE
Е	SP9	0.419	PEM	51	2	USACE
F	SP10	0.139	PFO	43	2	USACE
Total		2.173				

<sup>1</sup> Wetland community type: PEM=palustrine emergent; PSS= palustrine scrub/shrub; PFO=palustrine forested and POW=palustrine open water

The Site lies within the Lower Maumee River watershed (HUC 04100009). We characterized three streams within the Site: Swan Creek, which is a perennial stream, and two smaller intermittently flowing tributaries referred to herein as Stream A and Stream B (Figure 3). Swan Creek, having greater than one square mile of drainage area, was evaluated using the Quantitative Habitat Evaluation Index (QHEI), receiving a score 66.5. The two smaller streams were evaluated using the Methods for Evaluating Primary Headwater Streams (HHEI). Stream A was observed as a high gradient, nearly straight channel flowing down the Swan Creek valley wall to Swan Creek. The stream contains "steps" where it flattens and forms pools. The stream received a fairly high score of 67 because of its relatively coarse substrate and forested buffer. Stream B was found to have a lower gradient compared to Stream A and a streambed consisting mainly of sand and silt, which resulted in a lower score of 57. Summary characteristics are provided in Table 3.4 and photographs of the streams are found in Appendix B at the end of this report.

Table 3.4 Summary of Streams

Stream	Flow Type	Linear Feet within Study Area	QHEI Score
Swan Creek	Perennial	2,923	66.5
Stream	Flow Type	Linear Feet within Study Area	HHEI Score
Stream A	Intermittent	50	67
Stream B	Intermittent	509	57
Total		3,482	

MSG believes, based on current federal policy, that all wetlands and streams mapped and characterized in this report qualify as Waters of the U.S. and thus regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and by Ohio EPA under Section 401 of the Clean Water Act due to their connection to Swan Creek, a tributary to the Maumee River. MSG's findings are preliminary until officially verified through a Jurisdictional Determination (JD) made by the USACE, Buffalo District. A Jurisdictional Determination officially verifies the wetland boundaries and determines the regulatory status of the wetlands by either the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act and Ohio EPA under Section 401 of the Clean Water Act, or by Ohio EPA under the Isolated Wetland Law. If the wetlands are found determined to be non-federally regulated, they may still be regulated by the

<sup>2</sup> Based on best professional judgement, official regulatory status pending results of Jurisdictional Determination

Ohio EPA under its Isolated Wetland Program. Under this scenario whereby wetlands are either state or federally regulated, any impact (e.g., placement of fill) to wetlands or streams will require authorization from the USACE and/or Ohio EPA. Ohio EPA will be required to verify MSG's ORAM evaluations of the wetlands.

Wetland boundary determinations and stream characterizations can vary depending on several factors including, but not limited to, the agency representative conducting the determination, wetland policy, and the time of year the site was examined. Additionally, wetland boundary shapes and areal extents may change due to several factors, including but not limited to, vegetation dynamics, drainage, weather patterns, and activities on adjacent or nearby properties that may affect wetland hydrology or other characteristics. This Surface Water Delineation Report is based upon the specific conditions encountered at the site at the time of MSG's field investigation, our prior experience with agency personnel, and current policies regarding procedures to delineate wetlands.

### 4.0 REFERENCES

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

Federal Register. July 13, 1994. Hydric Soil Definition.

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

Munsell Color. 1994. Macbeth Division of Kollmorgan Instruments Corporation, New Windsor, NY.

Ohio EPA. 2020. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water. Columbus. Ohio.

https://epa.ohio.gov/static/Portals/35/credibledata/PHWHManual 2020 Ver 4 1 May 2020 Final.pdf

Ohio EPA 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio EPA Division of Surface Water, Groveport, Ohio. https://epa.ohio.gov/static/Portals/35/documents/QHEIManualJune2006.pdf

Ohio EPA, Division of Surface Water. <u>Surface Water Quality and Hydrologic Units (HUCs) | Ohio Environmental Protection Agency</u> [Accessed November 21, 2024].

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. *Web Soil Survey* (online) https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. [November 5, 2024].

U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5. <a href="https://wetland-plants.usace.army.mil/nwpl\_static/v34/home/home.html">https://wetland-plants.usace.army.mil/nwpl\_static/v34/home/home.html</a>. [Accessed November 5, 2024].

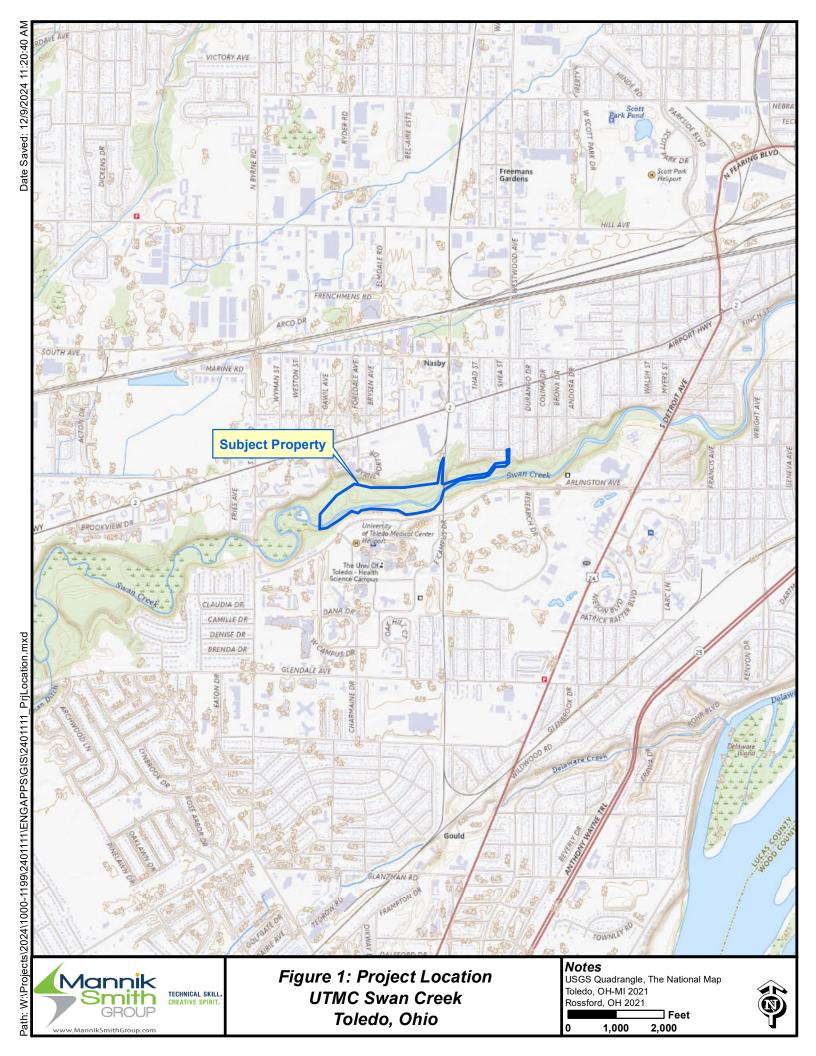
U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast/Northcentral Region (Version 2.0), ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

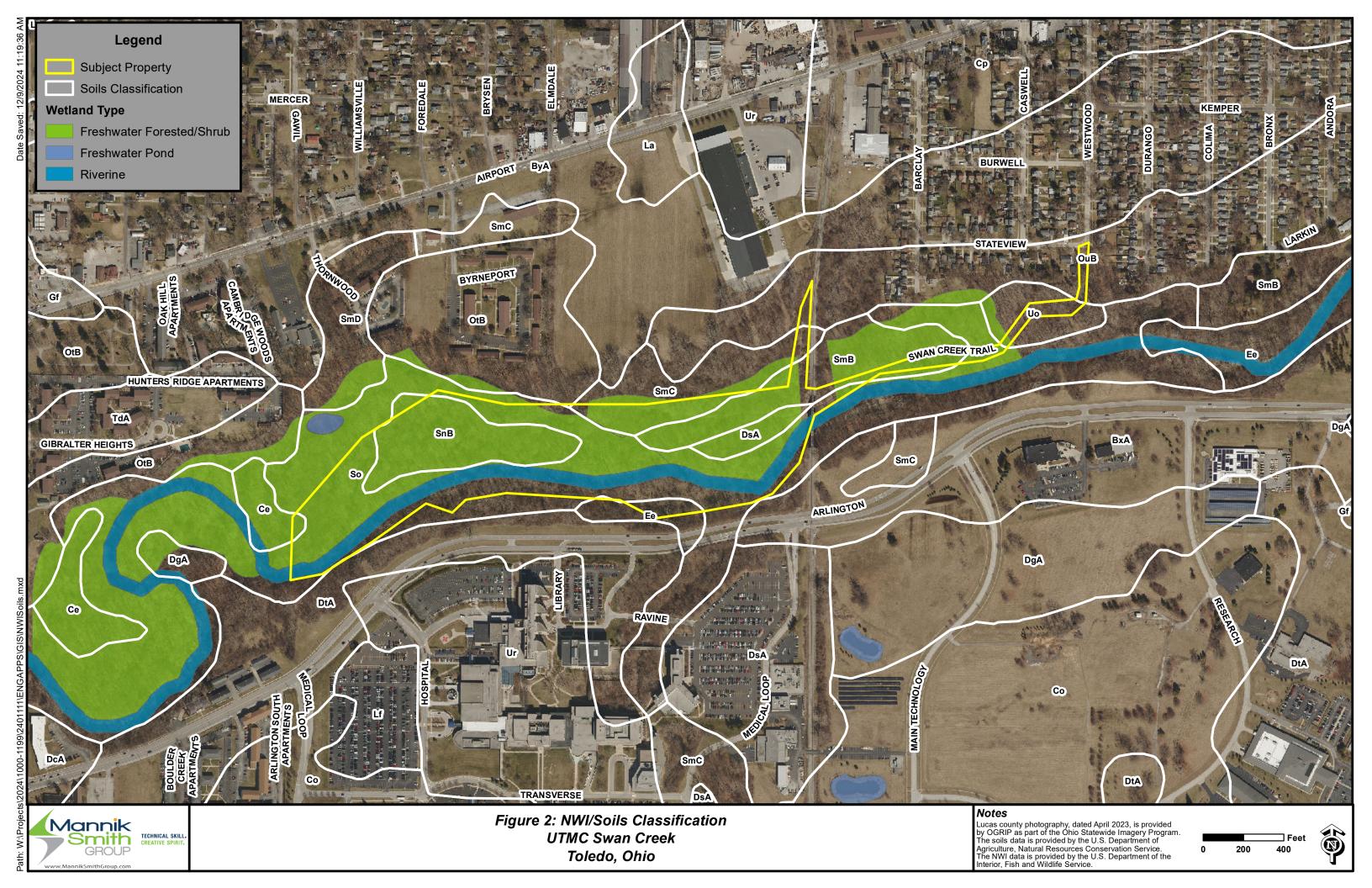
https://www.mvp.usace.army.mil/Portals/57/docs/regulatory/Website%20Organization/Northcentral%20and%20Northeast%20Regional%20Supplement.pdf

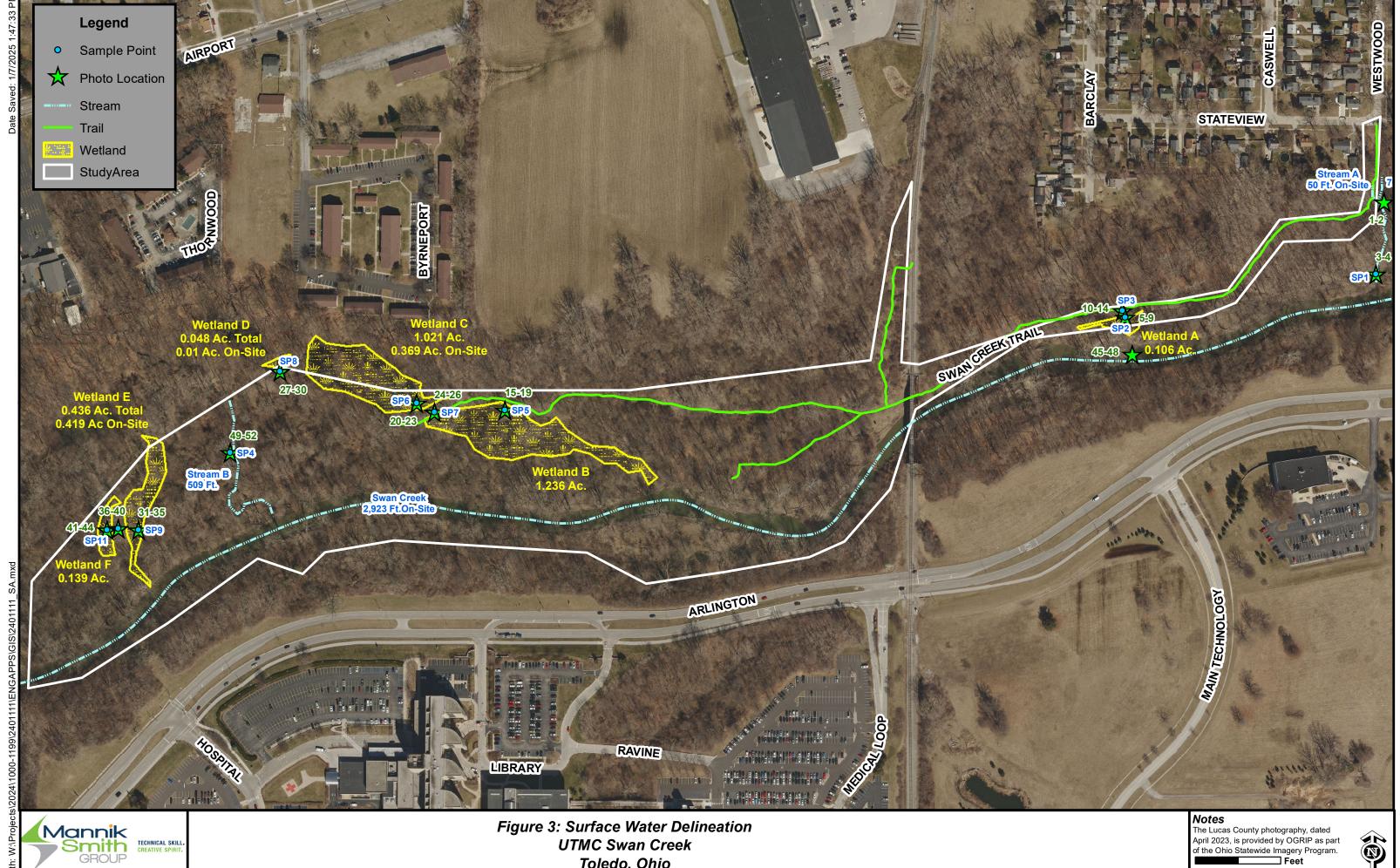
United States Department of Agriculture, Natural Resources Conservation Service. 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

U.S. Fish & Wildlife Service (online) National Wetlands Inventory Wetlands Mapper (online). <a href="https://www.fws.gov/wetlands/data/Mapper.html">https://www.fws.gov/wetlands/data/Mapper.html</a> [Accessed November 5, 2024].

# **FIGURES**







Toledo, Ohio

□ Feet



# APPENDIX A WETLAND DETERMINATION DATA FORMS



Project/Site: UT Swan Creek City	/County: Toledo/Lucas Sampling Date: 2024-11-06
Applicant/Owner: University of Toledo	State: Ohio Sampling Point: SP2
Investigator(s): Freeland, Dubuc Sec	tion, Township, Range: T3N 12 Mile Square
Landform (hillslope, terrace, etc.): Depression Local r	
	Long: -83.60935732 Datum: WGS 84
Soil Map Unit Name: SmB Sisson loam, 2-6 percent slopes	
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation, Soil, or Hydrology significantly dist	
Are Vegetation, Soil, or Hydrology naturally problem	
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area
Hydric Soil Present? Yes V No	within a Wetland? Yes No
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID: Wetland A
Remarks: (Explain alternative procedures here or in a separate report.)	
USACE Antecedent Precipitation Tool indicates drier than delineation	normal conditions for the 90 day period preceding our
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Lea	
High Water Table (A2) Aquatic Fauna (B1:	
Saturation (A3) Marl Deposits (B15 Water Marks (B1) Hydrogen Sulfide C	
1 4	eres on Living Roots (C3) Saturation Vis ble on Aerial Imagery (C9)
Oxidized Trilizosphi Drift Deposits (B3) Presence of Reduc	
Algal Mat or Crust (B4) Recent Iron Reduc	
Iron Deposits (B5) Thin Muck Surface	· · · · · · · · · · · · · · · · · · ·
Inundation Visible on Aerial Imagery (B7) Other (Explain in R	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No Depth (inches):	
Water Table Present? Yes No Depth (inches):	
Saturation Present? Yes No _ Oppth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:
Domonto	
Remarks:	

SOIL Sampling Point: SP2

Depth	matrix	to the de	pth needed to docun Redo	nent the i x Features		r or confirr	n the absence	of indicators.)
(inches)	Color (moist)	%	Color (moist)	%	_Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 - 7	10YR 4/2	99	5YR 4/6	1	С	PL	Loam	
7 - 15	10YR 5/2	98	7.5R 5/4	2	С	PL	Loamy Sand	
-		-				_		
					-			
				· ——				
		-		. ——				
-								
		-						
		-						
							2,	
Hydric Soil		oletion, RN	1=Reduced Matrix, MS	S=Masked	Sand G	rains.		: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Belov	v Surface	(S8) ( <b>LF</b>	RR R,		luck (A10) (LRR K, L, MLRA 149B)
Histic Ep	oipedon (A2)		MLRA 149B)	1			Coast F	Prairie Redox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)		Thin Dark Surfa					lucky Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky N Loamy Gleyed I			<b>N,</b> L)		urface (S7) ( <b>LRR K, L</b> ) lue Below Surface (S8) ( <b>LRR K, L</b> )
	d Below Dark Surfac	e (A11)	<u>✓</u> Depleted Matrix		,		-	ark Surface (S9) ( <b>LRR K, L</b> )
	ark Surface (A12)		Redox Dark Sui		<b>-</b> \			anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark S Redox Depress		7)			ont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)		Redox Depress	10113 (1 0)				arent Material (F21)
Stripped	l Matrix (S6)						Very SI	hallow Dark Surface (TF12)
Dark Su	rface (S7) ( <b>LRR R, I</b>	VILRA 149	<b>(B</b> )				Other (	Explain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegeta	tion and w	etland hydrology mus	t be prese	ent, unles	ss disturbed	d or problematic	
	Layer (if observed)				<u> </u>		<u> </u>	_
Type:								
Depth (inc	ches):						Hydric Soil	Present? Yes No
Remarks:								

Project/Site: UT Swan Creek	City/County: Tole	do/Lucas	Sampling Date: 2024-11-06	
Applicant/Owner: University of Toledo	, ,			
Investigator(s): Freeland, Dubuc			· -	
Landform (hillslope, terrace, etc.): Summit	Local relief (concave,	convex, none): Convex	Slope (%): 2	
Subregion (LRR or MLRA):L				
Soil Map Unit Name: SmB Sisson loam, 2-6	percent slopes	NWI classific	ation:	
Are climatic / hydrologic conditions on the site typical	for this time of year? Yes N	lo (If no, explain in R	emarks.)	
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" p	resent? Yes No	
Are Vegetation, Soil, or Hydrology	naturally problematic? (	If needed, explain any answe	rs in Remarks.)	
SUMMARY OF FINDINGS – Attach site	map showing sampling poi	nt locations, transects	, important features, etc.	
Hydric Soil Present? Yes		pled Area etland? Yes	No	
Wetland Hydrology Present? Yes  Remarks: (Explain alternative procedures here or in	No If yes, optio	nal Wetland Site ID:		
HYDROLOGY				
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)	
Primary Indicators (minimum of one is required; che		Surface Soil		
	_ Water-Stained Leaves (B9)		Drainage Patterns (B10)	
	_ Aquatic Fauna (B13)	Moss Trim Lines (B16)		
	_ Marl Deposits (B15)	Dry-Season Water Table (C2) Crayfish Burrows (C8)		
	_ Hydrogen Sulfide Odor (C1)	<del></del>	` '	
	<ul><li>Oxidized Rhizospheres on Living F</li><li>Presence of Reduced Iron (C4)</li></ul>		tressed Plants (D1)	
		Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)		
	_ Thin Muck Surface (C7)	Shallow Aquitard (D3)		
	_ Other (Explain in Remarks)	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	_	FAC-Neutral		
Field Observations:				
Surface Water Present? Yes No	Depth (inches):			
Water Table Present? Yes No	Depth (inches):			
Saturation Present? Yes No  (includes capillary fringe)	Depth (inches):	Wetland Hydrology Presen	t? Yes No _X	
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspect	ions), if available:		
Remarks:				

Sampling Point: SP3

SOIL

(inches)	<u>Matrix</u>		Redox Features	T .
^ 7	Color (moist)	%	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0 - 7	10YR 4/4	100		Loam
7 - 16	10YR 5/4	100	· _ · · _ · _ · · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ · _ · · _ · _ · · _ · · _ · · _ · · _ · · _ ·	Loam
-				
-				
-				
-				
Type: C=C	oncentration, D=D	epletion, RM	/=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil I		· · · · · · · ·		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol			Polyvalue Below Surface (S8) (LRR R,	2 cm Muck (A10) (LRR K, L, MLRA 149B)
	oipedon (A2)		MLRA 149B)	Coast Prairie Redox (A16) (LRR K, L, R)
Black Hi	stic (A3) en Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L)	<ul><li>5 cm Mucky Peat or Peat (S3) (LRR K, L, F</li><li>Dark Surface (S7) (LRR K, L)</li></ul>
	d Layers (A5)		Loamy Gleyed Matrix (F2)	Polyvalue Below Surface (S8) (LRR K, L)
	d Below Dark Surf	ace (A11)	Depleted Matrix (F3)	Thin Dark Surface (S9) (LRR K, L)
	ark Surface (A12)	`	Redox Dark Surface (F6)	Iron-Manganese Masses (F12) (LRR K, L, I
	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark Surface (F7) Redox Depressions (F8)	<ul><li>Piedmont Floodplain Soils (F19) (MLRA 149</li><li>Mesic Spodic (TA6) (MLRA 144A, 145, 149</li></ul>
	Redox (S5)		redox bepressions (i o)	Red Parent Material (F21)
	Matrix (S6)			Very Shallow Dark Surface (TF12)
Dark Su	rface (S7) ( <b>LRR R</b>	i, MLRA 149	<b>B</b> )	Other (Explain in Remarks)
3Indicators o	f bydrophytic yege	station and w	vetland hydrology must be present, unless disturbed	l or problematic
	Layer (if observe		etiana nyarology mast be present, unless disturbed	To problematic.
Type:	•	,		
	ches):		<del></del>	Hydric Soil Present? Yes No
Depth (inc				
Depth (inc				

Project/Site: UT Swan Creek Cit	y/County: Toledo/Lucas Sampling Date: 2024-11-07		
	State: Ohio Sampling Point: SP5		
Investigator(s): Freeland, Dubuc Se	ection, Township, Range: T3N 12 Mile square		
Landform (hillslope, terrace, etc.): Depression Local	relief (concave, convex, none): Concave Slope (%): 2		
	Long: -83.61597148 Datum: WGS 84		
Soil Map Unit Name: OtB Ottokee fine sand 0-6 percent slope	NWI classification: PFO		
Are climatic / hydrologic conditions on the site typical for this time of year	Yes No (If no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrology significantly dis	sturbed? Are "Normal Circumstances" present? Yes No		
Are Vegetation, Soil, or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)		
SUMMARY OF FINDINGS – Attach site map showing s	ampling point locations, transects, important features, etc.		
Hydrophytic Vegetation Present? Yes No	Is the Sampled Area		
Hydric Soil Present? Yes V No	within a Wetland? Yes No		
Wetland Hydrology Present? Yes No	If yes, optional Wetland Site ID: Wetland B		
Remarks: (Explain alternative procedures here or in a separate report.)			
USACE Antecedent Precipitation Tool indicates drier t	han normal conditions.		
LIVEROLOGY			
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)		
Primary Indicators (minimum of one is required; check all that apply)			
	Surface Soil Cracks (B6)		
Surface Water (A1) Water-Stained Lea			
High Water Table (A2)  Aquatic Fauna (B)  Seturation (A2)  Mad Deposits (B1)			
Saturation (A3) Marl Deposits (B1 Water Marks (B1) Hydrogen Sulfide			
	Oxidized Rhizospheres on Living Roots (C3) Saturation Vis ble on Aerial Imagery (C9 Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)		
	Recent Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2) Thin Muck Surface (C7) Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in I			
Sparsely Vegetated Concave Surface (B8)  Field Observations:	FAC-Neutral Test (D5)		
Surface Water Present? Yes No Depth (inches): _			
Water Table Present? Yes No Depth (inches): _			
Saturation Present? Yes No Depth (inches): _ (includes capillary fringe)	Wetland Hydrology Present? Yes No No		
Describe Recorded Data (stream gauge, monitoring well, aerial photos,	previous inspections), if available:		
Remarks:			
Remarks.			

Tree Stratum (Plot size: 30 ft r

	<u>50</u>		FACW	That Are OBL, FACW, or FAC: 2 (	(A)
2. Ulmus americana	10		FACW		7
3.			-	Total Number of Dominant Species Across All Strata: 3 (	(B)
4.				Percent of Dominant Species	
5					(A/B)
6				Prevalence Index worksheet:	
7				Total % Cover of: Multiply by:  ORL species 0 v.1 = 0	
15 5+	60	= Total Co	over	X I =	
Sapling/Shrub Stratum (Plot size: 15 ft r )				FACW species $\frac{77}{0}$ $x = \frac{154}{0}$	
1. Ulmus americana	_ <u>15</u>		FACW	1 AO species X 0 =	
2				FACU species $\frac{10}{0}$ $x = 40$ UPL species $x = 6$	
3				Column Totals: 87 (A) 194	(B)
4				Column rotals (A)	(D)
5				Prevalence Index = B/A = 2.23	
6				Hydrophytic Vegetation Indicators:	
				1 - Rapid Test for Hydrophytic Vegetation	
7	 15			✓ 2 - Dominance Test is >50%	
F. 44	13	= Total Co	over	3 - Prevalence Index is ≤3.0 <sup>1</sup>	
Herb Stratum (Plot size: 5 ft r )				4 - Morphological Adaptations <sup>1</sup> (Provide suppo	orting
1. Glechoma hederacea	10		<u>FACU</u>	data in Remarks or on a separate sheet)	
2. Bidens frondosa	_ 2		FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	)
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology mu	ıst
4				be present, unless disturbed or problematic.	
5				Definitions of Vegetation Strata:	
6				Tree – Woody plants 3 in. (7.6 cm) or more in dian	actor
7				at breast height (DBH), regardless of height.	iletei
8				Sapling/shrub – Woody plants less than 3 in. DBI	4
9				and greater than or equal to 3.28 ft (1 m) tall.	
10				Herb – All herbaceous (non-woody) plants, regard	less
11.				of size, and woody plants less than 3.28 ft tall.	
12.	_		-	Woody vines – All woody vines greater than 3.28	ft in
12	12	= Total Co		height.	
		Total Co	ivei		
20 ft r					
Woody Vine Stratum (Plot size: 30 ft r )					
1					
1				Hydrophytic	
1 2				Vegetation	
1 2					

SOIL Sampling Point: SP5

Depth	Matrix			x Features	3			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 - 7	10YR 4/2	80	7.5YR 5/4	20	<u>C</u>	PL, M	Silt Loam	
7 - 16	10YR 5/2	90	7.5YR 5/6	10	С	PL, M	silt loam	
-								
				<u> </u>	-			
				-				
			<del> </del>					
-								
				<u> </u>	-			
		_						
1 <sub>Tupo:</sub> C=C	oncentration D=Dec	olotion DN	/=Reduced Matrix, M	S=Mookod	Sand C		2l continu	DI =Doro Lining M=Metrix
Hydric Soil		Jietion, Ki	n-Reduced Matrix, Mi	3-Maskeu	Sand G	irairis.		: PL=Pore Lining, M=Matrix.  for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belo	w Surface	(S8) ( <b>LF</b>	RR R,	2 cm M	luck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	oipedon (A2)		MLRA 149B	•				Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surfa Loamy Mucky N					flucky Peat or Peat (S3) (LRR K, L, R) urface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed			K, L)		lue Below Surface (S8) (LRR K, L)
	d Below Dark Surfac	ce (A11)	X Depleted Matrix		,		Thin Da	ark Surface (S9) ( <b>LRR K, L</b> )
	ark Surface (A12)		Redox Dark Su		7)			anganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark Redox Depress		7)			ont Floodplain Soils (F19) ( <b>MLRA 149B</b> ) Spodic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)		Nedox Bepress	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				arent Material (F21)
Stripped	l Matrix (S6)						Very S	hallow Dark Surface (TF12)
Dark Su	rface (S7) ( <b>LRR R</b> ,	MLRA 149	<b>9B</b> )				Other (	Explain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegeta	ation and v	vetland hydrology mus	st be prese	ent. unles	ss disturbed	or problematic	:.
	Layer (if observed)				,			
Type:								
Depth (in	ches):						Hydric Soil	Present? Yes No
Remarks:								

ject/Site: UT Swan Creek City/County: Toledo/Lucas Sampling Date: 2024-1						
	State: Ohio Sampling Point: SP6					
	Section, Township, Range: T3N 12 Mile Square					
	Local relief (concave, convex, none): Concave Slope (%): 2					
	2315157 Long:83.61685711 Datum: _WGS 84					
	cent slopes NWI classification: PFO					
	me of year? Yes No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology sig	nificantly disturbed? Are "Normal Circumstances" present? Yes X No					
Are Vegetation, Soil, or Hydrology nat						
	nowing sampling point locations, transects, important features, etc.					
,						
Hydrophytic Vegetation Present? Yes No No No No	/					
Wetland Hydrology Present?						
Remarks: (Explain alternative procedures here or in a separ	· · · · · · · · · · · · · · · · · · ·					
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that						
	Stained Leaves (B9) Drainage Patterns (B10)					
	c Fauna (B13) Moss Trim Lines (B16)					
	eposits (B15) Dry-Season Water Table (C2)					
1 .	gen Sulfide Odor (C1) Crayfish Burrows (C8)					
Sediment Deposits (B2) Oxidiz	ed Rhizospheres on Living Roots (C3) Saturation Vis ble on Aerial Imagery (C9)					
Drift Deposits (B3) Preser	nce of Reduced Iron (C4) Stunted or Stressed Plants (D1)					
	t Iron Reduction in Tilled Soils (C6) Geomorphic Position (D2)					
	luck Surface (C7) Shallow Aquitard (D3)					
	(Explain in Remarks) Microtopographic Relief (D4)					
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No Depth						
Water Table Present? Yes No Depth						
Saturation Present? Yes No Depth (includes capillary fringe)	(inches): Wetland Hydrology Present? Yes No					
Describe Recorded Data (stream gauge, monitoring well, ae	rial photos, previous inspections), if available:					
Remarks:						
Tromano.						

Tree Stratum (Plot size: 30 ft r )  1. Acer saccharinum	Absolute	Dominant		Dominance Test worksheet:
	% Cover 30	Species? ✓	FACW	Number of Dominant Species
n Panillile aditalade	30		FAC	That Are OBL, FACW, or FAC: 3 (A)
Populus deltoides Crataegus	5		170	Total Number of Dominant Species Across All Strata:  3 (B)
				eposico / torocc / to
4				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
5				(VD)
5				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	65	= Total Cov	er	OBL species $\frac{0}{35}$ $\times 1 = \frac{0}{70}$
Sapling/Shrub Stratum (Plot size: 15 ft r )				FACW species $\frac{35}{30}$ $\times 2 = \frac{70}{90}$
1. Cornus amomum	5		FACW	1 AC species
2				FACU species $0$ $x = 4$ $0$ UPL species $0$ $x = 5$ $0$
3				Column Totals: 65 (A) 160 (B)
4				
5				Prevalence Index = B/A = $\frac{2.46}{}$
3				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	_	= Total Cov	er	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5 ft r )		10101 001	OI .	3 - Prevalence Index is ≤3.0 <sup>1</sup>
1				<ul> <li>4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)</li> </ul>
2.				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3				4
1.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
5				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
3				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless
11				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
		= Total Cov	er	height.
Noody Vine Stratum (Plot size: 30 ft r)				
1				
)				I brahambratia
2				Hydrophytic Vegetation
3				
		= Total Cov		Present? Yes No

SOIL Sampling Point: SP6

Depth	Matrix		Redo	x Features	3		n the absence of indica	isoro,
(inches)	Color (moist)	%	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 - 7	10YR 4/2	95	7.5YR 4/6	5	<u>C</u>	PL/M	loamy sand	
7-16	10YR 5/2	95	7.5YR 4/6	5	С	PL, M	loamy sand	
-								
		_				_	<del></del>	
	-							
		_						
		_						
-								
						_		
1 <sub>Tymov</sub> C=C	oncentration D=Der	lotion DN				roino	<sup>2</sup> Location: DL=Dor	ro Lining M=Motrix
Hydric Soil		netion, Ki	1-Reduced Matrix, Mis	5-IVIASKeu	Sand G	iairis.		re Lining, M=Matrix.  Iematic Hydric Soils³:
Histosol			Polyvalue Belov	v Surface	(S8) ( <b>LF</b>	RR R,		)) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149B)					edox (A16) ( <b>LRR K, L, R</b> )
	istic (A3)		Thin Dark Surfa Loamy Mucky N				) 5 cm Mucky Pea Dark Surface (S	at or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Gleyed I			Ν, L)		v Surface (S8) ( <b>LRR K, L</b> )
	d Below Dark Surfac	e (A11)	Depleted Matrix		,		Thin Dark Surfa	ce (S9) ( <b>LRR K, L</b> )
	ark Surface (A12)		Redox Dark Sui					e Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark S Redox Depress		7)			plain Soils (F19) ( <b>MLRA 149B</b> ) (A6) ( <b>MLRA 144A, 145, 149B</b> )
X Sandy F			Nedox Depless	10115 (1 0)			Red Parent Mat	
-	Matrix (S6)							ark Surface (TF12)
Dark Su	ırface (S7) ( <b>LRR R, I</b>	MLRA 149	B)				Other (Explain in	າ Remarks)
<sup>3</sup> Indicators o	if hydronhytic vegeta	tion and w	etland hydrology mus	t he nrese	nt unle	ss disturbed	or problematic	
	Layer (if observed)		retiana nyarology mas	it be prese	ont, amo	33 distarbed	T problematic.	
Type:								
Depth (in	ches):						Hydric Soil Present?	? Yes <u>/</u> No
Remarks:	,							

Project/Site: UT Swan Creek	City/County: Toledo/Lucas Sampling Date: 2024-11-0					
	State: Ohio Sampling Point: SP7					
	Section, Township, Range: T3N 12 Mile Square					
Landform (hillslope, terrace, etc.): Summit Local relief (concave, convex, none): Convex Slope (%						
Subregion (LRR or MLRA): Lat: 41.6						
Soil Map Unit Name: OtB Ottokee fine sand 0-6 pe						
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrology si			resent? Yes X No			
Are Vegetation, Soil, or Hydrology n.						
SUMMARY OF FINDINGS – Attach site map s						
Hydrophytic Vegetation Present? Yes No		tland? Yes	No			
Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	If yes ontion	nal Wetland Site ID:				
Remarks: (Explain alternative procedures here or in a sep		iai Weliand Site ID.				
USACE Antecedent Precipitation Tool indic	ates drier than normal c	onditions				
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)			
Primary Indicators (minimum of one is required; check all the	hat annly)	Surface Soil				
		Surface Soil Drainage Pat				
	er-Stained Leaves (B9) atic Fauna (B13)	Drainage Pai Moss Trim Li				
	Deposits (B15)		Water Table (C2)			
	rogen Sulfide Odor (C1)	·				
	ized Rhizospheres on Living R	Crayfish Burr				
	ence of Reduced Iron (C4)		ressed Plants (D1)			
	ent Iron Reduction in Tilled Soi					
	Muck Surface (C7)					
	r (Explain in Remarks)		phic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	(Explain in Nemarks)	Microtopogra				
Field Observations:		FAC-Neutral	Test (D3)			
	oth (inches):					
	oth (inches):					
		Wetland Hydrology Presen	t2 Ves No V			
(includes capillary fringe)		, ,,	t: 1es No			
Describe Recorded Data (stream gauge, monitoring well, a	erial photos, previous inspecti	ons), if available:				
Remarks:						

Sapling/Shrub Stratum (Plot size: 15 ft r )

Herb Stratum (Plot size: 5 ft r \_\_\_\_)

3. \_\_\_\_\_\_ \_\_\_ \_\_\_\_\_

4. \_\_\_\_\_\_

11.

10 🗸

20

Tree Stratum (Plot size: 30 ft r )

1. Populus deltoides

1. Populus deltoides

1. Poa compressa

2 Rosa multiflora

12	25	= Total Cover	 Woody vines – A height.	All woody vine
Woody Vine Stratum (Plot size: 30 ft r )				
1				
2				
3			 Hydrophytic	
4			 Vegetation Present?	Yes
		_ = Total Cover	1 10001111	.00
Remarks: (Include photo numbers here or on a separate s	neet.)			

Absolute Dominant Indicator

% Cover Species? Status

= Total Cover

10 = Total Cover

FACU

FACU

FAC

Sampling Point: SP7

SOIL

Depth	<u>Matrix</u>		Redox Features	<b>-</b> .	5
(inches)	Color (moist)	100	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 - 5	10YR 4/3	100		Loam	
5 - 16	10YR 5/3	100		Silt Loam	
-					
-					
	-				
		<del></del>			
-					
-					
-					
_					
-					
Type: C=C	oncentration, D=D	epletion, RM	1=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
	Indicators:		·		or Problematic Hydric Soils³:
Histoso			Polyvalue Below Surface (S8) (LRR R,		ıck (A10) ( <b>LRR K, L, MLRA 149B</b> )
	pipedon (A2)		MLRA 149B)		rairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Surface (S9) (LRR R, MLRA 149B) Loamy Mucky Mineral (F1) (LRR K, L)		icky Peat or Peat (S3) (LRR K, L, R) rface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gleyed Matrix (F2)		e Below Surface (S8) ( <b>LRR K, L</b> )
	d Below Dark Surfa	ace (A11)	Depleted Matrix (F3)		rk Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Surface (F6)		nganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)	1	Depleted Dark Surface (F7) Redox Depressions (F8)		nt Floodplain Soils (F19) ( <b>MLRA 149B</b> ) podic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
	Redox (S5)		Redux Depressions (Fo)		ent Material (F21)
	d Matrix (S6)				allow Dark Surface (TF12)
Dark Su	ırface (S7) ( <b>LRR R</b>	, MLRA 149	<b>B</b> )	Other (E	xplain in Remarks)
31		4-4:			
	Tayer (if observed		etland hydrology must be present, unless disturbed	or problematic.	
Type:	Layer (II observed	<b></b>			
Depth (in	robos):			Hydric Soil P	resent? Yes No
	iches).			11,411.0 0011.1	
Remarks:					

Project/Site: UT Swan Creek City/County: Toledo/Lucas Sampling Date: 2024-1						
Applicant/Owner: University of Toledo Medical Center	State: Ohio Sampling Point: SP8					
Investigator(s): Freeland, Dubuc Sec						
Landform (hillslope, terrace, etc.): Depression Local r						
Subregion (LRR or MLRA): Lat: 41.62341342	Long: -83.61820207 Datum: WGS 84					
	NWI classification:					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes No (If no, explain in Remarks.)					
Are Vegetation, Soil, or Hydrology significantly dist	urbed? Are "Normal Circumstances" present? Yes No					
Are Vegetation, Soil, or Hydrology naturally probler						
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.					
Libration buttle Vanctation Description	Is the Sampled Area					
Hydrophytic Vegetation Present?  Yes No  Hydric Soil Present?  Yes No	within a Wetland? Yes No					
Wetland Hydrology Present? Yes V No	If yes, optional Wetland Site ID: Wetland D					
Remarks: (Explain alternative procedures here or in a separate report.)	1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					
USACE Antecedent Precipitation Tool indicates drier th	an normal conditions.					
'						
HYDROLOGY						
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) Water-Stained Leav	ves (B9) Drainage Patterns (B10)					
High Water Table (A2) Aquatic Fauna (B13						
Saturation (A3) Marl Deposits (B15						
Water Marks (B1) Hydrogen Sulfide C						
	eres on Living Roots (C3) Saturation Vis ble on Aerial Imagery (C9)					
Drift Deposits (B3) Presence of Reduc						
Algal Mat or Crust (B4) Recent Iron Reduct						
Iron Deposits (B5) Thin Muck Surface						
Inundation Visible on Aerial Imagery (B7) Other (Explain in Re						
Sparsely Vegetated Concave Surface (B8)	✓ FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No Depth (inches):						
Water Table Present? Yes No Depth (inches):						
Saturation Present? Yes No Depth (inches):						
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, p	revious inspections), if available:					
Remarks:						
Tromano.						

				Sampling Point: SP8
Tree Stratum (Plot size: 30 ft r )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. Populus deltoides	30		FAC	Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
2. Ulmus americana	25		FACW	Total Number of Dominant
3. Acer saccharinum	15		FAC	Species Across All Strata: 3 (B)
4 5				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)
6.				
7				Prevalence Index worksheet:  Total % Cover of: Multiply by:
··-		= Total Co	· · · · · · · · · · · · · · · · · · ·	Total % Cover of:         Multiply by:           OBL species         0         x 1 = 0
Sapling/Shrub Stratum (Plot size: 15 ft r )	<u>, , , , , , , , , , , , , , , , , , , </u>	- Total Co	VCI	FACW species 25
, None				FAC species 45
·				FACU species $0 \times 4 = 0$
2				UPL species $0 \times 5 = 0$
3				Column Totals: 70 (A) 185 (B)
4	<u> </u>			Prevalence Index = B/A = 2.64
5				
6				Hydrophytic Vegetation Indicators:
7	_			1 - Rapid Test for Hydrophytic Vegetation
		= Total Co	ver	✓ 2 - Dominance Test is >50%
Herb Stratum (Plot size: 5 ft r )				3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide supporting
1				data in Remarks or on a separate sheet)  Problematic Hydrophytic Vegetation¹ (Explain)
2.				Problematic Hydrophytic Vegetation (Explain)
3 4				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in. DBH
9				and greater than or equal to 3.28 ft (1 m) tall.
10				<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11				Woody vines – All woody vines greater than 3.28 ft in
12			·	height.
20 # "		= Total Co	ver	
Woody Vine Stratum (Plot size: 30 ft r )				
1. None				
2		-		
				Hydrophytic
3				Vegetation Present?  Yes  No  No
34				

SOIL Sampling Point: SP8

Depth	ription: (Describe t Matrix		Redo	x Features	<b>;</b>					
<u>(inches)</u>	Color (moist)	%	Color (moist)	%	Type <sup>1</sup> L	_oc²	<u>Texture</u>		Remarks	
<u>0 - 16</u>	10YR 2.5/1	98	7.5YR 4/6	2			Sandy Loam			
-										
-										
								-		
								-		
-										
-										
				-				-		
				-				-		
				-				-		
	ncentration, D=Depl	etion, RM	Reduced Matrix, MS	S=Masked	Sand Grains	S			Lining, M=Mat	
Hydric Soil I			Dalamaka Dalam	0	(00) ( <b>I DD D</b>				matic Hydric	
Histosol	(A1) ipedon (A2)		Polyvalue Belov MLRA 149B)		(58) (LRR R	,			( <b>LRR K, L, ML</b> ox (A16) ( <b>LRR</b>	•
Black His			Thin Dark Surfa		RR R, MLRA	<b>149B</b> )			or Peat (S3) (I	•
	n Sulfide (A4)		Loamy Mucky N						(LRR K, L)	,
	Layers (A5)		Loamy Gleyed		1		-		Surface (S8) ( <b>I</b>	·
•	Below Dark Surface	(A11)	Depleted Matrix						(S9) ( <b>LRR K</b> ,	•
	rk Surface (A12)		Redox Dark Su		7)			-	Masses (F12) (	
	ucky Mineral (S1) leyed Matrix (S4)		Depleted Dark S Redox Depress		<i>(</i> )					(MLRA 149B) A, 145, 149B)
	edox (S5)		Redox Depress	10110 (1 0)				arent Mater		A, 140, 140D)
	Matrix (S6)								k Surface (TF1	12)
Dark Sur	face (S7) ( <b>LRR R, M</b>	LRA 149E	3)				Other (	Explain in I	Remarks)	
31	h		.41	4 h		- 4l I				
	hydrophytic vegetati .ayer (if observed):	on and we	etiano nyorology mus	t be prese	nt, unless as	sturbea	or problematic	·.		
Type:	.ayer (ii observed).									
• • •	I V.		<del></del>				Hydric Soil	Present?	Vas V	No
Depth (inc	:nes):		<u></u>				Tiyunc 30ii	i resent:	163	
Remarks:										

Project/Site: UT Swan Cree	k	City/C	county: Toledo/Luca	as	Sampling Date: 2024-11-08
Applicant/Owner: Unive	ersity of Toledo				Sampling Point: SP9
Investigator(s): Freeland, Du					
Landform (hillslope, terrace, etc				none). Concave	Slope (%):
Subregion (LRR or MLRA):				83.61981324	elepe (///)
Soil Map Unit Name: So Slo					
Are climatic / hydrologic conditi					
					oresent? Yes X No
Are Vegetation, Soil	, or Hydrology <sub>.</sub>	naturally problema	atic? (If needed	d, explain any answe	rs in Remarks.)
SUMMARY OF FINDING	S – Attach site	e map showing san	npling point loca	tions, transects	, important features, etc.
Hydrophytic Vegetation Prese Hydric Soil Present?	Voc	No	Is the Sampled Area within a Wetland?	Yes	
Wetland Hydrology Present?  Remarks: (Explain alternative	169	110	If yes, optional Wetla	and Site ID:	uand L
HYDROLOGY				Coonday India	store (minimum of two required)
Wetland Hydrology Indicato		l   -     4  4   - \		-	ators (minimum of two required)
Primary Indicators (minimum			- (DO)	Surface Soil	
Surface Water (A1) High Water Table (A2)		<ul><li>Water-Stained Leave</li><li>Aquatic Fauna (B13)</li></ul>		Drainage Pat Moss Trim Li	
Saturation (A3)		Marl Deposits (B15)			Water Table (C2)
Water Marks (B1)		Hydrogen Sulfide Od	or (C1)	Crayfish Buri	
Sediment Deposits (B2)		Oxidized Rhizospher			s ble on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced	-		tressed Plants (D1)
Algal Mat or Crust (B4)		Recent Iron Reduction		<b>C</b> Geomorphic	
Iron Deposits (B5)		Thin Muck Surface (0	<b>)</b> 7)	Shallow Aqui	itard (D3)
Inundation Visible on Aer	rial Imagery (B7)	Other (Explain in Rer	narks)	Microtopogra	phic Relief (D4)
Sparsely Vegetated Cond	cave Surface (B8)			FAC-Neutral	Test (D5)
Field Observations:		<b></b>			
Surface Water Present?		Depth (inches):			
Water Table Present?		Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes No'	Depth (inches):	wetiand	d Hydrology Presen	t? Yes No
Describe Recorded Data (stre	eam gauge, monitori	ing well, aerial photos, pre	vious inspections), if a	vailable:	
Remarks:					
Tromano.					

<b>EGETATION</b> – Use scientific names of plants				Sa	ampling Point: <u>SP9</u>	
Tree Stratum (Plot size: 30 ft r )	Absolute % Cover	Dominant Species?	t Indicator Status	Dominance Test workshe		
1				Number of Dominant Spa That Are OBL, FACW, or	2	(A)
2				Total Number of Domina	2	
3				Species Across All Strata		(B)
4				Percent of Dominant Spe	100	
5				That Are OBL, FACW, or	100	(A/B)
6				Duescale need Index work	4.	
7				Prevalence Index work: Total % Cover of:	• <b>t:</b> Multiply by:	
· ·		= Total Co		OBL species	<u> </u>	_
Sapling/Shrub Stratum (Plot size: 15 ft r )		10101 00	VOI	FACW species	x 2 =	_
				FAC species	x 3 =	_
1				FACU species	x 4 =	
2		· -		UPL species	x 5 =	_
3		-	<del></del>	Column Totals:	(A) <u>~</u>	_ (B)
4			<del></del>		D/A	
5			<del></del>	Prevalence Index = I	B/A =	_
6				Hydrophytic Vegetation I		
7		· <del></del>		1 - Rapid Test for Hyd		
		= Total Co	ver	X 2 - Dominance Test is		
Herb Stratum (Plot size: 5 ft r				3 - Prevalence Index is		
1. Carex intumescens	40	~	FACW	4 - Morphological Ada <sub>l</sub> data in Remarks or	ptations  (Provide sup  on a separate sheet)	porting
2. Phalaris arundinacae	40	Х	FACW	Problematic Hydrophy	tic Vegetation <sup>1</sup> (Explai	n)
3. Pilea pumilla	4		OBL			
4		-		<sup>1</sup> Indicators of hydric soil an be present, unless disturbe		nust
				•		
5				Definitions of Vegetation	Strata:	
6.				Tree – Woody plants 3 in.		ameter
7				at breast height (DBH), reg	ardless of height.	
8			· ——	Sapling/shrub – Woody p		вн
9				and greater than or equal t	0 3.28 π (1 m) tall.	
10			<del></del>	<b>Herb</b> – All herbaceous (not of size, and woody plants le		rdless
11				of size, and woody plants in	388 trian 3.20 it tail.	
12				Woody vines – All woody height.	vines greater than 3.2	8 ft in
	40	= Total Co	ver	neignt.		
Woody Vine Stratum (Plot size: 30 ft r )						
1		· -				
2						
3				Hydrophytic		
4.				Vegetation	x	
		= Total Co	ver	Present? Yes _	No	
Remarks: (Include photo numbers here or on a separate	sheet.)	10101 00				

Sampling Point: SP9

SOIL

inches)	Matrix			x Feature		. ?				
	Color (moist)	<u>%</u>	Color (moist)	<u> </u>	<u>Type<sup>1</sup></u>	Loc <sup>2</sup>	Texture	cand	Remarks	
<u>0-5</u>	10YR 3/1	98	7.5YR 4/6	2		PL, M	mucky	sand		
5-16	10YR 4/1	93	7.5YR 5/8	7	C	M	L/C			
-										
						<del></del> .				
		<del></del>		-	_					
						<del></del> .				
-										
-										
		·		- ·		· ——		-		
						<del></del>		-		
-										
-										
	noontration D=Dan	lotion DM-		C=Mooko			21 continu	DI =Doro	Lining, M=Mat	ris.
	ndicators:	netion, Rivi-	-Reduced Matrix, M	S-Maske	u Sanu G	iairis.			matic Hydric	
_ Histosol (			Polyvalue Belo	w Surface	e (S8) ( <b>LR</b>	R R,			(LRR K, L, ML	
	ipedon (A2)		MLRA 149B		( ) (	,	Coast Prairie Redox (A16) (LRR K, L, R)			
_ Black His			Thin Dark Surfa						or Peat (S3) (L	RR K, L, R)
	n Sulfide (A4) Layers (A5)		Loamy Mucky I Loamy Gleyed			<b>(</b> , L)			) ( <b>LRR K, L</b> ) Surface (S8) ( <b>L</b>	DD K I \
	l Below Dark Surfac	e (A11)	X Depleted Matrix		<b>Z</b> )				e (S9) ( <b>LRR K</b> ,	
	rk Surface (A12)	- ( ,	Redox Dark Su		)				Masses (F12) (	•
	lucky Mineral (S1)		Depleted Dark						ain Soils (F19)	
	leyed Matrix (S4)		Redox Depress	sions (F8)	)				.6) (MLRA 144)	A, 145, 149B
-	edox (S5) Matrix (S6)							arent Mate	าลเ (F21) k Surface (TF1	2)
	face (S7) ( <b>LRR R, I</b>	MLRA 149E	3)					(Explain in		_,
_ Dark Sur			tland budralagu muu	st be pres	sent, unles	s disturbed o	or problemati	C.		
_ Dark Sur	hydrophytic vegeta		tiland hydrology mu							
_ Dark Sur			tiland flydrology mu							
_ Dark Sur dicators of estrictive L Type:	hydrophytic vegeta ayer (if observed)		edand flydrology mus						X	
_ Dark Sur	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
Dark Sur	hydrophytic vegeta ayer (if observed)						Hydric Soi	l Present?	Yes X	No
Dark Surdicators of strictive L Type: Depth (inc	hydrophytic vegeta ayer (if observed)						Hydric Soi	l Present?	Yes X	No
Dark Surdicators of strictive Large: Depth (inc	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soil	I Present?	Yes X	No
Dark Surdicators of strictive Large: Depth (inc	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
Dark Sur	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
Dark Surdicators of strictive Large: Depth (inc	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soi	I Present?	Yes X	No
Dark Surdicators of strictive Large: Depth (inc	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soi	I Present?	Yes X	No
Dark Surdicators of strictive L Type: Depth (inc	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
Dark Sur	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soi	I Present?	Yes X	No
Dark Sur	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soi	I Present?	Yes X	No
_ Dark Surndicators of estrictive L	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
_ Dark Surndicators of estrictive L Type: Depth (inc	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
_ Dark Surndicators of estrictive L Type: Depth (inc	hydrophytic vegeta ayer (if observed)		mand hydrology mus				Hydric Soi	I Present?	Yes X	No
Dark Sur	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No
Dark Surdicators of strictive Large: Depth (inc	hydrophytic vegeta ayer (if observed)						Hydric Soi	I Present?	Yes X	No

#### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UT Swan Creek	City/County: Tole	do/Lucas	Sampling Date: 2024-11-08
Applicant/Owner: University of Toledo		State: Ohio	
	Section, Township	, Range: T3N 12 Mile	Square
Landform (hillslope, terrace, etc.): Ridge			
Subregion (LRR or MLRA): L			
Soil Map Unit Name: So Sloan loam, occassion			
Are climatic / hydrologic conditions on the site typical			
Are Vegetation, Soil, or Hydrology _	significantly disturbed?	Are "Normal Circumstances" p	present? Yes No
Are Vegetation, Soil, or Hydrology _		If needed, explain any answe	
SUMMARY OF FINDINGS - Attach site	map showing sampling poi	nt locations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No V Is the Sam	pled Area	
Hydric Soil Present? Yes	No 🗸 within a W		No
Wetland Hydrology Present? Yes	No / If yes, optio	nal Wetland Site ID: Upla	nd
Remarks: (Explain alternative procedures here or	in a separate report.)		
USACE Antecedent Precipitation To	ool indicates drier than normal	conditions.	
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	ators (minimum of two required)
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil	
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pa	·
	Aquatic Fauna (B13)	Moss Trim L	
	Marl Deposits (B15)		Water Table (C2)
	Hydrogen Sulfide Odor (C1)	Crayfish Bur	
	Oxidized Rhizospheres on Living I	<del></del> •	is ble on Aerial Imagery (C9)
	Presence of Reduced Iron (C4)		tressed Plants (D1)
	Recent Iron Reduction in Tilled Sc		Position (D2)
	Thin Muck Surface (C7)	Shallow Aqu	
	Other (Explain in Remarks)	<del></del> -	aphic Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral	
Field Observations:		<u> </u>	()
	Depth (inches):		
	Depth (inches):		
	Depth (inches):	Wetland Hydrology Preser	nt? Yes No 🗸
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspec	ions), if available:	
Remarks:			

<b>VEGETATION</b> –	Use	scientific	names	οf	plants.

<b>/EGETATION</b> – Use scientific names of plants	S.			Sampling Point: SP10
Tree Stratum (Plot size: 30 ft r )	Absolute	Dominant Species?	Indicator	Dominance Test worksheet:
1			FACU	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
2			FACU	
3			·	Total Number of Dominant Species Across All Strata: 2 (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0.00 (A/B
3				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
		= Total Co	ver	OBL species $0 \times 1 = 0$
Sapling/Shrub Stratum (Plot size: 15 ft r )				FACW species <u>0</u>
_ Lonicera tatarica	20		FACU	FAC species $0$ $x 3 = 0$ FACU species $0205$ $x 4 = 820$
2				x +
3				UPL species $0$ $x 5 = 0$ (B)
1				(5)
5				Prevalence Index = B/A = 4.00
5. <u> </u>				Hydrophytic Vegetation Indicators:
7				1 - Rapid Test for Hydrophytic Vegetation
	20	= Total Co	ver	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹
Herb Stratum (Plot size: 5 ft r )				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
1. Rosa multiflora	5		FACU	data in Remarks or on a separate sheet)
2			·	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3			· ——	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
5		-	· ——	Tree – Woody plants 3 in. (7.6 cm) or more in diamete
7				at breast height (DBH), regardless of height.
3			. ———	Sapling/shrub – Woody plants less than 3 in. DBH
). 				and greater than or equal to 3.28 ft (1 m) tall.
10			· ———	<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
11			· ———	Woody vines – All woody vines greater than 3.28 ft in
12		T-4-1 O-		height.
Woody Vine Stratum (Plot size: 30 ft r )		= Total Co	ver	
· · · · · · · · · · · · · · · · · · ·				
1 2				
3				Hydrophytic
			·	Hydrophytic Vegetation
				Present? Yes No
4.		= Total Co	ver	Present? Yes No

SOIL Sampling Point: SP10

Profile Desc	ription: (Describe	to the de	pth needed to docun	nent the	indicator	or confirm	n the absence of in	dicators.)
Depth	Matrix			x Feature			_	
(inches) 0 - 6	Color (moist) 10Y 3/2	<u>%</u> 100	Color (moist)	%	Type'	Loc <sup>2</sup>	Texture  Loamy Sand	Remarks
6 - 12	101 3/2 10YR 4/3	100			-		Loamy Sand	
12 - 16	10 Y K 4/3	98	7.5YR 5/4	2			Loamy Sand	
12 - 10	101 3/3	90	7.51K 5/4		· <del>C</del>		Loanly Sand	
					-			
			· <del></del>	-	<u> </u>			
					<u> </u>			
-								
-								
		oletion, RN	1=Reduced Matrix, MS	S=Maske	d Sand Gr	ains.		=Pore Lining, M=Matrix.
Hydric Soil								Problematic Hydric Soils <sup>3</sup> :
Histosol Histic Et	(A1) pipedon (A2)		Polyvalue Below MLRA 149B)		(S8) ( <b>LR</b> )	K K,		(A10) ( <b>LRR K, L, MLRA 149B</b> ) ie Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	stic (A3)		Thin Dark Surfa				5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky M Loamy Gleyed M			(, <b>L</b> )		ce (S7) ( <b>LRR K, L</b> ) Below Surface (S8) ( <b>LRR K, L</b> )
	d Below Dark Surfac	e (A11)	Depleted Matrix		-,		-	Surface (S9) (LRR K, L)
	ark Surface (A12)		Redox Dark Sur					nese Masses (F12) (LRR K, L, R)
-	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark S Redox Depression		-7)			loodplain Soils (F19) ( <b>MLRA 149B</b> ) lic (TA6) ( <b>MLRA 144A, 145, 149B</b> )
-	Redox (S5)		<u> </u>				Red Parent	Material (F21)
	l Matrix (S6) rface (S7) ( <b>LRR R, I</b>	MI DA 140	ID)					w Dark Surface (TF12) ain in Remarks)
Daik Su	nace (37) (LKK K, I	VILNA 148	, o				Other (Expi	alli III Nelliaiks)
			etland hydrology mus	t be pres	ent, unles	s disturbed	d or problematic.	
Type:	Layer (if observed)	:						
	ches):						Hydric Soil Pres	sent? Yes No
Remarks:	,		<del></del>					

#### WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: UT Swan Creek		City/County: Tole	do/Lucas	Sa	ampling Date: 2024-11-08
Applicant/Owner: University of 1	oledo		St	ate: Ohio	Sampling Point: SP11
Investigator(s): Freeland, Dubue	<b>c</b>	Section, Township			
Landform (hillslope, terrace, etc.): _					
Subregion (LRR or MLRA):	- Lat: 41.0	62210136	Long: -83.62	009923	Datum: WGS 84
Soil Map Unit Name: So Sloan Io	am, occassionally flo	ooded		NWI classification	on:
Are climatic / hydrologic conditions					
Are Vegetation, Soil	, or Hydrologys	ignificantly disturbed?	Are "Normal Circ	cumstances" pres	sent? Yes 🖍 No
Are Vegetation, Soil				in any answers i	
SUMMARY OF FINDINGS -	- Attach site map s	showing sampling poi	nt locations,	transects, ir	mportant features, etc.
Hydrophytic Vegetation Present?	YesN	ls the Sam	pled Area		
Hydric Soil Present?	Yes V		etland?	Yes	No
Wetland Hydrology Present?			nal Wetland Site	e ID: Wetlan	d F
Remarks: (Explain alternative pro	cedures here or in a sep				
		ool indicates drier tha			
HYDROLOGY Wetland Hydrology Indicators:			Soc	condany Indicator	s (minimum of two required)
Wetland Hydrology Indicators:	ao io roquirod: obook all t	hat apply)		-	s (minimum of two required)
Primary Indicators (minimum of or				Surface Soil Cra	· · ·
Surface Water (A1) High Water Table (A2)		er-Stained Leaves (B9) atic Fauna (B13)	_	Drainage Patter Moss Trim Lines	
Saturation (A3)		Deposits (B15)		Dry-Season Wa	· · ·
Water Marks (B1)		ogen Sulfide Odor (C1)		Crayfish Burrow	· ·
Sediment Deposits (B2)		ized Rhizospheres on Living	Roots (C3)		le on Aerial Imagery (C9)
Drift Deposits (B3)		ence of Reduced Iron (C4)	` ,		ssed Plants (D1)
Algal Mat or Crust (B4)		ent Iron Reduction in Tilled Sc	oils (C6)	Geomorphic Pos	
Iron Deposits (B5)	Thin	Muck Surface (C7)	_	Shallow Aquitar	d (D3)
Inundation Visible on Aerial Ir	magery (B7) Othe	r (Explain in Remarks)		Microtopographi	ic Relief (D4)
Sparsely Vegetated Concave	Surface (B8)		_	FAC-Neutral Te	st (D5)
Field Observations: Surface Water Present? Yes	na Na 🗸 Daw	Ab (in ab a a).			
		oth (inches):oth (inches):			
		oth (inches):	Wetland Hydr	ology Present?	Yes No
(includes capillary fringe)		, ,	_		103 <u> </u>
Describe Recorded Data (stream	gauge, monitoring well, a	nerial photos, previous inspec	tions), if availabl	e:	
Remarks:					

<u>Spe</u>	ecies? ✓	Indicator Status FAC	Dominance Test worksheet:  Number of Dominant Species
			Number of Dominant Species
		170	Transer of Berninant Openies
		FAC	That Are OBL, FACW, or FAC: $\underline{2}$ (A)
		FAC	Total Number of Dominant
			Species Across All Strata: 2 (B)
			Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
			That Are OBL, FACW, or FAC. 199199 (A/B)
			Prevalence Index worksheet:
			Total % Cover of: Multiply by:
= Tot	tal Cove	er	OBL species $\frac{5}{2}$ $\times 1 = \frac{5}{2}$
			FACW species $\frac{0}{71}$ x 2 = $\frac{0}{212}$
			FAC species $\frac{71}{0}$ $\times 3 = \frac{213}{0}$
			FACU species $0$ $x = 0$
			UPL species $0$ $x 5 = 0$ (B)
			Coldini Totals (7) (5)
			Prevalence Index = B/A = 2.86
			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
	tal Cove	<u></u>	∠ 2 - Dominance Test is >50%
	001	J.	3 - Prevalence Index is ≤3.0 <sup>1</sup>
	/	OBI	4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
			Problematic Hydrophytic Vegetation (Explain)
			<sup>1</sup> Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
			Definitions of Vegetation Strata:
			Tree – Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
			Sapling/shrub – Woody plants less than 3 in. DBH
			and greater than or equal to 3.28 ft (1 m) tall.
			<b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
— —			
— —			<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
= Tot	tal Cove	er	l l l l l l l l l l l l l l l l l l l
			Hydrophytic
			Hydrophytic Vegetation Present? Yes _ ✓ No
	= To	= Total Cove	= Total Cover   OBL  FAC

SOIL Sampling Point: SP11

0 - 6 10YR 3/1 98 10YR 4/6 2 C PL / M Loamy Sand 6 - 16 10YR 4/2 98 10YR 5/4 2 C M Sandy Loam	inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	s Type <sup>1</sup>	Loc²	<u>Texture</u>	Remarks
6 - 16 10YR 4/2 98 10YR 5/4 2 C M Sandy Loam	0 - 6				_				INCINAINS
pe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.				-		-	. ——		
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.	0 - 10	10 YR 4/2	_ 98	10 YR 5/4		<u> </u>	- IVI	Sandy Loam	
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.	-				_				
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					_				
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.	-								
rpe: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.							·		
rge: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.									
Histosol (A1)							· <del></del>		
Histosol (A1)									
Histosol (A1)					_				
Histosol (A1)	_								
Histosol (A1)					_		· <del></del>		
Histosol (A1)			_		_	·	· ——		
Histosol (A1)									
Histosol (A1) Polyvalue Below Surface (S8) (LRR R,			pletion, RN	M=Reduced Matrix, M	S=Masked	d Sand Gi	ains.		
Histic Epipedon (A2) Black Histic (A3) Black Histic (A1) Black Surface (S7) (LRR K, L) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (F7) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black Surface (S7) (LRR K, L) Black Surface (F7) Black				Polyvalue Belo	w Surface	(S8) (LR	RR		•
Black Histic (A3) Thin Dark Surface (S9) (LRR R, MLRA 149B) 5 cm Mucky Peat or Peat (S3) (LRR K, L, F, Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S7) (LRR K, L) Dark Surface (S8) (LRR K, L) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L) Thin Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144						(00) (LIC	ιν ιν,		
Stratified Layers (A5) Loamy Gleyed Matrix (F2) Polyvalue Below Surface (S8) (LRR K, L)  Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thin Dark Surface (S9) (LRR K, L)  Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L,  Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 14  Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 148  Sandy Redox (S5) Red Parent Material (F21)  Stripped Matrix (S6) Very Shallow Dark Surface (TF12)  Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)  dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  strictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No				Thin Dark Surf	ace (S9) (l	LRR R, M	LRA 149B		
Depleted Below Dark Surface (A11)   Depleted Matrix (F3)							K, L)		
Thick Dark Surface (A12) Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 144			(0.4.4)			2)			
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Piedmont Floodplain Soils (F19) (MLRA 14   Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 149   Sandy Redox (S5) Red Parent Material (F21)   Very Shallow Dark Surface (TF12)   Dark Surface (S7) (LRR R, MLRA 149B) Other (Explain in Remarks)    dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  strictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No			ce (A11)	•					
Sandy Gleyed Matrix (S4) Redox Depressions (F8) Mesic Spodic (TA6) (MLRA 144A, 145, 148									
Sandy Redox (S5) Stripped Matrix (S6) Dark Surface (S7) (LRR R, MLRA 149B)  dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  strictive Layer (if observed): Type: Depth (inches):  Hydric Soil Present? Yes No						',			
Other (Explain in Remarks)  dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  strictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No					,				
dicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  strictive Layer (if observed):  Type:  Depth (inches): Hydric Soil Present? Yes No		ouch (CC)						Very S	hallow Dark Surface (TF12)
strictive Layer (if observed):           Type:	Sandy R							Other (	(Explain in Remarks)
strictive Layer (if observed):           Type:	<ul><li>Sandy Result</li><li>Stripped</li></ul>	Matrix (S6)	MLRA 149	<b>9B</b> )					(=/
Type:  Depth (inches):	_ Sandy Ro _ Stripped _ Dark Sur	Matrix (S6) face (S7) (LRR R,			et he nres	ent unles	e dieturhad	or problematic	
,	Sandy Ro Stripped Dark Sur	Matrix (S6) face (S7) ( <b>LRR R</b> , hydrophytic veget	ation and v		st be pres	ent, unles	s disturbed	or problemation	
,	Sandy Ro Stripped Dark Sur dicators of	Matrix (S6) face (S7) ( <b>LRR R</b> , hydrophytic veget	ation and v		st be pres	ent, unles	s disturbed	or problemation	
	Sandy Ro Stripped Dark Sur dicators of estrictive L Type:	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of estrictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type:	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type:	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of strictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	_ Sandy Ro _ Stripped _ Dark Sur adicators of estrictive L _ Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	'_ Sandy Ro _ Stripped _ Dark Sur ndicators of estrictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	'_ Sandy Ro _ Stripped _ Dark Sur adicators of estrictive L Type:	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	_ Sandy Ro _ Stripped _ Dark Sur adicators of estrictive L _ Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of estrictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D
	Sandy Ro Stripped Dark Sur dicators of estrictive L Type: Depth (inc	Matrix (S6) face (S7) (LRR R, hydrophytic veget ayer (if observed	ation and v		st be pres	ent, unles	s disturbed		D

## APPENDIX B SITE PHOTOGRAPHS





Photo 1: Stream A facing north, upstream.



Photo 3: Stream A facing north, upstream.



Photo 2: Stream A facing south, downstream.



Photo 4: Stream A facing south, downstream toward Swan Creek.





Photo 5: SP2 Wetland A facing south.



Photo 7: SP2 Wetland A facing north.



Photo 6: SP2 Wetland A facing west.



Photo 8: SP2 Wetland A facing east.





Photo 9: SP2 Wetland A soil profile.



Photo 11: SP3 Upland soil profile.



Photo 10: SP3 Upland facing north



Photo 12: SP3. Upland facing west.





Photo 13: SP3 Upland facing south.



Photo 15: SP5 Wetland B facing south.



Photo 14: SP3 Upland facing north.



Photo 16: SP5 Wetland B facing north.





Photo 17: SP5 Wetland B facing west.



Photo 19: SP5 Wetland B soil profile.



Photo 18: SP5 Wetland B facing east.



Photo 20: SP6 Wetland C facing south. Strong water marks on base of trees.





Photo 21: SP6 Wetland C facing east.



Photo 23: SP6 Wetland C soil profile.



Photo 22: SP6 Wetland C facing north toward apartment complex.



Photo 24: SP7 Upland ridge between Wetland B and Wetland C facing northwest.





Photo 25: SP7 Upland ridge between Wetlands B and C facing west.



Photo 27: SP8 Wetland D facing east.



Photo 26: SP7 Upland soil profile.



Photo 28: SP8 Wetland D facing north.





Photo 29: SP8 Wetland D facing south.



Photo 31. SP9 Wetland E facing north.



Photo 30: SP8 Wetland D soil profile.



Photo 32. SP9 Wetland E facing east.





Photo 33. SP9 Wetland E facing south.



Photo 35. SP9 Wetland E soil profile.



Photo 34. SP9 Wetland E facing west.



Photo 36. SP10 Upland, facing west toward Wetland F.





Photo 37. SP10 Upland narrow ridge facing northwest.



Photo 39. SP10 facing east.



Photo 38. SP10 Upland facing south.



Photo 40. SP10 Upland soil profile.





Photo 41. SP11. Wetland F facing north.



Photo 43. SP11 Wetland F facing south.



Photo 42. SP11. Wetland F facing east.



Photo 44. SP11 Wetland F soil profile.





Photo 45. Swan Creek facing southwest, 11/21/2024.



Photo 47. Sand bar and woody debris on Swan Creek, facing upstream (west).



Photo 46. Swan Creek facing upstream (west).



Photo 48. Under cut tree roots, Swan Creek facing downstream (east).





Photo 49. Stream B facing south (9/18/24).



Photo 51. Steam B sandy substrate



Photo 50. Stream B facing east.



Photo 52.Stream B with log jam facing north.



# APPENDIX CORAM FORMS



## **Background Information**

Name:				
	.lohn A	Freeland	PhD	SPWS

Date: 11/06/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland A

Vegetation Communit(ies): Forested Wetland (1)(a)(vi)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.6237586, -83.609357	
USGS Quad Name Rossford, OH 2023	
County Lucas	
Township T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/06/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland A		
Wetland Size (acres, hectares):		0.106 ac
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	s, etc.	
See Figure 3, attached report		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 58	Category:	2

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	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.	х	
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.	х	
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.		х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	х	

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

#### **Narrative Rating**

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

#	Question	Circle one	
			NO
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	Wetland should be evaluated for possible Category 3 status	NO Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
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.	NO Go to Question 3
		Go to Question 3	
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland	NO Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
·	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO
	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
	For a latter without a series and the first for the series of the series	Go to Question 7	NO
<u>7</u>	<b>Fens.</b> 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	YES	NO
	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all least structure and multilevered capacities; aggregations of	Wetland is a Category 3 wetland.	Go to Question 8b
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YFS	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Oalcgory 5 status	
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	Wetter die e Oete nem	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	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.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Overstiteti	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
	1		1

Table 1. Characteristic plant species.

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

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

	Site:	Swan	Creek UTMC	Rater(s): John Freeland	- MSG	Date: 11/06/2024
	1	1	Metric 1. Wetland Ar	ea (size).		
	max 6 pts.	subtotal	Select one size class and assign score	.2ha) (5 pts) a) (4 pts) (3 pts) ha) (2pts)		
	14	15	Metric 2. Upland buf	fers and surroundi	ing land use.	
	max 14 pts.	subtotal	MEDIUM. Buffers average 2 NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or a LOW. Old field (>10 years), MODERATELY HIGH. Resident	(164ft) or more around wetland pe 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) around verage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) orest. (5) ervation tillage, new fallo	ow field. (3)
	19	34	Metric 3. Hydrology.			
!	max 30 pts.	subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) ( x <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. one and assign score.	Part of wetland/u X Part of riparian or Duration inundation/sate Semi- to permane Regularly inundat X Seasonally inundation	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
ĺ			X None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other_	,
	18	52	Metric 4. Habitat Alte	eration and Develo	pment.	
!	max 20 pts.	subtotal	4a. Substrate disturbance. Score one  X None or none apparent (4)  Recovered (3)  Recovering (2)  Recent or no recovery (1)  4b. Habitat development. Select only  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 do	ouble check and average.		
		52	X None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)  age ary 2001 jjm	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	ttic bed removal
	aur iovisel	coluc	, <del>-</del> 00 : jj:::			

Site:	Swan (	Creek U	TMC		Rater(s)	: John	Freeland	Date:	11/06/2	2024
		7						•		
	52									
		J								
	subtotal first pa	Ť	: - <b>-</b>	0	- (    -	_				
0	52	wetr	IC 5.	Special W	etiands	5.				
max 10 pts.	subtotal	Check all	that app	ly and score as indi	cated.					
			Bog (10	•						
			Fen (10	) wth forest (10)						
			_	forested wetland (5)	)					
			-1	ie coastal/tributary v		stricted hyd	rology (10)			
				ie coastal/tributary v		-	ogy (5)			
			-	ain Sand Prairies (C	Oak Openings	s) (10)				
				/et Prairies (10)	deral threater	ned or enda	ngered species (10)			
				ant migratory songb						
			Categor	y 1 Wetland. See 0	Question 1 Q	ualitative Ra	ating (-10)			
6	58	Metr	ic 6.	Plant com	muniti	es, inte	erspersion, microto	pogra	aphy.	
U						•	•		. ,	
max 20 pts.	subtotal	6a. Wetl	and Vege	etation Communities	s. <u>V</u>	egetation (	Community Cover Scale			
		Score all		using 0 to 3 scale.	-	<u>0</u>	Absent or comprises <0.1ha (0.24			s area
			Aquatic Emerge			1	Present and either comprises small vegetation and is of moderate of			а
			Shrub				significant part but is of low qua		omprioco	u
		1	Forest		_	2	Present and either comprises sign		rt of wetlar	nd's
			Mudflats				vegetation and is of moderate of	uality or co	omprises a	a small
			Open w Other_	ater	_	3	part and is of high quality  Present and comprises significan	t nart or m	ore of we	tland's
		6b. horiz		an view) Interspersion	- on.	Ü	vegetation and is of high quality		ioro, or wo	ilana s
		Select on								
			High (5)		<u> </u>		escription of Vegetation Quality			
			Modera	tely high(4) te (3)		low	Low spp diversity and/or predomi disturbance tolerant native spec		onnative o	)r
			-	tely low (2)	_	mod	Native spp are dominant compon		vegetation	,
		X	Low (1)				although nonnative and/or distu	rbance tol	erant nativ	e spp
			None (0	,			can also be present, and specie			to to
		to Table	rage of I	nvasive plants. Ref long form for list. A	er dd		moderately high, but generally threatened or endangered spp	•	ce of rare	
				or coverage	_	high	A predominance of native species		native spp	)
			4	ve >75% cover (-5)			and/or disturbance tolerant nati			•
			-1	te 25-75% cover (-3	5)		absent, and high spp diversity a			
		X	-1 '	5-25% cover (-1) absent <5% cover ((	<u> </u>		the presence of rare, threatener	a, or endar	igerea spp	)
			Absent			ludflat and	Open Water Class Quality			
		6d. Micro	otopogra	ohy.	_	0	Absent <0.1ha (0.247 acres)			
		Score all	7	using 0 to 3 scale.		1	Low 0.1 to <1ha (0.247 to 2.47 ac			
		2	_	ed hummucks/tussu woody debris >15cr	_	3	Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)		
			-	g dead >25cm (10ir			Tright 4nd (5.56 deres) of more			
		2		ian breeding pools		licrotopog	raphy Cover Scale			
					_	0	Absent			
					=	1	Present very small amounts or if of marginal quality			
						2	Present in moderate amounts, bu	-		
					_	3	quality or in small amounts of h  Present in moderate or greater ar		шу	
	1					3	and of highest quality	nounta		
58					_					

**End of Quantitative Rating. Complete Categorization Worksheets.** 

## **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
3	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	18	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	58	Category based on score breakpoints 2

**Complete Wetland Categorization Worksheet.** 

## **Wetland Categorization Worksheet**

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES  Wetland is categorized as a Category 3 wetland	NO_	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	NO_	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "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	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.

Category 3

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

## **Background Information**

Name:				
	.lohn A	Freeland	PhD	SPWS

Date: 11/07/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland B

Vegetation Communit(ies): Forested Wetland (1)(a)(vi)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.62306666, -83.61597148	
USGS Quad Name Rossford, OH 2023	
County Lucas	
T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/06/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland B		
Wetland Size (acres, hectares):		1.236 ac
Sketch: Include north arrow, relationship with other surface waters, vegetation zone	s, etc.	
See Figure 3, attached report		
Comments, Narrative Discussion, Justification of Category Changes:		
Final coors : 57	0-1	
Final score: 57	Category:	2

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

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

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

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

Table 1. Characteristic plant species.

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

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

Site: S	Swan (	Creek UTMC	Rater(s): John Freeland - MSG	<b>Date:</b> 11/07/2024
2	2	Metric 1. Wetland A	Area (size).	
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha	ore. c) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts)	
		X 0.3 to <3 acres (0.12 to <1 0.1 to <0.3 acres (0.04 to < <0.1 acres (0.04ha) (0 pts)	<0.12ha) (1 pt)	
14	16	wetric 2. Opiano bu	ıffers and surrounding land use.	ı
max 14 pts.	subtotal	X WIDE. Buffers average 50 MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use X VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) to 25m to <50m (82 to <164ft) around wetland perimeter (4) ge 10m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) to 25m (32ft) around wetland perimeter (1) average <10m (32ft) around wetland perimeter (0) to 25m (32ft) around wetland perimeter (1) average <10m (32ft) around wetland perimeter (2) average <10m (32ft) average <10m (32ft	
20	36	Metric 3. Hydrology		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (la 3c. Maximum water depth. Select or >0.7 (27.6in) (3) X 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrological personners of the second surface water (la 3c. Maximum water depth. Select or 20.7 (27.6in) (3)  Note: Modifications to natural hydrological personners of the second surface water (15.7in) (1)	Tace water (3)  ake or stream) (5)  nly one and assign score.  Tace water (3)  3d. Duration inundation/sate semi- to perman Regularly inundation (2)  X Part of riparian of the perman Regularly inundation (3)  Semi- to perman Regularly inundation (3)  X Part of riparian of the perman Regularly inundation (3)  Semi- to perman Regularly inundation (3)  X Part of wetland/  X Part of wetland/ X Part of riparian of the perman Regularly inundation (3)  Semi- to perman Regularly inundation (3)	ain (1) /lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) turation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3)
	47	X None or none apparent (12 Recovered (7) Recovering (3) Recent or no recovery (1)		·
11	47		teration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score or X None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) X Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	ly one and assign score.	
		4c. Habitat alteration. Score one or		
sub last revised	47 ototal this pa	•	Check all disturbances observed mowing shrub/sapling rer herbaceous/aqui sedimentation dredging woody debris removal toxic pollutants shrub/sapling rer herbaceous/aqui sedimentation dredging farming nutrient enrichment	atic bed removal

o 47  Metric 5. Special Wetlands.  Max 10 pts. subtotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10)	
o 47 Metric 5. Special Wetlands.  max 10 pts. subtotal first page  Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10)	
Metric 5. Special Wetlands.  Subtotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10)	
max 10 pts. subtotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10)	
Bog (10) Fen (10) Old growth forest (10)	
Mature forested wetland (5)  Lake Erie coastal/tributary wetland-unrestricted hydrology (10)  Lake Erie coastal/tributary wetland-restricted hydrology (5)  Lake Plain Sand Prairies (Oak Openings) (10)  Relict Wet Prairies (10)  Known occurrence state/federal threatened or endangered species (10)  Significant migratory songbird/water fowl habitat or usage (10)	
Category 1 Wetland. See Question 1 Qualitative Rating (-10)	
10   57   Metric 6. Plant communities, interspersion, microtopograp	ohy.
max 20 pts. subtotal 6a. Wetland Vegetation Communities. <b>Vegetation Community Cover Scale</b>	
Score all present using 0 to 3 scale.  On Absent or comprises <0.1ha (0.2471 acres) co	ntiguous area
Aquatic bed 1 Present and either comprises small part of wet	
Emergent vegetation and is of moderate quality, or com	nprises a
1 Shrub significant part but is of low quality	
1 Forest 2 Present and either comprises significant part of wegetation and is of moderate quality or com	
Open water part and is of high quality	prioco a ornan
Other 3 Present and comprises significant part, or more	e, of wetland's
6b. horizontal (plan view) Interspersion. vegetation and is of high quality	
Select only one.  Negretive Description of Vagetation Quality	
High (5)  Moderately high(4)  Narrative Description of Vegetation Quality  low Low spp diversity and/or predominance of non	native or
X Moderate (3)  disturbance tolerant native species	
Moderately low (2) mod Native spp are dominant component of the veg	getation,
Low (1) although nonnative and/or disturbance tolera	
None (0) can also be present, and species diversity m  6c. Coverage of invasive plants. Refer moderately high, but generally w/o presence	
to Table 1 ORAM long form for list. Add threatened or endangered spp	oriale
or deduct points for coverage high A predominance of native species, with nonnal	tive spp
Extensive >75% cover (-5) and/or disturbance tolerant native spp absen	•
Moderate 25-75% cover (-3)  absent, and high spp diversity and often, but	•
Sparse 5-25% cover (-1) the presence of rare, threatened, or endange  X Nearly absent <5% cover (0)	erea spp
Absent (1) Mudflat and Open Water Class Quality	
6d. Microtopography. 0 Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.  1 Low 0.1 to <1ha (0.247 to 2.47 acres)	
1 Vegetated hummucks/tussucks 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 2 Coarse woody debris >15cm (6in) 3 High 4ha (9.88 acres) or more	
2 Coarse woody debris >15cm (6in) 3 High 4ha (9.88 acres) or more Standing dead >25cm (10in) dbh	
1 Amphibian breeding pools Microtopography Cover Scale	
0 Absent	<u> </u>
1 Present very small amounts or if more common of marginal quality	n
2 Present in moderate amounts, but not of higher	est
quality or in small amounts of highest quality	
3 Present in moderate or greater amounts	
57 and of highest quality	

End of Quantitative Rating. Complete Categorization Worksheets.

# **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
J	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	10	
	TOTAL SCORE	57	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

# Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO_	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO_	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "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	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
		X	

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

### **Background Information**

Name:				_
	.lohn A	Freeland	PhD	SPWS

Date: 11/06/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland C

Vegetation Communit(ies): Forested Wetland (1)(a)(vi)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.62315157, -83.61685711	
USGS Quad Name Rossford, OH 2023	
County Lucas	
T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/07/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland C		
Wetland Size (acres, hectares): 1.021 acre on and off Site		0.369 ac on Site
Sketch: Include north arrow, relationship with other surface waters, vegetation zones,	etc.	
See Figure 3, attached report		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 45	ategory:	2

#### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	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.	х	
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.	х	
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.	х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	х	

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

#### **Narrative Rating**

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

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

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	, , , , , , , , , , , , , , , , , , , ,	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this		
9b	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
90	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is	150	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Go to Question 90	Go to Question to
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
	wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
00	tolerant native plant species within its vegetation communities?	120	
		Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO_
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	Co to Quodion 11
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies	Motland about he	Complete
	were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion	Wetland should be evaluated for possible	Complete Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	1

Table 1. Characteristic plant species.

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

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

Site:	Swan (	Creek UTMC	Rater(s): John Freeland - MSG	<b>Date:</b> 11/06/2024
2	2	Metric 1. Wetland A	Area (size).	
max 6 pts.	subtotal	Select one size class and assign scc	s) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)	
7	9	Metric 2. Upland bu	uffers and surrounding land use.	
max 14 pts.	subtotal	WIDE. Buffers average 50 X MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers 2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years X MODERATELY HIGH. Re	Select only one and assign score. Do not double check. Om (164ft) or more around wetland perimeter (7) to 25m to <50m (82 to <164ft) around wetland perimeter (4) to e 25m to <25m (32ft to <82ft) around wetland perimeter (1) average <10m (<32ft) around wetland perimeter (0) to e. Select one or double check and average. Our older forest, prairie, savannah, wildlife area, etc. (7) to s), shrub land, young second growth forest. (5) to seidential, fenced pasture, park, conservation tillage, new falled open pasture, row cropping, mining, construction. (1)	
11	20	Metric 3. Hydrology		
max 30 pts.	subtotal	None or none apparent (1: Recovered (7) X Recovering (3)	X   100 year floodpla   X   Between stream/   Part of wetland/u   Part of riparian of which is possible to provide the control of the contr	ain (1) //ake and other human use (1) //ake and other human use (1) //apland (e.g. forest), complex (1) // upland corridor (1) turation. Score one or dbl check // iteration. Score one or dbl check
		Recent or no recovery (1)	dike road bed/RR trace dredging stormwater input other	;K
9	29	Metric 4. Habitat A	Iteration and Development.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score of None or none apparent (4) Recovered (3) X Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select on 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 None or none apparent (9) Recovered (6) X Recovering (3) Recent or no recovery (1)		
	29 ubtotal this pa	ge ry 2001 jjm	woody debris removal farming nutrient enrichme	ent

Site: 5	Swan C	reek UTMC	Rater(s): John F	reeland - MSG	<b>Date:</b> 11/07/2024
su	29 btotal first pa	ge			
5	34	Metric 5. Special V	Vetlands.		
max 10 pts.	subtotal	Check all that apply and score as incomplete Bog (10) Fen (10) Old growth forest (10) Mature forested wetland ( Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies Relict Wet Prairies (10) Known occurrence state/fi Significant migratory song Category 1 Wetland. See	5) v wetland-unrestricted hyd v wetland-restricted hydrol (Oak Openings) (10) ederal threatened or enda bird/water fowl habitat or	ngered species (10) usage (10)	
11	45	Metric 6. Plant con	nmunities, into	erspersion, microto	pography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communition	es. Vegetation	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.24	71 acres) contiguous area
		Aquatic bed	1	Present and either comprises sma	
		1 Emergent		vegetation and is of moderate q	uality, or comprises a
		Shrub		significant part but is of low qual	lity
		2 Forest	2	Present and either comprises sign	nificant part of wetland's
		Mudflats		vegetation and is of moderate q	uality or comprises a small
		Open water		part and is of high quality	,
		Other	3	Present and comprises significant	part, or more, of wetland's
		6b. horizontal (plan view) Interspers		vegetation and is of high quality	
		Select only one.		vogotation and is of high quality	
		High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predomin	ance of poppative or
			IOW		
		Moderate (3)  X Moderately low (2)	mod	disturbance tolerant native spec	
			mod	Native spp are dominant compone	
		Low (1)		although nonnative and/or distu	
		None (0)	,	can also be present, and specie	•
		6c. Coverage of invasive plants. Ro		moderately high, but generally v	wo presence or rare
		to Table 1 ORAM long form for list.		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native species	· · ·
		Extensive >75% cover (-5	<i>'</i>	and/or disturbance tolerant nativ	
		Moderate 25-75% cover (	-3)	absent, and high spp diversity a	
		Sparse 5-25% cover (-1)		the presence of rare, threatened	I, or endangered spp
		X Nearly absent <5% cover			
		Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 ac	
		1 Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.88	acres)
		2 Coarse woody debris >15		High 4ha (9.88 acres) or more	
		Standing dead >25cm (10	,		
		3 Amphibian breeding pools		raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if r of marginal quality	nore common
			2	Present in moderate amounts, but	
				quality or in small amounts of hi	<u> </u>
	•		3	Present in moderate or greater an	nounts
45				and of highest quality	
+0					

End of Quantitative Rating. Complete Categorization Worksheets.

### **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
·g	Metric 2. Buffers and surrounding land use	7	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	11	
	TOTAL SCORE	45	Category based on score breakpoints 2

**Complete Wetland Categorization Worksheet.** 

# **Wetland Categorization Worksheet**

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO_	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	NO_	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO _	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "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	Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	Category 1	Category 2	Category 3	
		2		

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

### **Background Information**

Name:				
	.lohn A	Freeland	PhD	SPWS

Date: 11/06/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland D

Vegetation Communit(ies): Forested Wetland (1)(a)(vi)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.6237586, -83.609357	
USGS Quad Name Rossford, OH 2023	
County Lucas	
T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/06/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland D		
Wetland Size (acres, hectares):		0.01 ac on site
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.		
See Figure 3, attached report		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 49 Categ	jory:	2

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

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

#	Question	Circle one	
#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species with the table and the second species.	YES  Wetland should be evaluated for possible Category 3 status	NO Go to Question 2
	threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 2	
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.	NO Go to Question 3
		Go to Question 3	110
3	<b>Documented High Quality Wetland.</b> Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	NO
	The state of the s	Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or	YES Wetland is a Category 1 wetland	NO — Go to Question 6
	2) an acidic pond created or excavated on mined lands that has little or no vegetation?	Go to Question 6	
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO
	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
	-	Go to Question 7	
<u>7</u>	<b>Fens.</b> 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	YES	NO
	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all least structure and multilevered capacities; aggregations of	Wetland is a Category 3 wetland.	Go to Question 8b
	years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Go to Question 8b	

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Calegory 5 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YFS	NO
<b></b>	prevent erosion and the loss of aquatic plants, i.e. the wetland is	120	
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Calegory 5 Status	
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These	Oo to Question su	Oo to Question to
	include sandbar deposition wetlands, estuarine wetlands, river mouth		
-04	wetlands, or those dominated by submersed aquatic vegetation.	VEC	NO
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	NO
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?		0 . 0 .:
		Wetland should be evaluated for possible	Go to Question 10
		Category 3 status	
	Lake Blain Cond Businian (Oak Openings) to the wetlend leasted in	Go to Question 10	NO
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	NO NO
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies	YES	NO NO
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	

Table 1. Characteristic plant species.

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

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

Site: Swan	Creek UTMC	Rater(s): John Freeland	- MSG	Date: 11/07/2024
0 0	Metric 1. Wetland A	rea (size).		
max 6 pts. subtotal	Select one size class and assign score	0.2ha) (5 pts) na) (4 pts) (3 pts) tha) (2pts)		
11 11	Metric 2. Upland but	fers and surround	ing land use.	
max 14 pts. subtotal	X MEDIUM. Buffers average and NARROW. Buffers average VERY NARROW. Buffers a verage VERY NARROW. Buffers a verage very very very very very very very ver	n (164ft) or more around wetland pe 25m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) aroun verage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. llife area, etc. (7) forest. (5) ervation tillage, new fallo	ow field. (3)
20 31	Metric 3. Hydrology		( )	
max 30 pts. subtotal	3a. Sources of Water. Score all that a High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select onlessed in Source (27.6in) (3) X 0.4 to 0.7m (15.7 to 27.6in) <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic	e water (3) e or stream) (5) 3d. y one and assign score. (2)	Part of wetland/u X Part of riparian or Duration inundation/sate Semi- to permane Regularly inundation X Seasonally inundation	in (1) lake and other human use (1) pland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3)
	X None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	ditch tile dike weir stormwater input	point source (non filling/grading road bed/RR trac dredging other_	·
9 40	Metric 4. Habitat Alt	eration and Develo	pment.	
max 20 pts. subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) X Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only 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 d			
40 subtotal this pa	•	Check all disturbances observed mowing grazing clearcutting X selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua X sedimentation dredging farming nutrient enrichme	ttic bed removal

Metric 5. Special Wetlands.   Check all that apply and score as indicated.   Bog (10)	Site:	Swan C	reek UTMC	Rater(s): John	Freeland - MSG	<b>Date:</b> 11/07/2024
Metric 5. Special Wetlands.  Check all that apply and score as indicated.  Bog (10) Old growth forest (10) Mature forested wetland (5) Lake Eric coastal/tributary wetland-unrestricted hydrology (10) Lake Eric coastal/tributary wetland-unrestricted hydrology (5) Lake Plain Sand Prairies (0ak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songlarid-water from habitat or usage (10) Relict Wet Prairies (10) Metric 6. Plant communities, interspersion, microtopography.  Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub Dopen water Other Other High (5) Low (1) None (0) Moderately high(4) Moderately high(4) Moderately for (2) Low (1) None (0) Relict Wet Prairies (10) Absent of high quality  Narrative Description of Vegetation Quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate quality or comprises a small part and is of moderate development and is of moderate and or deturbation at or moderate thing, but generally and or moderate thing, but genera			1			1
Metric 5. Special Wetlands.  Check all that apply and score as indicated.  Bog (10) Did growth forest (10) Mature forested wetland (5) Lake Ene coastal/tributary wetland-unrestricted hydrology (10) Lake Ene coastal/tributary wetland-unrestricted hydrology (10) Lake Ene coastal/tributary wetland-unrestricted hydrology (5) Lake Plans Sand Praints (Oak Openings) (10) Relied Wet Praints (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songlar/dwater fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Metric 6. Plant communities, interspersion, microtopography.  Metric 6. Plant communities, interspersion, microtopography.  Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub Den water Other Other Other Other Other Other Other Other Ettinsive 75% cover (5) Low (1) None (0) Extensive 75% cover (5) Moderate (23, 75% cover (5) Moderate (25, 75% cover (6)) Absent or oromprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and sing flugality or comprises a small part and single quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality		40				
Metric 5. Special Wetlands.  Check all that apply and score as indicated.  Bog (10) Did growth forest (10) Mature forested wetland (5) Lake Ene coastal/tributary wetland-unrestricted hydrology (10) Lake Ene coastal/tributary wetland-unrestricted hydrology (10) Lake Ene coastal/tributary wetland-unrestricted hydrology (5) Lake Plans Sand Praints (Oak Openings) (10) Relied Wet Praints (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songlar/dwater fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Metric 6. Plant communities, interspersion, microtopography.  Metric 6. Plant communities, interspersion, microtopography.  Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub Den water Other Other Other Other Other Other Other Other Ettinsive 75% cover (5) Low (1) None (0) Extensive 75% cover (5) Moderate (23, 75% cover (5) Moderate (25, 75% cover (6)) Absent or oromprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and sing flugality or comprises a small part and single quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and comprises significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality or comprises a small part and significant part, or more, of wetland's vegetation and is of moderate quality						
Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Eric coastal/tributary wetland-unrestricted hydrology (10) Lake Plain Sand Prainies (0ak Openings) (10) Relict Wet Prairies (10) Nown occurrence state/flederal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub Open water Other O		subtotal first pa	i	<b>M</b>		
Bog (10) Fer (10) Old growth forest (10) Lake Efic coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (0ak Openings) (10) Relict Wel Prairies (10) Significant migratory songhird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  Score all present using 0 to 3 scale. Aquatic bed Emergent Emergent Shrub Prosest Olderster Open water Other	0	40	Metric 5. Special	wetiands.		
Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Eric coastal/tributary wetland-unrestricted hydrology (10) Lake Eric coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (104 Openings) (10) Relict Wet Prairies (104 Openings) (10) Relict Wet Prairies (104 Openings) (10) Relict Wet Prairies (104 Openings) (10) Significant migratory sonophird/water fowl habitat or usage (10) Significant migratory sonophird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  Sorreal present using 0 to 3 scale. Aquatc bed Emergent Emergent Shrub Forest Open water Other Other Other Other Other Other Select only one. High (5) Moderated (3) X Moderated (4) X Matria matrix species diversity moderate to moderately high, but generally wo presence of rare threatened or endangered spp  High A predominance of native species, with nonnative spp can also be present, and precise diversity moderate to moderately high, but generally wo presence of rare threatened or endangered spp  High A predominance of native species, with nonnative spp can also b	max 10 pts.	subtotal	Check all that apply and score as	indicated.		
Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-unrestricted hydrology (5) Lake Plain Sand Prairies (10) Relict Wet Prairies (10) Relict Wet Prairies (10) Relict Wet Prairies (10) Significant migratory songbird/water fow Habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Significant migratory songbird/water fow Habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Sozo all present using 0 to 3 scale.  Aquatic bed Emergent Shrub Proest Open water Open			Bog (10)			
Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relied Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  6a. Wetland Vegetation Communities, interspersion, microtopography.  6b. horizontal (plan view) sing 0 to 3 scale.  7 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.  8 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.  9 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.  9 Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises as mall part and is of high quality.  9 Present and either co						
Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Plain Sand Prairies (10) Relict Wet Prairies (10) Known occurrence statefederal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  8 Wetland Vegetation Communities, interspersion, microtopography.  4 Wetland Vegetation Communities, interspersion, microtopography.  5 Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub Emergent Shrub Open water Other Other Other High (5) Moderately high (4) Moderately high (4) Moderately high (4) Low (7) None (0)  6 C. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage To Table 1 ORAM long form for list. Add or deduct points for coverage Moderate 25-75% cover (-1) X Nearly absent < 52-50% cover (-1) X Nearly absent < 57-50% cover (-1) X Near				d (5)		
Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Relict Wet Prairies (10) Rown occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fow habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale. A qualic bed Emergent Shrub 2 Forest Mudflats Open water Other Noderately high (4) Moderately high (4) Moderately high (4) Moderately (3) Moderately low (2) Low (11) None (0) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Narrative Description of Vegetation and is of moderate quality, or comprises a small part and is of high quality  Narrative Description of Vegetation Quality  Narrative Description of Vegetation Quality Narrative Description of Veget				` '	drology (10)	
Relict Wel Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microtopography.  6a. Wetland Vegetation Communities, Score all present using 0 to 3 scale. Aquatic bed Emergent Shrub Copen water Other Other Other Sib. Indizontal (plan view) Interspersion. Select only one.  High (6) Moderately high(4) Moderately low (2) Low (1) 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 (-1) X Nearly absent <5% cover (-1) Absent (1) Gd. Microtopography.  6d. Microtopography.  6d. Microtopography.  6d. Microtopography.  6d. Microtopography.  6d. Microtopography.  6d. Moderate (24) Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh 2 Amphibian breeding pools  Microtopography Cover Scale   Vegetation Community Cover Scale  9					• ,	
Rinown occurrence state/federal threatened or endangered species (10)   Significant migratory songbird/water fowl habitat or usage (10)   Category 1 Wetland. See Question 1 Qualitative Rating (-10)						
Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10)  Metric 6. Plant communities, interspersion, microfopography.  6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub 2 Forest Qopen water Other Other Other Other High (5) Moderatel (a) X Moderately low (2) Low (1) None (0) 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 (-3) Sparse 5-25% cover (-1) X Nearly absent <5% cover (0) Absent (1) Absent (1) Absent or comprises <0.1 ha (0.247 acres) contiguous area  Vegetation Community Cover Scale  Vegetation and is of moderate quality, or comprises a small part and is of this gold quality or comprises a small part and is of high quality or comprises a small part and is of high quality  Narrative Description of Vegetation Quality  Narrative Description						
Category 1 Wetland. See Question 1 Qualitative Rating (-10)						
Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub Shrub Z Forest Mudflats Open water Other Other Select only one.    High (5)   Low (1)   None (0)   Sec. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage   Extensive >775% cover (-5)   Moderate 25-75% cover (-1)   X Nearly absent <5% cover (1)   Absent 10 Coverage     Extensive >775% cover (-5)   Absent 2 Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage   Extensive >775% cover (-5)   Absent 10 Coverage     Extensive >775% cover (-5)   Absent 10 Coverage     Extensive >75% cover (-1)   X Nearly absent <5% cover (-1)   Absent 10 Coverage     1 Vegetation Community Cover Scale    0				=	= : :	
Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub Shrub Z Forest Mudflats Open water Other Other Select only one.    High (5)   Low (1)   None (0)   Sec. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage   Extensive >775% cover (-5)   Moderate 25-75% cover (-1)   X Nearly absent <5% cover (1)   Absent 10 Coverage     Extensive >775% cover (-5)   Absent 2 Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage   Extensive >775% cover (-5)   Absent 10 Coverage     Extensive >775% cover (-5)   Absent 10 Coverage     Extensive >75% cover (-1)   X Nearly absent <5% cover (-1)   Absent 10 Coverage     1 Vegetation Community Cover Scale    0	0	49	Metric 6. Plant co	mmunities, int	erspersion microto	pography.
Score all present using 0 to 3 scale.  Aquatic bed Emergent Shrub 2 Forest Mudflats Open water Other Other 3 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 Prorest Mudflats Open water Other Other 3 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  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  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Present and either comprises significant part of wetland's vegetation and is of high quality  Narrative Description of Vegetation Quality  Iow Low spp diversity and/or predominance of nonnative spp and or deduct points for coverage of invasive species with and species diversity and or fer and the repeat of the presence of r	9	10		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		, pograpily:
Aquatic bed Emergent Shrub Shrub 2 Forest Mudflats Open water Other Other High (5) Moderately high(4) Low (7) 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 (-5) Moderate 25-75% cover (-1) X Nearly absent <5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale.  1 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  2 Present and either comprises significant part of wetland's vegetation and is of high quality  3 Present and comprises significant part, or more, of wetland's vegetation and is of high quality  4 Present and either comprises a significant part of wetland's vegetation and is of moderate quality or comprises a small part of wetland's vegetation and is of moderate quality or comprises a significant part of wetland's vegetation and is of moderate quality or comprises a significant part of wetland's vegetation and is of moderate quality or comprises a significant part of wetland's vegetation and is of moderate quality or comprises a small part of wetland's vegetation and is of high quality  8 Present and either comprises significant part of wetland's vegetation and is of high quality  9 Present and either comprises significant part of wetland's vegetation and is of high quality  1 Present and either comprises a significant part of wetland's vegetation and is of high quality  1 Present and either comprises as significant part of wetland's vegetation and is of high quality  1 Present and either comprises as significant part of wetland's vegetation and is of high quality  1 Present and either comprises as significant part of wetland's vegetation and is of high quality  1 Present and either comprises as mall part of wetland's vegetation and is of high quality.  1 Present and either comprises as mall part of wetland's vegetation and is of hogh quality.  2 Present and eithe	max 20 pts.	subtotal	6a. Wetland Vegetation Commur	nities. Vegetation	Community Cover Scale	
Emergent Shrub Shrub 2 Forest Mudflats Open water Other Select only one. High (5) Moderately high(4) 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 (-5) Moderate 25-75% cover (-1) X Nearly absent -5% cover (0) Absent (1) 6d. Microtopography. Score all present using 0 to 3 scale.  1 Vegetation and is of moderate quality, or comprises a significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality  Present and comprises significant part, or more, of wetland's vegetation and is of high quality  Narrative Description of Vegetation and is of moderate quality or comprises significant part, or more, of wetland's vegetation and is of high quality  Narrative Description of Vegetation Quality  Narrative Description of Ve						
Shrub  2 Forest  Mudflats  Open water Other  Other  3 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  Persent and comprises significant part, or more, of wetland's vegetation and is of high quality  None (o)  High (5) Moderately high(4) Moderately high(4) 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 (-5) Moderate 25-75% cover (-1) X Nearly absent <5% cover (-1) X Nearly absent <5% cover (-1) Absent (1)  Gd. Microtopography.  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh 2 Amphibian breeding pools  Microtopography Cover Scale			·	1	-	
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 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  3 Present and comprises significant part, or more, of wetland's vegetation and is of high quality  4 Nearly absent (3)  5 Narrative Description of Vegetation Quality  1 low Low spp diversity and/or predominance of nonnative or disturbance tolerant native species  1 Native plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage  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 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 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 or wetland's vegetation and is of moderate quality or comprises as mall part and is of high quality  5 Nearly specificant part of wetland's vegetation and is of high quality  1 Now Low spp diversity and/or predominance of nonnative or disturbance tolerant native species  1 Native Description of Vegetation Quality  1 Now Low spp diversity and/or disturbance tolerant native species although nonnative and/or disturbance tolerant native species and show presence of rare threatened or endangered spp  1 A predominance of native species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  2 A present and comprises significant part or wetland's vegetation and is of high quality  3 Present and comprises significant part or wetland's vegetation and is of high					9	
Mudflats   Open water   Other   Oth				2		•
Select only one.  High (5) Moderately high(4) Low (1) None (0) Solution for deduct points for coverage Extensive >75% cover (-5) Moderate 25-75% cover (-1) X Nearly absent <5% cover (0) Absent (1) Absent (1) Score all present using 0 to 3 scale.  1 Vegetated hummuck/fussusucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Aligh (5)  Narrative Description of Vegetation Quality  low Low spp diversity and/or predominance of nonnative or disturbance tolerant native species  Moderate Using 0 to Vegetation Quality  low Low spp diversity and/or predominance of nonnative or disturbance tolerant native species altoward predominance of nonnative or disturbance tolerant native 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 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 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 species with nonnative and/or disturbance tolerant native species although nonnative and/or disturbance tolerant native 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 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 species diversity moderate to moderately high, but generally w/o presence of rare threat			Mudflats		-	
Select only one.						
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  2 Amphibian breeding pools  Marrative Description of Vegetation Quality  low  Low spp diversity and/or predominance of nonnative or disturbance tolerant native spp editor, 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 and/or disturbance of native species, with nonnative or disturbance tolerant native spp and/or disturbance of native species.  Moderate 1 ORAM long form for list. Add or deduct points for coverage  high  A predominance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance tolerant native spp and/or disturbance of native species, with nonnative spp and/or disturbance tolerant native spp and/or disturbance of native species.  Moderate 1 ORAM long form for list.  Mudflat and Open Water Class Quality  0 Absent <0.1ha (0.247 acres)  1 Low 0.1 to <1ha (0.247 to 2.47 acres)  2 Moderate 1 to <4ha (2.47 to 9.88 acres)  Microtopography Cover Scale					_	
High (5) Moderately high(4) Moderatel (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 (-1) X Nearly absent <5% cover (-1) X Nearly absent <5% cover (0) Absent (1)  6d. Microtopography. Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh 2 Amphibian breeding pools  Moderately high, but generally w/o presence of rare threatened or endangered spp  mod Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can all obe 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 diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  and/or disturbance tolerant native species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  high A predominance of native species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp  and/or disturbance tolerant native species.  Moderate 25-75% cover (-5) although nonnative and/or disturbance tolerant native species.  Moderate 1 or Aib and Dopen Water Class Quality  0 Absent <0.1ha (0.247 acres) 1 Low 0.1 to <1ha (0.247 to 2.47 acres) 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 3 High 4ha (9.88 acres) or more				<u></u>	vegetation and is of high quality	
Moderate (3)  X				Narrative D	Description of Vegetation Quality	
Moderately low (2)				low		
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.  1 Vegetated hummucks/tussucks Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools    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 and/or disturbance tolerant native spp and/or disturbance tolerant native spp anderately 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 anderately 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 and/or disturbance to			• • • • • • • • • • • • • • • • • • • •	mod	<u> </u>	
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  2 Amphibian breeding pools  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 <0.1ha (0.247 acres)  1 Low 0.1 to <1ha (0.247 to 2.47 acres)  2 Moderate 1 to <4ha (2.47 to 9.88 acres)  3 High 4ha (9.88 acres) or more  Microtopography Cover Scale				mou		_
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  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 <0.1ha (0.247 acres) 1 Low 0.1 to <1ha (0.247 to 2.47 acres) 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 3 High 4ha (9.88 acres) or more  Microtopography Cover Scale					_	
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  A mphibian breeding pools  high  A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent or virtually absent or virtually 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 <0.1ha (0.247 acres)  1 Low 0.1 to <1ha (0.247 to 2.47 acres)  2 Moderate 1 to <4ha (2.47 to 9.88 acres)  3 High 4ha (9.88 acres) or more  Microtopography Cover Scale			6c. Coverage of invasive plants.	Refer		
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in)  Standing dead >25cm (10in) dbh  Amphibian breeding pools  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 <0.1ha (0.247 acres)  1 Low 0.1 to <1ha (0.247 to 2.47 acres)  2 Moderate 1 to <4ha (2.47 to 9.88 acres)  3 High 4ha (9.88 acres) or more  Microtopography Cover Scale				-		
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.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Mabsent, 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 <0.1ha (0.247 acres) 1 Low 0.1 to <1ha (0.247 to 2.47 acres) 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 3 High 4ha (9.88 acres) or more  Microtopography Cover Scale				_		• • • • • • • • • • • • • • • • • • • •
X Nearly absent <5% cover (0) Absent (1)  Mudflat and Open Water Class Quality  6d. Microtopography.  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Microtopography Cover Scale				` '		
Absent (1)  6d. Microtopography.  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh Amphibian breeding pools  Mudflat and Open Water Class Quality  0 Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 acres) 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 3 High 4ha (9.88 acres) or more  Microtopography Cover Scale			' ' '	·	the presence of rare, threatene	d, or endangered spp
6d. Microtopography.  Score all present using 0 to 3 scale.  1 Vegetated hummucks/tussucks 2 Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh 2 Amphibian breeding pools  0 Absent <0.1ha (0.247 acres) 1 Low 0.1 to <1ha (0.247 to 2.47 acres) 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 3 High 4ha (9.88 acres) or more  Microtopography Cover Scale					d Onen Water Class Ovality	
Score all present using 0 to 3 scale.  1   Low 0.1 to <1ha (0.247 to 2.47 acres)   2   Coarse woody debris >15cm (6in)   Standing dead >25cm (10in) dbh   2   Amphibian breeding pools						<del></del>
1 Vegetated hummucks/tussucks 2 Moderate 1 to <4ha (2.47 to 9.88 acres) 2 Coarse woody debris >15cm (6in) 3 High 4ha (9.88 acres) or more 3 Standing dead >25cm (10in) dbh 4 Amphibian breeding pools Microtopography Cover Scale						cres)
Standing dead >25cm (10in) dbh  Amphibian breeding pools  Microtopography Cover Scale					Moderate 1 to <4ha (2.47 to 9.88	
Amphibian breeding pools Microtopography Cover Scale				` '	High 4ha (9.88 acres) or more	
					graphy Cover Scale	
0 IAbsent			Z Amphiliblan breeding po	0	Absent	
1 Present very small amounts or if more common					Present very small amounts or if	more common
of marginal quality  Present in moderate amounts, but not of highest				2		ut not of highest
quality or in small amounts of highest quality				2		
3 Present in moderate or greater amounts		_		3		
and of highest quality	49				and of highest quality	

**End of Quantitative Rating. Complete Categorization Worksheets.** 

# **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
<b>3</b>	Metric 2. Buffers and surrounding land use	11	
	Metric 3. Hydrology	20	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	9	
	TOTAL SCORE	49	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

# **Wetland Categorization Worksheet**

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

Final Category				
Choose one	Category 1	Category 2	Category 3	
		Υ		

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

### **Background Information**

Name:				_
	.lohn A	Freeland	PhD	SPWS

Date: 11/08/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland D

Vegetation Communit(ies): Emergent (2)(a)(iii)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.62197211, -83.61981324	
USGS Quad Name Rossford, OH 2023	
County Lucas	
T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/06/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland E	
Wetland Size (acres, hectares):	0.419 ac
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	-
See Figure 3, attached report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final come :	1
Final score: 51 Category	<b>/:</b> 2

#### **Scoring Boundary Worksheet**

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

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

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

#### **Narrative Rating**

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

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

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YFS	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Category 5 status	
		Go to Question 10	
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		3 wetland	
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be	Matteration October	
	characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within	Wetland is a Category 3 wetland.	Go to Question 11
	several inches of the surface, and often with a dominance of the	o wouldn't	
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Constitution	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
	<u> </u>		

Table 1. Characteristic plant species.

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

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

Site:	Swan (	Creek UTMC Rater(s): John Freeland - MS	SG <b>Date:</b> 11/06/2024
		Metric 1 Wetland Area (size)	
2	2	Metric 1. Wetland Area (size).	
max 6 pts.	subtotal	Select one size class and assign score.  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20.2ha) (5 pts)  10 to <25 acres (4 to <10.1ha) (4 pts)  3 to <10 acres (1.2 to <4ha) (3 pts)  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)	
14	16	Metric 2. Upland buffers and surrounding	land use.
max 14 pts.	subtotal	Calculate average buffer width. Select only one and assign score. Do not WIDE. Buffers average 50m (164ft) or more around wetland perimeted MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeted VERY NARROW. Buffers average <10m (<32ft) around wetland perimeted VERY NARROW. Buffers average <10m (<32ft) around wetland perimeted VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife are LOW. Old field (>10 years), shrub land, young second growth forest. MODERATELY HIGH. Residential, fenced pasture, park, conservation HIGH. Urban, industrial, open pasture, row cropping, mining, constru	er (7) and perimeter (4) and perimeter (1) meter (0) e. ea, etc. (7) (5) on tillage, new fallow field. (3)
19	35	Metric 3. Hydrology.	Citori. (1)
max 30 pts.	subtotal	High pH groundwater (5)  Other groundwater (3)  X Precipitation (1)  Seasonal/Intermittent surface water (3)  Perennial surface water (lake or stream) (5)  3d. Durat  3c. Maximum water depth. Select only one and assign score.	ectivity. 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) ion inundation/saturation. Score one or dbl check Semi- to permanently inundated/saturated (4) Regularly inundated/saturated (3) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) average.
ļ	Т	Recovering (3) Recent or no recovery (1) Recent or no recovery (1)  tile dike weir stormwater input	filling/grading road bed/RR track dredging other
10	45	Metric 4. Habitat Alteration and Developm	ent.
max 20 pts.	subtotal	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 only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3)	
		Poor to fair (2) Poor (1)	
	<b>_</b>		shrub/sapling removal herbaceous/aquatic bed removal sedimentation
	45	woody debris removal toxic pollutants	dredging farming nutrient enrichment
	ubtotal this pa I 1 Februa	ary 2001 jjm	

	.01101011	on Quantitative reating	1	<del></del>		
Site:	Swan (	Creek UTMC	Rater	<b>(s):</b> John Fr	eeland - MSG	<b>Date:</b> 11/08/2024
		1				
	45					
		]				
SL	ubtotal first pa	i		_		
0	45	Metric 5. Specia	al Wetlan	ds.		
max 10 pts.	subtotal	Check all that apply and score	as indicated.			
		Bog (10)				
		Fen (10)	۵)			
		Old growth forest (1  Mature forested were				
		Lake Erie coastal/tri	` '	nrestricted byd	rology (10)	
		Lake Erie coastal/tri	•	•	• • •	
		Lake Plain Sand Pra		-	-g, (c)	
		Relict Wet Prairies (		3-7 ( -7		
		H		atened or enda	ngered species (10)	
		Significant migrator	y songbird/water	fowl habitat or i	usage (10)	
		Category 1 Wetland	I. See Question	1 Qualitative Ra	ating (-10)	
6	51	Metric 6. Plant	communi	ties. inte	erspersion, microto	pography.
6	51		•••••			, p = 9py.
max 20 pts.	subtotal	6a. Wetland Vegetation Com	munities.	Vegetation (	Community Cover Scale	
		Score all present using 0 to 3		0	Absent or comprises <0.1ha (0.24	471 acres) contiguous area
		Aquatic bed		1	Present and either comprises small	
		2 Emergent			vegetation and is of moderate of	uality, or comprises a
		Shrub			significant part but is of low qua	•
		Forest		2	Present and either comprises sign	
		Mudflats			vegetation and is of moderate of	juality or comprises a small
		Open water		3	part and is of high quality  Present and comprises significan	t nort or more of wetland's
		Other6b. horizontal (plan view) Inte	arenereion	3	vegetation and is of high quality	
		Select only one.	лэрстэют.		vegetation and is or riigh quality	<u>'</u>
		High (5)		Narrative De	escription of Vegetation Quality	
		Moderately high(4)		low	Low spp diversity and/or predomi	nance of nonnative or
		Moderate (3)			disturbance tolerant native spec	
		Moderately low (2)		mod	Native spp are dominant compon	=
		X Low (1)			although nonnative and/or distu	
		None (0)	uta Dafan		can also be present, and specie	•
		6c. Coverage of invasive plar to Table 1 ORAM long form for			moderately high, but generally threatened or endangered spp	w/o presence or rare
		or deduct points for coverage	ilist. Add	high	A predominance of native species	s with nonnative spp
		Extensive >75% co	ver (-5)	g	and/or disturbance tolerant nation	
		Moderate 25-75% c	` '		absent, and high spp diversity a	
		X Sparse 5-25% cove	r (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly absent <5%	cover (0)			
		Absent (1)		Mudflat and	Open Water Class Quality	
		6d. Microtopography.		0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3  1 Vegetated hummuc		1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		2 Coarse woody debr		3	Moderate 1 to <4ha (2.47 to 9.88 High 4ha (9.88 acres) or more	acres)
		Standing dead >250		3	High 4na (9.86 acres) of more	
		1 Amphibian breeding		Microtopoar	raphy Cover Scale	
			, ,	0	Absent	
				1	Present very small amounts or if	more common
					of marginal quality	
				2	Present in moderate amounts, but	_
					quality or in small amounts of h	
	1			3	Present in moderate or greater ar	nounts
51					and of highest quality	

**End of Quantitative Rating. Complete Categorization Worksheets.** 

### **ORAM Summary Worksheet**

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
3	Metric 2. Buffers and surrounding land use	14	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	10	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	6	
	TOTAL SCORE	51	Category based on score breakpoints 2

**Complete Wetland Categorization Worksheet.** 

# **Wetland Categorization Worksheet**

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO_	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES  Wetland should be evaluated for possible Category 3 status	NO_	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES  Wetland is categorized as a Category 1 wetland	NO _	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES  Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "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	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	
		Y		

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

### **Background Information**

Name:				_
	.lohn A	Freeland	PhD	SPWS

Date: 11/08/2024

Affiliation: The Mannik & Smith Group, Inc.

Address: 1800 Indian Wood Circle, Maumee, OH 43537

Phone Number: 419-891-2222

e-mail address: jfreeland@manniksmithgroup.com

Name of Wetland: Wetland F

Vegetation Communit(ies): Forested Wetland (1)(a)(vi)

HGM Class(es): I(A)

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

See attached report, Figure 1

Lat/Long or UTM Coordinate 41.62210136, -83.62009923	
USGS Quad Name Rossford, OH 2023	
County Lucas	
T3N 12 Mile Square	
Section and Subsection N/A	
Hydrologic Unit Code 04100009 Lower Maumee River	
Site Visit 11/08/2024	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
Soil Survey Web Soil Survey online 2024	
Delineation report/map Attached/Figure 3	

Name of Wetland: Wetland F		
Wetland Size (acres, hectares):		0.139 ac
Sketch: Include north arrow, relationship with other surface waters, vegetation zon	es, etc.	
See Figure 3, attached report		
See Figure 3, attacried report		
Comments, Narrative Discussion, Justification of Category Changes:		
Final score: 43	Category:	2

### **Scoring Boundary Worksheet**

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	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.	х	
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.	х	
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.		х
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	х	

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

### **Narrative Rating**

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

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

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	NO NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
		Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO
	prevent erosion and the loss of aquatic plants, i.e. the wetland is		
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible Category 3 status	
		Category o status	
	And the Figure 1 and the country is the second of the country is the cou	Go to Question 10	NO
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	NO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"estuarine" wetland with lake and river influenced hydrology. These		
	include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.		
9d	Does the wetland have a predominance of native species within its	YES	NO
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		o wonana	
		Go to Question 10	NO
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	3	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be	YES	NO
	characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	
	several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	present). The Ohio Department of Natural Resources Division of	Oo to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
11	type of wetland and its quality.  Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies	11.5	
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	evaluated for possible Category 3 status	Quantitative Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Category 3 Status	ixamiy
	Montgomery, Van Wert etc.).	Complete Quantitative	
		Rating	]

Table 1. Characteristic plant species.

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

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

Site:	Swan	Creek UTMC R	ater(s): John Freeland	<b>Date:</b> 11/06/2024	
1	1	Metric 1. Wetland Are	ea (size).		
max 6 pts.	subtotal	Select one size class and assign score.  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20.2h  10 to <25 acres (4 to <10.1ha)  3 to <10 acres (1.2 to <4ha) (3  0.3 to <3 acres (0.12 to <1.2ha  X  0.1 to <0.3 acres (0.04 to <0.12  <0.1 acres (0.04ha) (0 pts)	ha) (5 pts) (4 pts) pts) ı) (2pts)		
14	15	Metric 2. Upland buffe	ers and surroundi	ng land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average 25r NARROW. Buffers average 10 VERY NARROW. Buffers aver 2b. Intensity of surrounding land use. S X VERY LOW. 2nd growth or old LOW. Old field (>10 years), sh MODERATELY HIGH. Reside	164ft) or more around wetland per m to <50m (82 to <164ft) around v 0m to <25m (32ft to <82ft) around prage <10m (<32ft) around wetland	rimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. ife area, etc. (7) prest. (5) ervation tillage, new fallo	ow field. (3)
10	25	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that app  High pH groundwater (5) Other groundwater (3)  X Precipitation (1) Seasonal/Intermittent surface water (lake of the control of th	water (3) or stream) (5) 3d. I one and assign score.	x Part of wetland/u Part of riparian or Duration inundation/sate Semi- to permane Regularly inundat X Seasonally inundation	in (1) lake and other human use (1) pland (e.g. forest), complex (1) pland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) led/saturated (3) ated (2) ated in upper 30cm (12in) (1) stormwater)
_		Metric 4. Habitat Alte	stormwater input	other selective	cutting
8 max 20 pts.	33 subtotal	4a. Substrate disturbance. Score one or None or none apparent (4) Recovered (3)		pinent.	
		x Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only on Excellent (7) Very good (6) Good (5) Moderately good (4) x Fair (3) Poor to fair (2)	ne and assign score.		
		Poor (1)  4c. Habitat alteration. Score one or dout  None or none apparent (9)  Recovered (6)  X Recovering (3)  Recent or no recovery (1)	check and average.  Check all disturbances observed mowing grazing clearcutting	shrub/sapling ren herbaceous/aqua sedimentation	
_	33		x selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichme	nt
	subtotal this pa	<sup></sup> rry 2001 jjm			

Site:	Swan C	reek UTMC	Rater(s):	John F	reeland - MSG	Date:
0						
	33					
	33					
SI	ubtotal first pa	<b>」</b> age				
	22	Metric 5. Special W	letlands			
0	33	Metric of Opeoidi V	ctiailas.			
max 10 pts.	subtotal	Check all that apply and score as inc	licated			
		Bog (10)				
		Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (	5)			
		Lake Erie coastal/tributary		-		
		Lake Erie coastal/tributary		-	ogy (5)	
		Lake Plain Sand Prairies (	Oak Openings) (1	0)		
		Relict Wet Prairies (10)	daral throatoned	ar an dan	agared analisa (10)	
		Known occurrence state/fe Significant migratory song				
		Category 1 Wetland. See			· ,	
		1			• , ,	nography
10	43	Metric 6. Plant con	mumues	, mie	rspersion, inicroto	pograpny.
		]				
max 20 pts.	subtotal	6a. Wetland Vegetation Communitie	es. <u>vege</u>		Community Cover Scale	174\timurum
		Score all present using 0 to 3 scale.  Aquatic bed		1	Absent or comprises <0.1ha (0.24) Present and either comprises small	
		Emergent		•	vegetation and is of moderate q	
		Shrub			significant part but is of low qua	
		2 Forest		2	Present and either comprises sign	•
		Mudflats			vegetation and is of moderate q	uality or comprises a small
		Open water			part and is of high quality	
		Other	<del>_</del>	3	Present and comprises significant	
		6b. horizontal (plan view) Interspers	ion		vegetation and is of high quality	
		Select only one. High (5)	Narra	ativo Do	scription of Vegetation Quality	
		Moderately high(4)		low	Low spp diversity and/or predoming	nance of nonnative or
		Moderate (3)			disturbance tolerant native spec	
		Moderately low (2)	<del></del> 1	mod	Native spp are dominant compone	
		X Low (1)			although nonnative and/or distu	rbance tolerant native spp
		None (0)			can also be present, and specie	•
		6c. Coverage of invasive plants. Re			moderately high, but generally v	v/o presence of rare
		to Table 1 ORAM long form for list.		h.: aula	threatened or endangered spp	
		or deduct points for coverage  Extensive >75% cover (-5)		high	A predominance of native species and/or disturbance tolerant nativ	
		Moderate 25-75% cover (-5)			absent, and high spp diversity a	• • • • • • • • • • • • • • • • • • • •
		Sparse 5-25% cover (-1)	0)		the presence of rare, threatened	
		Nearly absent <5% cover	(0)		,	
		X Absent (1)		lat and	Open Water Class Quality	
		6d. Microtopography.		0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	<u> </u>	1	Low 0.1 to <1ha (0.247 to 2.47 ac	
		1 Vegetated hummucks/tuss		2	Moderate 1 to <4ha (2.47 to 9.88	acres)
		2 Coarse woody debris >150		3	High 4ha (9.88 acres) or more	
		Standing dead >25cm (10  3 Amphibian breeding pools	,	otopogra	aphy Cover Scale	
				0	Absent	
				1	Present very small amounts or if r	more common
					of marginal quality	
				2	Present in moderate amounts, bu	S .
					quality or in small amounts of hi	<u> </u>
	1			3	Present in moderate or greater an	nounts
43					and of highest quality	

**End of Quantitative Rating. Complete Categorization Worksheets.** 

## **ORAM Summary Worksheet**

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

**Complete Wetland Categorization Worksheet.** 

# **Wetland Categorization Worksheet**

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions:  Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO_	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO_	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold <i>(including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "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	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			
v						

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

## APPENDIX D HHEI FORMS QHEI FORM



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 66.5



Stream & Location: SWANCREEK ON WINIVERSITY OF TOLEDORM: Date: 11 121 1707
Scorers Full Name & Affiliation: John Freeland - Mannik & Smith
River Code: - STORET #: Lat./Long.: 41. 6235 48 3.60901 Office verified location
1] SUBSTRATE Check ONLYTwo substrate TYPE BOXES; estimate % or note every type present  BEST TYPES POOL RIFFLE OTHER TYPES  BEDROCK [5] POOL RIFFLE OTHER TYPES  POOL RIFFLE OTHER TYPES  POOL RIFFLE ORIGIN  ORIGIN  ORIGIN  ORIGIN  ULMESTONE [1] HEAVY [-2]  UMODERATE [-1] Substrate  Substrate  NORMAL [0] FREE [1]  WETLANDS [0] FREE [1]  MODERATE [-1] Substrate  Substrate  NORMAL [0] FREE [1]  NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources)  Check ONE (Or 2 & average)  Check ONE (Or 2 & average)  ORIGIN  ORIGIN  UHARDYY [-2]  SILT MODERATE [-1] Substrate  NORMAL [0] FREE [1]  NORMAL [0] SANDSTONE [0]  WETLANDS [0] FREE [1]  SANDSTONE [0] SANDSTONE [0]  WETLANDS [0] SUBSTRATE  NORMAL
2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.  LUNDERCUT BANKS [1]  POOLS > 70cm [2]  OXBOWS, BACKWATERS [1]  AQUATIC MACROPHYTES [1]  SPARSE 5-<25% [3]  NEARLY ABSENT <5% [1]  Comments  Cover Maximum 20
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY
☐ HIGH [4]       ☐ EXCELLENT [7]       ☑ NONE [6]       ☐ HIGH [3]         ☐ MODERATE [3]       ☐ GOOD [5]       ☐ RECOVERED [4]       ☑ MODERATE [2]         ☑ LOW [2]       ☑ FAIR [3]       ☐ RECOVERING [3]       ☑ LOW [1]         ☐ NONE [1]       ☐ POOR [1]       ☐ RECENT OR NO RECOVERY [1]       Channel Maximum [2,5]         Comments       12.5
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) River right looking downstream PIRAPIAN WIDTH
EROSION   WIDE > 50m [4]   FOREST, SWAMP [3]   CONSERVATION TILLAGE [1]   WIDE > 50m [4]   SHRUB OR OLD FIELD [2]   WIBAN OR INDUSTRIAL [0]   WIBAN OR INDUSTRIAL [0]   WIBAN OR INDUSTRIAL [0]   MINING / CONSTRUCTION [0]   FENCED PASTURE [1]   MINING / CONSTRUCTION [0]   Indicate predominant land use(s) past 100m riparian. Riparian Maximum 10
Solution
12
Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:  Check ONE (Or 2 & average).  RIFFLE DEPTH  BEST AREAS > 10cm [2]  BEST AREAS - 10cm [1]
Comments
6] GRADIENT ( 2.9 ft/mi) [] VERY LOW-LOW [24]
6] GRADIENT ( 2, 9 ft/mi)   VERY LOW - LOW [2-4]   WODERATE [6-10]   WRUN: 50 %RIFFLE:   Maximum 8   Maximum 8   Maximum 8   Maximum 10   Maximum 10

Check ALL that apply METHOD STAGE  BOAT Ist-sample poss-2nd WADE HIGH LINE UP OTHER NORMAL OTHER LOW	ment RE: Reach consistency/ l	s reach typical of steam?, Recreation	VObserved - Inferred, Other	/ Sampling observations, Concerns, Acc	ec.
0.5 Km	BJAESTHETICS    NUISANCE ALGAE   INVASIVE MACROPHYTES   EXCESS TURBIDITY   DISCOLORATION   FOAM / SCUM   OIL SHEEN   TRASH / LITTER   NUISANCE ODOR   SLUDGE DEPOSITS   CSOs/SSOs/OUTFALLS   TOOM   AREA DEPTH   OOL:   >100ft2   >3ft	D] MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-O-LD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE	Circle some & COMMENT	EJ ISSUES  WWTP / CSO / NPDES / INDUSTRY  HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL  BMPS-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGOON WASH H <sub>2</sub> 0 / TILE / H <sub>2</sub> 0 TABLE ACID / MINE / GUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	FI MEASUREMENTS  Twidth Tdepth max. depth Tbankfull width bankfull Tdepth W/D ratio bankfull max. depth floodprone x² width entrench. ratio Legacy Tree:
Stream Drawing:	-11:1	the second secon		79	
RESIDE	NTIAL	1	NEIGH	BORHOOD	
g + 10 + 0 + F					
				Pool	
		a and	AIF	FLE WITH ERUD	ED PATCHI
- 112 D A ()	WOODED	FLOODPLAIN	POOL	11TH EROS	
SANDBAR	5	POUL	1P- 5AN	K W	
Epiter (TOTAL ) AND THE STREET OF THE STREET	RIFFLE	SANDES	ED BAN		
	STEEP DAD TO	N14 3 WOO	DU		

NOT TO SCALE

Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

	hio
Ohio	Environmental

# Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2

67	
• .	

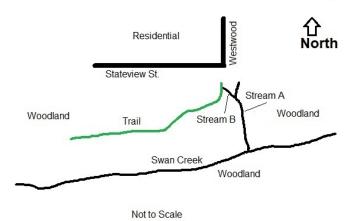
Ohio Environmental Protection Agency	HHEI Score (sum of metrics 1+2+3)
SITE NAME/LOCATION UMTC Swan Creek, Toledo, OH	
	RIVER CODE <u>04100009</u> DRAINAGE AREA (mi²)  LONG -83.60654 RIVER MILE
DATE 11/06/2024 SCORER J.Freeland (MSG) COMMENTS	EONO STATES NATIONAL MILE
NOTE: Complete All Items On This Form - Refer to "Headwat	er Habitat Evaluation Index Field Manual" for Instructions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHAI	NNEL RECOVERED RECOVERING RECENT OR NO RECOVERY
1. SUBSTRATE (Estimate percent of every type present). Che (Max of 32). Add total number of significant substrate types for  TYPE  BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]  30	
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 20 (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	TOTAL NUMBER OF SUBSTRATE TYPES: 7
2. Maximum Pool Depth (Measure the maximum pool depth time of evaluation. Avoid plunge pools from road culverts or st  > 30 centimeters [20 pts]  > 22.5 - 30 cm [30 pts]  > 10 - 22.5 cm [25 pts]  COMMENTS	
BANK FULL WIDTH (Measured as the average of 3 - 4 mea	<u></u>
> 4.0 meters (> 13') [30 pts]  > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts]  > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	> 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]  ≤ 1.0 m (≤ 3' 3")[5 pts]  Width Max=30
COMMENTS	AVERAGE BANKFULL WIDTH (meters) 1.5
	must also be completed
DIDADIAN ZONE AND ELOODDI AIN OHALITY . M	
RIPARIAN WIDTH	OTE: River Left (L) and Right (R) as looking downstream*  N QUALITY (Most Predominant per Bank)  L R  est, Wetland
RIPARIAN WIDTH	OTE: River Left (L) and Right (R) as looking downstream*  N QUALITY (Most Predominant per Bank)  L R  est, Wetland
RIPARIAN WIDTH L R (Per Bank) L R  X X Wide >10m X X Mature Fore Moderate 5-10m Immature F Narrow <5m Residential, None Penced Pas  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONL) Stream Flowing X Subsurface flow with isolated pools (interstitial)	OTE: River Left (L) and Right (R) as looking downstream*    QUALITY (Most Predominant per Bank)   L R

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes X No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
□ WWH Name: Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
☐ EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.  USGS Quadrangle Name: Rossford, OH 2023 NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Lucas Township/City: Toledo, OH
MISCELLANEOUS  Base Flow Conditions? (Y/N): N Date of last precipitation: 11/05/2024 Quantity: 0.03 inch  Photo-documentation Notes: Photos 1-4 in attached report
Elevated Turbidity?(Y/N): Y Canopy (% open): 80  Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) Species observed (if known):
Salamanders Observed? (Y/N) Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:

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

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



May 2020 Revision Page 2

	hia
	$\mathbf{n}_{10}$
Ohio	Environmental

# Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)

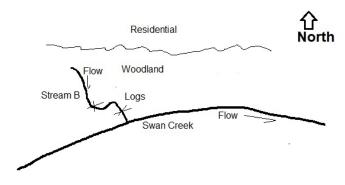
Protection Agency HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION UMTC Swan Creek, Toledo, OH	
SITE NUMBER StB RIVER BASIN _Lower Maumee RIVER CODE04100009 DRAINAGE AREA (mi²)	
LENGTH OF STREAM REACH (ft) 200 LAT 41.62234 LONG -83.61867 RIVER MILE	
DATE 11/21/2024 SCORER J.Freeland (MSG) COMMENTS	
NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instr	uctions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO	PECOVERY
TRESHIP STRUME INSURING INCOME.	KEOOVEKT
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B  TYPE  PERCENT  TYPE  BLDR SLABS [16 pts]  BOULDER (>256 mm) [16 pts]  BEDROCK [16 pts]  COBBLE (65-256 mm) [12 pts]  GRAVEL (2-64 mm) [9 pts]  SHOULDER (>25 mm) [12 pts]  ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock 0 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 3	A + B
<ol> <li>Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Yone box):</li> </ol>	Pool Depth Max = 30
> 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]	IVIAX = 30
□ > 22.5 - 30 cm [30 pts]	25
20	
COMMENTS MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull Width
> 4.0 meters (> 13') [30 pts]       > 1.0 m - 1.5 m (> 3' 3" - 4' 8")[15 pts]         > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts]       ≤ 1.0 m (≤ 3' 3")[5 pts]	Max=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH (meters) 2.3	20
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)	
Wide > 10m	ρ
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):    Stream Flowing	t)
COMMENTS	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
SINUOSITY         (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):           □         None         □         1.0         □         2.0         □         3.0	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form)
DOWNSTREAM DESIGNATED USE(S)
□ WWH Name:   Distance from Evaluated Stream
CWH Name: Distance from Evaluated Stream
EWH Name: Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.
USGS Quadrangle Name: Rossford, OH 2023 NRCS Soil Map Page: NRCS Soil Map Stream Order:
County: Lucas Township/City: Toledo, OH
MISCELLANEOUS
Base Flow Conditions? (Y/N):N Date of last precipitation:11/06/2024 Quantity:0.43 inch
Photo-documentation Notes: Photos 49-52, attached report
Elevated Turbidity?(Y/N): Y Canopy (% open): 50
Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results):
Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, explain:
Additional comments/description of pollution impacts:
BIOLOGICAL OBSERVATIONS (Record all observations below)
Fish Observed? (Y/N) Species observed (if known):
Frogs or Tadpoles Observed? (Y/N) Species observed (if known):
Salamanders Observed? (Y/N) Species observed (if known):
Aquatic Macroinvertebrates Observed? (Y/N) Species observed (if known):
Comments Regarding Biology:

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

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



Not to Scale

May 2020 Revision Page 2