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Photo: Stream in the Milner Seltenright Ditch subwatershed with stream buffers and in-stream cover.

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Acronyms

CFO	Confined Feeding Operation
CFS	Cubic Feet per Second
CAFO	Concentrated Animal Feeding Operation
CSO	Combined Sewer Overflow
DNR	Department of Natural Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HUC	Hydrologic Unit Code
HSG	Hydrologic Soil Group
IDEM	Indiana Department of Environmental Management
KRBC	Kankakee River Basin Commission
LARE	Lake and River Enhancement
LID	Low-Impact Development
MACOG	Michiana Area Council of Government
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
STORET	Storage and Retrieval
SWCD	Soil and Water Conservation District
TKN	Total Kjeldahl Nitrogen
KRBC	Kankakee River Basin Commission
TMDL	Total Maximum Daily Load
WMP	Watershed Management Plan
PCB	Polychlorinated biphenyls

1 Watershed Community Initiative

1.1 Introduction

In 2015 the Headwaters Yellow River Watershed project was initiated by the Marshall County Soil and Water Conservation District (SWCD). Funds were procured from the Indiana Department of Environmental Management (IDEM) 319 and Lake and River Enhancement (LARE) programs with further assistance from additional partners. The Marshall County SWCD was motivated to conduct a study of the watershed as the result of several water quality concerns related to multiple impaired waterbodies in the Headwaters Yellow River Watershed (Figure 1). Specifically the streams and lakes highlighted in Figure 1 are included in the IDEM 303(d) list of impaired waterbodies. Stream segments are listed most commonly for high *E. coli* concentrations but there are also a few stream segments listed for impaired biotic communities. The three lakes within the watershed, Pleasant Lake, Riddles Lake and Lake of the Woods, are listed for high phosphorus concentrations and Lake of the Woods is also listed for polychlorinated biphenyls (PCBs). The Headwaters Yellow River Watershed (10 Digit Hydrologic Code [HUC]: 0712000103) is located in north central Indiana and encompasses portions of Marshall, St. Joseph, Elkhart, and Kosciusko Counties. The Headwaters Yellow River Watershed is approximately 187,300 acres and is part of the Kankakee River watershed (HUC: 07120001). The mainstem of the Yellow River originates north of Bremen in St. Joseph County and flows southwest and eventually flows through Plymouth. The Yellow River continues to flow west and drains into the Kankakee River, near Knox. However, the Yellow River southwest of Plymouth is outside of the scope of the Headwaters Yellow River Watershed project. Populated areas of the watershed include Lakeville, La Paz, Plymouth, Bremen, and Nappanee (Figure 1). The subsequent sections that constitute the Watershed Management Plan for the Headwaters Yellow River Watershed have been intended to address the concerns of watershed stakeholders in a holistic manner.

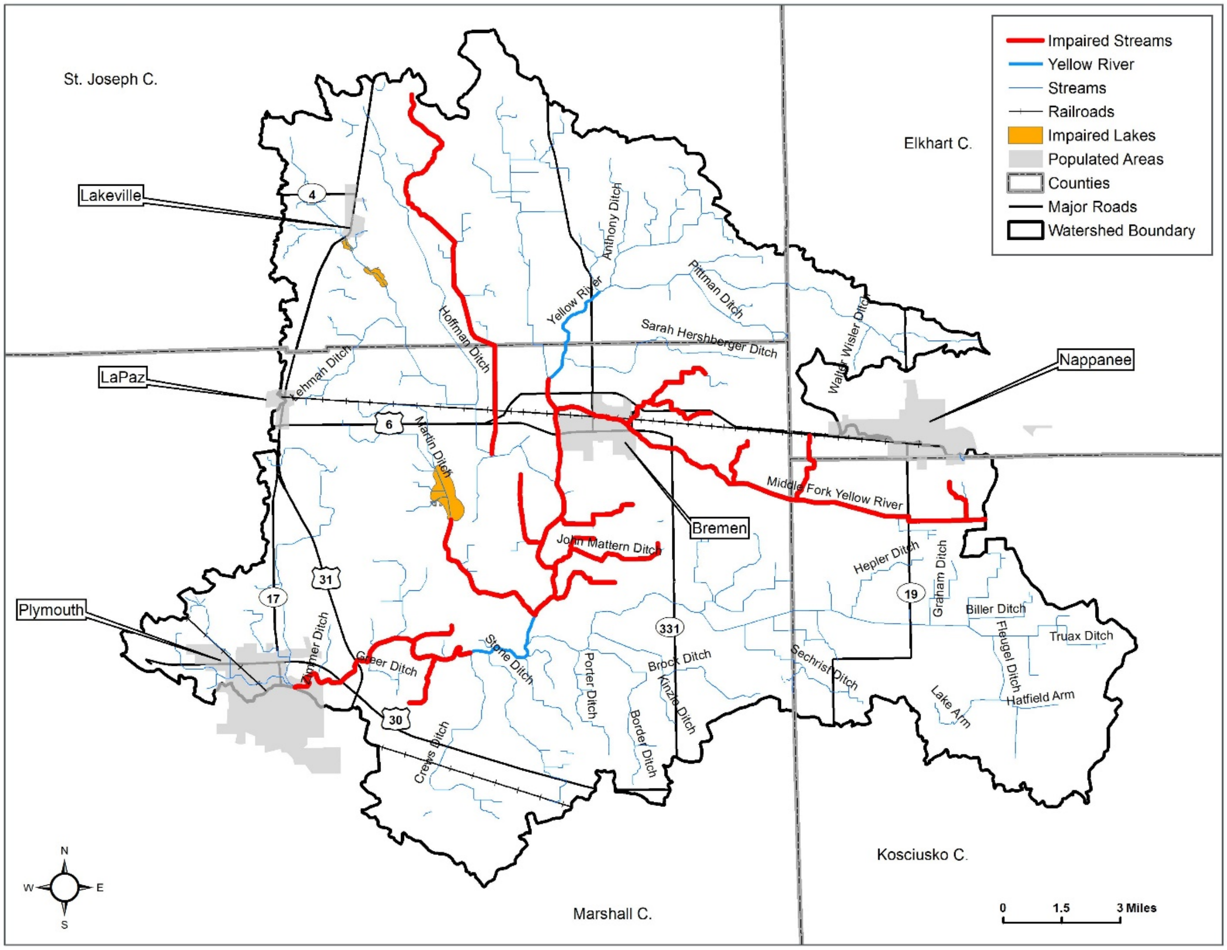
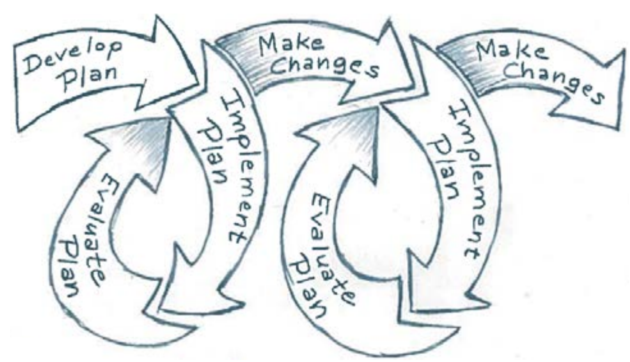


Figure 1. Location of the Headwaters Yellow River Watershed in Northern, Indiana.



A watershed is an area of land that drains to a common waterway, such as a stream, lake, estuary or wetland. Using a watershed approach to restore waterbodies addresses problems in a holistic manner and keeps local stakeholders involved in the management actions selected to solve problems in the watershed. This watershed management plan (WMP) for the Headwaters Yellow River Watershed describes the issues present in the watershed and the management actions necessary to remediate them. While the development of the Headwaters Yellow River WMP is a significant achievement, this document represents only a portion of the watershed planning process. In order to achieve the goals described in this WMP watershed stakeholders will need to continuously implement, evaluate, and adapt management actions in the watershed.

1.2 Stakeholder Concerns

A stakeholder concern is an issue or topic that a stakeholder believes is relevant to the watershed. During the first steering committee meeting for the Headwaters Yellow River Watershed Project in March of 2015, steering committee members identified topics of concern in the watershed. Many of the topics of concern were identified previously through an online survey that was distributed to watershed stakeholders in the first quarter of 2015. Table 1 presents a categorization of the concerns identified for the Headwaters Yellow River Watershed. The primary categories of concerns in the watershed are: natural resource quality, non-point source pollutant sources, and recreation opportunities. The primary concerns of the Marshall County SWCD included erosion, nutrient concentrations, *E. coli* concentrations, and recreation opportunities in the Headwaters Yellow River Watershed. These water quality concerns were further validated with the listing of Lake of the Woods, Pleasant Lake, Riddles Lake and 73 miles of streams in the watershed on the IDEM 303(d) list of impaired waterbodies. Streams were listed primarily for *E. coli* but also a few streams were listed for impaired biotic communities. All lakes were listed for phosphorus and Lake of the Woods is also listed for PCBs in fish tissue.

Table 1. Headwaters Yellow River Watershed Stakeholder Concerns

Category	Specific Concern
Natural Resource Quality	Stream water quality including nutrients, sediment, and *E. coli*
	Introduction of excess nutrients, sediment and *E. coli* to Lake of the Woods, Pleasant Lake, and Riddles Lake
	Limited habitat for aquatic organisms
	Introduction of Atrazine to the groundwater
Nonpoint Source Pollutant Sources	Stream bank erosion
	Failing septic systems throughout the watershed
	Direct discharges of wastewater from older homes
	Land applications of waste material
Recreational Opportunities	Management of the Yellow River for fisheries
	Limited boating access to the Yellow River
Miscellaneous	Debris and tree removal along the Yellow River
	Rural & urban drainage
	Rural & urban flooding

1.3 Steering Committee

The Headwaters Yellow River Watershed encompasses four counties and five populated areas. Therefore, stakeholders in the watershed come from a large geographic area that includes both rural and urban communities. The steering committee for the Headwaters Yellow River Watershed project was developed to address the concerns of stakeholders that were identified using an online survey. The steering committee members listed in Table 2 are representatives of governmental agencies, non-profit organizations, municipalities, educational institutions, and advocacy groups, with the knowledge and skills necessary to address the concerns expressed by watershed stakeholders in Table 1. Some of the Steering Committee members are landowners within the Headwaters Yellow River Watershed as well.

Table 2. List of the Headwaters Yellow River Watershed Steering Committee members and organizations.

Steering Committee Member	Agency/Organization
Jim Hess	Elkhart County SWCD
Debbie Palmer	Marshall County SWCD
Jeremy Cooper	St. Joseph County SWCD
John Lash	Kosciusko County SWCD
Larry Fisher	Marshall County Drainage Board
Matthew Longfellow	Marshall County Health Department
Madisson Heinl	Center for Lakes and Streams
Joe Skelton	Marshall County Lakes and Waters Council
Troy Manges	Natural Resources Conservation Service
Robert Yoder	Purdue University Cooperative Extension Service
Trend Weldy	Town of Bremen
Jody Melton	Kankakee River Basin Commission
Charlie Houin	Marshall County Farm Bureau

1.4 Mission Statement

During the first steering committee meeting on March 30th, 2015 the steering committee and additional watershed stakeholders in attendance discussed the mission of the Headwaters Yellow River Watershed project. The mission statement for the project was further modified until the following mission statement was agreed upon by the steering committee. Below is the mission statement developed for the Headwaters Yellow River Watershed Management Plan:

"To protect, restore, and enhance the surface and groundwater of the Headwaters Yellow River Watershed for future generations through education and the implementation of conservation practices."

2 Watershed Inventory Part I

2.1 Geology/Topography

The Headwaters Yellow River Watershed is located in north central Indiana (Figure 1), which was greatly influenced by the presence of the Wisconsin Glacier 70,000 years ago. The ice from the glacier was as thick as three miles in some places and ultimately extended just south of current day Indianapolis, Indiana (Wilson, 2008). The extreme weight of the glacier carved out bedrock from Canada and carried it southward through northern Indiana, where the debris was deposited (Wilson, 2008). As the glacier melted and began to retreat stratified drift was deposited creating a level plain called the Kankakee Outwash Plain (Wilson, 2008). The debris present in the outwash plain created fertile farmland throughout northern, Indiana. The advancing of the Wisconsin Glacier also influence the topography of northern, Indiana. As a result of the advance and retreat of the glacier the Headwaters Yellow River Watershed has limited topographical relief. The highest elevation in the watershed is approximately 920 feet and the lowest elevation in the watershed is approximately 810 feet (Figure 2). The Yellow River has an average gradient of 1.25 feet/mile along its relatively straight 22 stream miles.

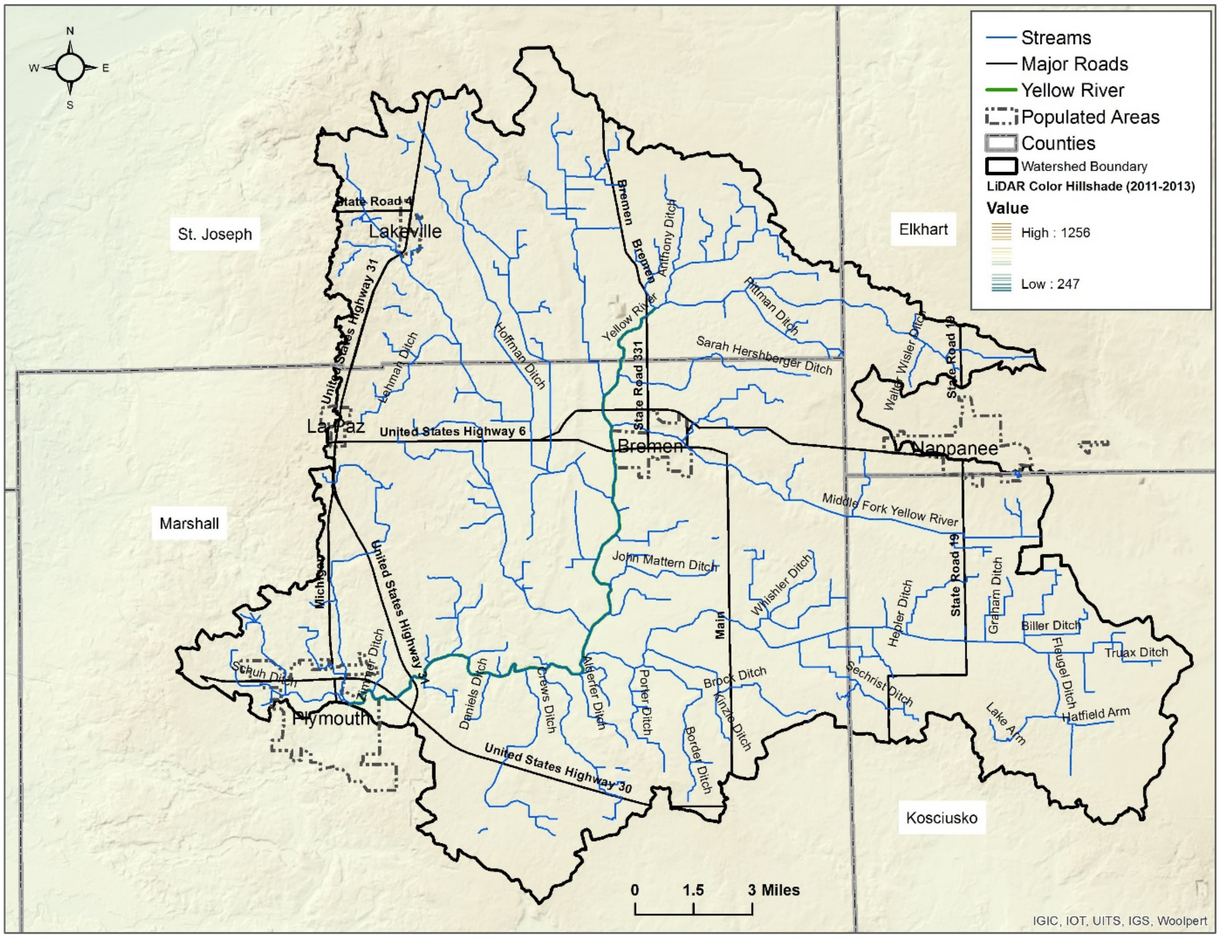


Figure 2. Headwaters Yellow River Watershed elevation map.

2.2 Hydrology

The Headwaters Yellow River Watershed (HUC: 0712000103) contains twelve subwatersheds across St. Joseph, Kosciusko, Elkhart, and Marshall Counties (Figure 3). The subwatershed of the Headwaters Yellow River Watershed include Armey Ditch (HUC: 071200010303), Dausman Ditch (HUC: 071200010308), Elmer Seltenright Ditch (HUC: 071200010311), Fleugel Ditch (HUC: 071200010306), Headwaters Stock Ditch (HUC: 071200010304), Kline Rouch Ditch (HUC: 071200010302), Lake of the Woods (HUC: 071200010309), Lateral Ditch No. 5 (HUC: 071200010301), Lemler Ditch (HUC: 071200010307), Milner Seltenright Ditch (HUC: 071200010312), Stone Ditch (HUC: 071200010310), and West Bunch Branch (HUC: 071200010305). Included in each of these subwatersheds is a network of streams, closed drains, lakes, and wetlands.

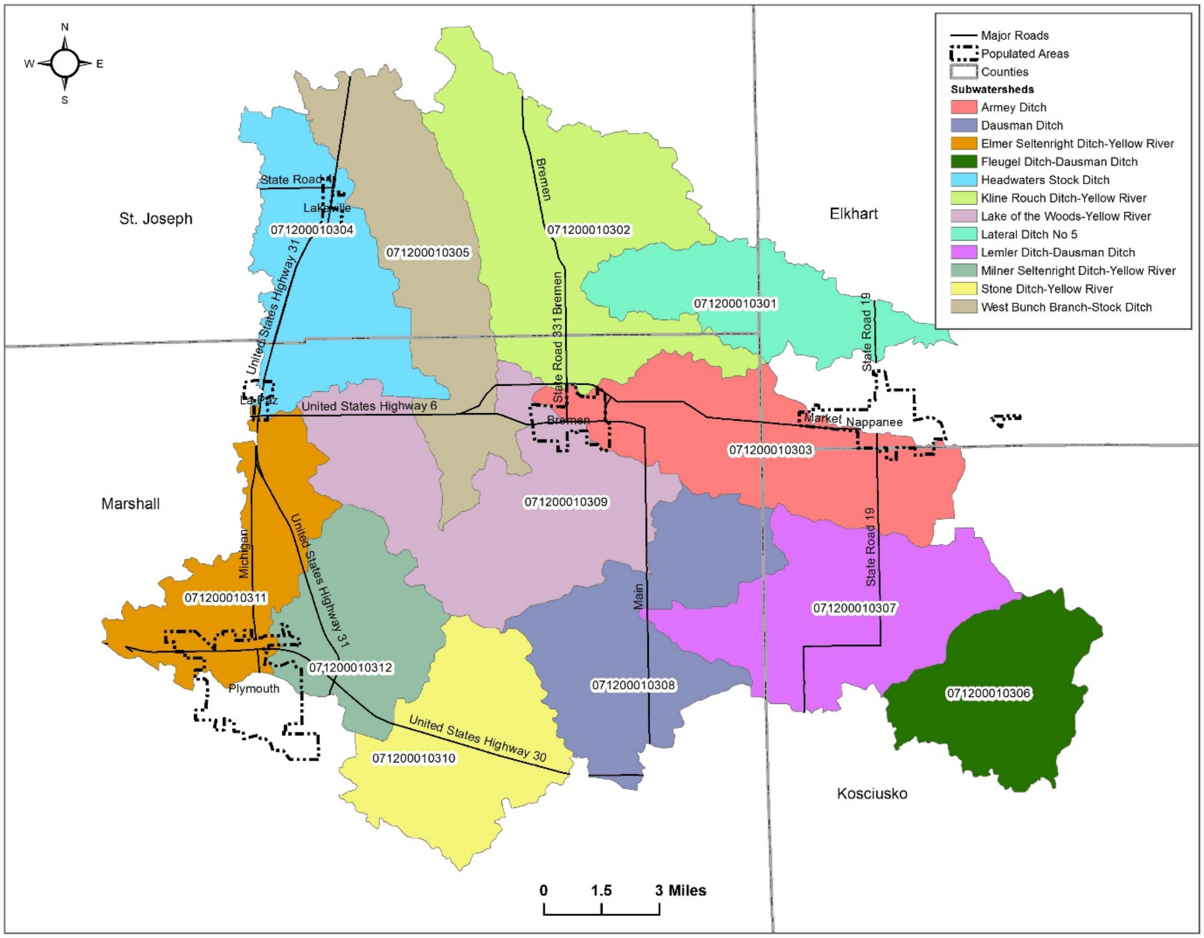


Figure 3. Headwaters Yellow River HUC 12 Subwatersheds.

The twelve subwatersheds combine to include a total of 335 miles of streams (open water drainages) and 154 miles of closed drains (tiles; Figure 4). All of these streams and closed drains shown in Figure 4 are regulated drains and subject to local drainage board management. Water from streams and closed drains ultimately drain to the Yellow River, which originates in southern St. Joseph County (Figure 4). The headwaters of the Yellow River flows four miles south, past the west side of Bremen. The river continues in a southwesterly direction for another fourteen miles until the river reaches Plymouth in central Marshall County (Figure 4). Portions of the Headwaters Yellow River Watershed are located in Elkhart and Kosciusko Counties; however the mainstem of the Yellow River flows only through St. Joseph and Marshall Counties. The streams and closed drains of the watershed are primarily utilized for drainage and irrigation purposes. However, the lower portion of the Yellow River in the watershed is utilized for angling despite limited access. In addition to lotic environments the Headwaters Yellow River contains numerous lentic environments.

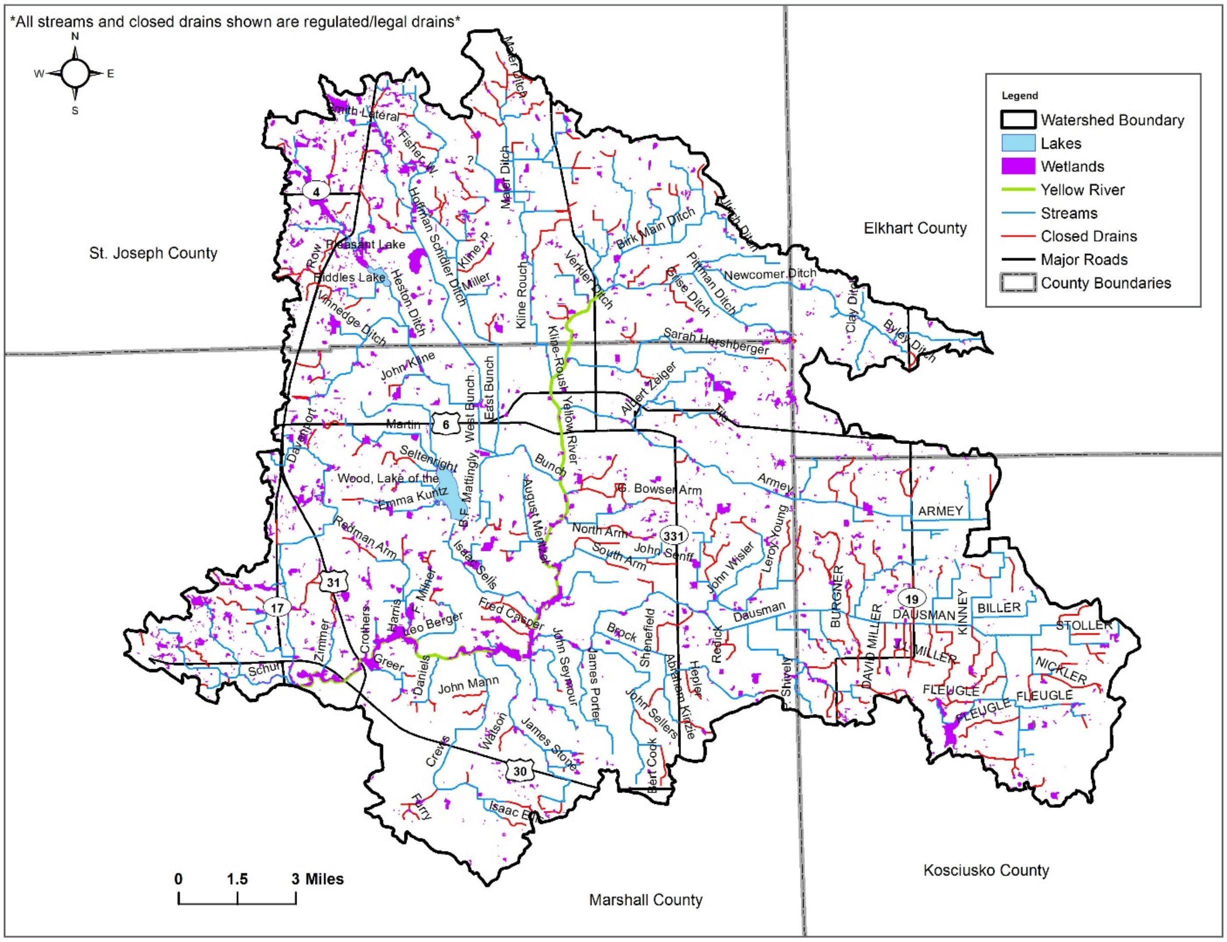


Figure 4. Waterbodies of the Headwaters Yellow River Watershed.

There are three primary lakes in the watershed including Pleasant Lake (24 acres), Riddles Lake (74 acres), and Lake of the Woods (420 acres) (Figure 4). Pleasant and Riddles Lakes are located in St. Joseph County near Lakeville. Pleasant Lake has a maximum depth of 39 feet (JFNew 2006a). Heston Ditch is the primary inlet to Pleasant Lake (JFNew 2006a). Riddles Lake has a maximum depth of 20 feet. Heston Ditch is also the primary inlet to Riddles Lakes (JFNew 2006a). Lake of the Woods is the largest lake in the watershed and is located in Marshall County southwest of Bremen. Lake of the Woods has a maximum depth of 47.9 feet (DJ Case and Associates 2005). There are five inlets to Lake of the Woods including William Forsythe Ditch, Martin Ditch, Seltenright Ditch, Bohmer Ditch, and Kuntz Ditch (DJ Case and Associates 2005). Each of these lakes is utilized by the public for multiple recreational activities including fishing, boating, and swimming.

The remainder of the lotic environments in the watershed includes wetlands ranging from 169 acres to less than 0.1 acres in size. Nearly 8,000 acres of small wetlands are scattered throughout the watershed, with an average size of 3.6 acres (Figure 4). The National Wetland Inventory data suggests that there were once an additional 1,895 wetlands totaling 1,358 acres present in the watershed that no longer exist. The largest existing wetland is a 169 acre wetland complex in the southern portion of the watershed, which is adjacent to the Yellow River upstream from Plymouth (Figure 4). Nearly all of the wetland ecosystems in the watershed are located on private land. It is likely that a portion of the wetlands on privately owned land are used by stakeholders for recreational activities such as waterfowl hunting. There is one protected wetland in the watershed located near Atwood in Kosciusko County. This is the location of the Glenwood Nature Preserve owned and managed by Acres Land Trust.

Seasonal changes result in significant variation in the discharge of the Yellow River. Historically, the spring months of March and April exhibit the greatest mean discharge (Figure 5). During these spring months the annual snowmelt combined with increasing precipitation results in dramatic increases in discharge over short periods of time. The peak discharge for the Yellow River was 5,390 cubic feet per second (cfs) in October of 1954. Conversely, the late summer months of August and September exhibit the lowest mean discharge (Figure 5). The dramatic increases in discharge that regularly occur in the Headwaters Yellow River Watershed pose flooding risks for residents of the watershed.

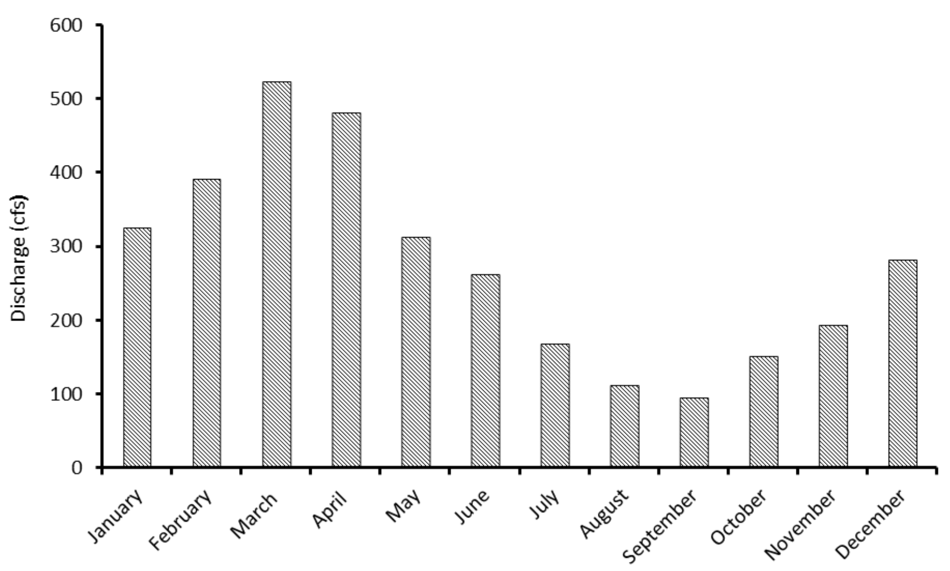


Figure 5. Mean (1948-2014) monthly discharge at USGS gauging station (05516500), located on the Yellow River in Plymouth, Indiana.

While flooding in the Headwaters Yellow River Watershed was not a primary area of concern to stakeholders, flooding concerns do exist in the watershed. Figure 6 displays areas of the watershed that have been determined to have a 0.2 to 1.0% chance of annual flooding. Approximately 7.0% or 13,285 acres of the Headwaters Yellow River Watershed are classified under this flooding category. Of the five populated areas in the watershed three do not appear to be located in floodplains including Lakeville, La Paz, and Nappanee (Figure 6). However, portions of Plymouth and Bremen are located in floodplains. Bremen has the potential to flood on the west side of town where the Yellow River flows past town and on the northeast side of town where Armey Ditch flows through town (Figure 6). Plymouth has the potential for flooding along the Yellow River and along Elmer Seltenright Ditch on the north side of town (Figure 6).

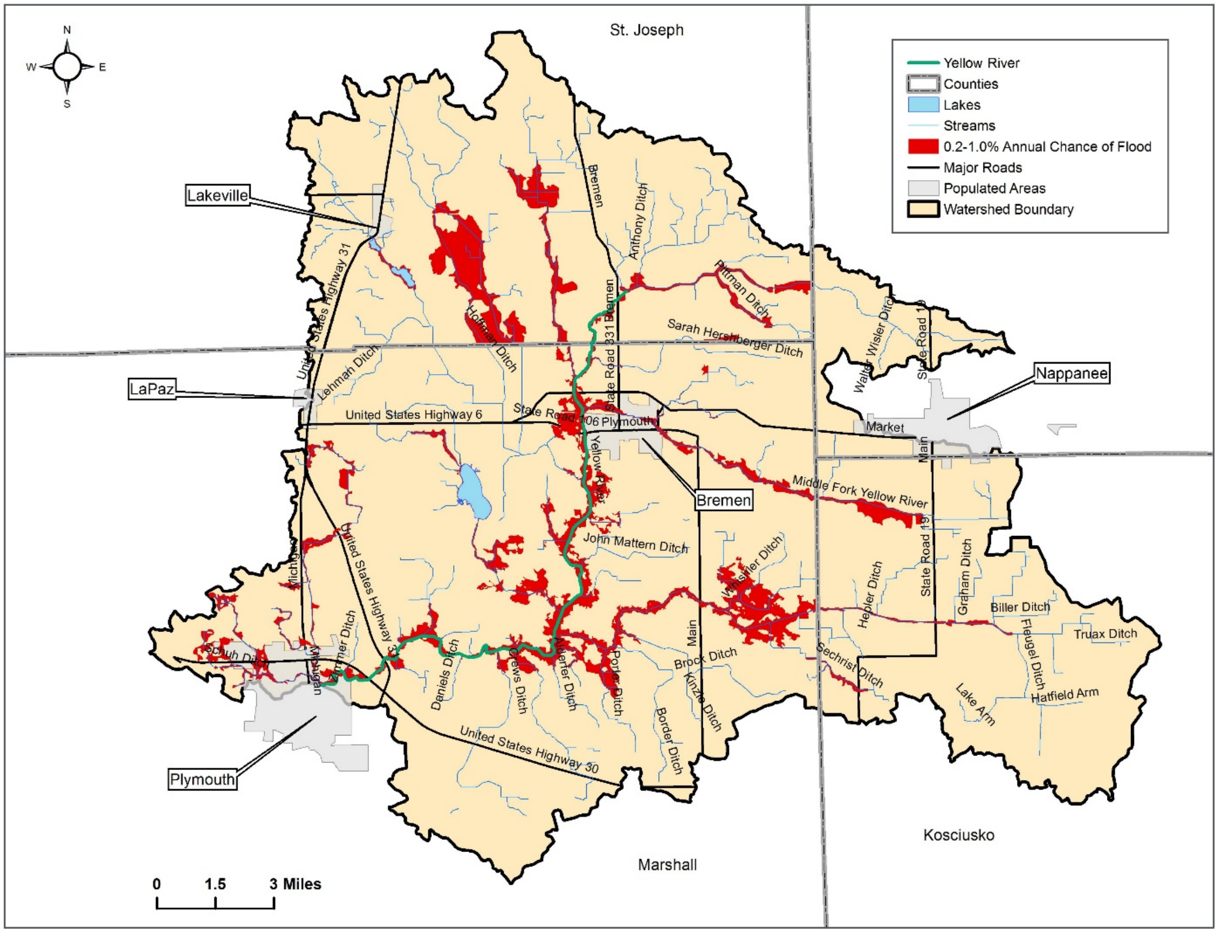


Figure 6. Headwaters Yellow River Flooding Areas.

Hydrologic modifications within the Headwaters Yellow River Watershed have been significant in regards to channelization of streams and construction of drainage ditches or installation of drainage tiles. Hydrologic modification for the purposes of increasing landscape drainage is a common practice in agriculturally dominated watersheds such as the Headwaters Yellow River Watershed. The modification of drainages within the watershed is shown well in Figure 4, as noted by the relatively straight flow paths of most drainages within the watershed. These hydrologic modification have also changed the extent of wetlands present within the watershed, resulting in fewer wetland acres than what would have been present historically. All three lakes in the watershed are natural; however, their water levels are maintained seasonally by outlet structures. The Headwaters Yellow River Watershed does not contain any dams or reservoirs.

2.3 Soils

The soil types present in a watershed greatly influence hydrologic processes. Soils have unique characteristics that influence infiltration rates, erosion, and hydrology. The Headwaters Yellow River Watershed contains a total of 175 soil associations, which are provided in Appendix A. Crosier loam (0-1% slopes) is the most common soil association, comprising 22% of the watershed followed by Brookston loam (0-1% slopes), comprising 14% of the watershed and Rensselaer loam (0-1% slopes) which accounts for 9.25% of the watershed (Appendix A). The remaining soil associations individually account for less than 7% of the watershed (Appendix A). Each of these soil associations have unique characteristics that influence watershed-scale processes.

Hydrologic soil groups (HSG's) are determined by the water transmitting soil layer with the lowest saturated hydraulic conductivity and depth to any layer that is more or less impermeable or depth of water table (United States Department of Agriculture 2007). The four HSG categories are A, B, C, and D soils. Soils in HSG A have the lowest runoff potential and transmit water freely through the soil, while soils in the remaining groups (B, C, and D) have increasing levels of runoff potential and decreasing water transition rates. The runoff potential and water transmission characteristics of each HSG are described in Table 3 and in the example scenario described immediately below Table 3 noted by an (*).

Table 3. Characteristics of the HSG's of the Headwaters Yellow River Watershed (United States Department of Agriculture 2007).

Hydrologic Soil Groups	Runoff Potential	Water Transmission Rate
A	Low	High
B	Moderately Low	Moderate
C	Moderately High	Low
D	High	Very Low

*If Group-D soils within 24 inches of the water table can be adequately drained they are assigned a dual HSG (A/D, B/D, and C/D). The first letter applies to the drained condition and second applies to the undrained condition.

The primary HSG's in the watershed are B/D (35%), followed by C/D (30%) and B (17%). There is only 1% of the watershed in the HSG C. The eastern portion of the watershed is dominated by B/D and C/D soils, while the western portion of the watershed has a greater portion of A, A/D, and B soils (Figure 7). HSG soil classification are closely linked to the location and quantity of hydric soils in the watershed.

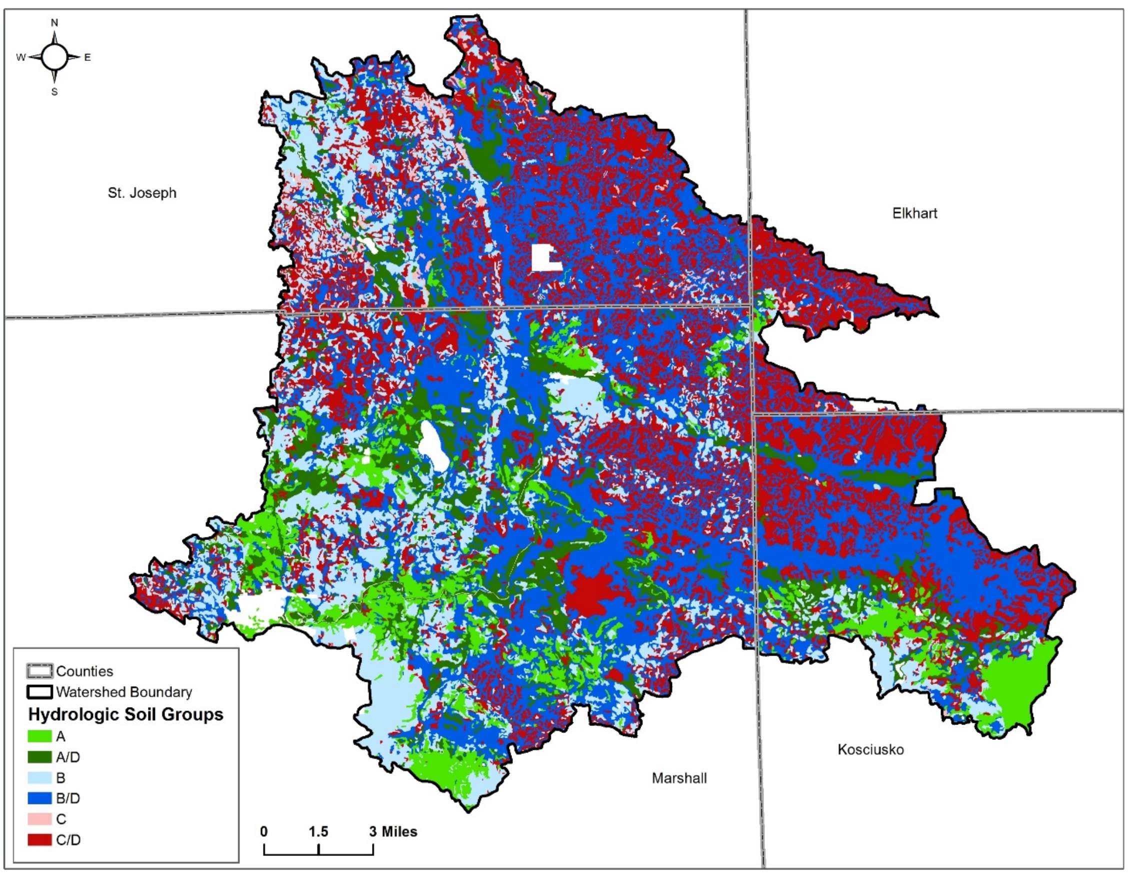


Figure 7. Headwaters Yellow River Watershed Hydrologic Soil Groups (HSG's).

Hydric soils are soils that form under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The Headwaters Yellow River Watershed contains a combination of soils that are classified as all hydric, partially hydric, and not hydric. Partially hydric soils account for 58% of the watershed, followed by non-hydric at 30%, and all hydric at 12%. The southeastern portion of the watershed contains a significant portion of the hydric soils, while the southwest portion of the watershed contains a significant amount of not hydric soils (Figure 8). Partially hydric soils are scattered throughout the watershed, however they are particularly common in the northern portion of the watershed in the southeastern portion of St. Joseph County. (Figure 8).

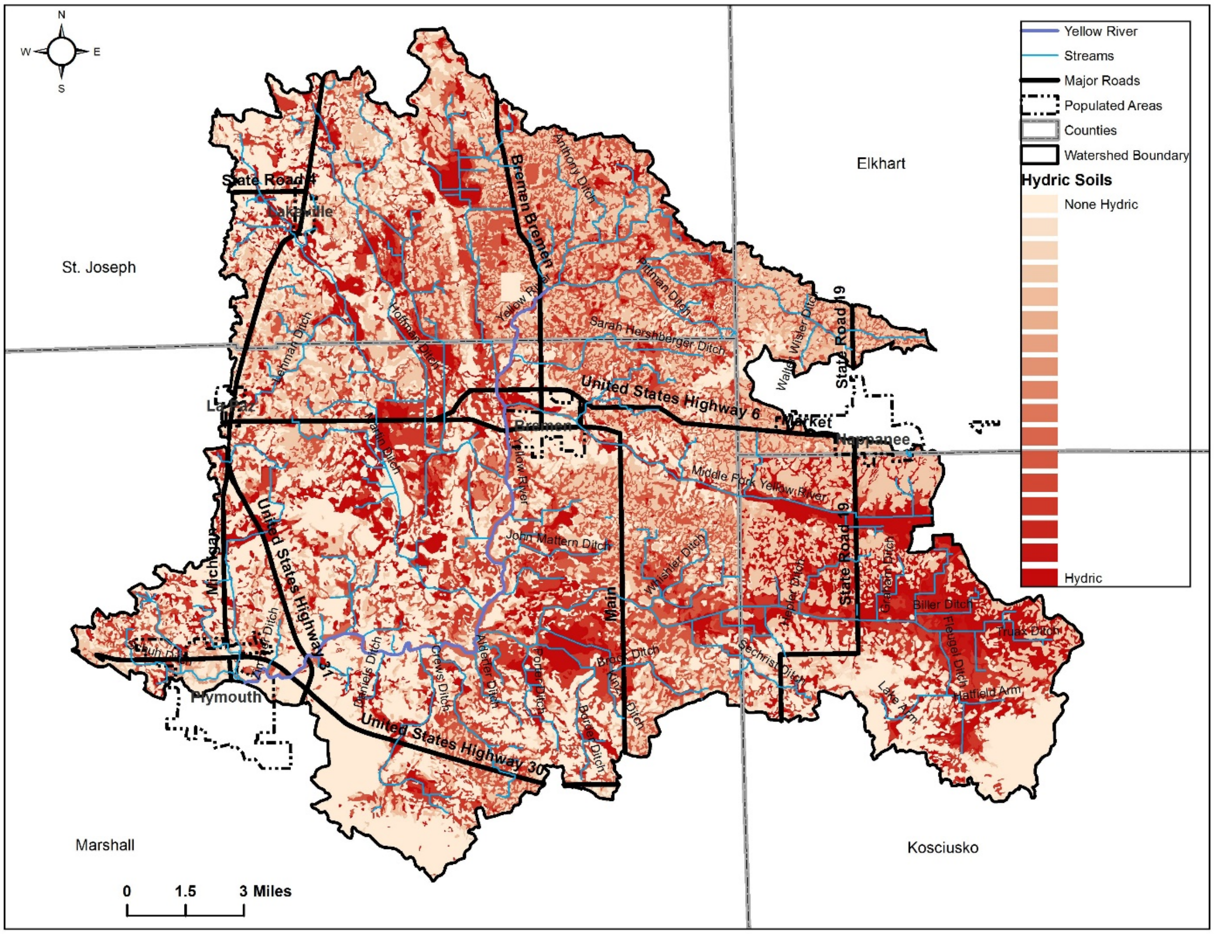


Figure 8. Headwaters Yellow River Watershed Hydric Soils.

Many of the soil types in the Headwaters Yellow River are more susceptible to erosion by wind and water. Identifying areas of the watershed that are more susceptible to erosion can assist with the prioritization of conservation efforts to limit soil loss in the Headwaters Yellow River Watershed. As a note, soils listed below that are referred as "severely susceptible to erosion" are synonymous to the designation "highly erodible soils." Approximately 84% of the Headwaters Yellow River Watershed is slightly susceptible to erosion. The majority of the slightly erodible soils are located in the eastern portion of the watershed (Figure 9). It should be noted that the majority of the soils in the Kosciusko portion of the watershed are slightly erodible. Approximately 14% of the Headwaters Yellow River Watershed is moderately susceptible to erosion. The majority of the moderately erodible soils are located in St. Joseph and Marshall Counties, in the western portion of the watershed (Figure 9). Less than 1% of the soil in the watershed is severely susceptible to erosion. The soils classified as severely susceptible to erosion are scattered throughout Marshall and St. Joseph County (Figure 9).

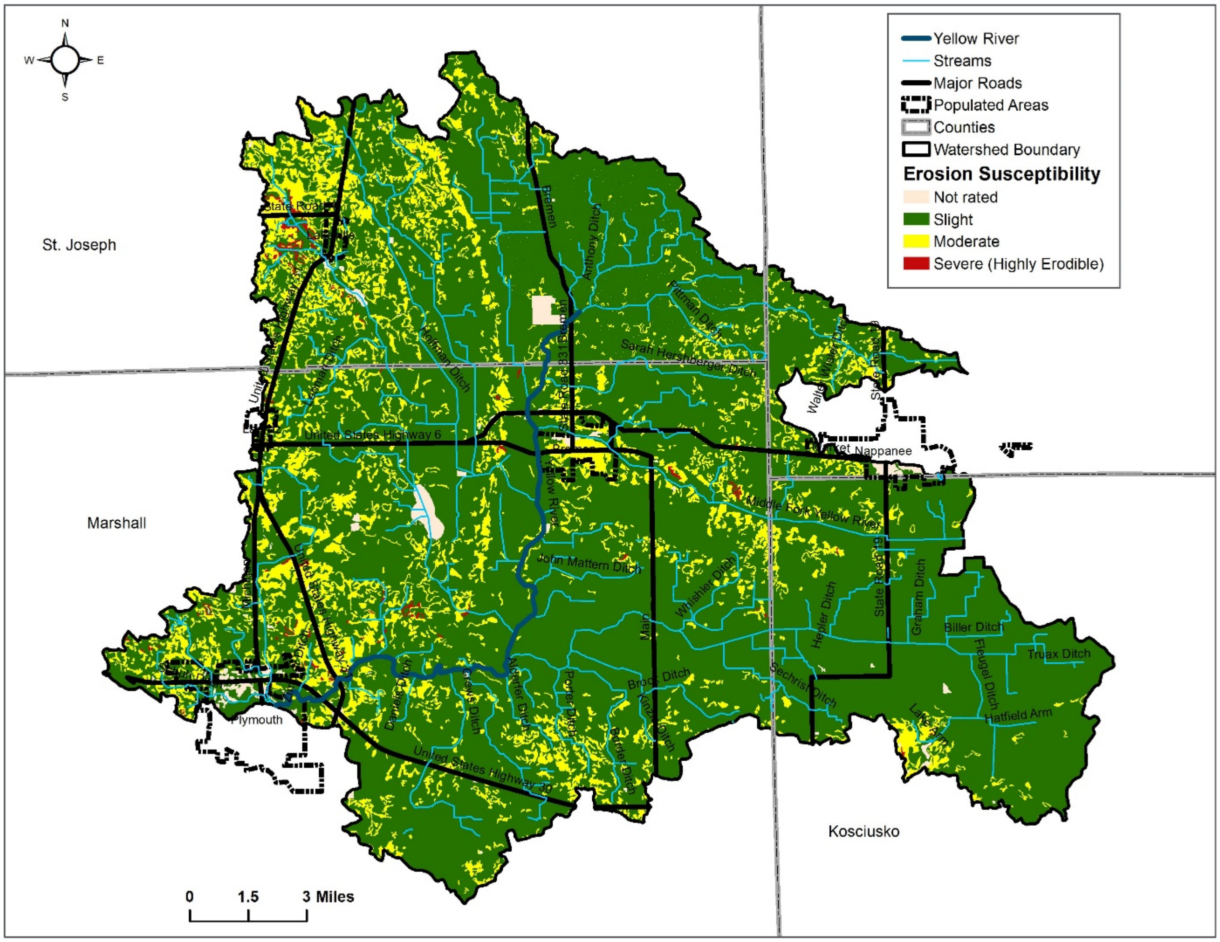


Figure 9. Headwaters Yellow River Watershed Soil Erosion Susceptibility.

The majority of the land area in the Headwaters Yellow River Watershed is serviced by septic systems. Plymouth, Bremen, Nappanee, Lakeville, La Paz, and Lake of the Woods are only the portions of the watershed that are serviced by sewer systems. Therefore, an understanding of the location of soils with characteristics suitable or unsuitable for septic systems is necessary. Approximately 98% of the soils in the watershed are described as very limited for septic tank absorption fields, while only 1% are described as somewhat limited (Figure 10). Due to the widespread limitations in soil absorption for septic systems and the large number of rural residences in the watershed, septic tank design and maintenance should be an area of focus in the Headwaters Yellow River Watershed. There are no large unsewered communities located within the Headwaters Yellow River Watershed.

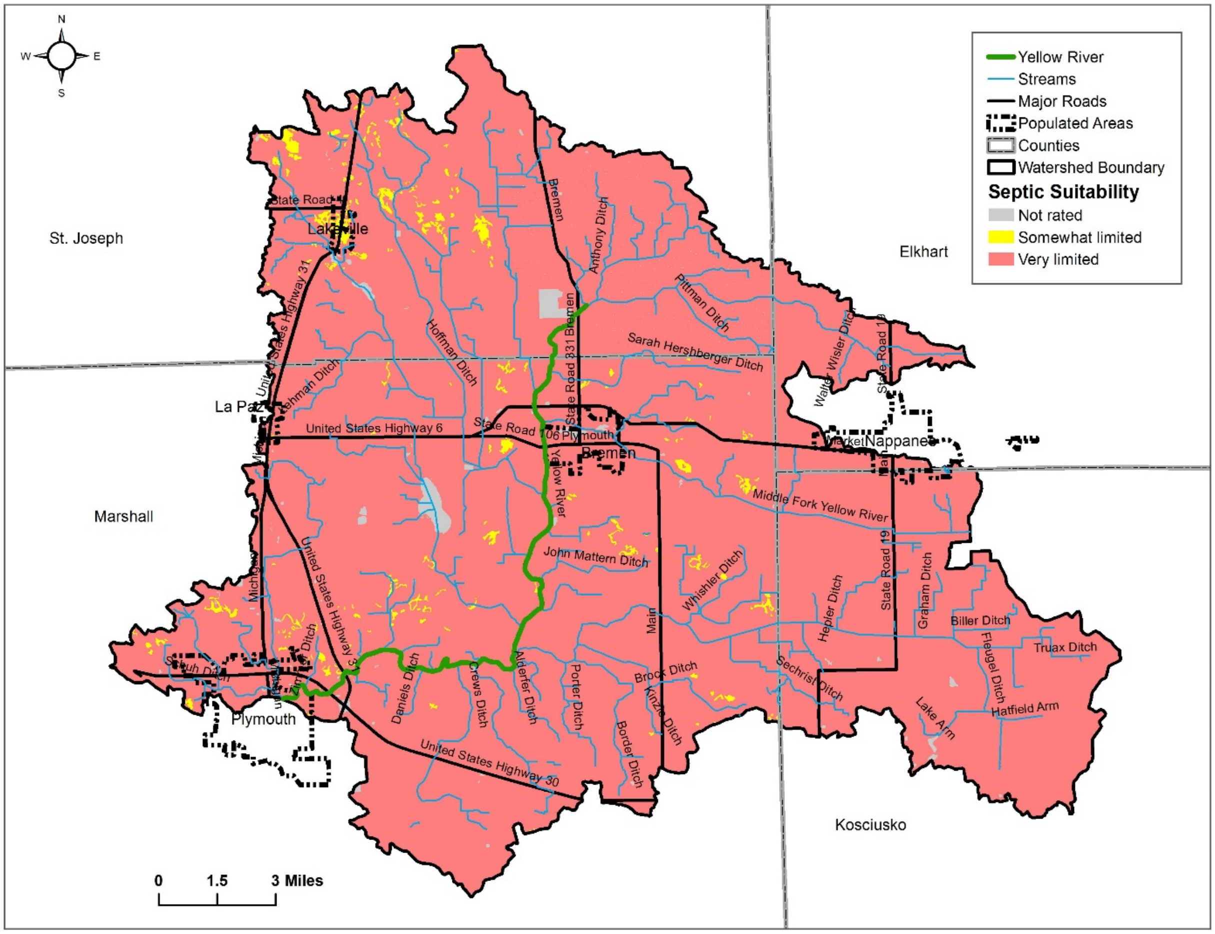


Figure 10. Headwaters Yellow River Watershed Septic Suitability.

2.4 Land Use

Landuse in the Headwaters Yellow River Watershed is dominated by agriculture. Cultivated cropland comprises the majority of the watershed followed by deciduous forest, developed open space, hay/pasture, low intensity development, and woody wetlands (Table 4).

Table 4. Percentage and acreage of each land use type in the Headwaters Yellow River Watershed.

Land use	% of Watershed	Acres
Open Water	0.4%	709
Developed, Open Space	5.4%	10,129
Developed, Low Intensity	2.1%	3,880
Developed, Medium Intensity	0.4%	830
Developed, High Intensity	0.3%	577
Barren Land	0.0%	90
Deciduous Forest	7.2%	13,468
Evergreen Forest	0.2%	367
Mixed Forest	0.0%	9
Shrub/Scrub	0.3%	511
Herbaceous	0.2%	345
Hay/Pasture	5.3%	9,903

Land use	% of Watershed	Acres
Cultivated Crops	76.0%	142,307
Woody Wetlands	2.0%	3,752
Emergent Herbaceous Wetlands	0.2%	423

The 2015 Natural Resource Conservation Service (NRCS) tillage transect survey suggests that approximately 19.5% of agricultural land dedicated to corn in the watershed was no-till and 49.3% of land dedicated to soybeans was no-till (Indiana State Department of Agriculture 2015). The primary areas of urban development are Plymouth, Bremen, Nappanee, La Paz, Lakeville, and Lake of the Woods (Figure 11). The remaining natural ecosystems in the watershed have been highly fragmented. Deciduous forest patches are isolated from each other and are commonly surrounded by a matrix of anthropomorphic land use such as development and row-crop agriculture (Figure 11).

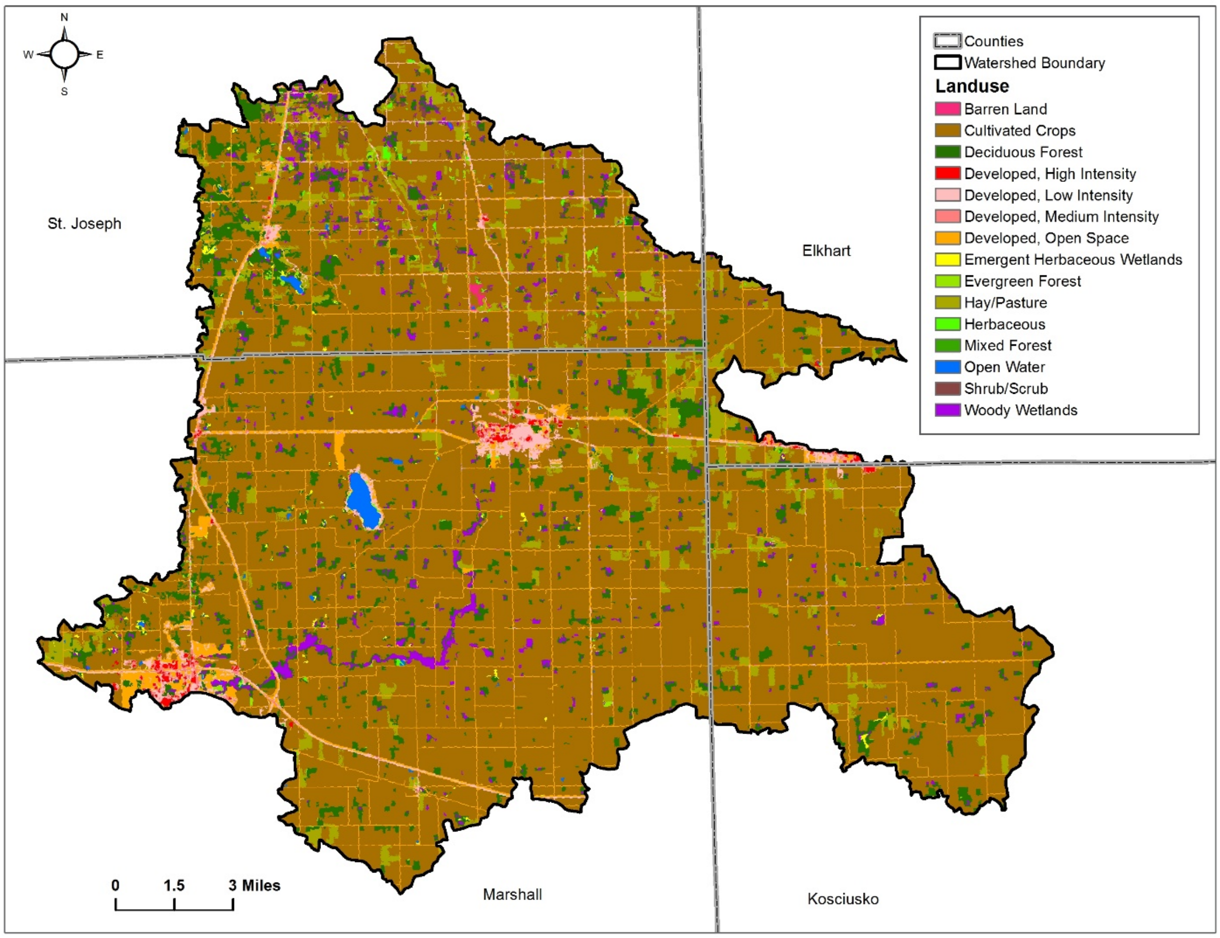


Figure 11. Headwaters Yellow River Watershed Landuse.

Deciduous forest fragments are scattered throughout the watershed, but many of the patches are concentrated along the western boundary of the watershed near Lakeville (Figure 11). Woody wetlands are concentrated largely along the mainstem of the Yellow River between Bremen and Plymouth, as well as the area east of Lakeville in St. Joseph County (Figure 11). The majority of the land in Headwaters Yellow River Watershed is privately owned. There are a total of 124 acres of public land in the watershed including Centennial Park (68 acres), Sunnyside Park (24 acres), Lake of the Woods Public Access Site (2 acres), Pleasant Lake Public Access Site (3 acres), and the Lakeville Bike Trail (27 acres) (Figure 12).

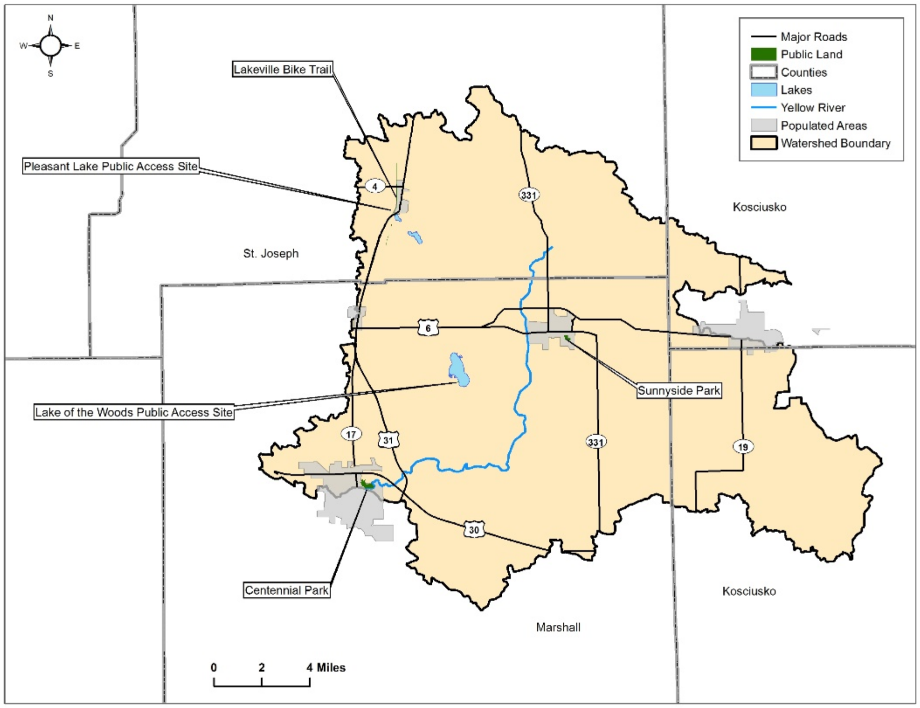


Figure 12. Public Land in the Headwaters Yellow River Watershed.

As landuse data shows, the Headwaters Yellow River Watershed has been altered by human activities significantly. This alteration of the landscape has resulted in changes of the interactions between forests, wetlands, streams, lakes and the general flow of water and nutrients through the various ecosystems contained within the watershed. These alterations can have an impact on water quality in a number of different ways. Significant landscape alterations such as the loss of wetland acres, the channelization of streams and the construction of drainage ditches and tiles have changed how water flows across the landscape resulting in a decreased ability of land to retain water thereby increasing overland flow and increasing general discharge levels within drainages. In general, precipitation that falls during a rain event or from snow melt reaches streams or drainage ditches more quickly and can have negative impacts on water quality by increasing streambank erosion, increased sediment and nutrient loading and decreased habitat quality for aquatic organisms through lower dissolved oxygen levels, sedimentation and unsuitable flow regimes. The loss of intact riparian habitat along streams is also of concern for water quality within the watershed. The loss of tree canopy cover along streams can increase water temperature and the stream edges that lack a vegetative buffer can have increased sediment and nutrient load, as well as increased streambank erosion. Streamside buffers are in important filter to overland flow as they help capture sediment and nutrients and provide habitat for organisms occupying these areas. Increases in nutrient and sediment loading are a concern to stakeholders within the watershed as it can have a negative affect the resources used by stakeholders. The primary categories of concerns expressed by stakeholders in the watershed are natural resource quality, non-point source pollutant sources, and recreation opportunities. Additional concerns expressed by stakeholders were rural and urban drainage and flooding, which is directly impacted by the interaction of various landuse practices within the watershed. It is important to note that the alterations described above have become a necessary means to use the land within the Headwaters Yellow River Watershed for production purposes and is therefore an integral component of the current landscape. For all stakeholders to benefit from the variety of resources available within the Headwater Yellow River Watershed, they must consider thoughtful development, landscape maintenance, planning, and soil/water conservation practices and preservation.

The use of fertilizer and pesticides for increased agricultural production is a common practice in the Headwaters Yellow River Watershed and the State of Indiana overall. The use of fertilizers and pesticides allow producers to maximize yields and if utilized in a responsible manner can have reduced negative impact on water quality. When fertilizer and pesticides are applied without consideration of weather conditions, application rates or excess nutrient and chemicals can be transported to waterways. Utilizing best management practices for fertilizer and pesticide application is advantageous to both producers and the natural environment as producers could save money on the amount of products applied and the natural environment benefits by reduced nutrient and chemical loading. The application of fertilizer is also a concern in urban environments for general landscaping needs. Developed landuse accounts for 8.2 percent of the Headwaters Yellow River Watershed and therefore should not be overlooked for impacts to water quality. Fertilizers applied to landscaped areas have the potential to reach waterbodies just as in rural landscapes. Fertilizers when possible should not be used for general landscaping should be avoided, but if used should be used in a responsible manner. If fertilizers are used, phosphorus free products are preferred.

Wildlife and pet waste can negatively impact water quality by increasing nutrient and E. coli loading. Areas where wildlife waste could be problem include the three lakes in the watershed, maintained areas such as those at parks and urban laws where pet waste can wash into storm drains and ultimately reach water resources.

2.5 Other Planning Efforts

There are numerous planning efforts that have taken place or are currently taking place in the Headwaters Yellow River Watershed. Figure 13 displays the location of each of the planning efforts in the watershed. In 2012 the Michiana Area Council of Governments (MACOG) sponsored a Watershed Management Plan (WMP) for the Heston-Stock Ditch subwatershed (Michiana Area Council of Governments 2012). The Heston-Stock Ditch subwatershed is located in the northwest portion of the Headwaters Yellow River Watershed (Figure 13). Lake of the Woods is the largest lake in Headwaters Yellow River Watershed and has been studied extensively (Figure 13). Lake of the Woods developed a diagnostic feasibility study in 1982 and a feasibility study in 1991 (Senft and Roberts 1982; Corporation Dynamac 1991). In 2005 the Kankakee River Basin Commission (KRBC) sponsored the completion of a WMP for Lake of the Woods in Marshall County (DJ Case and Associates 2005). Pleasant and Riddles Lakes, which are located in the northwest portion the Headwaters Yellow River Watershed had a watershed diagnostic study and sediment removal plan completed in 2006 (JFNew 2006a; JFNew 2006b). In addition to studies on the tributaries and lakes of the Yellow River, significant work has also been done on the mainstem of the Yellow River.

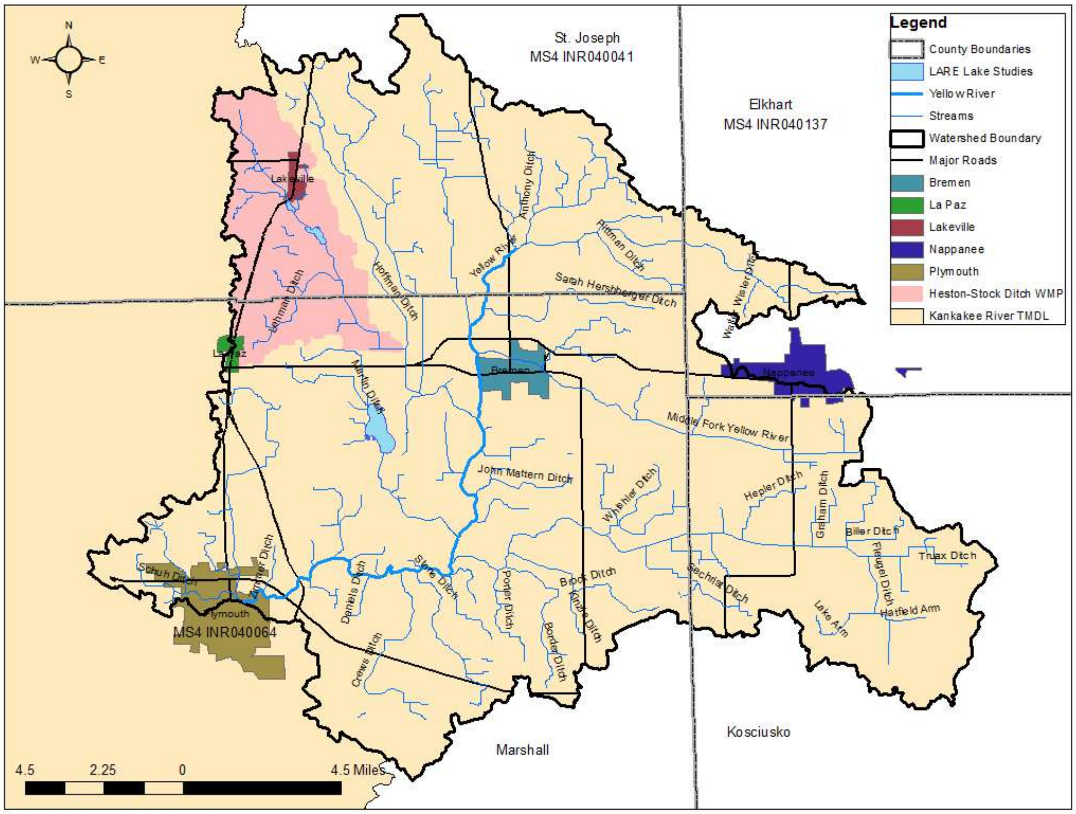


Figure 13. Planning Efforts in the Headwaters Yellow River Watershed.

A Total Maximum Daily Load (TMDL) Report was created for the Kankakee/Iroquois Watershed (Tetra Tech 2009), which includes the Yellow River watershed. The Kankakee River Basin Commission (KRBC) is also actively involved in the coordinating and planning of numerous ongoing conservation efforts in the Kankakee River Watershed. A Sediment Control Evaluation was prepared in 2012, which describes three areas of streambank erosion downstream of the Headwaters Yellow River Watershed in Starke County (Christopher B. Burke Engineering 2012). Lastly, fisheries surveys were conducted on the Yellow River by the Indiana Department of Natural Resources (DNR) in 1987, 1989, and 2005 (Price 2005). Relevant information provided in each of these planning efforts has been utilized throughout this WMP to describe the current and historical conditions of the watershed.

In addition to studies sponsored by local non-profits, many of the local governments in the watershed have developed plans that contain information relevant to the Headwaters Yellow River WMP. Each of the counties in the Headwaters Yellow River Watershed have County Comprehensive or Master Plans, which often contain sections regarding environmental objectives (Team Kosciusko County Area Plan Study 1996; Commissioners 2006; Marshall County 2013; HNTB and the St. Joseph County Area Plan Commission). Plymouth, which is the most populated municipality in watershed has a history of monitoring and planning projects to improve the water quality of the Yellow River. In 2002 the City of Plymouth prepared a study to monitor non-point source pollutants and explore ways to reduce pollutant inputs (Commonwealth Biomonitoring 2002). The City of Plymouth has also implemented practices to eliminate CSOs and reduce the frequency of overflows into the Yellow River. An examination was conducted in 2013 to monitor water quality following the implementation of these CSO improvements (Bright 2013). The Plymouth Park and Recreation Department received 2015 LARE funding to stabilize multiples areas of erosion along the Yellow River in Centennial Park. Lastly, in September of 2015, the Marshall County SWCD received an EPA Region 5 Wetland Program Development Grant to complete a Landscape-Level Wetland Functional Assessment (LLWFA) to develop a better understanding of the functional value of wetlands in the

Headwaters Yellow River watershed. The LLWFA assessment utilized the USFWS NWI 2016 dataset as the baseline data for the study. Tasks completed during the LLWFA study included the following: development of a NWI+ data base, LLWFA functional analysis of the NWI+ database, desktop review of NWI wetlands, targeted windshield survey of priority wetlands, overall functional wetland prioritization, and specific wetland restoration/enhancement site identification and conceptual plan development (Appendix B).

Construction and development are occurring within the Headwaters Yellow River Watershed but not at a rate which has caused concern to stakeholders. Construction and development sites which disturb greater than 1 acre of land need to follow an approved storm water pollution prevention plan (SWPPP), which is required by Rule 5. State and county personnel are responsible for reviewing the pollution prevention plans for Rule 5. There are no known areas in need of Rule 5 enforcement and or areas of unmanaged construction/sprawl located within the watershed at the time of the development of this plan.

In addition to controlling erosion and runoff at construction/development sites, Indiana also implements Municipal Separate Storm Sewer Systems (MS4s) to control stormwater runoff and prevention. Entities which have regulated MS4 programs in the Headwaters Yellow River Watershed include St. Joseph County (INR040041), Elkhart County (INR040137) and the City of Plymouth (INR040064; Figure 13). MS4s are required to develop and implement a Stormwater Quality Management Plan (SWQMP). The SWQMP is a comprehensive document that addresses stormwater quality, within the designated area, that includes methods and measureable goals. Components of the SWQMP include: public education and outreach; public participation and involvement; illicit discharge detection and elimination; construction site stormwater runoff control; post-construction stormwater runoff control; and municipal operations pollution prevention and good housekeeping.

2.6 Threatened and Endangered Species

The Indiana Department of Natural Resources has created a list of endangered, threatened, and rare species for each county in the state. An understanding of the endangered, threatened, and rare species is important to the watershed planning processes because of the potential to protect these species and the habitats they require. There are six endangered species, one threatened species, and four rare species in the Headwaters Yellow River Watershed (Table 5). The endangered species include the Yellow-headed blackbird (*Xanthocephalus xanthocephalus*), American Manna-grass (*Glyceria grandis*), Blanding's Turtle (*Emydoidea blandingii*), Kirtland's Snake (*Clonophis kirtlandii*), Thinleaf Sedge (*Carex sparganioides var. cephaloidea*), and Highbush-cranberry (*Viburnum opulus var. americanum*).

Photo: Blanding's Turtle (FWS 2015)

The Yellow-headed blackbird was documented near Plymouth where Highway 31 crosses the Yellow River. Yellow-headed blackbirds nest in marshes and forage in pastures (Sibley 2003). The American Manna-grass was documented near the Yellow River, south of Bremen and generally grows in shallow water areas such as wetlands (Gleason and Cronquist 1991). Both the Blanding's Turtle and Kirtland's Snake were documented near Lakeville in St. Joseph County. Blanding's Turtles prefer productive clean shallow water habitats (Ernst and Lovich 2009), while Kirkland's Snakes prefer open grassy areas on the edge of waterbodies (Ernst and Ernst 2003). Lastly, both the Thinleaf Sedge and Highbush-cranberry were documented near the Plymouth Airport in Marshall County. Thinleaf Sedge grows in dry woods and Highbush-cranberry grows in moist woods (Gleason and Cronquist 1991). The only high quality natural community in the watershed is a 40 acre circumneutral bog, located near Atwood in Kosciusko County. This is the location of the Glenwood Nature Preserve owned and managed by Acres Land Trust. The state threatened Slender Cotton-grass (*Eriophorum gracile*) is located in this circumneutral bog. The full listing of endangered, threatened, and rare species for the Headwaters Yellow River Watershed is provided in Table 5.

Table 5. Endangered, threatened and rare species in the Headwaters Yellow River Watershed (Indiana Department of Natural Resources 2015)**.**

Scientific Name	Common Name	State Status	Type
Tofieldia glutinosa	False Asphodel	SR	Vascular Plant
Xanthocephalus xanthocephalus	Yellow-headed Blackbird	SE	Bird
Platanthera orbiculata	Large Roundleaf Orchid	SX	Vascular Plant
Glyceria grandis	American Manna-grass	SE	Vascular Plant
Diervilla lonicera	Northern Bush-honeysuckle	SR	Vascular Plant
Taxidea taxus	American Badger	SSC	Mammal
Emydoidea blandingii	Blanding's Turtle	SE	Reptile
Panax trifolius	Dwarf Ginseng	WL	Vascular Plant
Pinus strobus	Eastern White Pine	SR	Vascular Plant
Gnaphalium macounii	Winged Cudweed	SX	Vascular Plant
Campeloma decisum	Pointed Campeloma	SSC	Mollusk Gastropod
Clonophis kirtlandii	Kirtland's Snake	SE	Reptile
Campeloma decisum	Pointed Campeloma	SSC	Mollusk Gastropod
Poa alsodes	Grove Meadow Grass	SR	Vascular Plant
Wetland - bog circumneutral	Circumneutral Bog	SG	High Quality Natural Community
Lymnaea stagnalis	Swamp Lymnaea	SSC	Mollusk Gastropod
Eriophorum gracile	Slender Cotton-grass	ST	Vascular Plant
Carex sparganioides var. cephaloidea	Thinleaf Sedge	SE	Vascular Plant
Viburnum opulus var. americanum	Highbush-cranberry	SE	Vascular Plant

SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list

2.7 Watershed Inventory Part I Summary

The Headwaters Yellow River Watershed is an 187,300 acre watershed that has limited topographical relief as the result of the receding of the Wisconsin Glacier. The glacial events that occurred 70,000 years ago have also shaped the soil and hydrology of the watershed. The watershed contains significant amounts of partially hydric soils, which are scattered throughout the lower elevation areas of the watershed. Malfunctioning septic systems are likely present in the watershed considering 98% of the soils in the watershed are very limited for septic tank absorption fields. Therefore, failing septic systems should be considered a potential source of pathogens to the many streams in the watershed that are impaired for *E. coli*. In total, 73 miles of stream within the watershed are included on IDEM’s list of impaired waterbodies. Most streams are listed for *E.* coli and a couple streams are listed for impaired biotic communities.

The topography of the watershed has formed twelve subwatersheds, each of which contains unique combinations of lentic and lotic habitats. The Headwaters Yellow River Watershed contains three primary lakes, all of which are on the IDEM list of impaired waterbodies, for phosphorus and Lake of the Woods is impaired for PCBs as well. As a result of these impairments each of these lakes has been extensively studied by local, state, and federal agencies in order to improve water quality. Streams of the watershed are largely fed by overland flow and the 154 miles of closed drains in the watershed. The extensive drain networks present in the watershed are a reflection of the dominance of agricultural and developed land uses in the watershed. Significant landscape alterations such as the loss of wetland acres, the channelization of streams and the construction of drainage ditches and tiles have changed how water flows across the landscape resulting in a decreased ability of the land to retain water thereby increasing overland flow and increasing general discharge levels within drainages. Flooding is a common occurrence in the watershed, especially during the spring months of March and April. Plymouth and Bremen are the primary urban areas in the watershed with flooding risks.

The land use of the watershed is dominated by row-crop agriculture, with limited use of no-till and cover crop practices relative to other Indiana counties. In 2015, approximately 14% of the row crop agricultural land dedicated to corn and 24% of the land dedicated to soybeans utilized no-till practices. Considering the widespread distribution of row-crop agricultural lands in the watershed significant opportunities exist to promote the use of no-till practices in the watershed. The increased use of no-till practices in the watershed would improve soil health and aide in the reduction of non-point source pollutants from row-crop agriculture. Natural ecosystems are rare in the Headwaters Yellow River Watershed and the majority of the natural ecosystems that remain in the watershed are not protected.

The most common natural ecosystems in the watershed are deciduous forest fragments and woody wetlands. However, there is one high quality natural area present in the watershed at the Glennwood Nature Preserve. This preserve is location of a circumneutral bog, which contains multiple rare plant species. Many of the remaining state endangered, threatened, and rare species have been observed in the watershed in proximity to the limited natural areas that remain in the watershed. Of the 187,300 acres of land in the watershed, only 124 acres (<1%) is publicly owned. Therefore, future efforts to address the concerns of the watershed will need to work closely and in cooperation with private landowners.

3 Watershed Inventory Part II

3.1 Water Quality Information

Water quality targets selected for the Headwater Yellow River watershed are aimed at providing good aquatic habitat quality to the organisms that live in and adjacent to the various drainages of the watershed and to provide suitable water quality to downstream resources. Water quality targets set for the Headwaters Yellow River are provided in Table 6.

Table 6. Water quality targets for measured parameters.

Parameter	Target	Reference
Ammonia	Range between 0.0075 mg/L and 0.2137 mg/L depending on temperature and pH	Indiana Administrative Code (327 IAC 2-1-6)
Atrazine	<3.0 µg/L	U.S. EPA Drinking water standard
Dissolved Oxygen	>4 mg/L and <12 mg/L	Indiana Administrative Code (327 IAC 2-1-6)
E. coli	<235 cfu (or MPN)/100mL Geo Mean <125 cfu/100mL	Indiana Administrative Code (327 IAC 2-1-6)
Nitrate+Nitrite	<1.5 mg/L (10 mg/L is the 327 IAC 2-1-6 standard for drinking water)	Dividing line between mesotrophic and eutrophic streams (Dodds, W.K. et al., 1998, Table 1, pg. 1459, and in EPA-822-B-00-002, p 27
pH	>6.5 and <9	Indiana Administrative Code (327 IAC 2-1-6)
TKN	<0.591 mg/L	U.S. EPA recommendation
Temperature	Monthly standard	Indiana Administrative Code (327 IAC 2-1-6)
Total Phosphorus	<0.30 mg/L	IDEM draft TMDL target
Total Suspended Solids (TSS)	<25 mg/L	Sediment in streams: sources, biological effects and control American Fisheries Society, Bethesda MD (Waters T.F., 1995)
Turbidity	10.4 NTU	U.S. EPA recommendation

Qualitative Habitat Evaluation Index (QHEI)	>51	Ohio EPA "Methods for Assessing Habitat in Flowing Waters Using the Qualitative Habitat Evaluation Index (QHEI) (June 2006) IDEM (2000)
Macroinvertebrate Index of Biotic Integrity (mIBI)	≥4	IDEM recommendation

Water samples, macroinvertebrate surveys, and habitat surveys were completed at 12 separate sampling locations in the Headwaters Yellow River Watershed from June 2015 through May 2016. Figure 14 and Table 7 provide the geographic location of each sample site in the watershed, what waterbody the site was located in and which subwatershed was represented by the sampling location. Water samples were collected from each sample site on a monthly basis during the sampling period. During the sampling period multiple stormflow and baseflow events were captured, providing a broad representation of the condition of each stream. Lastly, macroinvertebrate and habitat surveys were completed at each site in August 2015. The subsequent sections provide a summary of the water quality data as well as an analysis of the trends observed in the watershed. A more detailed report outlining the 12 month water quality sampling effort completed for the Headwaters Yellow River Watershed management plan can be found in Appendix C. Appendix C also contains the raw data obtained during the water quality, macroinvertebrate and habitat sampling.

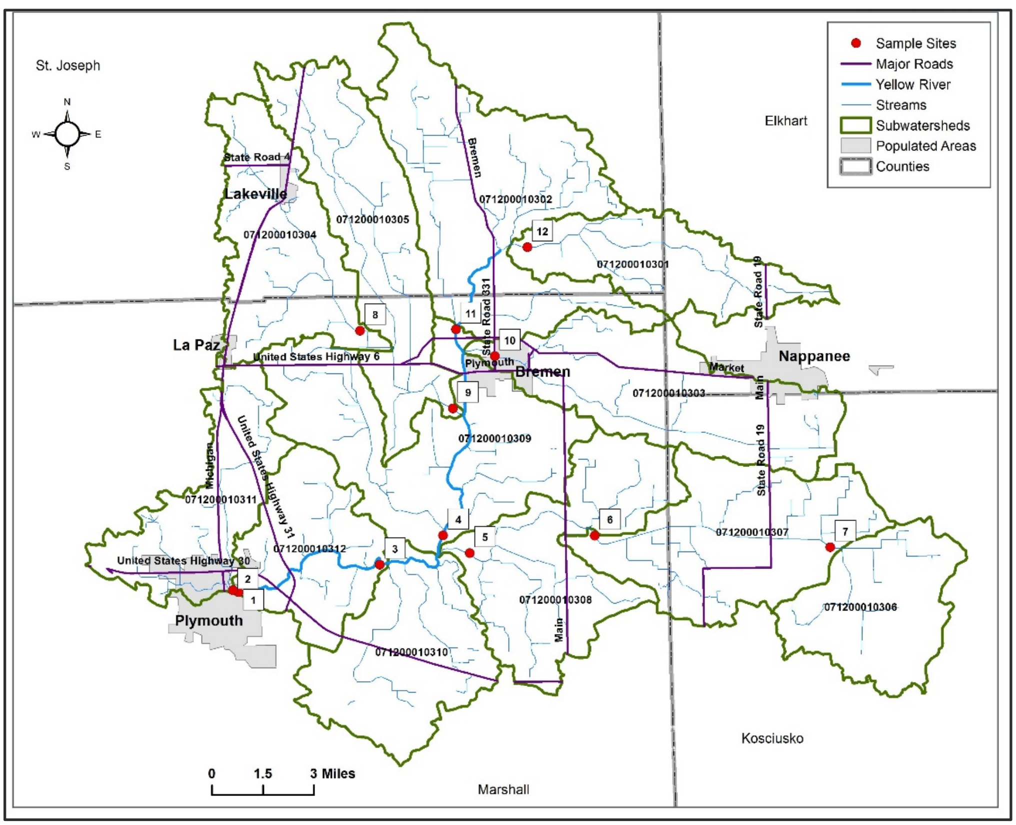


Figure 14. **Location of sampling sites for the Headwaters Yellow River Watershed project (June 2015 – June 2016).**

Table 7. Headwaters Yellow River Watershed sample site locations, coordinates, subwatersheds and descriptions.

Site ID	Physical Location and Watershed Location	Coordinates	Subwatershed Name	Subwatershed HUC
1	Randolph Dr – Yellow River	41.352961 -86.302878	Milner Seltenright Ditch-Yellow River	071200010312
2	Becknell Dr – Elmer Seltenright Ditch	41.353901 -86.306044	Elmer Seltenright Ditch-Yellow River	071200010311
3	8th Rd – Yellow River	41.364257 -86.222512	Stone Ditch-Yellow River	071200010310
4	7th Rd – Yellow River	41.376512 -86.186458	Lake of the Woods-Yellow River	071200010309
5	7B Rd – Dausman Ditch	41.368883 -86.171412	Dausman Ditch	071200010308
6	7th Rd – Dausman Ditch	41.375825 -86.100411	Lemler Ditch	071200010307
7	625 W – Dausman Ditch	41.369696 -85.966852	Fleugel Ditch	071200010306
8	1st Rd – Stock Ditch	41.464341 -86.232551	Headwaters Stock Ditch	071200010304
9	Grape Rd - Stock Ditch/Bunch Ditch	41.430768 -86.180228	West Bunch Branch-Stock Ditch	071200010305
10	SR 331 – Armey Ditch	41.452937 -86.156172	Armey Ditch	071200010303
11	1st Rd – Yellow River	41.464536 -86.177983	Kline Rouch Ditch-Yellow River	071200010302
12	Elm Rd – Lateral No. 5	41.499349 -86.13703	Lateral Ditch No. 5	071200010301

3.1.1 *E. coli*

The Indiana water quality standard for one grab sample per month of *E. coli* is 235 cfu/100mL. Average *E. coli* concentrations exceed this water quality standard at each sample site in the Headwaters Yellow River Watershed (Figure 15). Sample site #12 (Lateral Ditch No. 5 subwatershed) had the highest average *E. coli* concentration, while sample site #7 (Fleugel Ditch subwatershed) had the lowest average *E. coli* concentration (Figure 15). *E. coli* concentrations regularly exceeded 235 cfu/100mL during both stormflow and baseflow conditions. Approximately, 69% of all of the water samples collected in the watershed exceeded state standards for *E.coli* (Table 8).

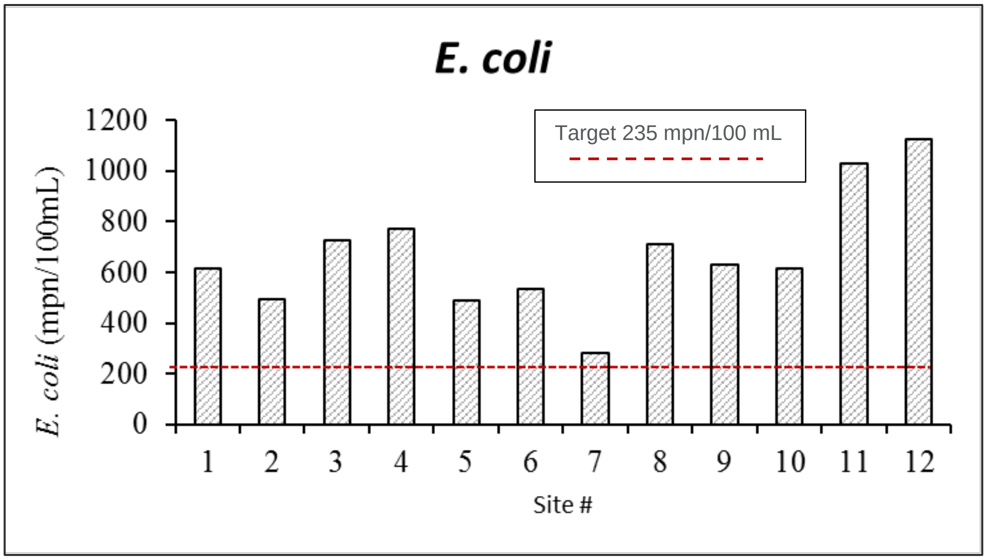


Figure 15. Average *E. coli* concentration (mpn/100mL) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.

Table 8. Target *E. coli* exceedance frequency by sample site taken from Headwaters Yellow River Watershed from June 2015 through May 2016.

Sample Site	Target	Number of times exceeding Target	Percent of time exceeding Target	Sampled Range (mpn/100 mL)
1	235 mpn/100 mL	9/12	75%	135.4 – 2,419.6
2	235 mpn/100 mL	8/12	67%	46.4 – 2,417.6
3	235 mpn/100 mL	9/12	75%	156.5 – 2,419.6
4	235 mpn/100 mL	9/12	75%	146.7 – 2,419.6
5	235 mpn/100 mL	10/12	83%	131.7 – 1,413.6
6	235 mpn/100 mL	10/12	83%	101.9 – 1,732.9
7	235 mpn/100 mL	6/12	50%	29.2 – 816.4
8	235 mpn/100 mL	7/12	58%	38.4 – 2,419.6
9	235 mpn/100 mL	8/12	67%	40.8 – 2,419.6
10	235 mpn/100 mL	7/12	58%	84.4 – 2,419.6
11	235 mpn/100 mL	10/12	83%	164.3 – 2,419.6
12	235 mpn/100 mL	8/12	67%	82.3 – 2,419.6

As a result of the high *E. coli* concentrations that were observed during baseflow conditions, additional *E. coli* samples were collected on May 18th, 2016 and submitted for source tracking analysis. Source tracking samples were collected at three sample sites along the Yellow River. Sample sites included site #1 (Centennial Park off Randolph Drive, Plymouth), site #4 (7th Road, Marshall County), and site #11 (1st Road, Marshall County). One additional sample was collected from Lateral No. 5 at site #12 (Elm Road, St. Joseph County), which has a history of high *E. coli* concentrations. Samples collected from the Yellow River suggest that the primary source of *E. coli* to the Yellow River is human in origin (Figure 16). In fact, 80% of the *E. coli* at site #4 was human in origin (Figure 16). The sample collected from Lateral No. 5 suggests that the sources of *E. coli* to the stream are equally distributed between human and animal waste (Figure 16).

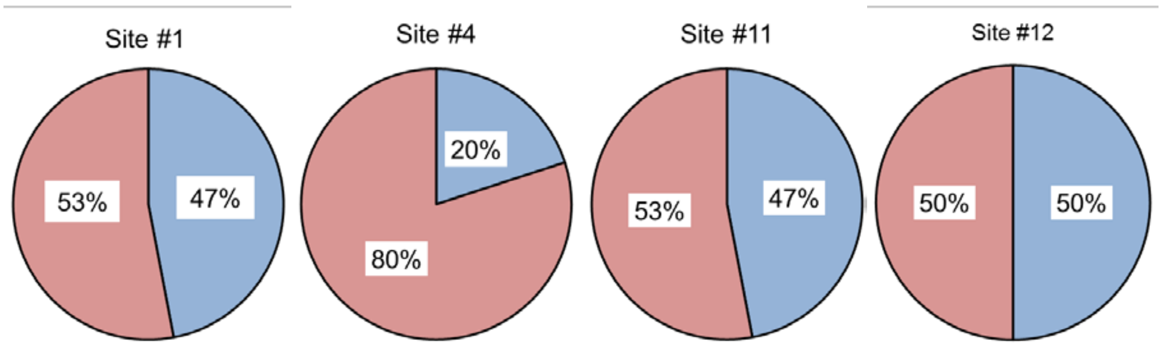


Figure 16. Source tracking of *E. coli* samples collected on May 18th, 2016. Red represents the percentage of *E. coli* from human sources and blue represents the percentage of *E. coli* from animal sources.

3.1.2 Nitrogen

Over the twelve month sampling period approximately 17% of all water samples collected in the watershed exceeded state water quality standards of 10 mg/L for nitrate-N+nitrite-N and 99% of all samples collected exceeded the target of 1.5 mg/L (Table 9). The highest average nitrate-N+nitrite-N concentration in the Headwaters Yellow River Watershed was observed at sample site #12, while the lowest average nitrate-N+nitrite-N concentration was observed at sample site #2 (Figure 17). The Dausman Ditch drainage (sample site #5, #6, and #7) had low average total phosphorus concentrations relative to other portions of the watershed, however nitrate-N+nitrite-N concentrations are relatively high (Figure 17).

Table 9. Target Nitrate + Nitrite exceedance frequency by sample site taken from Headwaters Yellow River Watershed from June 2015 through May 2016.

Sample Site	Target	Number of times exceeding Target	Percent of time exceeding Target	Sampled Range (mg/L)
1	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	3.27 – 9.48
2	1.5 mg/L 10 mg/L	11/12 0/12	92% 0%	1.29 – 3.27
3	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	3.35 – 9.01
4	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	3.49 – 8.30
5	1.5 mg/L 10 mg/L	12/12 3/12	100% 25%	3.08 – 12.80
6	1.5 mg/L 10 mg/L	12/12 5/12	100% 42%	3.74 – 14.00
7	1.5 mg/L 10 mg/L	12/12 5/12	100% 42%	3.08 – 13.60
8	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	1.87 – 5.48
9	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	2.59 – 7.36
10	1.5 mg/L 10 mg/L	12/12 0/12	100% 0%	2.14 – 9.59
11	1.5 mg/L 10 mg/L	12/12 5/12	100% 42%	5.88 – 12.80
12	1.5 mg/L 10 mg/L	12/12 6/12	100% 50%	3.01 – 15.30

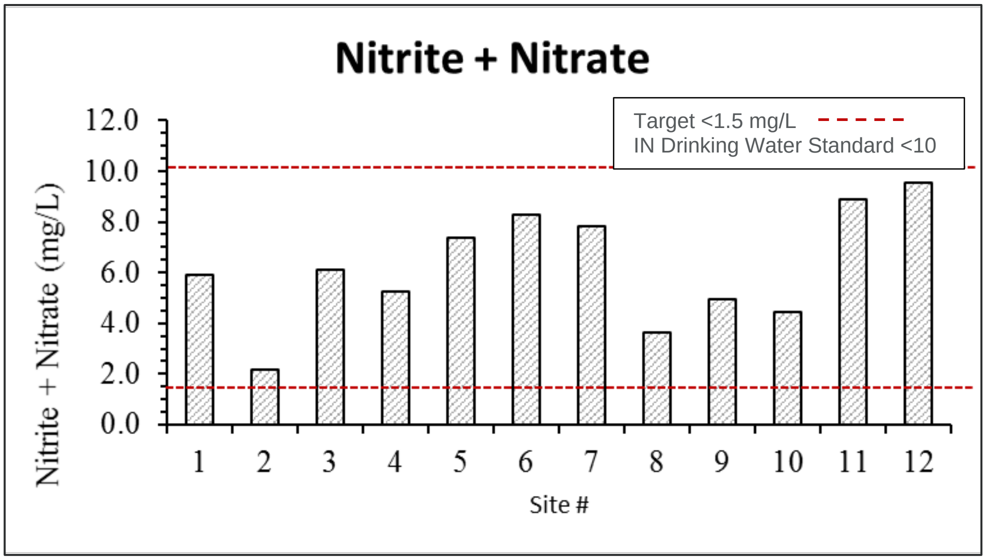


Figure 17. **Average nitrate-N+nitrite-N concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

The sampled average ammonia concentrations were highest at Site 8 (Headwaters Stock Ditch watershed), followed by Site 11 (Kline Rouch watershed), Site 10 (Armey Ditch watershed) and Site 9 (West Bunch Branch – Stock Ditch watershed; Figure 18). Ammonia concentrations exceeded State Standards most frequently at Site 8/Headwaters Stock Ditch (nine times), followed by Site 11/Kline Rouch (five times), Site 9 West Bunch Branch – Stock Ditch (four times), Sites 10/Armey and 12/Lateral Number 5 (three times), and all other sites exceeded on only one occasion. The sampled average TKN concentrations exceeded the target of 0.591 at all sites except Site 2 and Site 12 which averaged 0.59 mg/L and 0.41 mg/L, respectively (Figure 19). All sites exceeded the TKN target a minimum of five times with those sites exceeding most frequently included Site 4/Lake of the Woods (11 times), Site 8/Headwaters Stock Ditch (10 times), Site 3/Stone Ditch (nine times), and Site 9/West Bunch Branch (eight times).

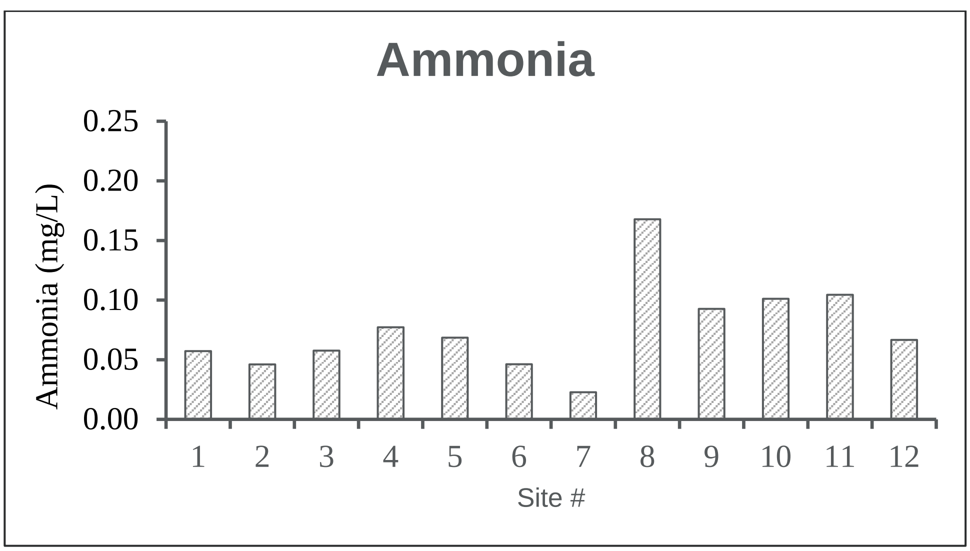


Figure 18. **Average ammonia NH3 concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

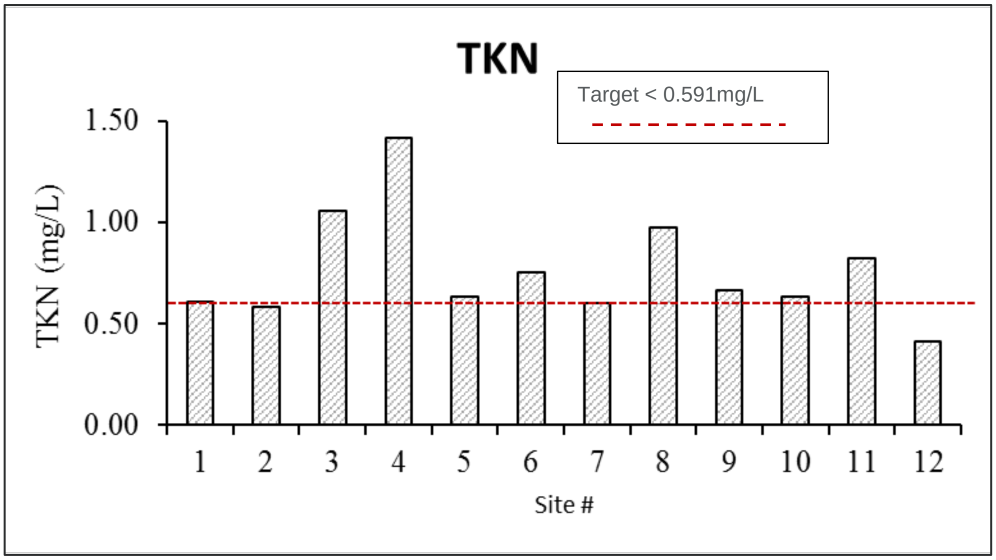


Figure 19. **Average total Kjeldahl nitrogen (TKN) concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

3.1.3 Phosphorus

Over the twelve month sampling period approximately 32% of all water samples collected in the watershed exceeded the target value of 0.3 mg/L for phosphorus (Table 10). The highest average total phosphorus concentration in the Headwaters Yellow River Watershed was observed at sample site #12, while the lowest average total phosphorus concentration was observed at sample site #7 (Figure 20). The Dausman Ditch drainage (sample site #5, #6, and #7) had low average total phosphorus concentrations relative to other portions of the watershed (Figure 20).

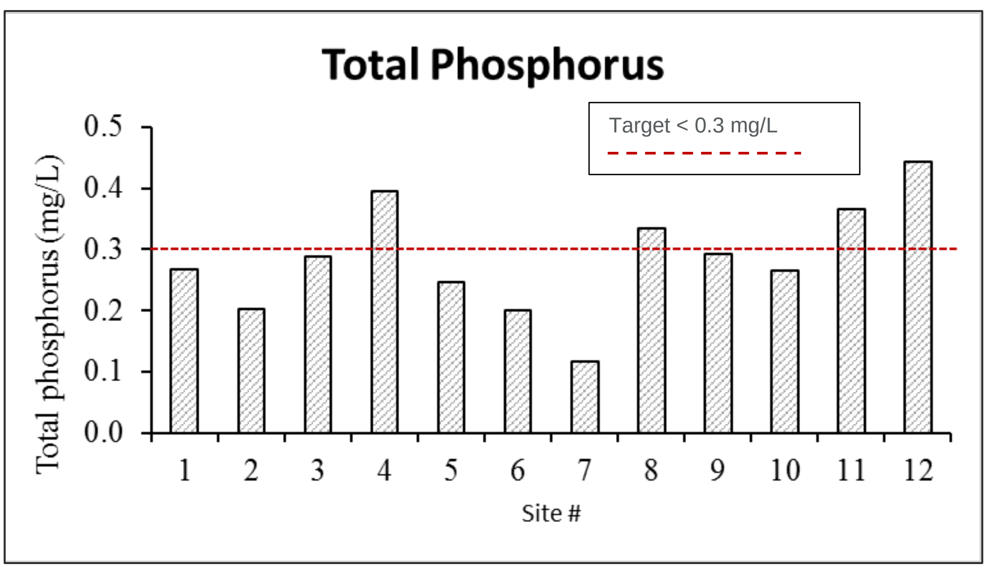


Figure 20. **Average total phosphorus (TP) concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

Table 10. Target total phosphorus exceedance frequency by sample site taken from Headwaters Yellow River Watershed from June 2015 through May 2016

Sample Site	Target	Number of times exceeding Target	Percent of time exceeding Target	Sampled Range (mg/L)
1	0.3 mg/L	3/12	25%	0.150 – 0.498
2	0.3 mg/L	4/12	33%	0.076 – 0.379
3	0.3 mg/L	3/12	25%	0.153 – 0.460
4	0.3 mg/L	7/12	58%	0.153 – 0.976
5	0.3 mg/L	1/12	8%	0.030 – 1.500
6	0.3 mg/L	1/12	8%	0.061 – 1.130
7	0.3 mg/L	1/12	8%	0.030 – 0.488
8	0.3 mg/L	5/12	42%	0.150 – 0.860
9	0.3 mg/L	3/12	25%	0.132 – 0.865
10	0.3 mg/L	4/12	33%	0.125 – 0.548
11	0.3 mg/L	6/12	50%	0.100 – 0.849
12	0.3 mg/L	7/12	58%	0.131 – 1.120

3.1.4 Sediment

During the twelve month sampling period the average total suspended solids (TSS) concentration leaving the Headwaters Yellow River Watershed was 9.4 mg/L (Figure 21), as determined from Site 1, which is the downstream extent of the Yellow River in the Headwaters Yellow River Watershed. All sites average TSS concentrations were below the target level of 25 mg/L with the exception of Site 4 (Lake of the Woods-Yellow River watershed) and Site 9 (West Bunch Branch-Stock Ditch watershed; Table 11). Sampled TSS concentrations exceed the target of 25 mg/L approximately 14% of the time during the sampling period. The average TSS concentration is generally higher further upstream in the watershed, with higher average TSS concentrations at each of the sample sites (sample sites #3, #4, and #11) along the mainstem of the Yellow River (Figure 21). Sample sites #4 and #9 appear to be significant areas of the sediment contribution (Figure 21). However, the average TSS concentration for these sites may be skewed to temporary drainage maintenance activities that were taking place during some sampling events. This data also suggests that a high proportion of the sediment being transported from headwater drainages to the Yellow River drops out of the water column before reaching Plymouth. There are a large number of floodplain wetlands between Bremen and Plymouth that likely promote the removal of sediment during storm flow events (Figure 4 and Figure 11). The average turbidity at sample sites exceeded the target level of 10.4 NTU at all sites with the exception of Site 2 (Elmer Seltenright Ditch) and Site 7 (Fleugel Ditch-Dausman Ditch watershed; Figure 22).

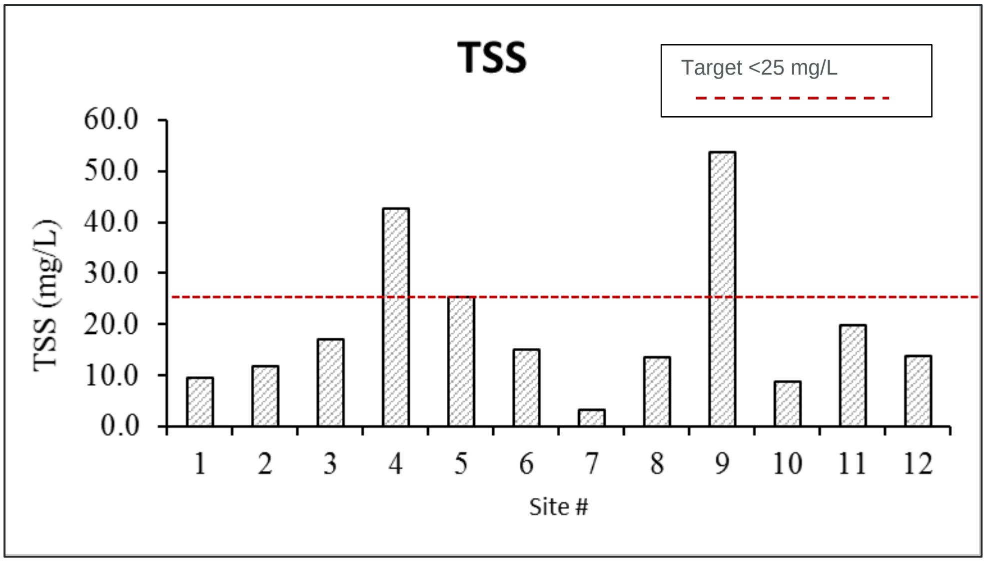


Figure 21. **Average total suspended solids (TSS) concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

Table 11. **Target total suspended solids (TSS) exceedance frequency by sample site taken from Headwaters Yellow River Watershed from June 2015 through May 2016**

Sample Site	Target	Number of times exceeding Target	Percent of time exceeding Target	Sampled Range mg/L
1	25 mg/L	1/12	8%	1 - 45
2	25 mg/L	2/12	17%	1 - 43
3	25 mg/L	3/12	25%	2 - 68
4	25 mg/L	3/12	25%	1 - 274
5	25 mg/L	2/12	17%	1 - 201
6	25 mg/L	1/12	8%	1 - 111
7	25 mg/L	0/12	0%	1 - 16
8	25 mg/L	1/12	8%	2 - 67
9	25 mg/L	2/12	17%	1 - 435
10	25 mg/L	1/12	8%	1 - 36
11	25 mg/L	2/12	17%	1 - 153
12	25 mg/L	2/12	17%	1 - 54

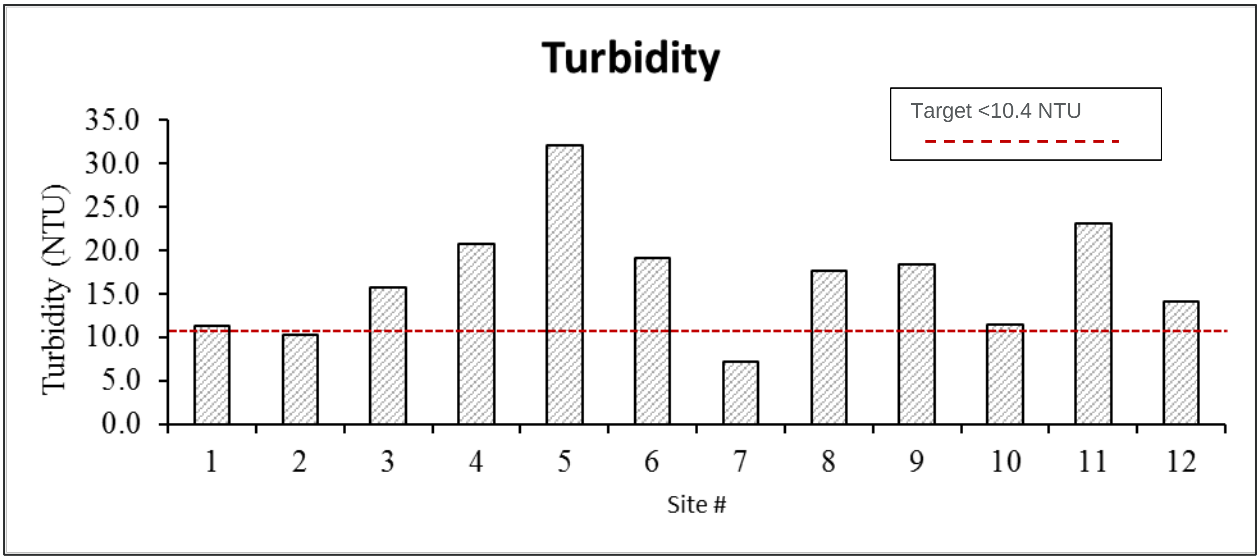


Figure 22. **Average turbidity concentration (NTU) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

3.1.5 <u>Atrazine</u>

The average Atrazine concentration did not exceed the target level of 3.0 µg/L at any site and did not exceed the target level during any one sampling event (Figure 23).

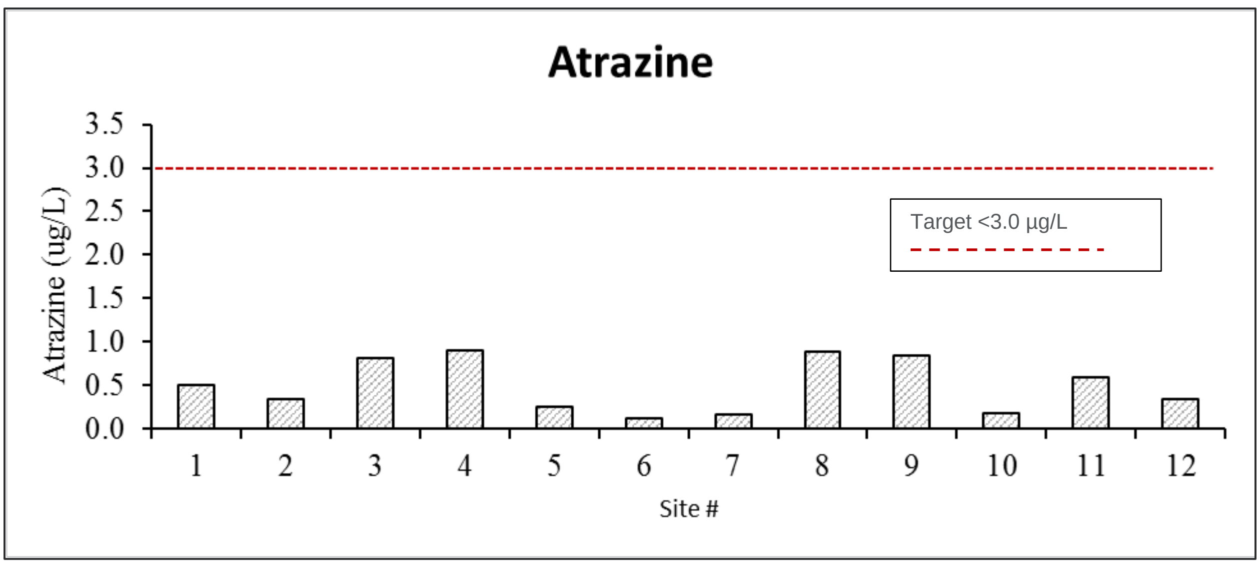


Figure 23. **Average Atrazine concentration (µg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.**

3.1.6 Macroinvertebrate (mIBI) and Habitat (QHEI)

Figure 24 describes the health of the macroinvertebrate community for each sample site using the mIBI. The mIBI is a biotic index that uses macroinvertebrate community structure as an indicator of stream impairment. Sample sites #1, #3, #4, #5, #6, and #9 scored between 4 and 6 on the mIBI indicating that each of these streams is slightly impaired (Figure 24). Sample sites #2, #7, #8, #10, #11, and #12 scored between 2 and 4 on the mIBI indicating that each of these streams is "moderately impaired" (Figure 24). There were no streams in the watershed that are categorized as "non-impaired" or "severely impaired" on the mIBI.

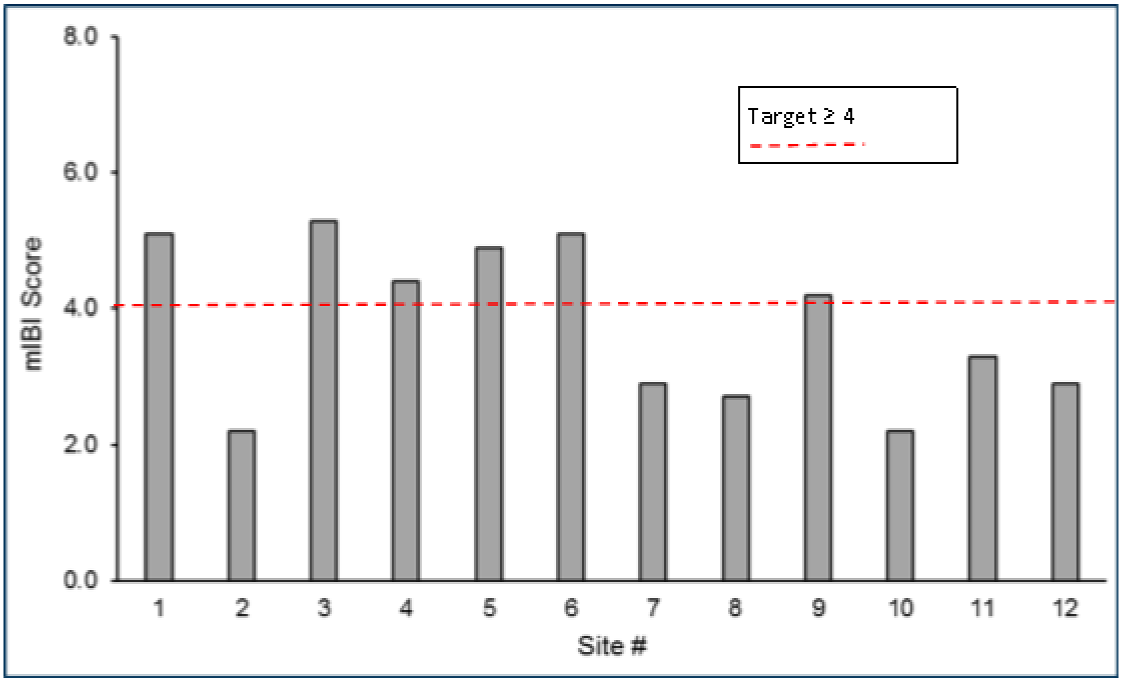


Figure 24. Comparison of mIBI scores for each sample site in the Headwaters Yellow River Watershed. Based on the IDEM mIBI protocol severely impaired streams have a score between 0 and 2, moderately impaired streams are between 2 and 4, slightly impaired streams are between 4 and 6, and non-impaired streams are between 6 and 8.

Figure 25 describes the available habitat at each sample site using the Qualitative Habitat Evaluation Index (QHEI). Sample site #2 had the highest QHEI score in the watershed and is categorized as having "good" habitat (Figure 25). Sample site #1, #3, #6, and #11 are the remaining samples sites categorized as having "good" habitat (Figure 25). Sample site #9 and #12 had QHEI scores between 43 and 54, which categorizes these sites as "fair" habitat (Figure 25). Sample site #4, #5, #7, #8, and #10 had QHEI scores between 30 and 42, which categorizes these sites as "poor" habitat (Figure 25). There were no streams in the watershed that scored in the "excellent" or "very poor" habitat category. The majority of the headwater streams in the watershed and the upper portion of the Yellow River lack riparian vegetation. Riparian corridors become more common along the lower portion of the Yellow River between Plymouth and 7th Road in Marshall County.

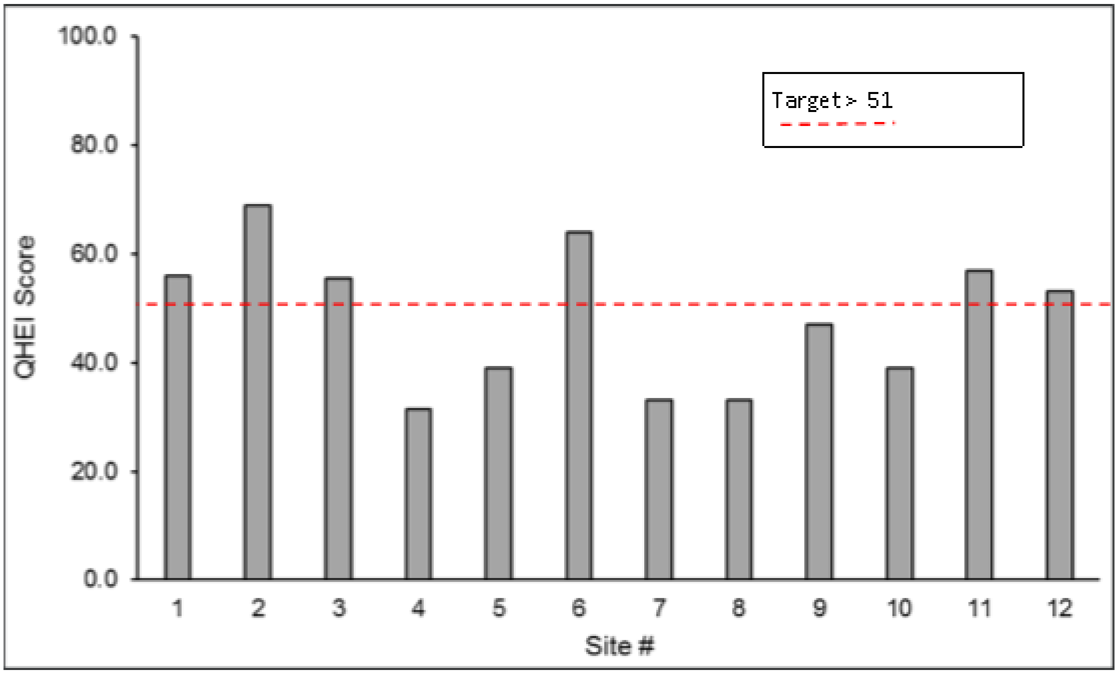


Figure 25. Comparison of QHEI scores for each sample site in the Headwaters Yellow River Watershed. Based on the QHEI protocol sites with scores <30 are very poor, 30 to 42 are poor, 43 to 54 are fair, 55 to 69 are good, and >70 are excellent.

3.2 HUC-12 Subwatersheds

The Headwaters Yellow River Watershed consists of twelve (HUC 12) subwatersheds. Figure 3 displays the location, name, and the twelve digit hydrologic unit code (HUC) for each subwatershed. In the subsequent sections the known watershed conditions as sampled during the 12 month sampling efforts from June 2015 through June 2016 and land use of each subwatershed are described. Included in this analysis for each subwatershed is data collected during a 2015 windshield survey. The windshield survey looked at 222 sites across the Headwaters Yellow River Watershed. The windshield survey was completed by driving to each of the 222 sites via car and observing the site from the road. At each site the degree of streambank erosion, channelization, stream buffers, and in-stream cover of each site was visually assessed. Streambank erosion, channelization, and stream buffers were evaluated on a scale ranging from 0 to 4. A score of “0” indicates that particular characteristic was not observed at the site. Score from 1 through 4 indicate incremental increases in the occurrence of the given characteristic. In-stream cover was evaluated on a scale ranging from 0 to 6, with a larger score indicating greater in-stream cover. The results of each characteristic were then averaged across the 222 sites that were surveyed in the Headwaters Yellow River Watershed. In the subsequent sections the average score for each characteristic in each subwatershed is compared and evaluated in relation to the Headwaters Yellow River Watershed as a whole. A summary of this data is displayed in Table 12.

Table 12. Summary of the subwatershed habitat analysis from the 2015 windshield survey (higher average indicate an increased occurrence for each parameter).

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Armey Ditch x̅	1.2	3.6	1.6	1.9
Dausman Ditch x̅	0.8	3.9	0.4	1.9
Elmer Seltenright Ditch x̅	0.8	3.2	2.0	3.1
Fleugel Ditch x̅	0.5	3.2	0.4	1.0
Headwaters Stock Ditch x̅	0.5	1.7	1.3	2.1
Kline Rouch Ditch x̅	0.5	2.9	1.2	2.9
Lake of the Woods x̅	0.9	3.4	0.8	2.0
Lateral Ditch No. 5 x̅	0.8	3.6	0.7	2.5
Lemler Ditch x̅	1.1	3.7	0.3	1.4
Milner Seltenright Ditch x̅	1.2	1.8	2.9	3.3
Stone Ditch x̅	0.7	2.5	1.1	2.4
West Bunch Branch x̅	0.7	3.2	0.7	2.1
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

3.2.1 Armey Ditch (HUC: 071200010303)

The Armey Ditch subwatershed is located in the eastern portion of the Headwaters Yellow River Watershed and contains both urban and rural land uses. There are two urban areas in the Armey Ditch subwatershed including portions of Bremen and Nappanee (Figure 26). Developed land use accounts for 13.2% of the Armey Ditch subwatershed which is the second highest amount of developed space in the Headwaters Yellow River watershed. Numerous manufacturing facilities are present in Nappanee and Bremen, with the potential for increased development at this time. Currently there are no large scale industrial facility development projects occurring in the Armey Ditch subwatershed. Predominate land use in the Armey Ditch subwatershed is cultivated crops and accounts for 65.5% of the watershed. Another 11.5% of the land in the watershed is dedicated to hay/pasture. The portion of the watershed that contains forested, wetland, or herbaceous habitat is relatively small (Table 13). Current landuse trends do not indicate a shift in the dominate landuse proportions at this time.

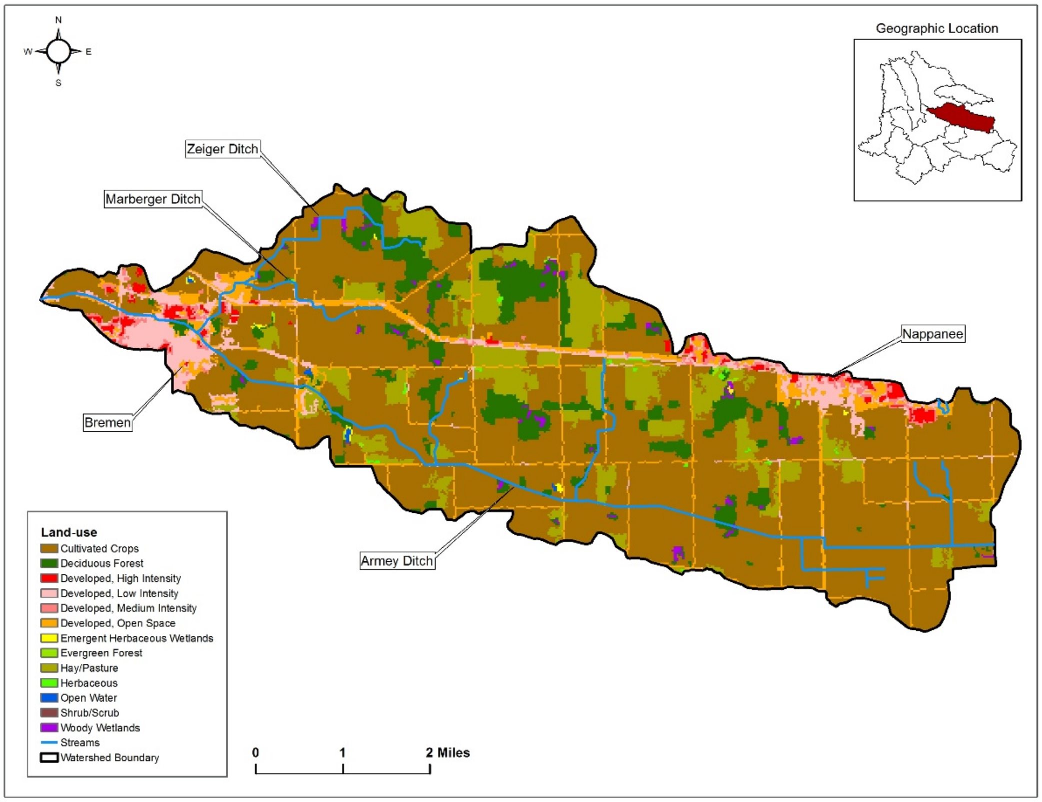


Figure 26. Armey Ditch subwatershed landuse.

Table 13. Percentage and acreage of each land use type in the Armey Ditch subwatershed (HUC: 071200010303).

Land use	% of Watershed	Acres
Open Water	0.1%	12
Developed, Open Space	6.1%	1,061
Developed, Low Intensity	4.6%	795
Developed, Medium Intensity	1.3%	225
Developed, High Intensity	1.1%	198
Deciduous Forest	8.8%	1,525
Evergreen Forest	0.1%	14
Shrub/Scrub	0.0%	6
Herbaceous	0.2%	26
Hay/Pasture	11.5%	1,988
Cultivated Crops	65.5%	11,335
Woody Wetlands	0.6%	99
Emergent Herbaceous Wetlands	0.1%	20

The Armey Ditch subwatershed contains 22 miles of streams and 6 miles of closed drains (Figure 27). There are multiples waterbodies with water quality concerns in the watershed, including. Approximately 22.2 miles of streams listed as impaired by IDEM as the result of high *E. coli* concentrations (Figure 27). Five water samples were collected from Armey Ditch in 2008, all of which exceeded the state standard for *E. coli* (Tetra Tech 2009). Based on the *E. coli* concentrations detected in 2008 an *E. coli* reduction of 89% would be needed for Armey Ditch to meet water quality standards (Tetra Tech 2009). EPA STORET (Storage and Retrieval) data (2000) for water samples collected from Armey Ditch in Bremen averaged 459.4 cfu/100 ml, which is above the state standard of 235 cfu/100ml.

Photo: Stream in the Armey Ditch subwatershed that has been channelized and contains no stream buffer.

The watershed contains one National Pollutant Discharge Elimination System (NPDES) facility in the northeast portion of the watershed, however this permit is now terminated (Figure 27). The watershed also contains one confined feeding operations (CFO), located south of Nappanee (Figure 27).

There were seventeen locations surveyed in the Armey Ditch subwatershed during the windshield survey (Figure 28). The results of the windshield survey indicate that many of the streams in the watershed have degraded habitat. Forty-one percent of the survey sites (7/17) were listed as having poor in-stream cover (Figure 28). Stream buffers were assessed to be absent on 8.15 miles (37%) of the approximately 22 miles of streams within the Armey Ditch subwatershed. Streambank erosion was listed as sever or very sever at 12% of the sites (7/17 sites; Figure 28). Direct livestock access to streams was not noted within the Armey Ditch subwatershed during the windshield survey. Overall, windshield survey results indicate that relative to the Headwaters Yellow River Watershed as a whole the streambank erosion in the Armey Ditch subwatershed is more prevalent, channelization is more prevalent, stream buffers are more prevalent, and in-stream cover is less prevalent (Table 12; Table 14).

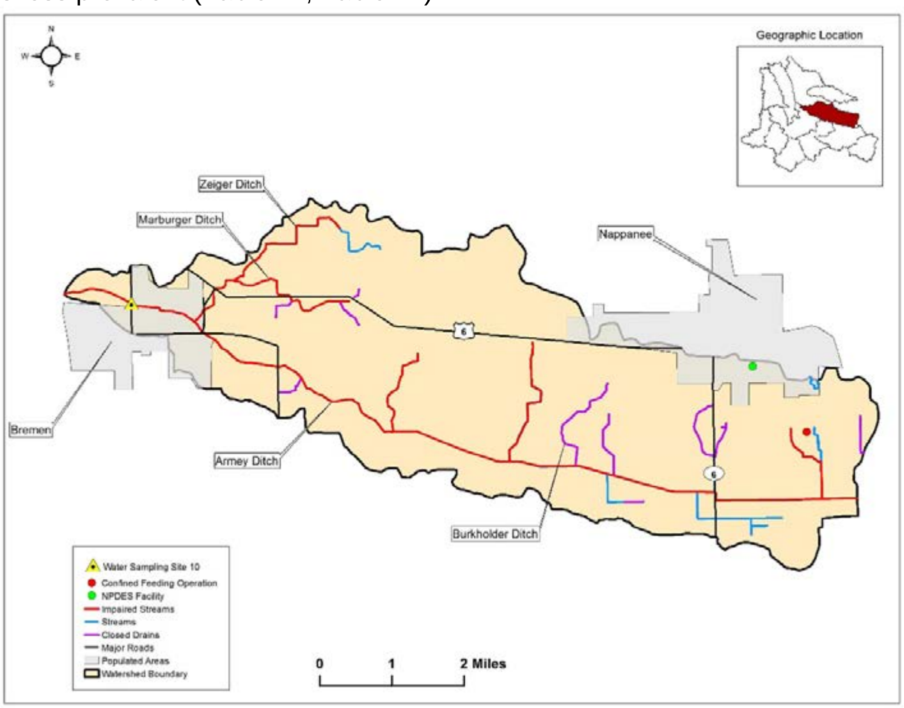


Figure 27. Armey Ditch subwatershed water quality information map.

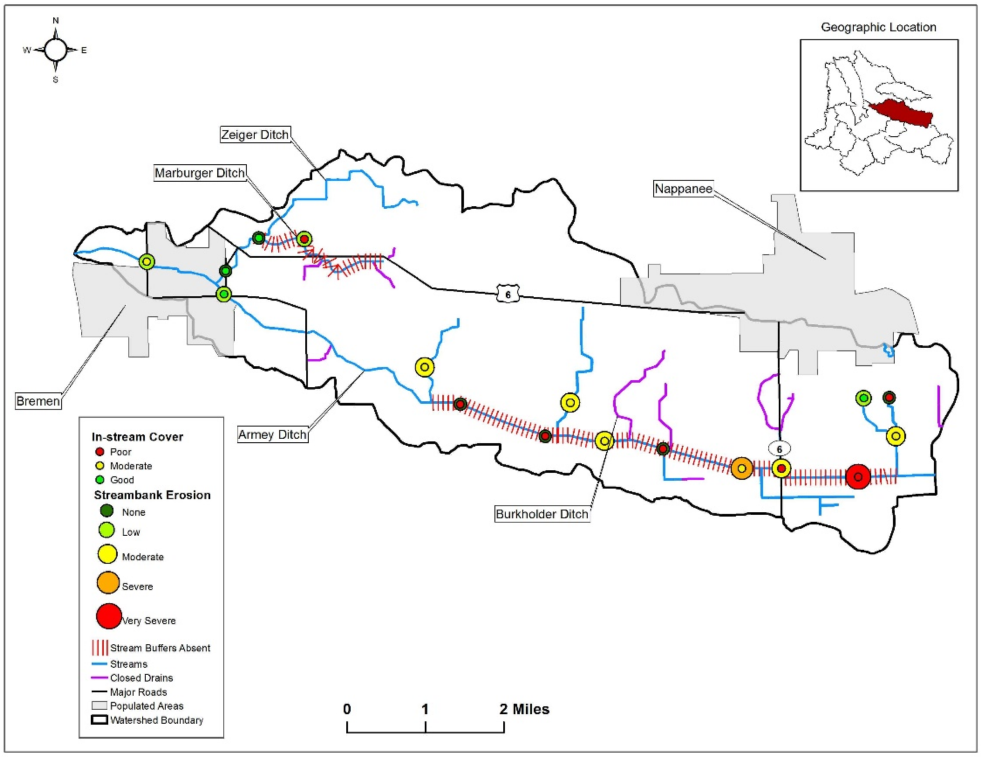


Figure 28. Armey Ditch subwatershed 2015 windshield survey sites and results.

Table 14. Results of the Armey Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Armey Ditch x̅	1.2	3.6	1.6	1.9
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 10 was located in Armey Ditch and used to evaluate the overall water quality of the Armey Ditch subwatershed (Figure 27). Table 15 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 10 during the 12 month sampling period from June 2015 through May 2016. The mean E. coli concentration was 616 mpn/100mL, which exceeds the project target of 235 mpn/100mL and ranked as the eighth lowest mean between all sites (Figure 15). E. coli levels exceeded the project target 7 out of 12 events (58%) during the sampling period. Nitrate + Nitrite mean concentration was the tenth lowest of 12 sampling sites, and exceeded the project target during all sampling events and the Indiana State standard on zero occasions (Figure 17; Table 15). Site 10 had the third highest ammonia mean at 0.101 mg/L and exceeded Indiana State standards during three events (25%; Figure 18; Table 15). TSS concentrations only exceeded the project target during one event and overall TSS levels were the eleventh lowest between all sites. Total phosphorus concentrations exceeded the project target 33% of the time and overall was the eighth lowest between the 12 sites. The mean water quality parameters within project targets include total phosphorus, total suspended solids, Atrazine, pH and dissolved oxygen. Site 10 did not meet project targets for both habitat (QHEI) and biological (MIBI) assessments. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 15. Site 10 water quality analysis – Armey Ditch Subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.26	mg/L	4	33
Dissolved Phosphorus	0.15	mg/L	-	-
Nitrate + Nitrite	4.43	mg/L	1.5 mg/L 12	100
			10 mg/L 0	0
Ammonia	0.101	mg/L	3	25
TKN	0.64	mg/L	5	42
E. coli	616	mpn/100mL	7	58
Atrazine	0.17	µg/L	-	-
TSS	9	mg/L	1	8
Turbidity	11.45	NTU	4	33
Dissolved Oxygen	8.1	mg/L	0	0
pH	7.93	-	0	0
QHEI	39	-	Does not meet target	
MIBI	2.2	-	Does not meet target	

3.2.2 Dausman Ditch (HUC: 0712000105)

The Dausman Ditch subwatershed is located in the southern portion of the Headwaters Yellow River Watershed (Figure 29). The Dausman Ditch subwatershed has no populated areas and therefore has relatively little developed land (Table 16); however, agricultural land uses are common in the watershed. Water quality impacts from developed land or industrial faculties is not a concern within the Dausman Ditch subwatershed. Cultivated crops account for 86.5% of the watershed and hay/pasture account for 2.3% of the watershed. The portion of the watershed that contains forested, wetland, and additional natural habitats are relatively small (Table 15). Current landuse proportions are expected to remain consistent into the future and increased development from industrial facilities is not anticipated.

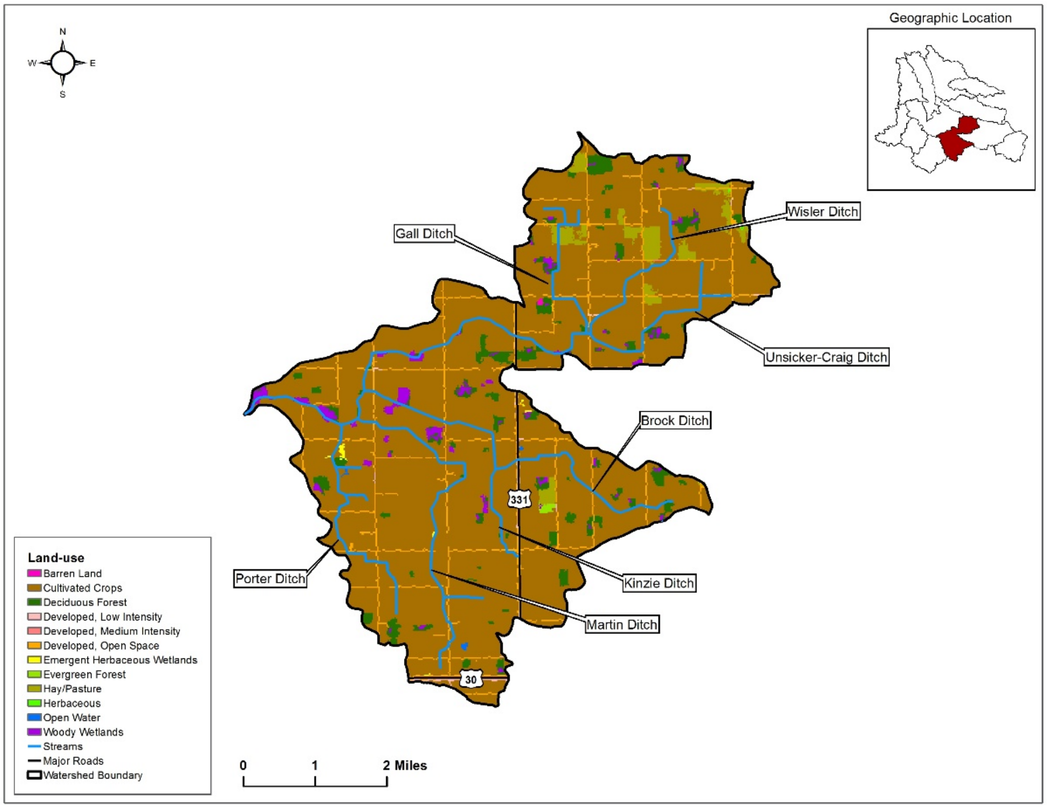


Figure 29. Dausman Ditch subwatershed landuse.

Table 16. Percentage and acreage of each land use type in the Dausman Ditch subwatershed (HUC: 0712000105).

Land use	% of Watershed	Acres
Open Water	0.1%	9
Developed, Open Space	4.6%	761
Developed, Low Intensity	0.4%	61
Developed, Medium Intensity	0.0%	1
Barren Land	0.0%	4
Deciduous Forest	4.3%	711
Evergreen Forest	0.1%	15
Herbaceous	0.0%	3
Hay/Pasture	2.3%	386
Cultivated Crops	86.5%	14,391
Woody Wetlands	1.7%	277
Emergent Herbaceous Wetlands	0.1%	17

The Dausman Ditch subwatershed contains approximately 25 miles of streams and 12 miles of closed drains (Figure 30). There are currently no streams in the Dausman Ditch subwatershed listed as impaired. There are also no NPDES facilities in the watershed. However, there are two CFO's located in the watershed. One CFO is located east of Martin Ditch near Highway 331 and the other is located near Kinzie Ditch (Figure 30). There were seventeen locations surveyed in the Dausman Ditch subwatershed during the windshield survey (Figure 31). The degree of streambank erosion in the Dausman Ditch subwatershed is equivalent to the average for the whole Headwaters Yellow River Watershed and there were no sites identified as having severe or very severe streambank erosion (Table 17; Figure 31). However, channelization is more prevalent, stream buffers are less prevalent and in-stream cover is less prevalent relative to the Headwaters Yellow River Watershed as a whole (Table 12;Table 17). In-stream cover was rated poor at 35% of the windshield survey sites (6/17) and stream buffers were estimated to be absent on 18.79 miles (75%) of the 25 miles of streams in the Dausman Ditch Subwatershed. There was one location where livestock were noted as having direct access to a stream (Figure 31).

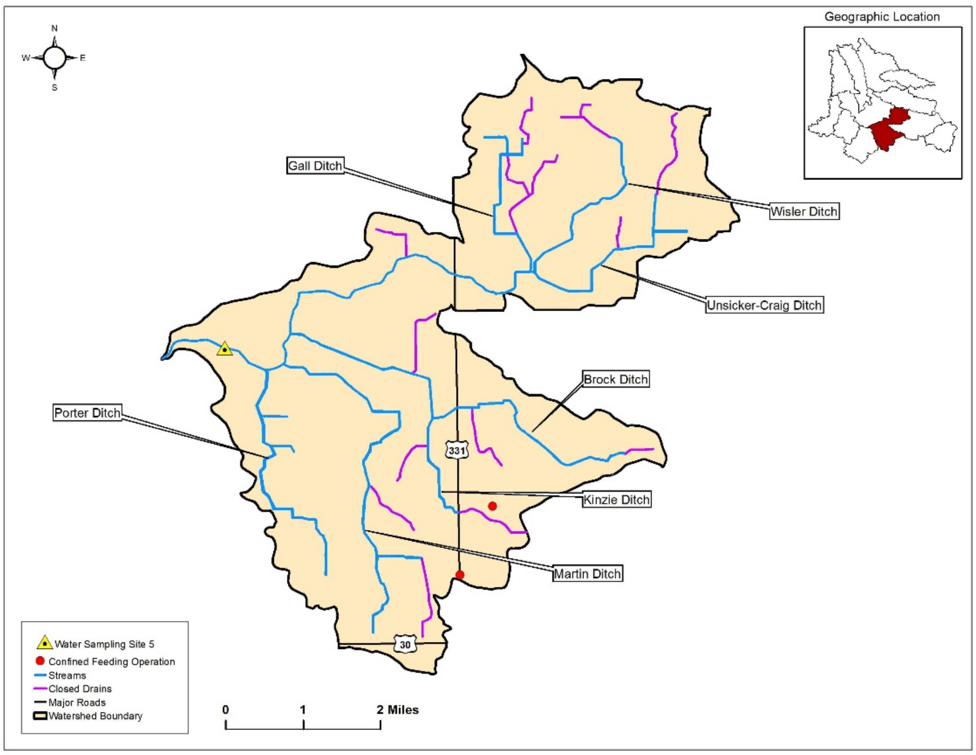


Figure 30. Dausman Ditch subwatershed water quality information map.

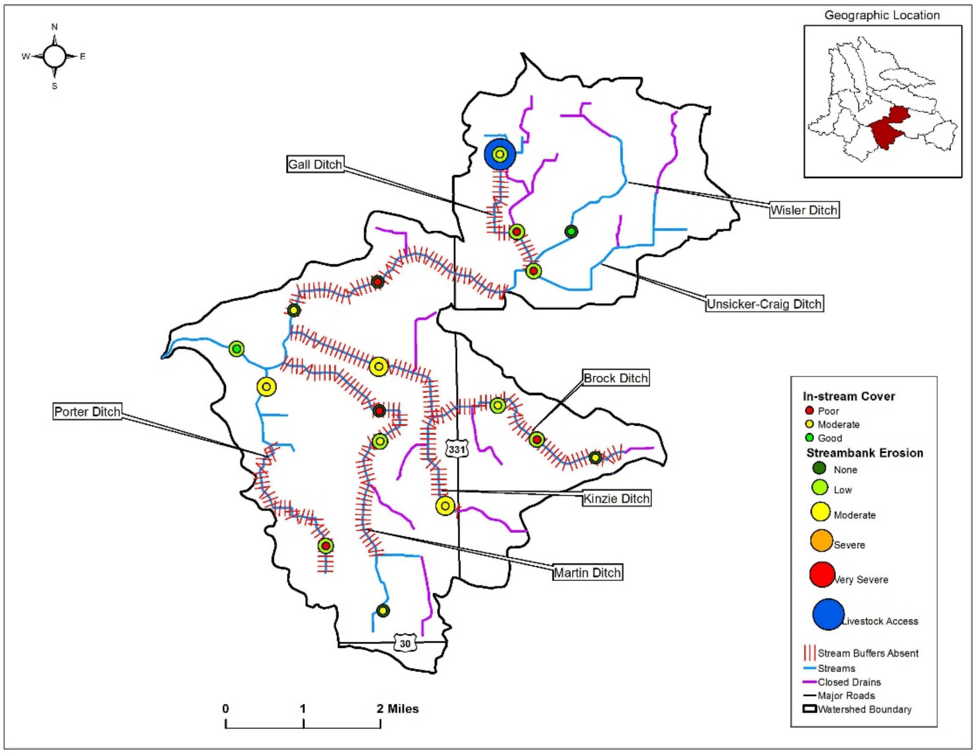


Figure. 31. Results of the Dausman Ditch subwatershed 2015 windshield survey.

Table 17. Results of the Dausman Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Dausman Ditch x̅	0.8	3.9	0.4	1.9
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 5 was located in Dausman Ditch and used to evaluate the overall water quality of the Dausman Ditch subwatershed (Figure 30). Table 18 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 5 during the 12 month sampling period from June 2015 through May 2016. The mean E. coli concentration was 489 mpn/100mL and exceeds the Indiana State standard of 235 mpn/100mL. E. coli levels exceeded the Indiana standard 83% of the time (10/12) and the mean E. coli concentration was the second lowest between all sites. Total phosphorus mean concentration was 0.25 mg/L ranking as the ninth lowest between all sites and was within the project target (Figure 20). Total phosphorus project target concentration was exceeded only one time during the 12 month sampling period. TSS mean concentration was the third highest between all sites (Figure 20) and exceeded the project target during two sampling events (Table 18). TSS mean value was impacted by a high concentration in February 2016, as was the situation at numerous others sites during that sampling event. The mean turbidity value was 32.16 NTU and ranked as the highest mean between all sites. Turbidity samples exceeded the project target 42% of the time over the twelve month sampling period. The mean water quality parameters meeting the project target include total phosphorus, Atrazine, TSS, dissolved oxygen and pH. The MIBI assessment meet target biological levels however the QHEI habitat assessment was below the project target. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 18. Site 5 water quality analysis – Dausman Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.25	mg/L	1	8
Dissolved Phosphorus	0.11	mg/L	-	-
Nitrate + Nitrite	7.37	mg/L	1.5 mg/L 12	100
			10 mg/L 3	25
Ammonia	0.069	mg/L	1	8
TKN	0.63	mg/L	5	42
E. coli	489	mpn/100mL	10	83
Atrazine	0.25	µg/L	-	-
TSS	25	mg/L	2	17
Turbidity	32.16	NTU	5	42
Dissolved Oxygen	9.1	mg/L	0	0
pH	8.09	-	0	0
QHEI	39	-	Does not meet target	
MIBI	4.9	-	Meets target	

3.2.3

3.2.4 Elmer Seltenright Ditch (HUC: 071200010311)

The Elmer Seltenright Ditch subwatershed is located in the southwestern portion of the Headwaters Yellow River Watershed (Figure 32). The subwatershed contains a significant portion of Plymouth, which is the largest town in the Headwaters Yellow River Watershed. Therefore, developed land accounts for a significant portion of the subwatershed at 22.7%. Increases in developed land is expected in the future from both residential and industrial developments and responsible development strategies should be focus for future watershed management efforts. While development of the Elmer Seltenright Ditch subwatershed is greater than any other subwatershed, agricultural land use still dominates. Cultivated crops account for 59.1% of the watershed and hay/pasture account for another 4.5% of the watershed. The portion of the watershed that contains forested, herbaceous, and wetland habitats are relatively small (Table 19).

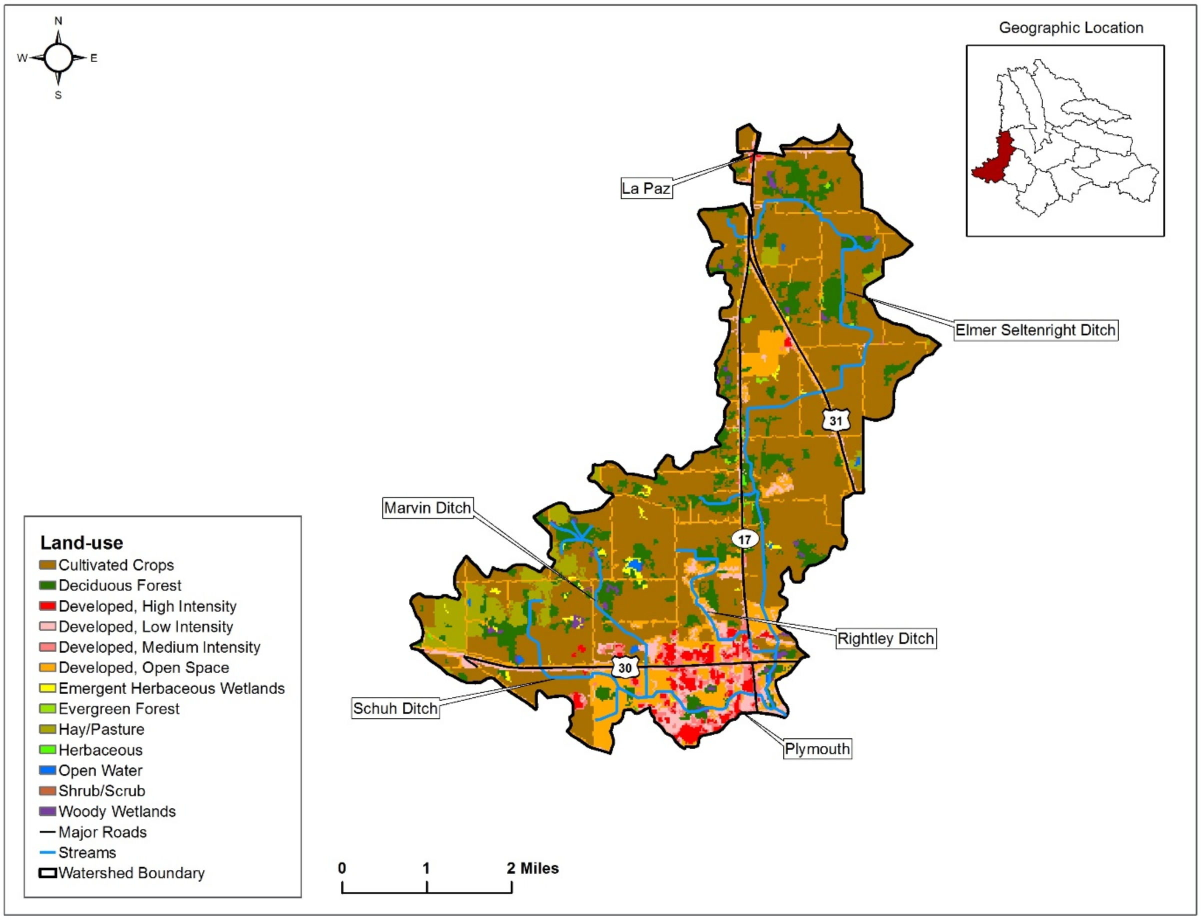


Figure 32. Elmer Seltenright Ditch subwatershed landuse.

Table 19. Percentage and acreage of each land use type in the Elmer Seltenright Ditch subwatershed (HUC: 071200010311).

Land use	% of Watershed	Acres
Open Water	0.3%	30
Developed, Open Space	12.5%	1,475
Developed, Low Intensity	5.7%	668
Developed, Medium Intensity	2.4%	277
Developed, High Intensity	2.1%	253
Deciduous Forest	11.7%	1,374
Evergreen Forest	0.2%	21
Shrub/Scrub	0.0%	1
Herbaceous	0.1%	14
Hay/Pasture	4.5%	528
Cultivated Crops	59.1%	6,955
Woody Wetlands	0.9%	101
Emergent Herbaceous Wetlands	0.6%	75

The Elmer Seltenright Ditch subwatershed contains approximately 22 miles of streams and 8 miles of closed drains, none of which are listed as impaired (Figure 33). There is one NPDES facility located in the Elmer Seltenright Ditch subwatershed, which is located in the northern portion of the subwatershed near Elmer Seltenright Ditch (Figure 33). This facility is the site of the municipal wastewater treatment plant for the Town of La Paz (Figure 33). A review of the NPDES facility compliance history indicates there are no current violations and the last violation occurred in July of 2014. There are no CFO's located in the Elmer Seltenright Ditch subwatershed. There were fifteen locations surveyed in the Elmer Seltenright Ditch subwatershed during the windshield survey (Figure 34). Relative to all other subwatershed in the Headwaters Yellow River Watershed the degree of streambank erosion is equivalent, channelization is more prevalent, stream buffers are more prevalent, and in-stream cover is more prevalent in the Elmer Seltenright Ditch (Table 12; Table 20). In-stream cover was identified as poor at 20% of the sites (3/15), one site was listed as having severe or very severe streambank erosion and direct livestock access to stream was not observed. Stream buffers were estimated to be absent on nine miles (41%) of the 22 miles of streams within the watershed.

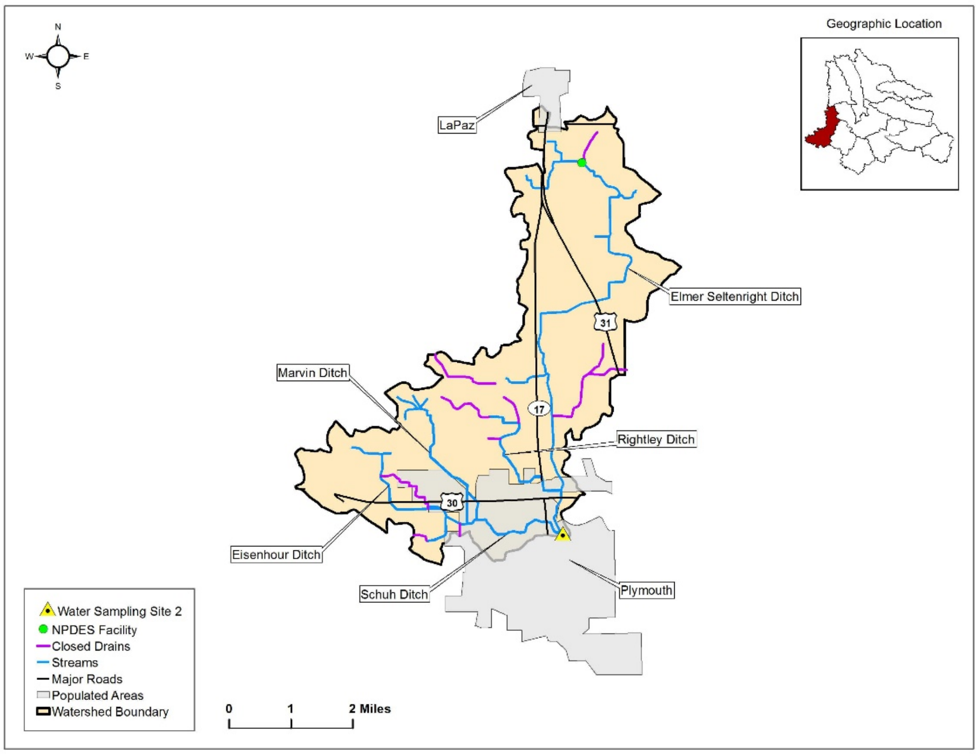


Figure 33. Elmer Seltenright Ditch subwatershed water quality information map.

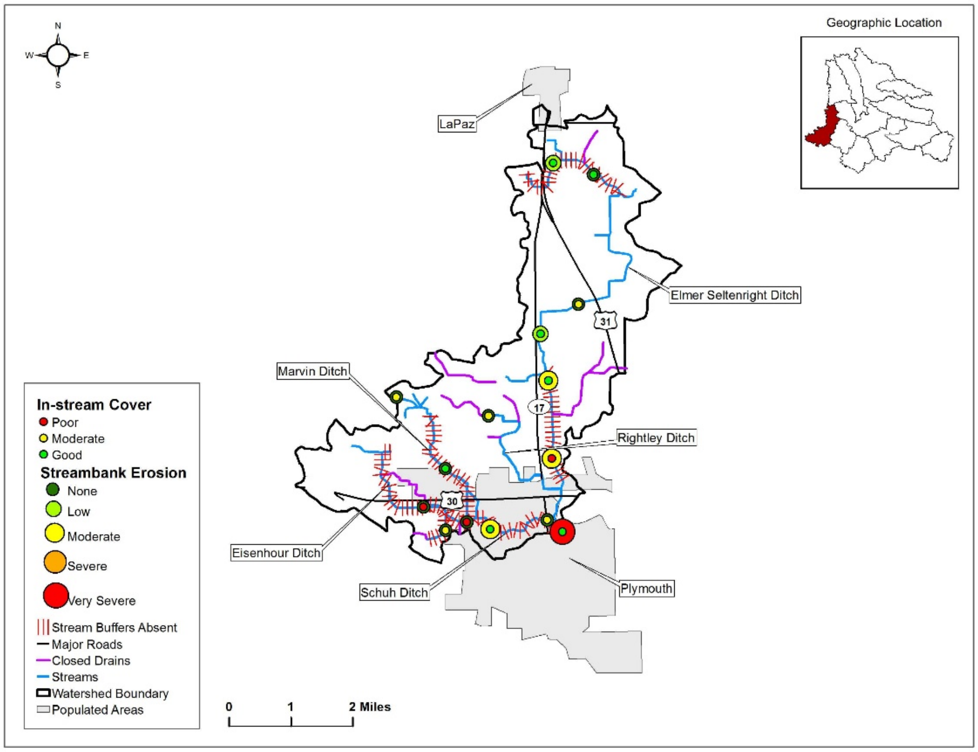


Figure 34. Elmer Seltenright Ditch subwatershed 2015 windshield survey sites and results.

Table 20. Results of the Elmer Seltenright Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Elmer Seltenright Ditch $\bar{x}$	0.8	3.2	2.0	3.1
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 2 was located in Elmer Seltenright Ditch and used to evaluate the overall water quality of the Elmer Seltenright Ditch subwatershed (Figure 33). Table 20 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 2 during the 12 month sampling period from June 2015 through May 2016. The mean E. coli concentration at Site 2 was 497 mpn/100mL and exceeds the Indiana State standard of 235 mpn/100mL. The State standard was exceeded 67% (8/12) of the time during the 12 month sampling period. E. coli mean at Site 2 was ranked as third lowest between all sites (Figure 15). Total phosphorus mean concentration of 0.20 was within the project target and ranked as the third lowest between all sites (Figure 20). Nitrate+Nitrite mean of 2.15 mg/L was the lowest mean between all sites, however, it still does not meet the project target concentration of <1.5 mg/L. TKN mean concentration was 0.59 mg/L and was one of only three sites mean that met the project target of <0.591 mg/L (Figure 19). The measured mean water quality parameters that meet project targets include total phosphorus, TKN, Atrazine, TSS, Turbidity, dissolved oxygen and pH. The biological assessment using the MIBI did not meet the project target and tied as the lowest score between all sites. Conversely, the QHEI habitat assessment meet the project target value and was the highest score between all sites. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 21. Site 2 water quality analysis – Elmer Seltenright Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.20	mg/L	4	33
Dissolved Phosphorus	0.14	mg/L	-	-
Nitrate + Nitrite	2.15	mg/L	1.5 mg/L 11	92
			10 mg/L 0	0
Ammonia	0.046	mg/L	1	8
TKN	0.59	mg/L	6	50
E. coli	497	mpn/100mL	8	67
Atrazine	0.34	µg/L	-	-
TSS	12	mg/L	2	17
Turbidity	10.29	NTU	4	33
Dissolved Oxygen	9.27	mg/L	0	0
pH	8.09	-	0	0
QHEI	69	-	Meets target	
MIBI	2.2	-	Does not meet target	

3.2.1 Fleugel Ditch (HUC: 071200010306)

The Fleugel Ditch subwatershed is located in the southeastern portion of the Headwaters Yellow River Watershed (Figure 35). The Fleugel Ditch subwatershed contains no large populated areas and is dominated by cultivated crops. Cultivated crops account for 85.3% of the watershed. The remainder of the watershed is divided between deciduous forest, open space, hay/pasture, wood wetlands, emergent herbaceous wetlands, low intensity development, open water, evergreen forest, medium intensity development, herbaceous, and high intensity development (Table 22). It should be noted that the one high quality natural community in the Headwaters Yellow River Watershed, which is a circumneutral bog owned by Acres Land Trust is located south of Lake Arm Ditch (Figure 35). This circumneutral bog is surrounded by woody wetlands and deciduous forest to form the Glenwood Nature Preserve. Overall current landuse trends are expected to remain consistent within the watershed.

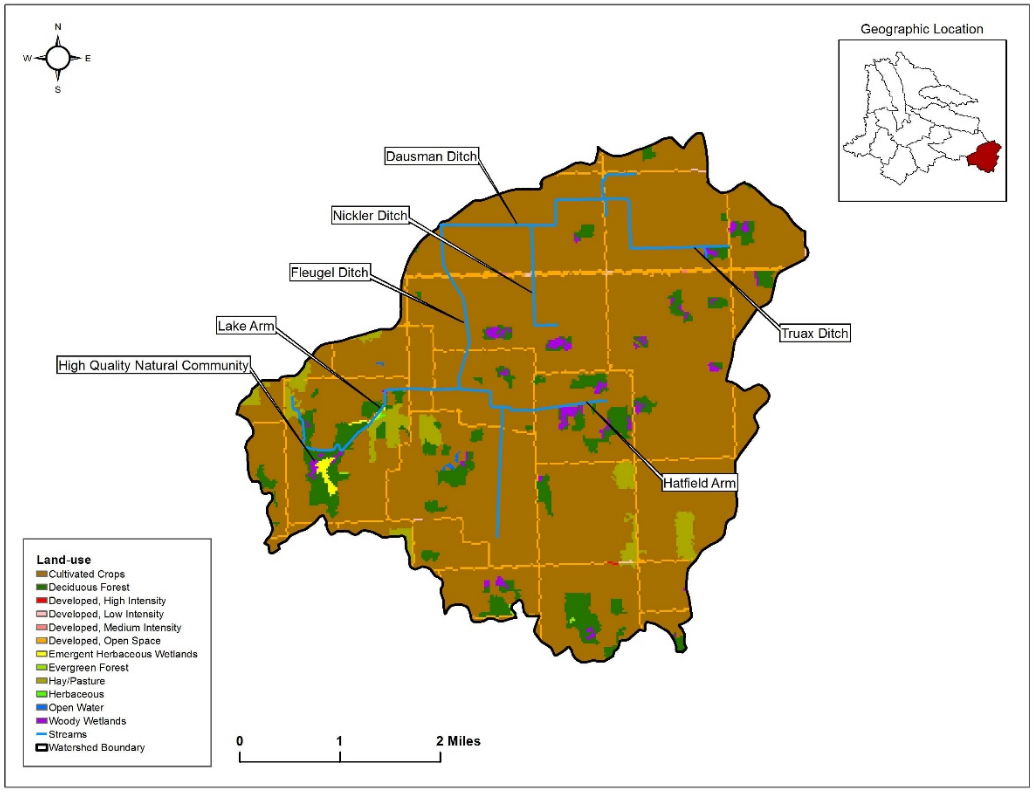


Figure 35. **Fleugel Ditch subwatershed landuse.**

Table 22. **Percentage and acreage of each land use type in the Fleugel Ditch subwatershed (HUC: 071200010306).**

Land use	% of Watershed	Acres
Open Water	0.0%	6
Developed, Open Space	3.9%	450
Developed, Low Intensity	0.1%	9
Developed, Medium Intensity	0.0%	2
Developed, High Intensity	0.0%	1
Deciduous Forest	6.6%	758
Evergreen Forest	0.0%	4
Herbaceous	0.0%	2
Hay/Pasture	2.7%	309
Cultivated Crops	85.3%	9,758
Woody Wetlands	1.0%	117
Emergent Herbaceous Wetlands	0.2%	27

The Fleugel Ditch subwatershed contains approximately 16 miles of streams and 17 miles of closed drains, none of which are currently listed as impaired (Figure 36). There are no NPDES facilities located in the watershed. However, there are two CFO's located in the Fleugel Ditch subwatershed (Figure 36). Both CFO's are located east of Truax Ditch in the northern portion of the subwatershed (Figure 36). There were thirteen locations surveyed in the Fleugel Ditch subwatershed during the windshield survey (Figure 37). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is less prevalent, channelization is more prevalent, stream buffers are less prevalent, and in-stream cover is less prevalent in the Fleugel Ditch subwatershed (Table 12; Table 23). In-stream cover was listed as poor at 69% (9/13) of the sites, one site contained severe or very severe streambank erosion and buffers were estimated to be absent on 6.9 miles (43%) of the 16 miles of streams in the watershed. Two locations were identified as having livestock access to streams (Figure 36).

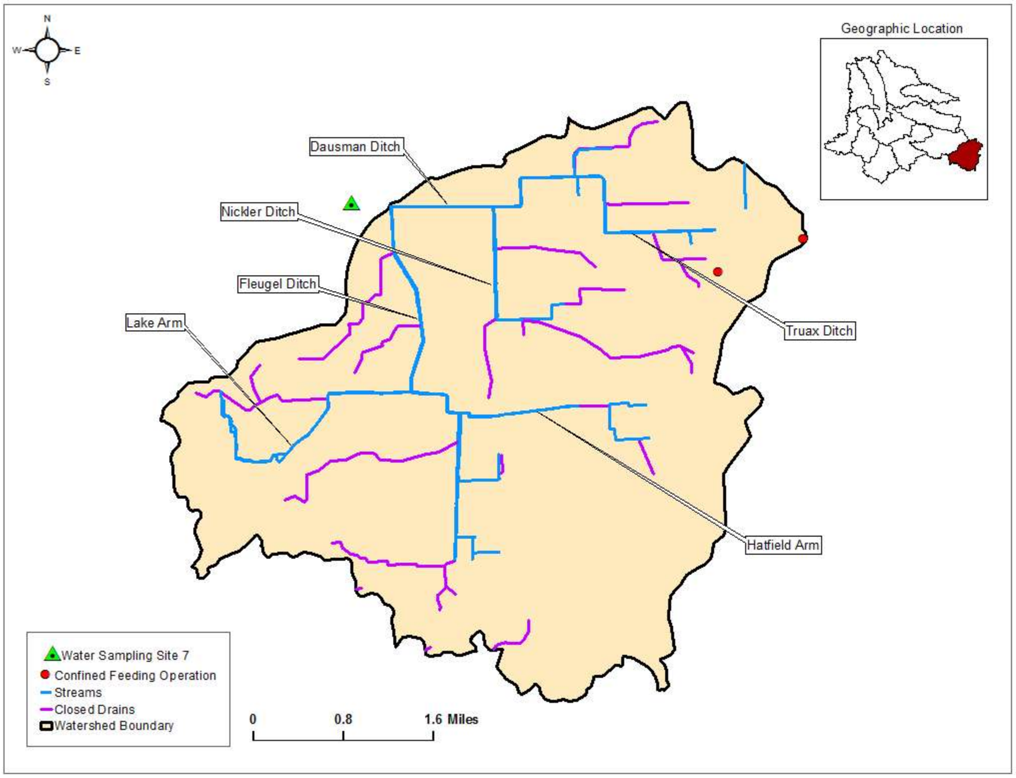


Figure 36. Fleugel Ditch subwatershed water quality information map.

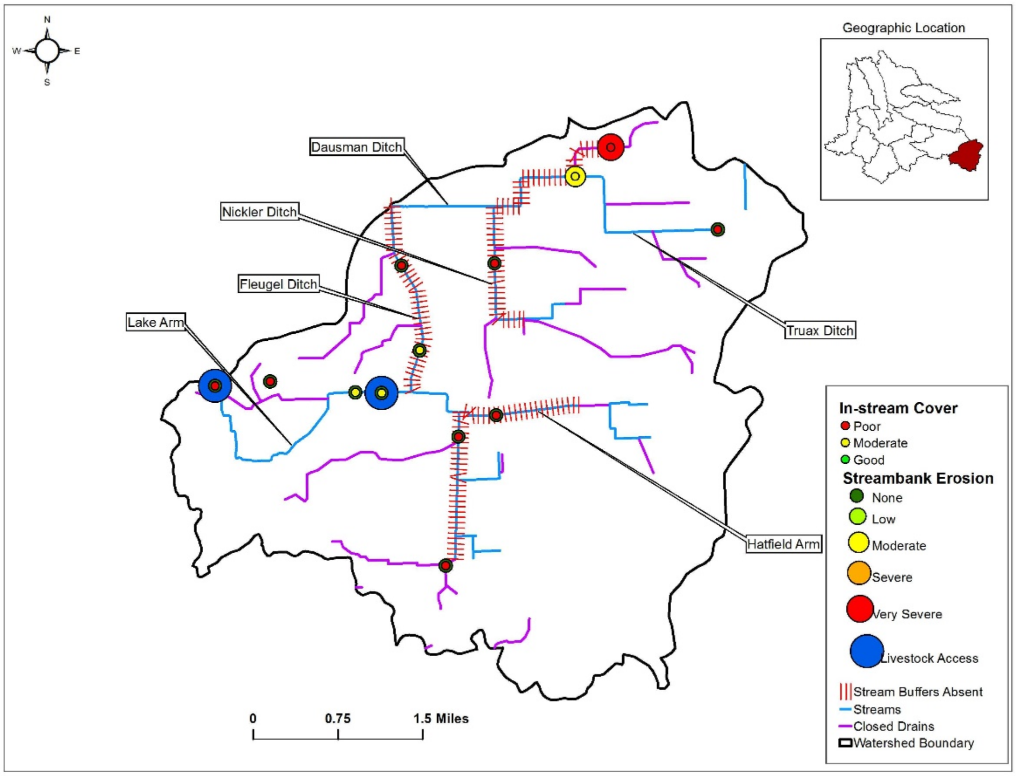


Figure 37. Fleugel Ditch subwatershed 2015 windshield survey sites and results.

Table 23. Results of the Fleugel Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Fleugel Ditch x̅	0.5	3.2	0.4	1.0
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 7 was located in Dausman Ditch and used to evaluate the overall water quality of the Fleugel Ditch subwatershed (Figure 36). Table 24 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 7 during the 12 month sampling period from June 2015 through May 2016. Site 7 in general had the majority of the lowest mean concentrations of sampled parameters between all sites. Site 7 mean concentrations' ranked as the lowest included total phosphorus, ammonia, turbidity, E. coli, TSS, and dissolved phosphorus. The mean parameter assessed to be higher included nitrate+nitrite. Overall Site 7 was the fourth highest nitrate+nitrite mean at 7.83 mg/L. Nitrate+nitrite exceed the project target on 100% of the samples and exceeded Indiana State standards on five occasions. The E. coli concentration mean was 281 mpn/100 mL and exceeds the Indiana State standard of 235 mpn/100 mL. E. coli concentrations exceeded the State standard on 50% of the samples. The mean concentrations meeting project targets levels include total phosphorus, turbidity, atrazine, TSS, TKN, dissolved oxygen and pH. The assessed MIBI and QHEI at Site 7 was below project targets. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 24. Site 7 water quality analysis – Fleugel Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.12	mg/L	1	8
Dissolved Phosphorus	0.08	mg/L	-	-
Nitrate + Nitrite	7.83	mg/L	1.5 mg/L 12	100
			10 mg/L 5	42
Ammonia	0.023	mg/L	1	8
TKN	0.60	mg/L	6	50
E. coli	281	mpn/100mL	6	50
Atrazine	0.16	µg/L	-	-
TSS	3	mg/L	0	0
Turbidity	7.13	NTU	1	8
Dissolved Oxygen	9.76	mg/L	0	0
pH	8.03	-	0	0
QHEI	33	-	Does not meet target	
MIBI	2.9	-	Does not meet target	

3.2.2 Headwaters Stock Ditch (HUC: 071200010304)

The Headwaters Stock Ditch subwatershed is located in the northwestern portion of the Headwaters Yellow River Watershed. La Paz and Lakeville are located in this watershed and account for approximately 2.8% of the watershed (Figure 38). The primary land use in the watershed is cultivated crops accounting for 66.0% of the watershed. The remainder of the watershed is divided among deciduous forest, hay/pasture, emergent herbaceous wetlands, woody wetlands, evergreen forest, and herbaceous land uses (Table 25). Land use in the watershed remains similar to the land use that is described in the Headwaters Stock Ditch WMP. However, the conversion of Highway 31 to an interstate has since been completed which creates localized drainage modifications and additional road crossing not previously present. Excluding the Highway 31 project, land use proportions in the future are suggested to remain similar to current conditions. Industrial development is not anticipated to increase within the watershed.

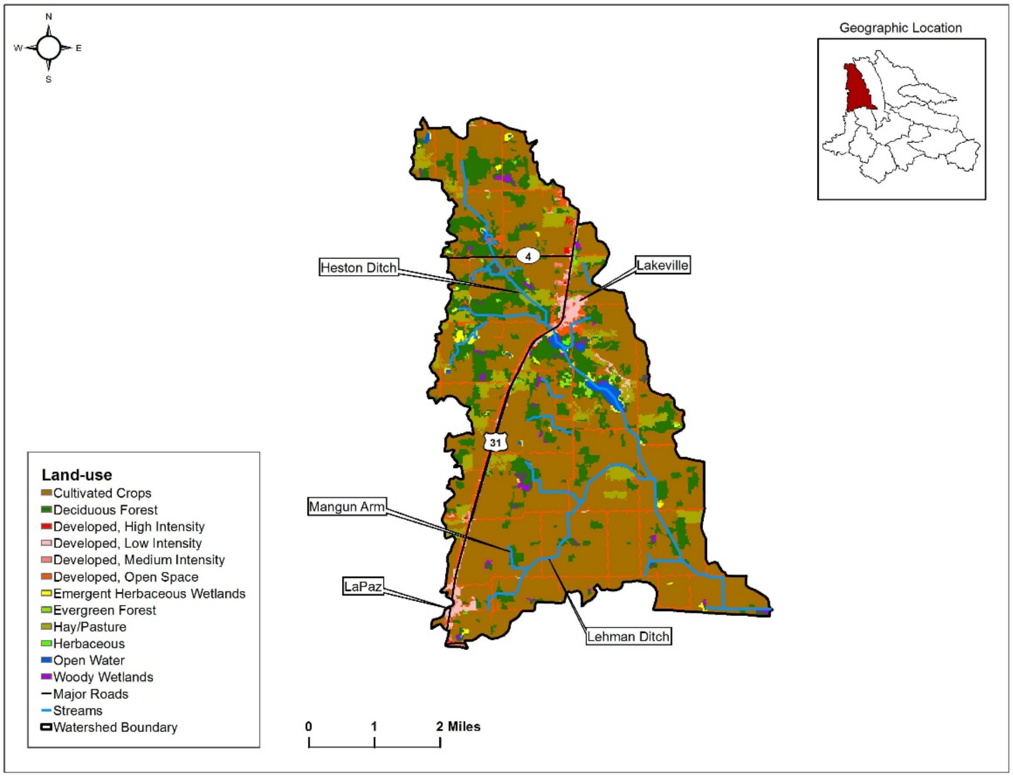


Figure 38. Headwaters Stock Ditch subwatershed landuse.

Table 25. Percentage and acreage of each land use type in the Headwaters Stock Ditch subwatershed (HUC: 071200010304).

Land use	% of Watershed	Acres
Open Water	0.9%	131
Developed, Open Space	5.7%	831
Developed, Low Intensity	2.3%	334
Developed, Medium Intensity	0.4%	59
Developed, High Intensity	0.1%	18
Deciduous Forest	16.2%	2,358
Evergreen Forest	0.4%	52
Herbaceous	0.2%	23
Hay/Pasture	6.2%	900
Cultivated Crops	66.0%	9,583
Woody Wetlands	0.8%	122
Emergent Herbaceous Wetlands	0.8%	117

The Headwaters Stock Ditch subwatershed contains approximately 23 miles of streams and 9 miles of closed drains, none of which are currently listed as impaired. There are two NPDES facilities located in the southern portion of the watershed (Figure 39). One of the facilities is associated with a gas station and is compliance to date and has not any violations in the last 12 quarters. The other facility was associated with a pipeline but the permit has been terminated. There are no CFO's in the Headwaters Stock Ditch subwatershed. There were seventeen locations surveyed in the Headwaters Stock Ditch subwatershed during the windshield survey (Figure 40). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is less prevalent, channelization is less prevalent, stream buffers are more prevalent, and in-stream cover is less prevalent in the Headwater Stock Ditch subwatershed (Table 12; Table 26). During the windshield tour 35% (6/17) of the sites were listed as having poor in-stream habitat, no sites had identified severe or very severe erosion and stream buffers were estimated to be absent on 7.6 miles (33%) of the 23 miles of streams in the watershed (Figure 40). Direct access by livestock to streams was not observed during the windshield survey.

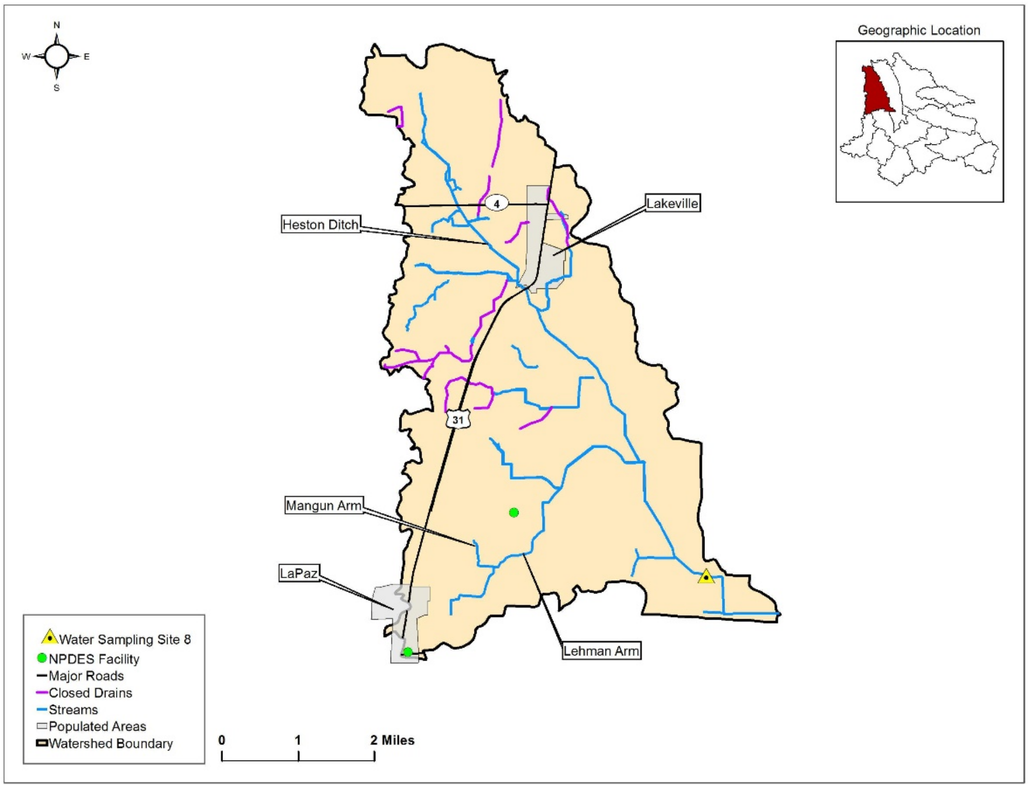


Figure 39. **Headwaters Stock Ditch subwatershed water quality information map.**

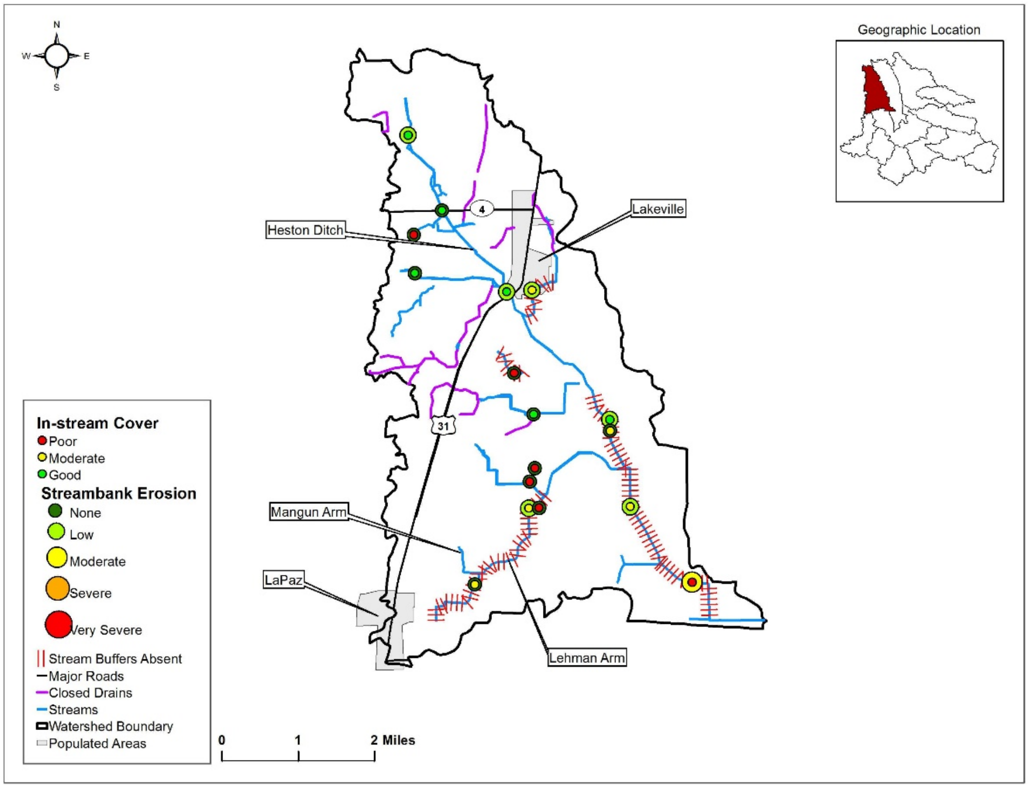


Figure 40. Headwaters Stock Ditch subwatershed 2015 windshield survey sites and results.

Table 26. Results of the Headwaters Stock Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Headwaters Stock Ditch $\bar{x}$	0.5	1.7	1.3	2.1
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

In 2012 a Watershed Management Plan (WMP) was developed by the Michiana Area Council of Governments (MACOG) for the Headwaters Stock Ditch subwatershed, which conducted a windshield survey and collected twelve months of water quality monitoring data. The watershed MACOG WMP was locally funded effort and was not developed into an IDEM approved WMP. MACOG's windshield survey identified livestock access to waterbodies, eroded streambanks, lack of stream buffers, lack of cover crops, and existing residences on septic system limited soils as areas of concern. The water quality monitoring program also found that phosphorus, nitrate, *E. coli*, total suspended solid (TSS) loads exceeded target loads (Michiana Area Council of Governments 2012). Based on this data MACOG identified Heston Ditch upstream of Pleasant Lake, Ward Ditch, Shidler Ditch, Heston Ditch between Pleasant and Riddles Lakes, and Walters Ditch as critical areas of the Headwater Stock Ditch subwatershed.

The Headwaters Stock Ditch subwatershed contains both Pleasant and Riddles Lakes. Pleasant and Riddles Lakes are 29 acre and 77 acre lakes, respectively. Both lakes are located south of Lakeville in St. Joseph County. In 2006 a watershed diagnostic study was completed for these two lakes to describe the condition of the watershed, identify potential problems, and make prioritized recommendations. The collection of water samples from tributaries during this study revealed that Bunch Ditch and Walters Ditch were contributing high concentrations of *E. coli*, phosphorus, and nitrogen to the lakes (JFNew 2006a).

Testing Site 8 was located in Stock Ditch and used to evaluate the overall water quality of the Headwaters Stock Ditch subwatershed (Figure 39). Table 27 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 8 during the 12 month sampling period from June 2015 through May 2016. The mean E. coli concentration at Site 8 was 713 mpn/100 mL which exceeds the Indiana State standard. E. coli concentrations exceeded State Standards during 58% (7/12) of the sampled events and overall Site 8 had the fifth highest E. coli mean between all sites. Total phosphorus mean concentration was 0.33 which exceeds the project target and was the fourth highest mean between sites (Figure 20). Total phosphorus exceeded the project target during 42% of sampling events. Ammonia mean at Site 8 was the highest between all sites at 0.168 mg/L and exceeded Indiana State standards during 75% (9/12) of sampling events. While ammonia concentrations were high nitrate+nitrite concentrations were the second lowest between all sites. Nitrate+nitrite mean concentration was 3.63 mg/L and exceeded the project target 100% of the time. The Indiana State standard for Nitrate+Nitrite was not exceeded during any event. TKN mean was the third highest observed between sites and exceeded the project target during 83% (10/12) of sampling events. Site 8 mean concentrations that meet project target levels include atrazine, TSS, dissolved oxygen and pH. Both habitat and biological assessments at Site 8 do not meet target levels. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 27. Site 8 water quality analysis – Headwaters Stock Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.33	mg/L	5	42
Dissolved Phosphorus	0.21	mg/L	-	-
Nitrate + Nitrite	3.63	mg/L	1.5 mg/L 12	100
			10 mg/L 0	0
Ammonia	0.168	mg/L	9	75
TKN	0.98	mg/L	10	83
E. coli	713	mpn/100mL	7	58
Atrazine	0.88	µg/L	-	-
TSS	14	mg/L	1	8
Turbidity	17.72	NTU	6	50
Dissolved Oxygen	7.01	mg/L	2	17
pH	7.74	-	1	8
QHEI	33	-	Does not meet target	
MIBI	2.7	-	Does not meet target	

3.2.3 Kline Rouch Ditch (HUC: 071200010302)

The land use of the Kline Rouch Ditch is dominated by cultivated crops, which accounts for 75.5% of the watershed. Hay/Pasture land use also accounts for a large part of the watershed with 8.5%. There are no populated areas in the watershed, therefore only 6.7% of the land in the watershed is developed (Figure 41). The remainder of the watershed contains limited natural land use types such as open water, deciduous forest, evergreen forest, mixed forest, shrub/scrub, herbaceous, woody wetlands, and emergent herbaceous wetlands (Table 28). Industrial development is not a concern within the watershed and it is suggested current land use proportions will remain consistent into the future.

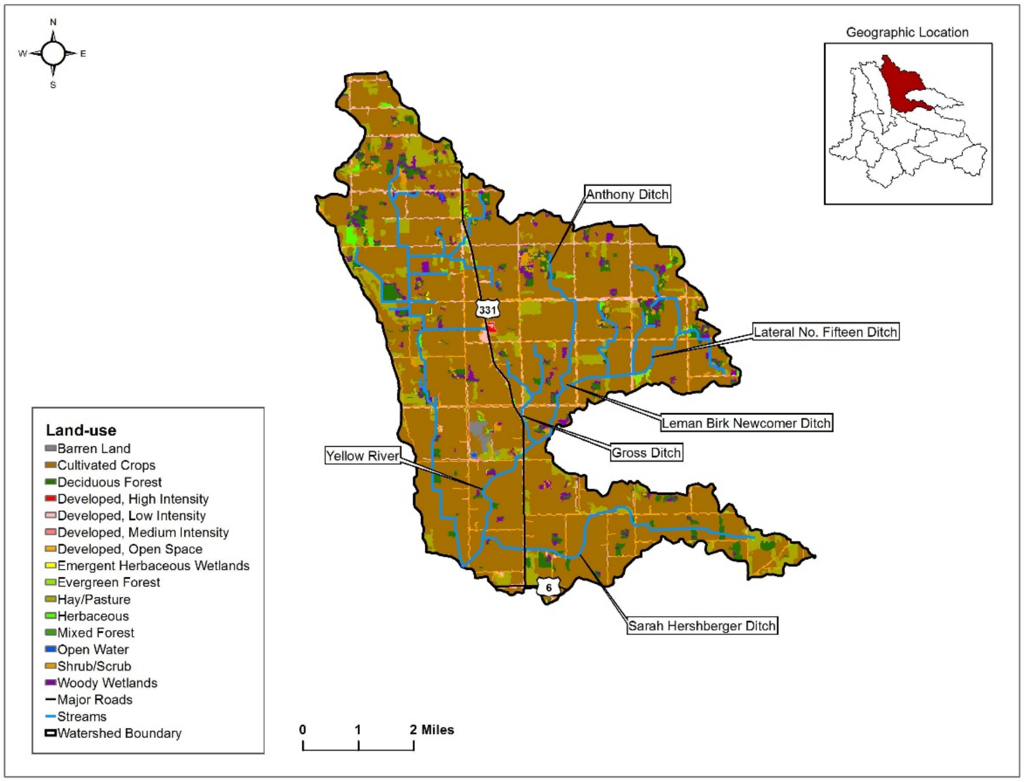


Figure 41. Kline Rouch subwatershed landuse.

Table 28. Percentage and acreage of each land use type in the Kline Rouch Ditch subwatershed (HUC: 071200010302).

Land use	% of Watershed	Acres
Open Water	0.1%	12
Developed, Open Space	3.4%	808
Developed, Low Intensity	3.0%	711
Developed, Medium Intensity	0.3%	76
Developed, High Intensity	0.0%	11
Barren Land	0.4%	86
Deciduous Forest	4.4%	1,052
Evergreen Forest	0.4%	85
Mixed Forest	0.0%	5
Shrub/Scrub	1.0%	228
Herbaceous	0.6%	147
Hay/Pasture	8.5%	2,024
Cultivated Crops	75.5%	18,029
Woody Wetlands	2.5%	588
Emergent Herbaceous Wetlands	0.0%	10

The Kline Rouch Ditch subwatershed contains approximately 75 miles of streams and 17 miles of closed drains, none of which are currently listed as impaired. The watershed contains two NPDES permitted facilities (Figure 42). One facility is the Madison Elementary School water treatment plant. The plant is in compliance currently and has three minor violations in the last 12 quarters, with the last violation in September 2016. Minor violations were for total recoverable iron. The other NPDES facility is the Wyatt wastewater treatment plant. The plant is currently in compliance but has had violations in seven of the last

12 quarters. All violations were minor with the exception of one major. Violations ranged from exceeding values for ammonia, TSS, biological oxygen demand (BOD), and E. coli. One CAFO and two CFO's are located in the Kline Rouch Ditch subwatershed (Figure 42). The CAFO is located in the northern portion of the watershed (Figure 42). The CFO's is located south of Gross Ditch near Highway 331 and the other is located north of Gross Ditch near Highway 331. There were twenty-eight locations surveyed in the Kline Rouch Ditch subwatershed during the windshield survey (Figure 43). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is less prevalent, channelization is less prevalent, stream buffers are more prevalent, and in-stream cover is more prevalent in the Kline Rouch Ditch subwatershed (Table 12; Table 29). In-stream cover was described as poor at 14% (4/28) of the sites, no sites were listed as having severe or very severe streambank erosion and stream buffers were estimated to be absent along 15.4 miles (21%) of the 75 miles streams in the watershed. No sites were listed as having livestock access to streams.

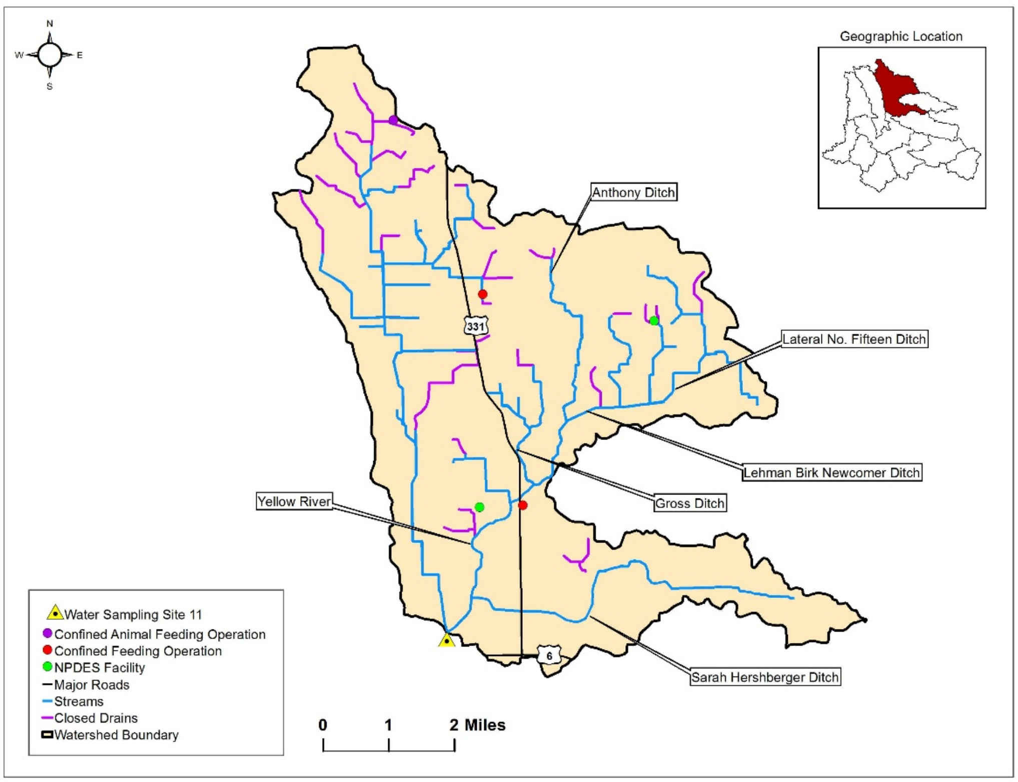


Figure 42. Kline Rouch subwatershed water quality information map.

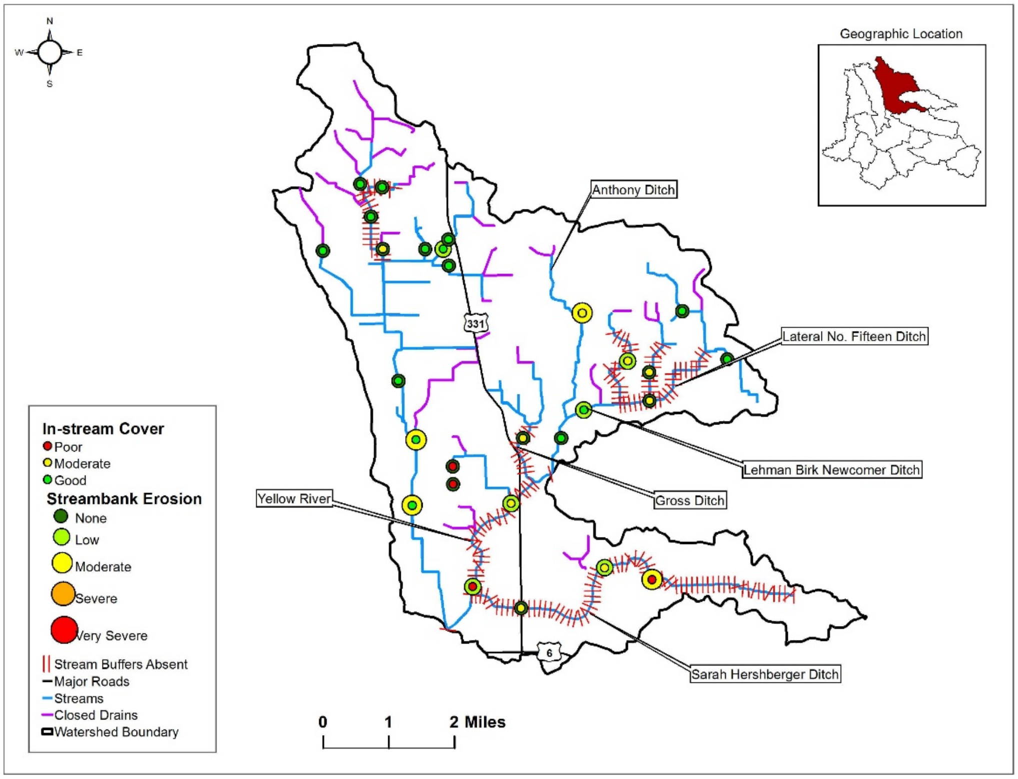


Figure 43. Kline Rouch subwatershed 2015 windshield survey sites and results.

Table 29. Results of the Kline Rouch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Kline Rouch Ditch x̄	0.5	2.9	1.2	2.9
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 11 was located in the Yellow River and used to evaluate the overall water quality of the Headwaters Stock Ditch subwatershed (Figure 42). Table 30 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 11 during the 12 month sampling period from June 2015 through May 2016. Overall, many of the mean water quality concentrations were high compared to other subwatersheds. Site 11 did not contain the highest mean concentrations for any parameters tested but did have the second highest mean concentration for ammonia, nitrate+nitrite, turbidity, E. coli and dissolved phosphorus. The E. coli mean concentration was 1,029 mpn/100 mL and exceeds the Indiana State Standard. E. coli levels exceeded the state standard during 10 of 12 events (83%). Site 11 was one of four sites sampled in May 2016 for source tracking of E. coli samples for percent human vs percent animal. The results indicated human waste was the source for 53% of the E. coli bacterium while animal waste accounted for the remaining 47%. Similar results were observed at two of the other sites (Site 1 within Milner Seltenright subwatershed and Site 12 Lateral Ditch No. 5 subwatershed), while Site 4 located within the Lake of the Woods subwatershed had 80% human and 20% animal (Figure 16). Ammonia mean concentration was 0.105 mg/L and exceeded Indiana State standards during five sampling events. Turbidity mean concentration was 23.13 NTU and exceeded the project target during 25% of the events. Dissolved phosphorus mean concentration was 0.27 mg/L and total phosphorus mean was 0.37 mg/L which exceeds the project target. Nitrate+nitrite concentrations were high with the mean being 8.90 mg/L. Nitrate+nitrite concentrations exceeded the project target of 1.5 mg/L, 100% of the time and exceeded the Indiana State standard of 10 mg/L on five occasions. The water quality parameters mean concentrations within project targets include atrazine, TSS, dissolved oxygen and pH. Site 11 had the third best QHEI score at 57 and meets the project target, however, biological assessment with MIBI does not meet the project target. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 30. Site 11 water quality analysis – Kline Rouch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.37	mg/L	6	50
Dissolved Phosphorus	0.27	mg/L	-	-
Nitrate + Nitrite	8.90	mg/L	1.5 mg/L 12	100
			10 mg/L 5	42
Ammonia	0.105	mg/L	5	42
TKN	0.82	mg/L	7	58
E. coli	1,029	mpn/100mL	10	83
Atrazine	0.60	µg/L	-	-
TSS	20	mg/L	2	17
Turbidity	23.13	NTU	3	25
Dissolved Oxygen	8.01	mg/L	0	0
pH	7.90	-	0	0
QHEI	57	-	Meets target	
MIBI	3.3	-	Does not meet target	

3.2.1 Lake of the Woods (HUC: 071200010309)

The Lake of the Woods subwatershed land use is dominated by cultivated crops, which account for 77.8% of the watershed. Deciduous forest is the second most prevalent land use, which accounts for 7.3% of the watershed. The Lake of the Woods subwatershed does contain the southwest portion of Bremen, which is the second most populated urban area in Headwaters Yellow River Watershed (Figure 44). There is also a reasonable degree of development in the Lake of the Woods subwatershed along Lake of the Woods, which is the largest lake in the Headwaters Yellow River Watershed. Current development around Lake of the Woods is not expected to change into the future however increases in industrial and residential development on the west side of Bremen is possible. The land draining into Lake of the Woods is primarily agricultural (DJ Case and Associates 2005). The remaining distribution of land uses in the Lake of the Woods subwatershed is described in Table 31.

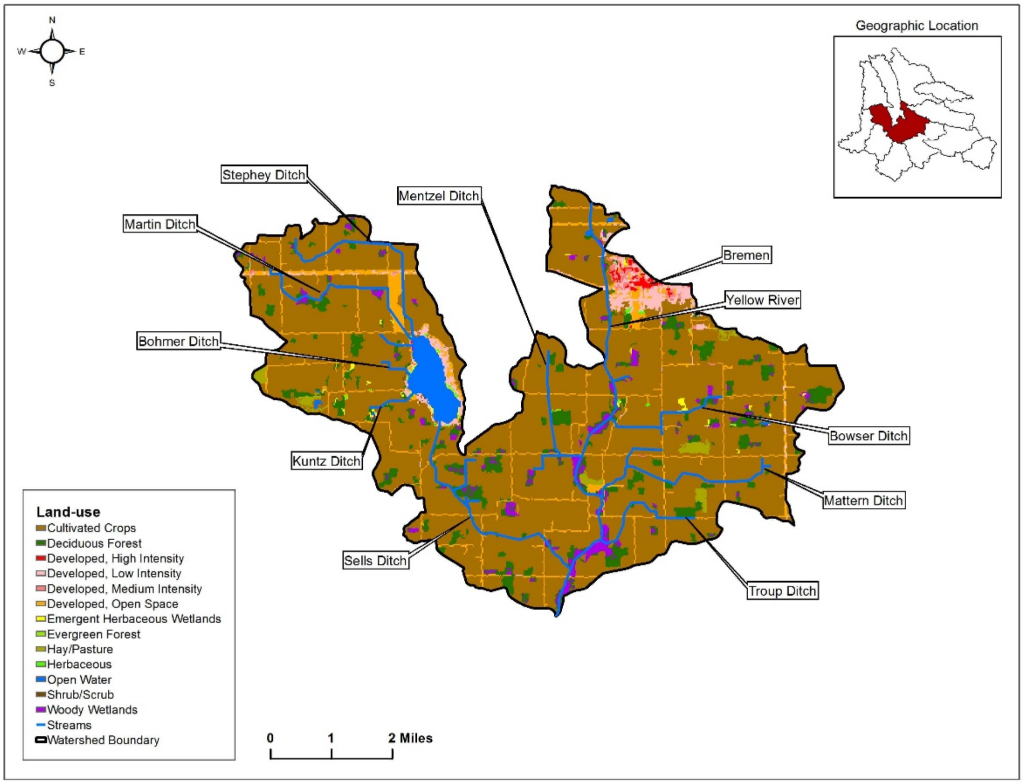


Figure 44. Lake of the Woods subwatershed landuse.

Table 31. Percentage and acreage of each land use type in the Lake of the Woods subwatershed (HUC: 071200010309).

Land use	% of Watershed	Acres
Open Water	2.0	438
Developed, Open Space	5.6	1,221
Developed, Low Intensity	2.3	508
Developed, Medium Intensity	0.5	105
Developed, High Intensity	0.3	71
Deciduous Forest	7.3	1,598
Evergreen Forest	0.1	12
Shrub/Scrub	0.0	6
Herbaceous	0.1	27
Hay/Pasture	1.0	220
Cultivated Crops	77.8	16,943
Woody Wetlands	2.6	557
Emergent Herbaceous Wetlands	0.3	68

The Lake of the Woods subwatershed contains approximately 29 miles of streams and 17 miles of closed drains, with 21.6 miles of streams listed as impaired for *E. coli* (Figure 45). During a 2009 TMDL report for the Kankakee/Iroquois watershed all five of the water samples collected from the Yellow River in the Lake of the Woods subwatershed exceeded state standards and an 87% reduction in *E. coli* concentrations would be needed to meet water quality standards (Tetra Tech 2009). Lake of the Woods is the largest lake in the Headwaters Yellow River Watershed at approximately 395 acres. Lake of the Woods is currently listed as impaired by IDEM for both phosphorus and polychlorinated biphenyls (PCB's) in fish tissue.

There are two NPDES permitted facilities and no CFO's in the Lake of the Woods subwatershed (Figure 45). One of these NPDES facilities was a privately owned facility, with a terminated permit. The second NPDES facility is the Bremen Wastewater Treatment Plant, which is located in the northwest portion of Bremen. The facility is currently in compliance and has violations in eight of the last 12 quarters. All violations were minor and included exceedances for mercury, pH and ammonia. The last violation occurred in March 2017. There were twenty-seven locations surveyed in the Lake of the Woods subwatershed during the windshield survey (Figure 46). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is more prevalent, channelization is more prevalent, stream buffers are less prevalent, and in-stream cover is less prevalent in the Lake of the Woods subwatershed (Table 12; Table 32). During the windshield tour in-stream cover was rated poor at 52% (14/27) of sites, no sites were listed as having severe or very severe streambank erosion and stream buffers were estimated to be absent on 17.7 miles (61%) of the 29 miles of streams in the watershed (Figure 46). Direct access of livestock to streams was not observed during the windshield survey.

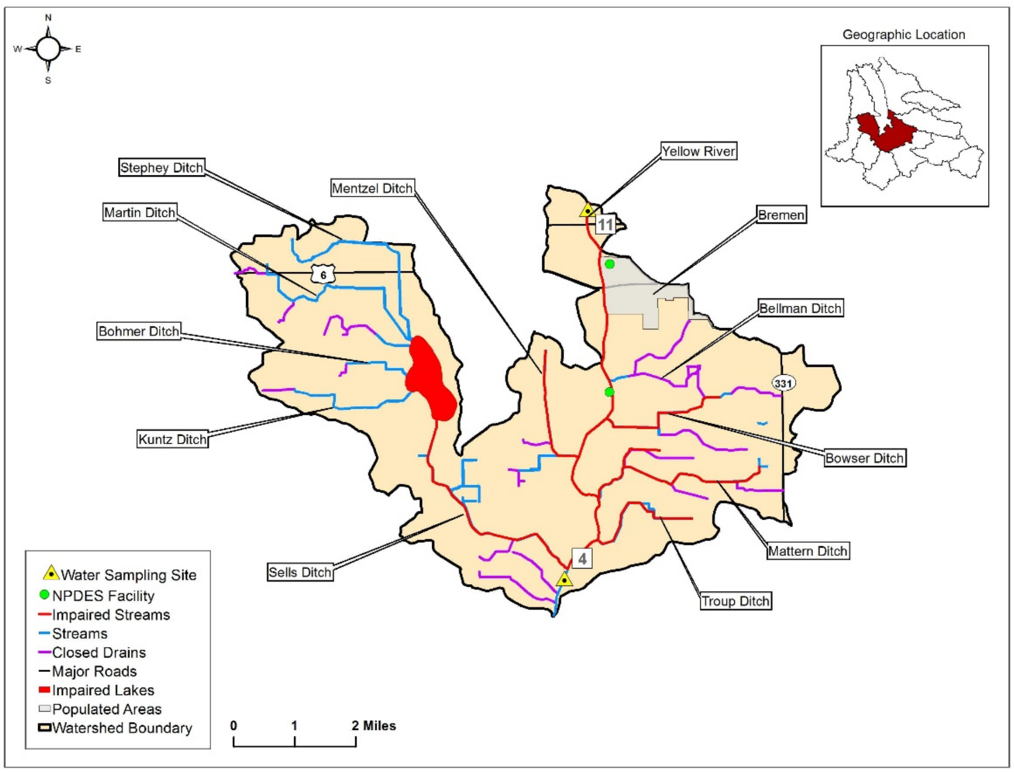


Figure 45. Lakes of the Woods subwatershed water quality information map.

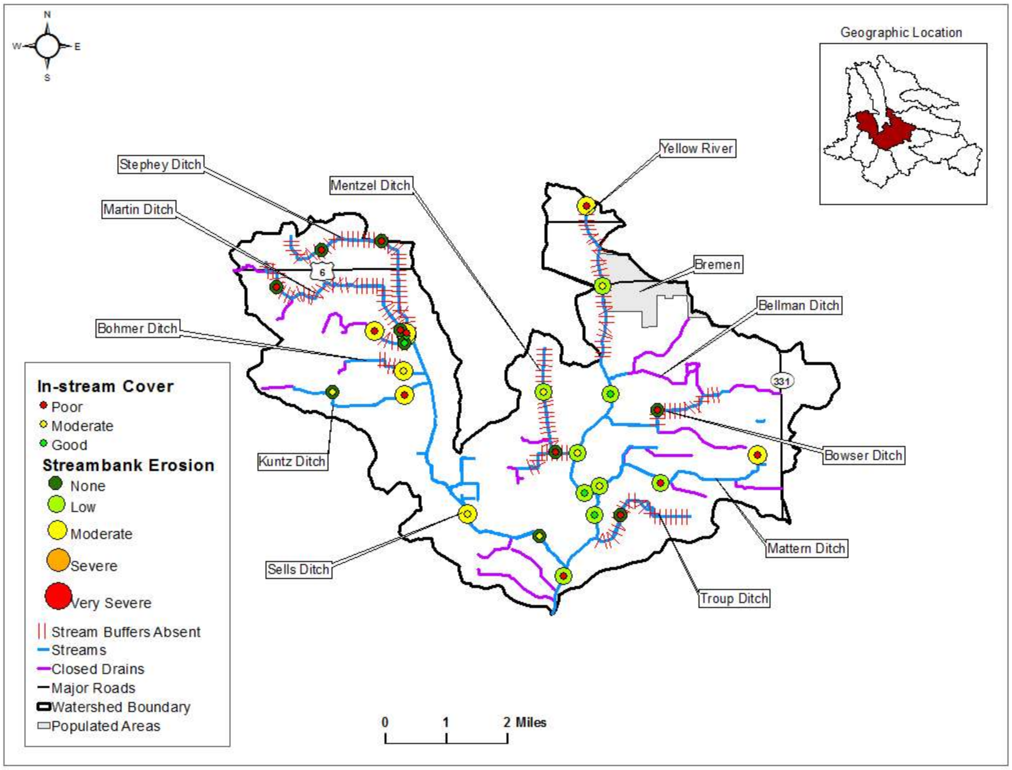


Figure 46. Lake of the Woods subwatershed 2015 windshield survey sites and results.

Table 32. Results of the Lake of the Woods subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Lake of the Woods x̅	0.9	3.4	0.8	2.0
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

In 2005 a watershed diagnostic study was completed for Lake of the Woods. The study found that over the past three decades Lake of the Woods has demonstrated average to below average water quality compared to most other natural lakes in Indiana (DJ Case and Associates 2005). While *E. coli* concentrations were below the typical statewide average (645 CFU/100mL), water samples regularly exceeded water quality standards. IDEM water samples of Bohmer, Kuntz, public access ditch, Martin Ditch, and Seltenright Ditch all exceeded water quality standards for *E. coli* (DJ Case and Associates 2005). However, water samples collected at Inlet Ditch #1, Stephey Ditch, and Isaac Sells Ditch met water quality standard for *E. coli* (DJ Case and Associates 2005). During the development of the Lake of the Woods diagnostic study community leaders identified erosion/sediment control, hydrology/drainage, nutrient loading, long-term watershed management planning, and channel maintenance as the primary water quality issues in the watershed.

Testing Site 4 was located in the Yellow River and used to evaluate the overall water quality of the Lake of the Woods subwatershed (Figure 45). Table 33 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 4 during the 12 month sampling period from June 2015 through May 2016. Site 4 mean concentrations for the sampled water quality parameters ranked consistently in the top three highest for the following parameters total phosphorus (#2), turbidity (#3), E. coli (#3), TSS (#2), dissolved phosphorus (#3), and TKN (#1). The E. coli mean concentration was 773 mpn/100 mL and exceeds the Indiana State standard. E. coli sampled exceeded the State standard 75% of the time. Site 4, was one of four sites sampled in May 2016 for source tracking of E. coli bacteria. Results of the source tracking indicated the main source of E. coli was human accounting for 80% of the sample while animal sources were 20% (Figure 16). This was the highest human percentage determined between the four sites and the three other sites were approximately split evenly between human and animal sources (Figure 16). Total phosphorus mean concentration was 0.39 mg/L and exceeds the project target of 0.3 mg/L. Total phosphorus samples exceeded the project target concentration on 58% (7/12) of the samples. TSS mean concentration was 43 mg/L and exceeds the project target. TSS concentrations exceeded the project target 25% (3/12) of the time. TKN mean at Site 4 was the highest observed between all site and was 1.41, which exceeds the project target of 0.591 mg/L. TKN samples exceeded the project target concentration on all but one sampling event. The mean water quality parameters meeting project targets include atrazine, dissolved oxygen and pH. Habitat assessment using the QHEI indicates the Site 4 does not meet project target however biological assessment with the MIBI does meet the project target. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 33. Site 4 water quality analysis – Lake of the Woods subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.39	mg/L	7	58
Dissolved Phosphorus	0.25	mg/L	-	-
Nitrate + Nitrite	5.27	mg/L	1.5 mg/L 12	100
			10 mg/L 0	0
Ammonia	0.077	mg/L	1	8
TKN	1.41	mg/L	11	92
E. coli	773	mpn/100mL	9	75
Atrazine	0.89	µg/L	-	-
TSS	43	mg/L	3	25
Turbidity	20.69	NTU	7	58
Dissolved Oxygen	8.71	mg/L	0	0
pH	8.11	-	0	0
QHEI	31.5	-	Does not meet target	
MIBI	4.4	-	Meets target	

3.2.2 Lateral Ditch No. 5 (HUC: 071200010301)

The most common land use in the Lateral Ditch No. 5 subwatershed is cultivated crops, which account for 78.2% of the watershed (Figure 47). The second most common land use is hay/pasture, accounting for 10.5% of the watershed. There are no urban areas in the Lateral Ditch No. 5 subwatershed, which has limited developed land uses to less than 6.0% of the subwatershed. The most common natural habitat is deciduous forest followed by woody wetlands, evergreen forest, shrub/scrub, and herbaceous habitats (Table 34). Industrial development is not a concern within the Lateral Ditch No. 5 subwatershed and current land use percentages are suggested to remain consistent into the future.

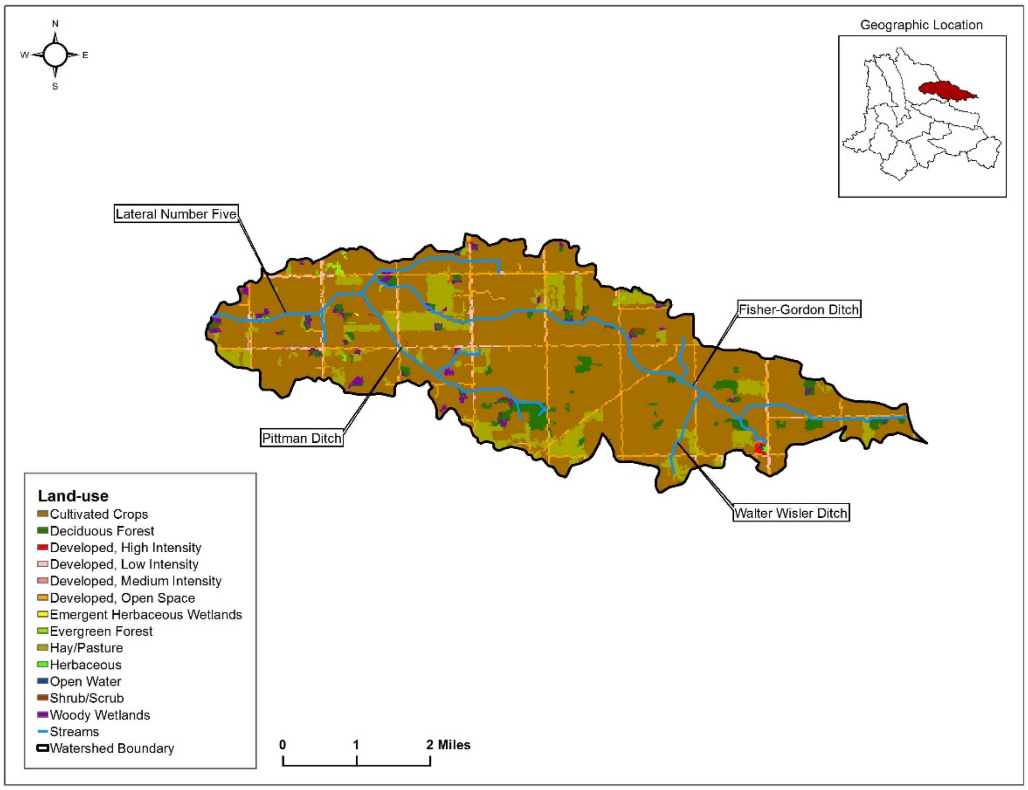


Figure 47. Lateral Ditch No. 5 subwatershed landuse.

Table 34. Percentage and acreage of each land use type in the Lateral Ditch No. 5 subwatershed (HUC: 071200010301).

Land use	% of Watershed	Acres
Open Water	0.0%	2
Developed, Open Space	4.1%	443
Developed, Low Intensity	1.2%	134
Developed, Medium Intensity	0.0%	5
Developed, High Intensity	0.1%	9
Deciduous Forest	4.0%	427
Evergreen Forest	0.2%	21
Shrub/Scrub	0.2%	24
Herbaceous	0.1%	10
Hay/Pasture	10.5%	1130
Cultivated Crops	78.2%	8424
Woody Wetlands	1.3%	143
Emergent Herbaceous Wetlands	0.0%	1

The Lateral Ditch No. 5 subwatershed contains approximately 20.3 miles of streams and 3.1 miles of closed drains, none of which are currently listed as impaired. The watershed contains one NPDES permitted facility and three CFO's (Figure 48). The NPDES facility and two of the CFO's are located near Lateral Number No. 5 and the other CFO is located near Pittman Ditch (Figure 48). The NPDES facility permit is no longer active. There were seventeen locations surveyed in the Lateral Ditch No. 5 subwatershed during the windshield survey (Figure 49). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is equivalent, channelization is more prevalent, stream buffers are less prevalent and in-stream cover is more prevalent in the Lateral Ditch No. 5 subwatershed (Table 12; Table 35). During the windshield survey in-stream habitat was rated as poor at 12% (2/17) of sites, no sites were identified as having severe or very severe streambank erosion and stream buffers were absent along 14.7 miles (72%) of the 20.3 miles of streams in the watershed (Figure 49). Direct access of livestock to streams was not observed during the survey.

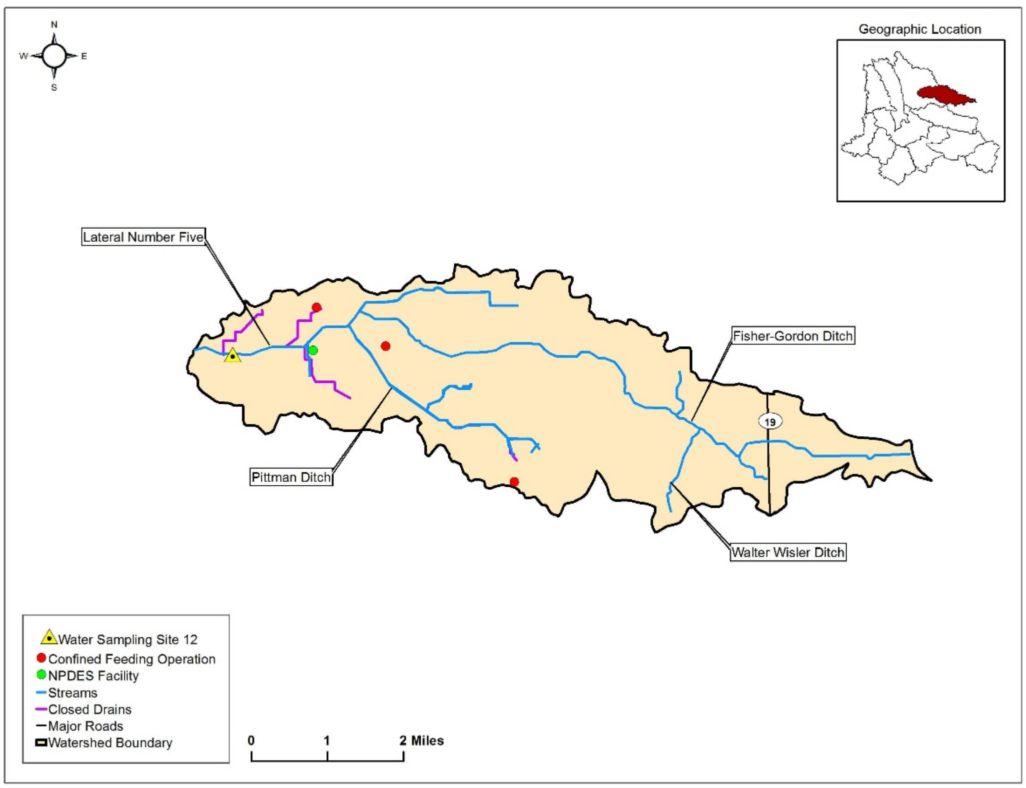


Figure 48. Lateral Ditch No. 5 subwatershed water quality information map.

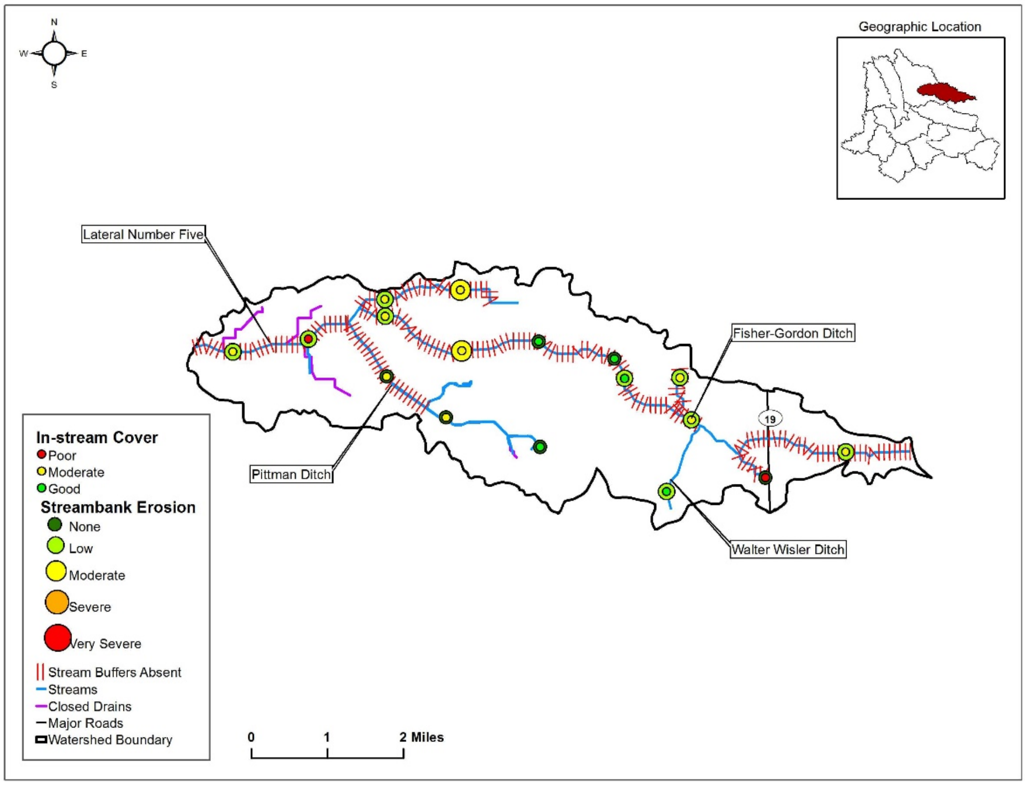


Figure 49. Lateral Ditch No. 5 subwatershed 2015 windshield survey sites and results.

Table 35. Results of the Lateral Ditch No. 5 subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Lateral Ditch No. 5 $\bar{x}$	0.8	3.6	0.7	2.5
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 12 was located in Lateral Ditch No. 5 and used to evaluate the overall water quality of the Lateral Ditch No. 5 subwatershed (Figure 48). Table 36 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 12 during the 12 month sampling period from June 2015 through May 2016. Site 12 had the highest mean concentration between all sites for the following parameters: total phosphorus, nitrate+nitrite, E. coli and dissolved phosphorus. Total phosphorus mean concentration was 0.44 mg/L and exceeds the project target. Total phosphorus samples exceeded the project target 58% of time. Nitrate+nitrite mean concentration was 9.57 mg/L and exceeds the project target of <1.5 mg/L by a significant amount and almost exceeds the Indiana State standard of 10 mg/L. The E. coli mean concentration was 1,127 mpn/100 mL and exceeds the Indiana State standard of 235 mpn/100 mL. E. coli samples exceeded the State standards during 67% (8/12) of events. Site 12 was one of four sites included in E. coli source tracking analysis in May 2016, investigating contributions from human and animal sources. Results of the E. coli source tracking indicated humans and animals contributed equally to E. coli levels at Site 12 with each accounting for 50% of the sample (Figure 16). Site 12 had the lowest mean TKN concentration at 0.41 mg/L. TKN samples exceeded the project target 42% (5/12) of the time. The mean parameter concentrations meeting project targets include atrazine, TSS, TKN, dissolved oxygen and pH. Habitat assessment with the QHEI meets the project target of >51 but the MIBI biological assessment does not meet the project target of ≥4. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 36. Site 12 water quality analysis – Lateral Ditch No. 5 subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.44	mg/L	7	58
Dissolved Phosphorus	0.35	mg/L	-	-
Nitrate + Nitrite	9.57	mg/L	1.5 mg/L 12	100
			10 mg/L 6	50
Ammonia	0.067	mg/L	3	25
TKN	0.41	mg/L	5	42
E. coli	1,127	mpn/100mL	8	67
Atrazine	0.34	µg/L	-	-
TSS	14	mg/L	2	17
Turbidity	14.12	NTU	4	33
Dissolved Oxygen	9.2	mg/L	0	0
pH	7.95	-	0	0
QHEI	53	-	Meets target	
MIBI	2.9	-	Does not meet target	

3.2.1 Lemler Ditch (HUC: 071200010307)

The Lemler Ditch subwatershed is dominated by cultivated crops, which account for 86.8% of the watershed. The second most common land use in the watershed is developed-open space, which primarily consists of roads (Figure 50). There are no urban areas in the Lemler Ditch subwatershed, therefore developed land use is limited to low density development (Table 37). The primary natural habitats in the subwatershed are deciduous forest and wood wetlands, which combine for less than 5.0% of the subwatershed (Table 37). Industrial development is not a concern within the watershed and current land use percentages are expected to remain consistent into the future.

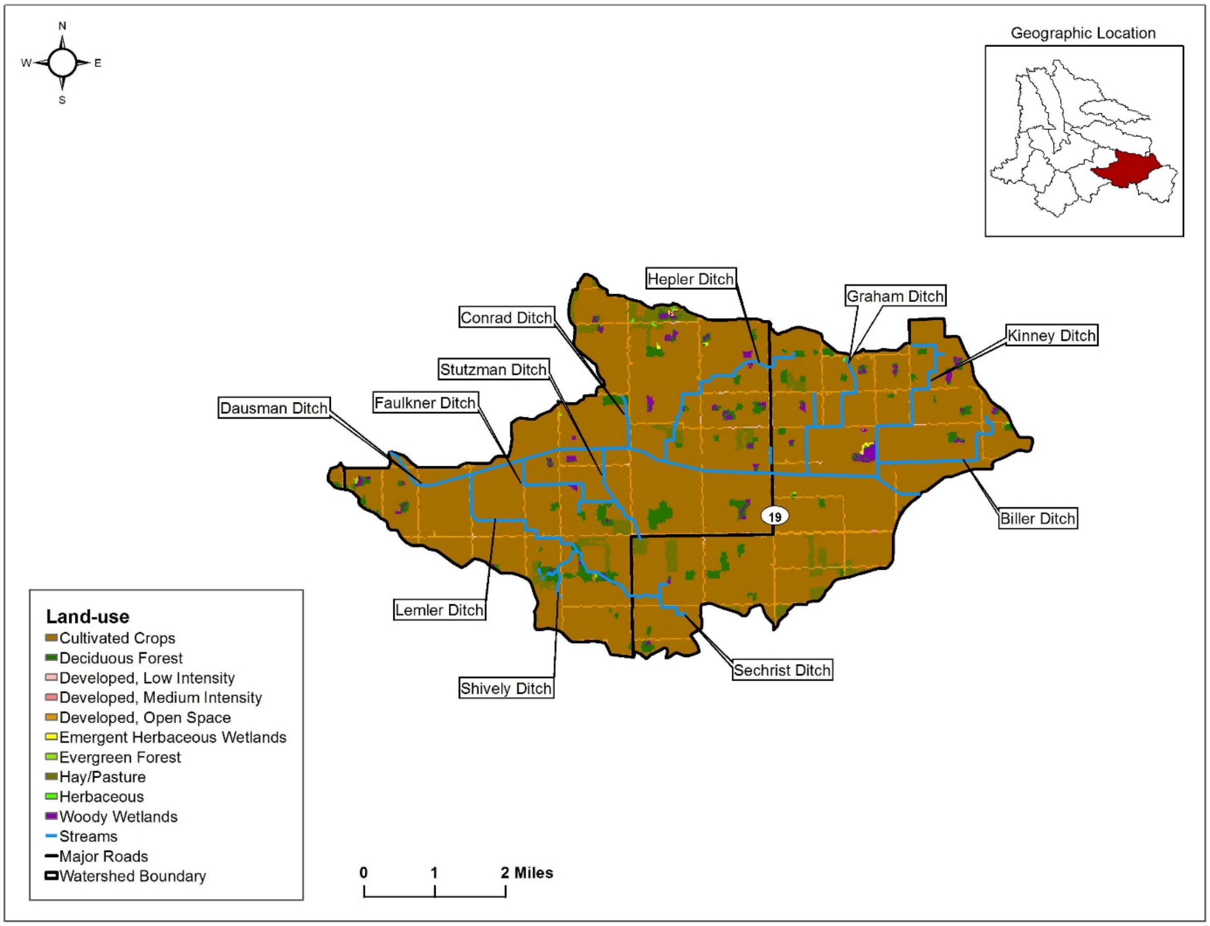


Figure 50. Lemler Ditch subwatershed landuse.

Table 37. Percentage and acreage of each land use type in the Lemler Ditch subwatershed (HUC: 071200010307).

Land use	% of Watershed	Acres
Developed, Open Space	4.5%	786
Developed, Low Intensity	0.3%	45
Developed, Medium Intensity	0.0%	3
Deciduous Forest	3.6%	630
Evergreen Forest	0.0%	6
Herbaceous	0.0%	8
Hay/Pasture	3.5%	610
Cultivated Crops	86.8%	15,025
Woody Wetlands	1.1%	184
Emergent Herbaceous Wetlands	0.1%	12

The Lemler Ditch subwatershed contains approximately 29 miles of streams and 29 miles of closed drains, none of which are currently listed as impaired (Figure 51). The watershed contains no NPDES permitted facilities and one CFO (Figure 51). The CFO is located near the headwaters of Shively Ditch in the southern portion of the subwatershed (Figure 51). There were twenty-four locations surveyed in the Lemler Ditch subwatershed during the windshield survey (Figure 52). Relative to all the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is more prevalent, channelization is more prevalent, stream buffers are less prevalent, and in-stream cover is less prevalent in the Lemler Ditch subwatershed (Table 12; Table 38). In-stream was documented as poor at 58% (14/24) of sites, four sites (17%) were identified as having severe or very severe streambank erosion and stream buffers were estimated to be absent on 22.6 miles (78%) of the 29 miles of streams in the watershed (Figure 52). One location was noted for having livestock access to the stream (Figure 52).

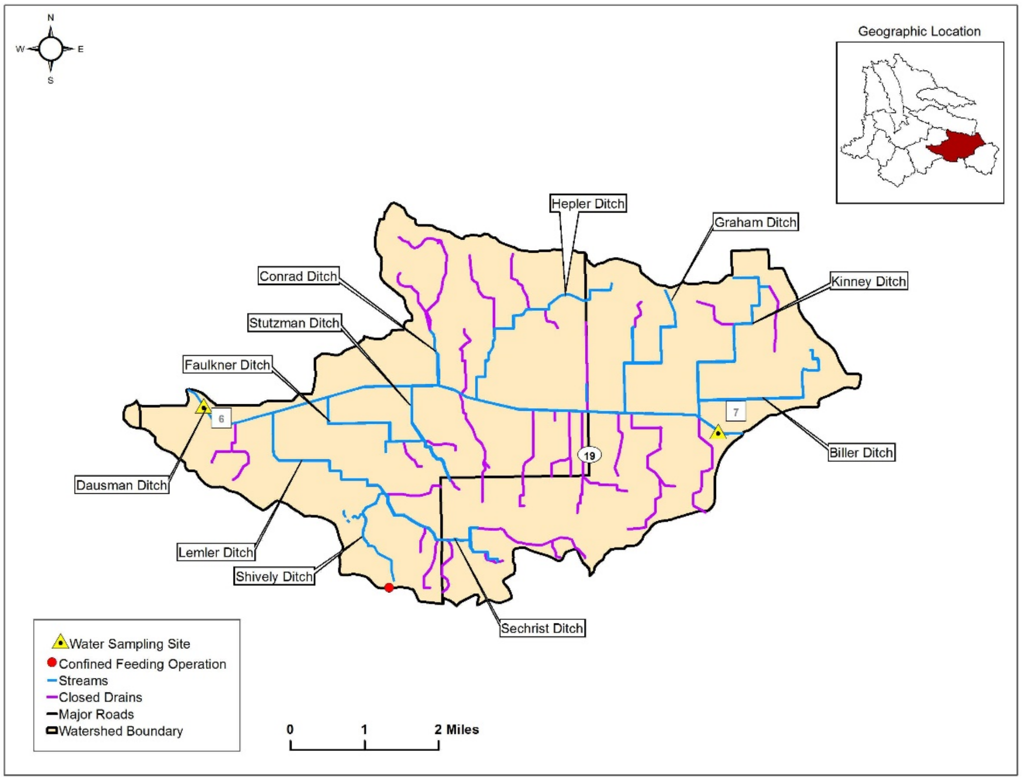


Figure 51. Lemler Ditch subwatershed water quality information map.

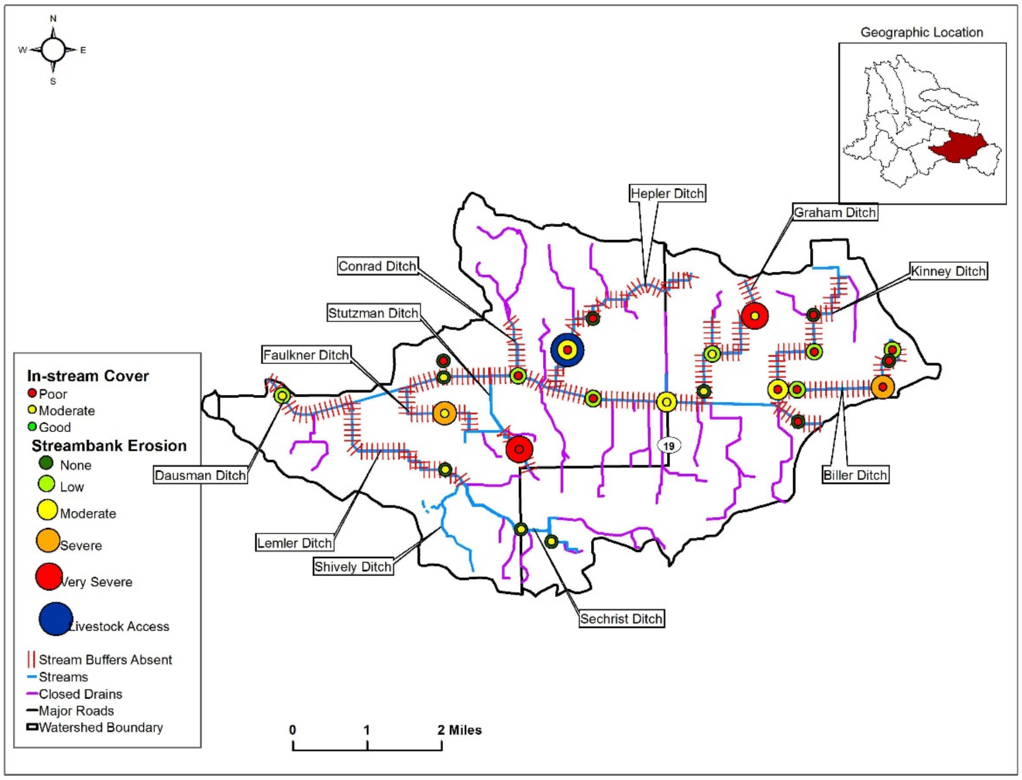


Figure 52. Lemler Ditch subwatershed 2015 windshield survey sites and results.

Table 38. Results of the Lemler Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Lemler Ditch x̅	1.1	3.7	0.3	1.4
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 6 was located in Dausman Ditch and used to evaluate the overall water quality of the Lemler Ditch subwatershed (Figure 51). Table 39 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 6 during the 12 month sampling period from June 2015 through May 2016. Site 6 mean water quality parameter concentrations usually ranked in the middle of sampled sites or had some of the lowest concentrations. Total phosphorus and dissolved phosphorus mean concentrations were the second lowest between sites and ammonia mean concentration was third lowest. Total phosphorus mean concentration was 0.20 mg/L and meets the project target. Total phosphorus samples exceeded the project target on only one occasion. Nitrate+Nitrite mean concentration was the third highest between all sites at 8.29 mg/L and exceeds the project target (Figure 19). Nitrate+Nitrite concentrations exceeded the project target of <1.5 mg/L 100% of the time and exceeded Indiana State standard of 10 mg/L on 42% of samples. The E. coli mean concentration was 533 mpn/100 mL which is the fourth lowest between all sites however it does exceed the Indiana State standard. E. coli samples exceeded the State standard on 83% (10/12) of samples. The mean parameter concentrations that met project targets include total phosphorus, atrazine, TSS, dissolved oxygen and pH. At Site 6 both the habitat and biological assessments met project target values. Site 6 is one of only three sites sampled that meet both the QHEI and MIBI project targets, with the other Sites being Site 1 (Milner Seltenright Ditch subwatershed) and Site 3 (Stone Ditch subwatershed). A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 39. Site 6 water quality analysis – Lemler Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.20	mg/L	1	8
Dissolved Phosphorus	0.10	mg/L	-	-
Nitrate + Nitrite	8.29	mg/L	1.5 mg/L 12	100
			10 mg/L 5	42
Ammonia	0.046	mg/L	1	8
TKN	0.76	mg/L	7	58
E. coli	533	mpn/100mL	10	83
Atrazine	0.12	µg/L	-	-
TSS	15	mg/L	1	8
Turbidity	19.06	NTU	2	17
Dissolved Oxygen	9.66	mg/L	0	0
pH	8.03	-	0	0
QHEI	64	-	Meets target	
MIBI	5.1	-	Meets target	

3.2.1 Milner Seltenright Ditch (HUC: 071200010312)

The most common land use in the Milner Seltenright Ditch subwatershed is cultivated crops, which account for 74.3% of the watershed. The second most common land use in the watershed is developed-open space, which accounts for 7.6% of the watershed (Table 40). Developed land uses are relatively common in the Milner Seltenright Ditch subwatershed as the result of the City of Plymouth in the southwest portion of the subwatershed (Figure 53). The Milner Seltenright Ditch subwatershed also has a significant amount of deciduous forest and woody wetlands (Figure 53). Woody wetlands are largely concentrated along the mainstem of the Yellow River in the central portion of the Milner Seltenright Ditch subwatershed. Industrial and residential development in and around Plymouth are expected to increase into the future and will have an impact on future land use percentages. Thoughtful development with regard to stormwater management should be a priority in developing areas of the watershed.

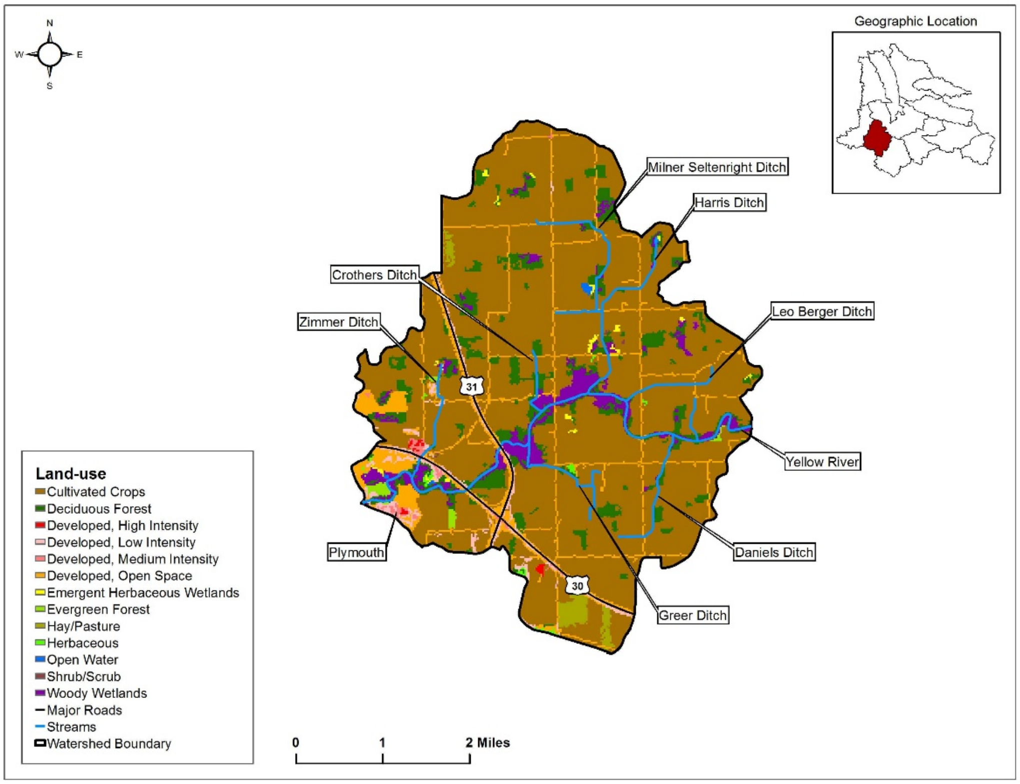


Figure 53. Milner Seltenright Ditch subwatershed landuse.

Table 40. Percentage and acreage of each land use type in the Milner Seltenright Ditch subwatershed (HUC: 071200010312).

Land use	% of Watershed	Acres
Open Water	0.1%	13
Developed, Open Space	7.6%	839
Developed, Low Intensity	2.4%	261
Developed, Medium Intensity	0.5%	54
Developed, High Intensity	0.1%	15
Deciduous Forest	8.3%	913
Evergreen Forest	0.4%	45
Shrub/Scrub	0.0%	4
Herbaceous	0.2%	24
Hay/Pasture	1.1%	121
Cultivated Crops	74.3%	8,208
Woody Wetlands	4.6%	505
Emergent Herbaceous Wetlands	0.3%	39

The Milner Seltenright Ditch subwatershed contains approximately 13 miles of streams and 5 miles of closed drains. Of the 13 miles of open drains 9.3 miles are currently listed as impaired for *E. coli* (Figure 54). All five of the water samples collected in 2008 for the Kankakee/Iroquois TMDL report exceed water quality standards for *E. coli* and concentrations would need to be reduced by 85% to meet water quality standards (Tetra Tech 2009).

Photo: Stream in the Milner Seltenright Ditch subwatershed with stream buffers and in-stream cover.

The watershed contains no NPDES permitted facilities or CFO's (Figure 54). There were fourteen locations surveyed in the Milner Seltenright Ditch subwatershed during the windshield survey (Figure 55). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is more prevalent, channelization is less prevalent, stream buffers are more prevalent and in-stream cover is more prevalent in the Milner Seltenright Ditch subwatershed (Table 12; Table 41). In-stream cover was assessed to be poor at one of the windshield survey sites, three sites were listed as having severe or very severe streambank erosion and stream buffers were estimated to be absent along 2.3 miles (18%) of the 13 miles of stream in the Milner Seltenright Ditch subwatershed (Figure 55). There no instances observed of livestock with direct access to streams.

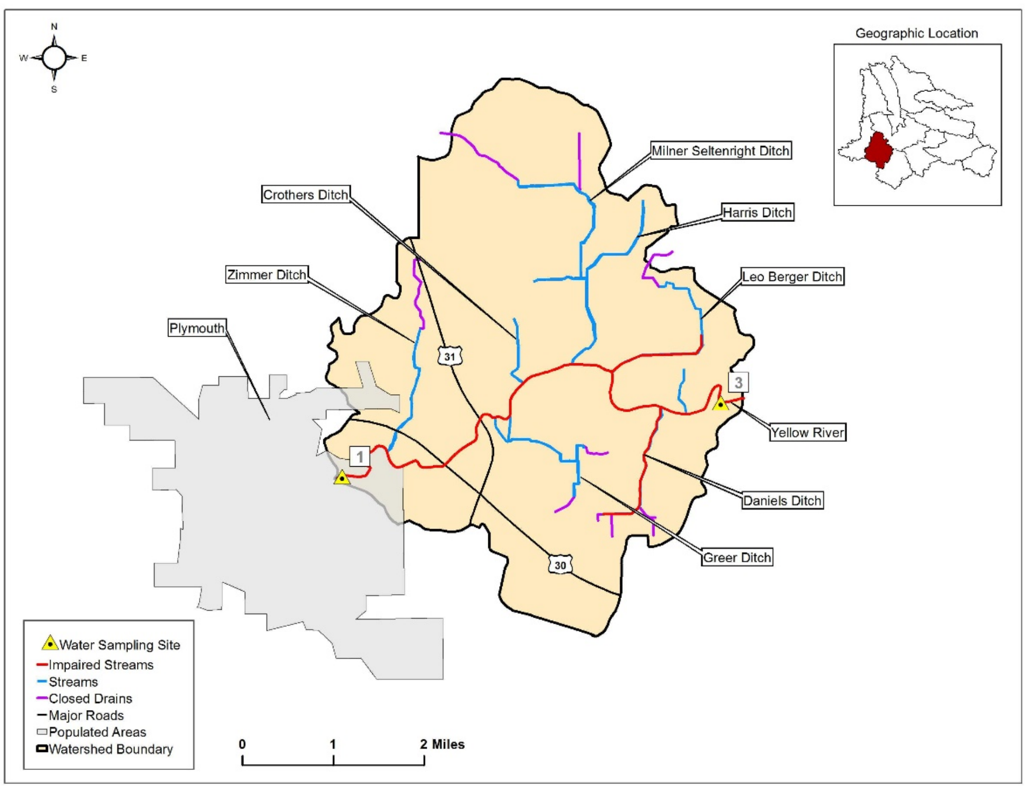


Figure 54. Milner Seltenright Ditch subwatershed water quality information map.

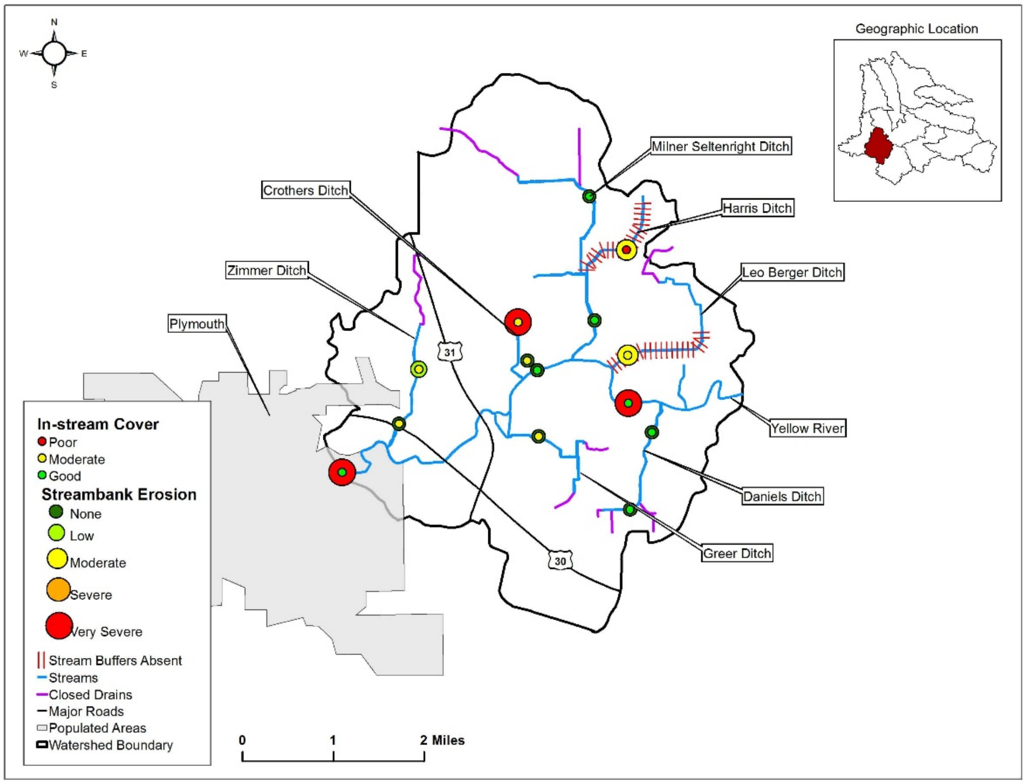


Figure 55. Milner Seltenright Ditch subwatershed 2015 windshield survey sites and results.

Table 41. Results of the Milner Seltenright Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Milner Seltenright Ditch $\bar{x}$	1.2	1.8	2.9	3.3
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 1 was located in the Yellow River and used to evaluate the overall water quality of the Milner Seltenright Ditch subwatershed (Figure 56). Table 42 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 1 during the 12 month sampling period from June 2015 through May 2016. Overall, mean values determined for Site 1 are usually associated with in the middle range of values between all sites; however, Site 1 means for turbidity and TSS rank as the third lowest between all sites. Site 1 turbidity concentrations exceeded the project target 42% of the time and overall the mean of 11.34 NTU does exceed the project target of 10.4 NTU. TSS concentrations exceeded the project target on only one occasion and the overall mean was 9 which is meets the project target. E. coli mean concentration at Site 1 was 613 mpn/100 mL and exceeds the Indiana State standard. E. coli samples exceeded the State standard 75% (9/12) of the time. Site 1 was one of four sites sampled in May 2016 for source tracking of E. coli for percent human vs percent animal. Results of the sources tracking analysis indicated humans accounted for 53% while animals accounted for 47% (Figure 16). This was consistent with two of the other samples included in the E. coli source tracking analysis (Site 11 and Site 12; Figure 16). The total phosphorus mean concentration was 0.27 and meets the project target. Total phosphorus samples exceeded the project target 25% of the time. Both the habitat and biological assessments at Site 1 meet the project target values. Site 1 had a MIBI value of 5.1 which was the second highest between all sites. Site 1 was one of only three sites that met project target values for both habitat and biological assessments. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 42. Site 1 water quality analysis – Milner Seltenright Ditch subwatershed.

<table>
<tr><th>Parameter</th><th>Mean/Score</th><th>Unit</th><th># of Times Does not Meet Target</th><th>% Does not Meet Target</th></tr>
<tr><td>Total Phosphorus</td><td>0.27</td><td>mg/L</td><td>3</td><td>25</td></tr>
<tr><td>Dissolved Phosphorus</td><td>0.20</td><td>mg/L</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">Nitrate + Nitrite</td><td rowspan="2">5.91</td><td rowspan="2">mg/L</td><td>1.5 mg/L 12</td><td>100</td></tr>
<tr><td>10 mg/L 0</td><td>0</td></tr>
<tr><td>Ammonia</td><td>0.057</td><td>mg/L</td><td>1</td><td>8</td></tr>
<tr><td>TKN</td><td>0.61</td><td>mg/L</td><td>7</td><td>58</td></tr>
<tr><td>E. coli</td><td>613</td><td>mpn/100mL</td><td>9</td><td>75</td></tr>
<tr><td>Atrazine</td><td>0.51</td><td>µg/L</td><td>-</td><td>-</td></tr>
<tr><td>TSS</td><td>9</td><td>mg/L</td><td>1</td><td>8</td></tr>
<tr><td>Turbidity</td><td>11.34</td><td>NTU</td><td>5</td><td>42</td></tr>
<tr><td>Dissolved Oxygen</td><td>8.31</td><td>mg/L</td><td>0</td><td>0</td></tr>
<tr><td>pH</td><td>8.06</td><td>-</td><td>0</td><td>0</td></tr>
<tr><td>QHEI</td><td>56</td><td>-</td><td colspan="2">Meets target</td></tr>
<tr><td>MIBI</td><td>5.1</td><td>-</td><td colspan="2">Meets target</td></tr>
</table>

3.2.1 Stone Ditch (HUC: 071200010310)

The most common land use in the Stone Ditch subwatershed is cultivated crops, which account for 82.5% of the subwatershed. The second most common land use in the Stone Ditch subwatershed is deciduous forest, which accounts for 5.2% of the watershed. There is also 5.1% of the watershed containing developed-open space. The remainder of the watershed is evenly distributed amongst the land uses described in Table 43, however it should be noted that the woody wetlands located in the Stone Ditch subwatershed are concentrated along the mainstem of the Yellow River in the northern portion of the watershed (Figure 56). Industrial development is not a concern in the Stone Ditch subwatershed and current land use percentages are expected to remain similar into the future.

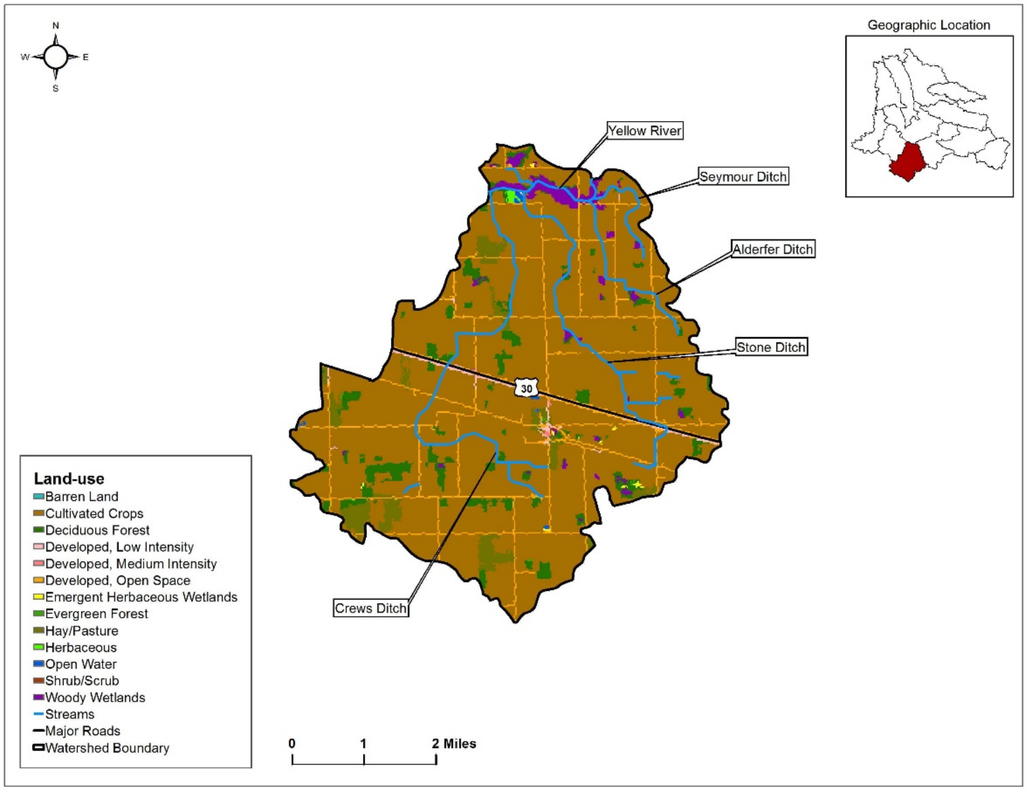


Figure 56. Stone Ditch subwatershed landuse.

Table 43. Percentage and acreage of each land use type in the Stone Ditch subwatershed (HUC: 071200010310).

Land use	% of Watershed	Acres
Open Water	0.1%	19
Developed, Open Space	5.1%	725
Developed, Low Intensity	1.0%	137
Developed, Medium Intensity	0.1%	7
Barren Land	0.0%	0
Deciduous Forest	5.2%	742
Evergreen Forest	0.1%	8
Shrub/Scrub	0.0%	3
Herbaceous	0.1%	14
Hay/Pasture	3.8%	541
Cultivated Crops	82.5%	11,739
Woody Wetlands	2.0%	286
Emergent Herbaceous Wetlands	0.1%	14

The Stone Ditch subwatershed contains approximately 20 miles of streams and 8 miles of closed drains, none of which are currently listed as impaired (Figure 57). The watershed contains no NPDES permitted facilities, however there is one CFO located near the intersection of Stone Ditch and Highway 30 (Figure 57). There were twenty-four locations surveyed in the Stone Ditch subwatershed during the windshield survey (Figure 58). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is less prevalent, channelization is less prevalent, stream buffers are more prevalent, and in-stream cover is more prevalent in the Stone Ditch subwatershed (Table 12; Table 44). During the watershed windshield survey in-stream cover was listed as poor at 17% (4/24) of the sites, no sites were identified as having severe of very severe streambank erosion and stream buffers were estimated to be absent along 15.1 miles (75%) of the 20 miles of streams within the watershed (Figure 58). There no sites identified during the windshield survey that had direct livestock access to streams.

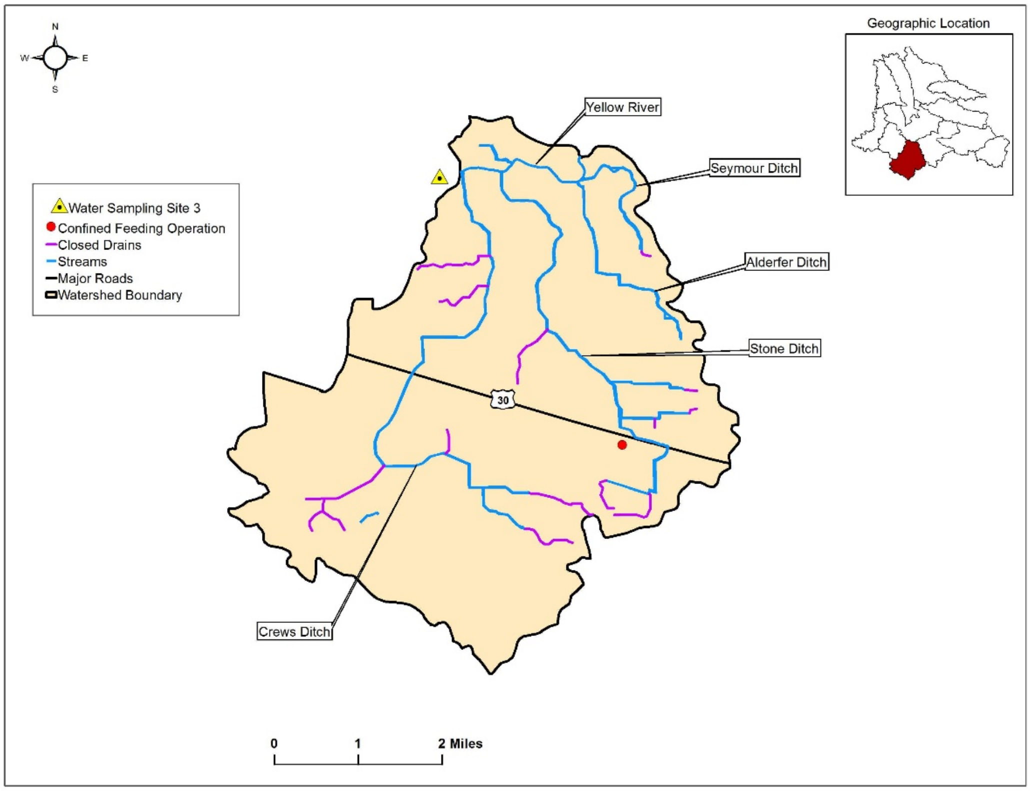


Figure 57. Stone Ditch subwatershed water quality information map.

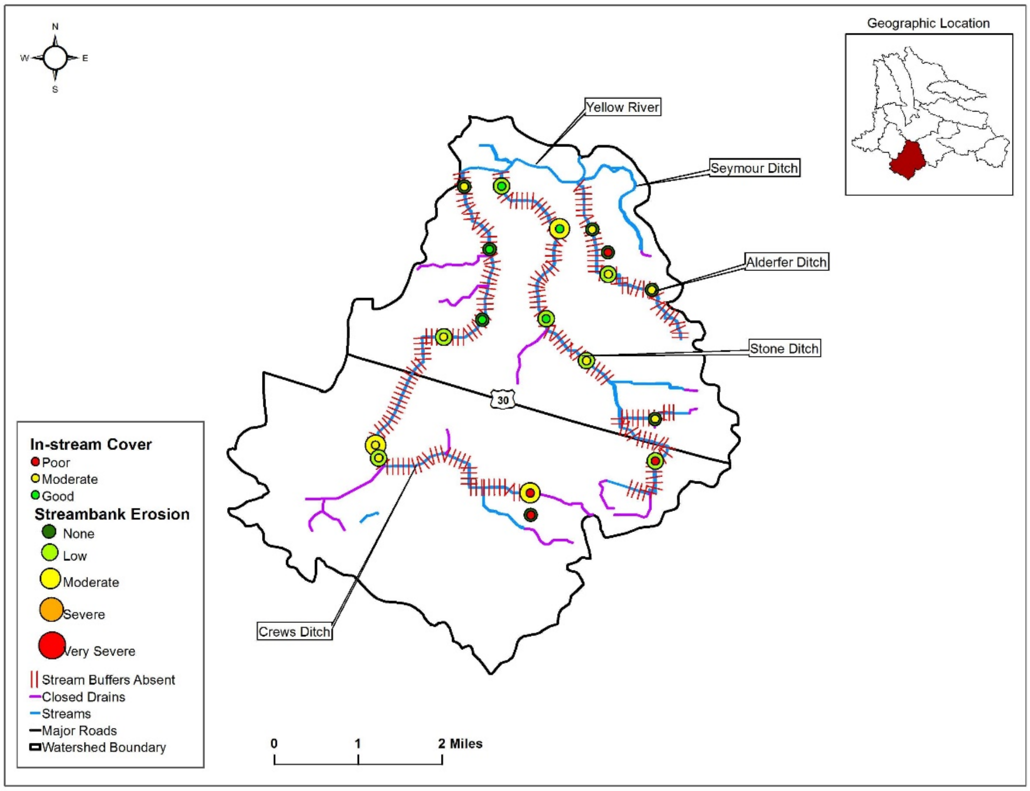


Figure 58. Stone Ditch subwatershed 2015 windshield survey sites and results.

Table 44. Results of the Stone Ditch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
Stone Ditch $\bar{x}$	0.7	2.5	1.1	2.4
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 3 was located in the Yellow River and used to evaluate the overall water quality of the Stone Ditch subwatershed (Figure 57). Table 45 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 3 during the 12 month sampling period from June 2015 through May 2016. Overall, mean water quality parameter results fall within the middle portion of the range between all sites. The exception to this is for TKN which Site 3 had a mean concentration of 1.06 mg/L and ranked as the second highest between all sites. TKN mean exceeds the project target value and overall TKN exceeded the target concentration 75% of the time. The mean E. coli concentration was 729 mpn/100 mL and exceeds the Indiana State standard. E. coli concentrations exceeded the State standard on 75% of samples. Total phosphorous mean concentration was 0.29 mg/L and ranked as the fifth highest between all sits (Figure 20). The total phosphorus mean meets the project target of <0.3 mg/L and overall total phosphorus samples exceeded the project target on 25% of the samples. Mean water quality parameter concentrations that meet project targets include total phosphorus, atrazine, TSS, dissolved oxygen and pH. The biological assessment using the MIBI was 5.3 and was the highest score between all sites and meets the project target. Habitat assessment using the QHEI was 55.5 and meets the project target. Site 3 is one of only three sites that meets project targets for both QHEI and MIBI. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 45. Site 3 water quality analysis – Stone Ditch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target	% Does not Meet Target
Total Phosphorus	0.29	mg/L	3	25
Dissolved Phosphorus	0.19	mg/L	-	-
Nitrate + Nitrite	6.13	mg/L	1.5 mg/L 12	100
			10 mg/L 0	0
Ammonia	0.058	mg/L	1	8
TKN	1.06	mg/L	9	75
E. coli	729	mpn/100mL	9	75
Atrazine	0.82	µg/L	-	-
TSS	17	mg/L	3	25
Turbidity	15.70	NTU	5	42
Dissolved Oxygen	7.4	mg/L	0	0
pH	8.0	-	0	0
QHEI	55.5	-	Meets target	
MIBI	5.3	-	Meets target	

3.2.1 West Bunch Branch (HUC: 071200010305)

The most common land use in the West Bunch Branch subwatershed is cultivated crops, which account for 71.8% of the watershed. The second most common land use in the watershed is deciduous forest, accounting for 8.3% of the watershed. Hay/pasture is also relatively common in the watershed, accounting for 6.9% of the watershed (Table 46). While the total land area of woody wetlands in the West Bunch Branch subwatershed is not large, there are a large number of small woody wetlands scattered throughout the northern portion of the watershed (Figure 59). The West Bunch Branch subwatershed does not contain any urban areas and industrial development is not a concern within the watershed. Current land use percentages are expected to remain comparable into the future.

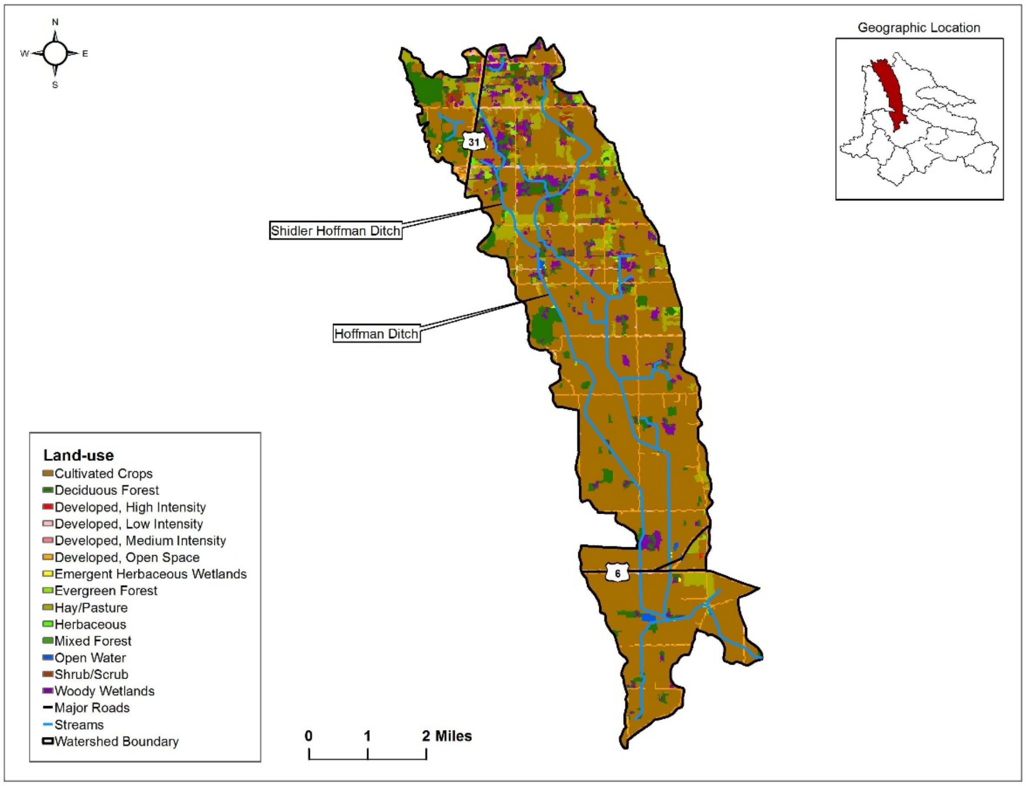


Figure 59. West Bunch Branch subwatershed landuse.

Table 46. Percentage and acreage of each land use type in the West Bunch Branch subwatershed (HUC: 071200010305).

Land use	% of Watershed	Acres
Open Water	0.2	38
Developed, Open Space	4.4	736
Developed, Low Intensity	1.3	219
Developed, Medium Intensity	0.1	15
Developed, High Intensity	0.0	2
Deciduous Forest	8.3	1,388
Evergreen Forest	0.5	84
Mixed Forest	0.0	4
Shrub/Scrub	1.4	239
Herbaceous	0.3	48
Hay/Pasture	6.9	1154
Cultivated Crops	71.8	12,010
Woody Wetlands	4.6	775
Emergent Herbaceous Wetlands	0.1	24

The West Bunch Branch subwatershed contains approximately 33.9 miles of streams and 8.9 miles of closed drains, 11.2 miles of which are currently listed as impaired for *E. coli* and/or impaired biotic communities. All five of the water samples collected in 2008 for the Kankakee/Iroquois TMDL report from West Bunch Branch exceeded state standards for *E. coli* and concentrations would need to be reduced by 87% to meet water quality standards (Tetra Tech 2009).The one NPDES facility in the West Bunch Branch subwatershed is the Lake of the Woods Regional Sewer District. A review of the facility reporting records indicates there have been two minor violations within the last 12 quarters. Violations were for TSS and pH, with most recent violation occurring in March of 2017. The facility is currently in compliance. There are no CFO's in the West Bunch Branch subwatershed (Figure 60). There were fifteen locations surveyed in the West Bunch Branch subwatershed during the windshield survey (Figure 61). Relative to the Headwaters Yellow River Watershed as a whole the degree of streambank erosion is less prevalent, channelization is more prevalent, stream buffers are less prevalent, and in-stream cover is less prevalent in the West Bunch Branch subwatershed (Table 12; Table 47). During the windshield survey in-stream habitat was report as poor at six sites (40%), two sites (13%) were listed as having severe or very severe streambank erosion and stream buffers were estimated to be absent along 12 miles (35%) of the 33.9 miles of streams in the watershed (Figure 61). Livestock were not observed with direct access to streams throughout the watershed.

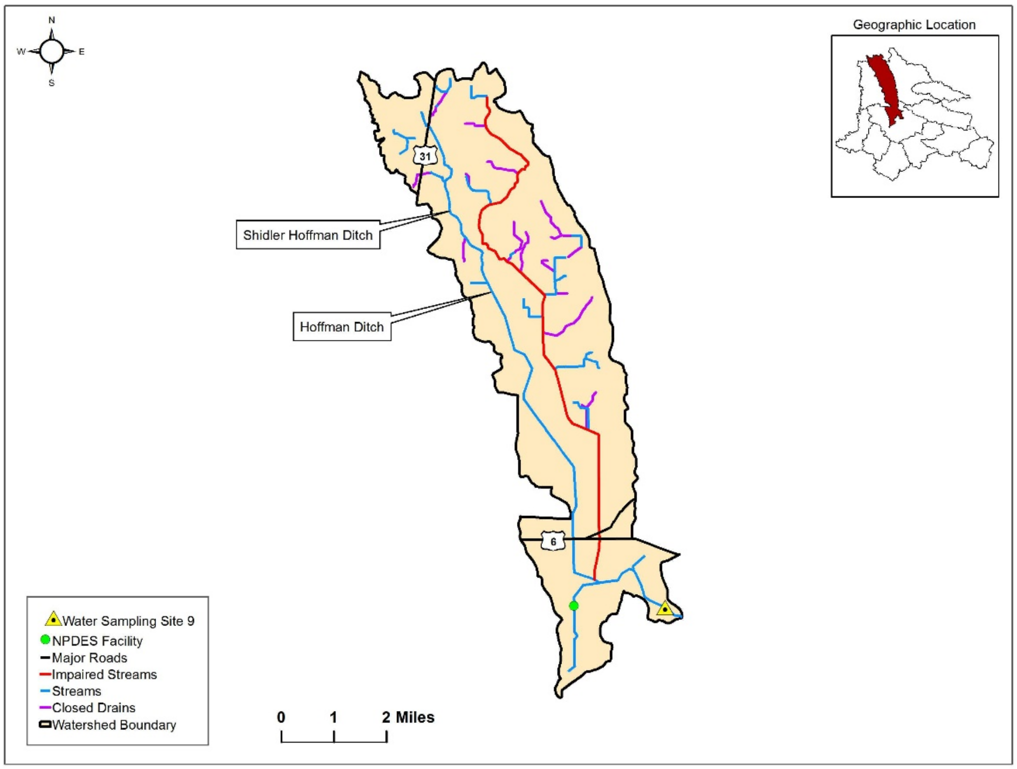


Figure 60. West Bunch Branch subwatershed water quality information map.

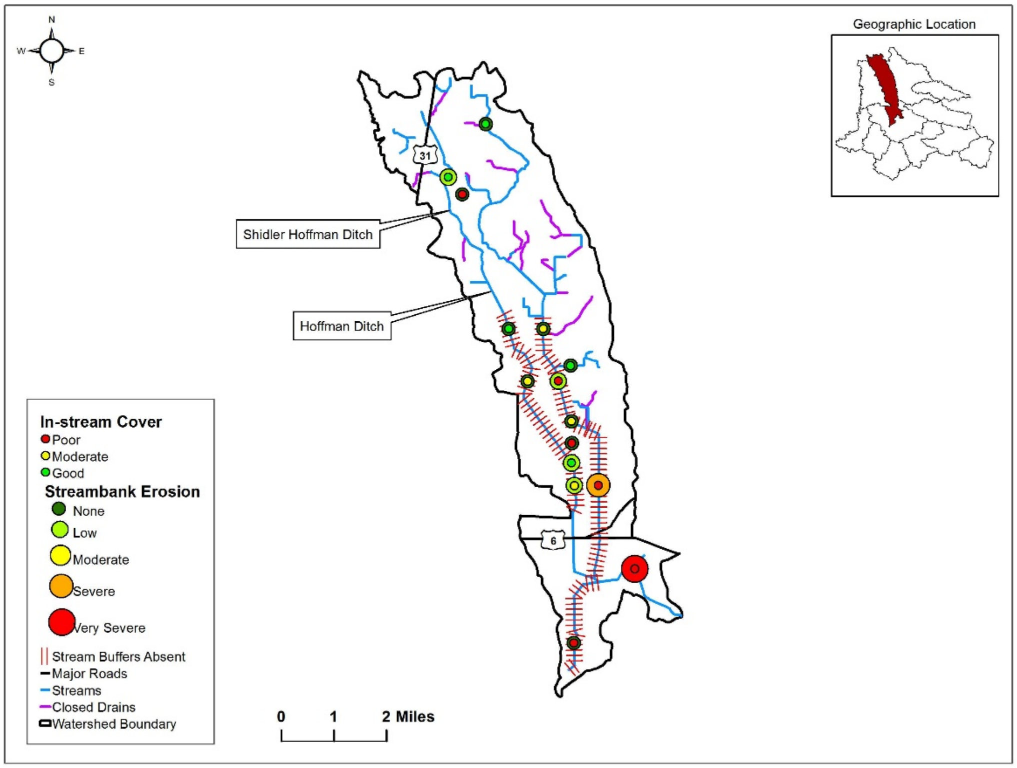


Figure 61. West Bunch Branch subwatershed 2015 windshield survey sites and results.

Table 47. Results of the West Bunch Branch subwatershed 2015 windshield survey.

Subwatershed	Streambank Erosion	Channelization	Stream Buffers	In-stream Cover
West Bunch Branch $\bar{x}$	0.7	3.2	0.7	2.1
Headwaters Yellow River Watershed Average	0.8	3.1	1.1	2.2

Testing Site 9 was located in Stock/Bunch Ditch and used to evaluate the overall water quality of the Stock Ditch subwatershed (Figure 62). Table 48 displays the mean values of sampled water quality parameters and the determined scores for biological and habitat assessments at Site 9 during the 12 month sampling period from June 2015 through May 2016. The majority of mean water quality parameters at Site 9 were within the middle range of means between all sites. The exception to this is TSS which the mean concentration was 54 mg/L and was the highest average between all sites (Figure 21). TSS samples exceeded the project target during two events and were very high concentrations with one being 435 mg/L and the other at 144 mg/L. The E. coli mean concentration was 632 mpn/100 mL and exceeds the Indiana State standard. E. coli samples exceeded the State standard 58% (7/12/) of the time. Total phosphorus mean concentration was 0.29 mg/L and meets the project target. Total phosphorus samples exceeded the project target 25% (3/12) of the time. Nitrate+Nitrite mean concentration was 4.96 mg/L and was the fourth lowest between all sites. Nitrate+nitrite mean concentration exceeds the project target of <1.5 mg/L. Nitrate+nitrite samples did not exceed the Indiana State standard of 10 mg/L during any sampling event. The mean water quality parameter concentrations that meet project target values include total phosphorus, atrazine, dissolved oxygen and pH. Site 9 did meet the target value for biological assessment using the

MIBI, but did not meet the habitat QHEI project target. A complete listing of water quality testing results from the 12 month sampling period can be found in Appendix C.

Table 48. Site 9 water quality analysis – West Bunch Branch subwatershed.

Parameter	Mean/Score	Unit	# of Times Does not Meet Target		% Does not Meet Target
Total Phosphorus	0.29	mg/L	3		25
Dissolved Phosphorus	0.18	mg/L	-		-
Nitrate + Nitrite	4.96	mg/L	1.5 mg/L	12	100
			10 mg/L	0	0
Ammonia	0.093	mg/L	4		33
TKN	0.67	mg/L	8		67
E. coli	632	mpn/100mL	7		58
Atrazine	0.84	µg/L	-		-
TSS	54	mg/L	2		17
Turbidity	18.41	NTU	5		42
Dissolved Oxygen	8.62	mg/L	1		8
pH	8.0	-	0		0
QHEI	47	-	Does not meet target		
MIBI	4.2	-	Meets target		

3.3 Watershed Inventory Part II Summary

Windshield survey data, land use data, and data from previous studies suggest that there are differences in habitat and water quality conditions between the subwatersheds that constitute the Headwaters Yellow River Watershed (Figure 62). The watershed is mostly rural and the largest city is the watershed is Plymouth at approximately 10,000 residents. Other population centers in the watershed include Bremen, LaPaz, Lakeville and the very western portion of Nappanee. Industrial development is the greatest within Plymouth and Bremen and are the areas with likely increases in development into the future. Industrial or residential development in these areas should be responsibly planned and stormwater management best management practices implemented as applicable. The predominate land use in the Headwaters Yellow River watershed is cultivated crops at 76%, followed by deciduous forest 7.2%. The collective percent of developed land use types accounts for 8.2% of the watershed.

Based on the information collected during the windshield survey the Stone Ditch and Kline Rouch Ditch subwatersheds have better than average existing conditions than other subwatersheds in the Headwaters Yellow River Watershed. Both of these subwatersheds had below average streambank erosion, below average channelization, above average stream buffers, and above average in-stream cover (Table 12). The land use distribution of these two subwatershed is similar with approximately 85% of the land in each subwatershed dedicated to agriculture, 6.0% developed, and 8.0-9.0% natural ecosystems. In addition to the Kline Rouch Ditch and Stone Ditch subwatersheds there are other subwatersheds with positive attributes. The Headwaters Stock Ditch subwatershed contains the largest percentage of natural ecosystems and has the lowest average stream channelization average of any other subwatershed.

Results of the windshield survey which investigated 222 sites across the watershed listed in-stream habitat as poor at 76 sites (34%; Figure 62). During the windshield survey most streambank erosion was classified as moderate or low and only 6% (13/222) of sites were listed as having severe or very severe erosion (Figure 62). Streams that lack adequate buffers was a common occurrence throughout the watershed (Figure 62). Stream buffers were estimated to be absent along approximately 153 miles (46%) of the 335 miles of streams in the watershed (Figure 62).

Based on the information collected during the windshield survey the Lake of the Woods and Lemler Ditch subwatersheds appear to have the greatest degree of habitat degradation in the Headwaters Yellow River Watershed. Both Lake of the Woods and Lemler Ditch subwatershed have above average streambank erosion, above average channelization, below average stream buffers, and below average in-stream cover (Table 12). Stream impairments are also common in the Lake of the Woods subwatershed, with nearly 22 miles of impaired streams in the subwatershed (Figure 62). Lemler Ditch subwatershed contains the highest percentage of agricultural land uses and the lowest percentage of natural ecosystems than any other subwatershed. As a result of the land use distribution the Lemler Ditch subwatershed has fewer stream buffers found in the subwatershed than any other area of the Headwaters Yellow River Watershed. Despite the widespread degradation of streams and adjacent ecosystems in the Lemler Ditch subwatershed there are currently no impaired streams in the subwatershed.

The water quality data collected from June 2015 through May 2016 in the Headwaters Yellow River Watershed demonstrates that there are spatial differences in the contribution of nutrients, *E. coli*, and sediment to the Yellow River. Overall, four sampling sites had mean total phosphorous concentrations above the project target of 0.3 mg/L (Figure 62). These sites included Site 12 (Lateral Ditch No. 5 subwatershed), Site 11 (Kline-Rouch Ditch subwatershed), Site 8 (Headwaters Stock Ditch subwatershed) and Site 4 (Lake of the Woods subwatershed). Mean TSS concentrations from sample sites was within project target value at all but two sites, Site 9 (West Bunch Branch subwatershed) and Site 4. TSS project target concentrations were exceeded greater than 25% of the time (3 or more events) at only two sites, Site 3 (Stone Ditch subwatershed) and Site 4 (Figure 62). The export of nutrients to the Yellow River appears to be influenced partially by the soils of the watershed. Hydric soils are common in Dausman Ditch, Lemler Ditch, and Fleugel Ditch subwatersheds (sample site #5, #6, and #7). Each of these subwatersheds had relatively high nitrate-N+nitrite-N concentrations and relatively low concentrations of total phosphorus. This suggests that the Dausman Ditch, Lemler Ditch, and Fleugel Ditch subwatersheds are exporting greater quantities of nitrogen via subsurface flow. The remainder of the watershed contains less hydric soil, therefore greater quantities of phosphorus are exported to the Yellow River via erosion. This is supported by relatively low TSS concentrations in areas of the watershed dominated by hydric soils and relatively high TSS concentrations in areas of the watershed with little hydric soil.

E. coli concentrations are the primary cause of stream impairment in the watershed and water samples collected from June 2015 through May 2016 suggest that *E. coli* concentrations exceed state water quality standards throughout the watershed. While *E. coli* concentrations regularly exceed state water quality standard at all sample sites, the northeastern portion of the watershed appears to have the highest concentrations. The Lateral Ditch No. 5 subwatershed had both the highest average concentration of total phosphorus and *E. coli*. This suggests that fecal contamination is a significant source of *E. coli* and phosphorus to the Lateral Ditch No. 5 subwatershed. Source tracking samples collected during the spring of 2016 demonstrate that human and animal fecal waste are sources of *E. coli* and phosphorus to Lateral Ditch No. 5 and the Headwaters Yellow River Watershed as a whole. Therefore, the increased implementation of agricultural BMPs and improved human waste treatment practices will need to be addressed to reduce *E. coli* concentrations.

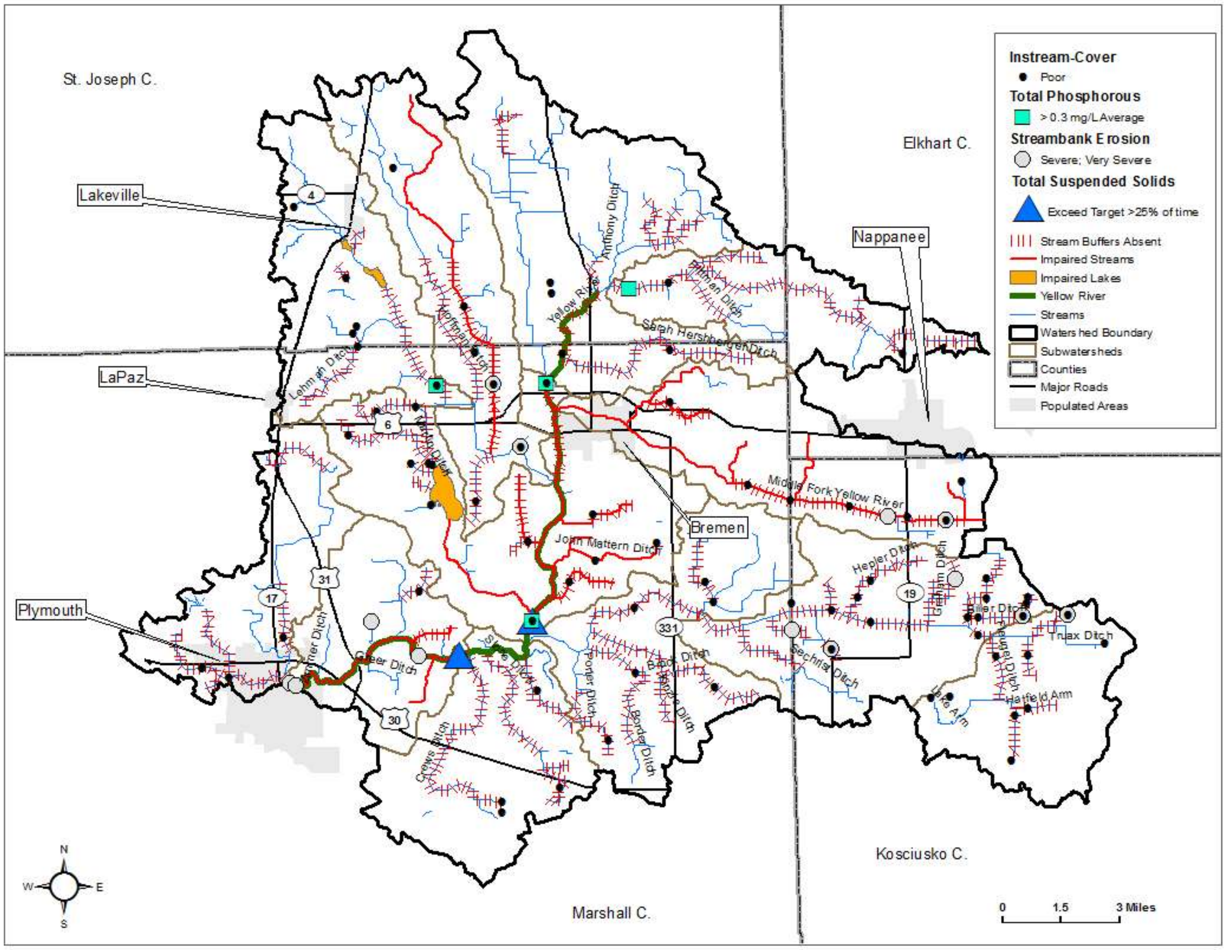


Figure 62. Headwaters Yellow River Watershed inventory summary map.

3.4 Analysis of Stakeholder Concerns

There are a number of stakeholder concerns that were described in Section 1.2 that are supported by data described in Section 3.1 and 3.2. One of the primary stakeholder concerns that was identified is the introduction of non-point source pollutants to the streams and lakes of the Headwaters Yellow River Watershed, which is supported by the listing of numerous waterbodies on the IDEM 303(d) list of impaired waterbodies and water quality data. The most common cause of impairment in the watershed is *E. coli* concentrations that exceed state standards. However, there are also waterbodies in the watershed that are impaired for PCB’s and excess phosphorus. There have also been multiple LARE Lake diagnostic studies, LARE Watershed Diagnostic Studies, and additional agency water samples that support the concern that non-point source pollution is a water quality concern in the watershed. Therefore, addressing non-point source pollution in the streams and lakes of the Headwaters Yellow River Watershed was determined to be an area of focus (Table 49).

The watershed inventory also provides significant insights regarding the habitat conditions that exist in the watershed. Headwaters Yellow River Watershed stakeholders have concerns related to the limited aquatic habitat for aquatic organisms, which is supported by data collected during the windshield survey. The windshield survey demonstrates that in-stream cover and riparian vegetation is lacking in streams throughout the watershed. Stakeholders also expressed concerns regarding the removal of trees along the

Yellow River, which is supported by observances during the windshield survey. Lastly, stakeholders expressed concerns of streambank erosion in the watershed, which was commonly observed during the windshield survey. Due to the ecosystem interactions between in-stream cover, riparian vegetation, streambank erosion, and water quality, addressing each of these concerns is believed to be an area of focus (Table 49)

As a result of the documented *E. coli* concentrations in the watershed, stakeholders expressed concerns related to the introduction of human and animal waste into streams. The introduction of human waste into streams through failing septic systems, direct discharges from homes, and land application of waste is a concern of stakeholders in the watershed. Previous planning efforts in the watershed suggest that failing septic systems should be a concern in the watershed. The Kankakee/Iroquois Watershed TMDL Report (Tetra Tech 2009) lists failing septic systems as a potential unregulated non-point source of *E.coli* in the watershed and multiple other existing WMPs (JFNew 2006a; Michiana Area Council of Governments 2012) suggest significant portions of the watershed contain soils that are not conducive to septic systems. Stakeholders also expressed concerns that there may be homes in the watershed directly discharging human waste into streams. There is no existing data to suggest that direct discharges from homes is contributing human waste into streams, however water quality data suggests that direct discharges may be present in the watershed. Lastly, watershed stakeholders expressed concerns regarding potential introduction of land applied waste material. This concern is supported by data provided in the Kankakee/Iroquois Watershed TMDL Report (Tetra Tech 2009). The potential introduction of waste material to streams via land application, failing septic systems, or direct discharges is an area of concern due to pervasive *E. coli* impairment in the watershed (Table 49).

Another common concern among Headwaters Yellow River Watershed stakeholders is the drainage and flooding of both urban and rural areas of the watershed. This concern is supported by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) database, which demonstrates that there are approximately 13,285 acres of land that have a 0.2-1.0% annual chance of flooding. The primary areas of flooding are located adjacent to the Yellow River or major tributaries of the Yellow River. Areas of flooding in the watershed impact both agricultural and urban land uses. The western portion of Bremen and the northern portion of Plymouth are the primary urban areas of the watershed that are impacted by flooding in the watershed. Land uses in Bremen with the potential to flood include developed land, deciduous forest, and cultivated crops. Land uses in Plymouth with the potential to flood include developed land, deciduous forest, evergreen forest, and cultivated crops. It should be noted that flooding is also a legitimate concern to the southern portion of Plymouth and waterbodies downstream of the Headwaters Yellow River Watershed. While drainage and flooding concerns in the watershed are reasonable the steering committee chose not to focus on these concerns (Table 49).

The last category of concerns expressed by watershed stakeholders were the recreational opportunities in relation to the Yellow River. Stakeholders expressed concerns that the lack of public access sites to the Yellow River are limiting the recreational use of the river. This concern is supported by the watershed inventory, because recreational access to the Yellow River is limited to a small canoe launch in Centennial Park. Larger public access sites in the watershed are located at Lake of the Woods, Pleasant Lake, and Riddles Lake. There were also concerns regarding the fisheries management of the Yellow River, which is not supported by evidence. In fact the Indiana DNR Division of Fisheries has conducted multiples fisheries surveys of the Yellow River and have recommended addressing non-point sources pollution problems to improve the fishery (Price 2005). Based on the fisheries recommendations and goals of the steering committee these two concerns will not be an area of focus in the WMP.

Table 49. Analysis of the Stakeholder Concerns for the Headwaters Yellow River Watershed.

Concern	Supported by Data?	Evidence	Quantifiable?	Area of Focus
Stream water quality including nutrients, sediment, and *E. coli*	Yes	303(d) listed streams Water Quality Data	Yes	Yes
Introduction of excess nutrients, sediment and *E. coli* to Lake of the Woods, Pleasant Lake, and Riddles Lake	Yes	303(d) listed lakes	Yes	Yes
Limited habitat for aquatic organisms	Yes	Windshield survey documented poor in-stream cover at 76 of 222 sites (34%). QHEI scores at 6 of the 12 2015/2016 water sampling sites had score below target value of 51.	Yes	Yes
Introduction of Atrazine to the groundwater	No	Water Quality Data	Yes	No
Stream bank erosion	Yes	Windshield survey documented widespread streambank erosion. Erosion listed as severe or very severe at 13 of 222 sites (6%). Erosion listed as moderate at 35 of 222 sites (16%).	Yes	Yes
Failing septic systems throughout the watershed	Yes	(DJ Case and Associates 2005; Tetra Tech 2009; Michiana Area Council of Governments 2012)	Yes	Yes
Direct discharges of wastewater from older homes	No	May 2016 E. coli source tracking samples indicated humans were 50% or greater of E. coli contribution.	No	Yes
Land applications of waste material	Yes	(Tetra Tech 2009)	Yes	Yes
Management of the Yellow River for fisheries	No	DNR Sampling & Management	Yes	No
Limited boating access to the Yellow River	Yes	There are no public access sites on the Yellow River in the watershed.	Yes	No

Concern	Supported by Data?	Evidence	Quantifiable?	Area of Focus
Debris and tree removal along the Yellow River	Yes	Windshield survey documented limited riparian vegetation	Yes	Yes
Rural & urban drainage	Yes	Channelization and subsurface tile drainage is abundant in watershed. 335 miles of open streams and 154 miles of closed drains in the watershed.	No	No
Rural & urban flooding	Yes	13,285 acres of land with 0.2-1.0% probability of annual flooding	Yes	No

4 Identifying Problems and Causes

For the purposes of this WMP a “problem” is defined as an issue that exists due to one or more concerns. Therefore, problems build on concerns by formally stating a condition or action that need to be changed, improved, or further investigated. Table 50 describes the concerns of focus that were reviewed in Section 3. The problem related to the introduction of non-point source pollutants to the lakes and streams of the watershed is that many of these pollutants have resulted in the impairment of waterbodies. The concerns regarding failing septic systems, direct discharges of wastewater, and land applications of waste material are all a problem due to the prevalence of *E. coli* concentrations that exceed state water quality standards in the watershed. The concerns regarding limited habitat for aquatic organisms and vegetation removal along the Yellow River have resulted in reduced QHEI scores. Lastly, concerns regarding stream bank erosion are a problem due to the sediment and nutrient loads that exceed targets.

Table 50. List of the Concerns and the Problems Related to each Concern.

Concern(s)	Problem
Stream water quality including nutrients, sediment, and *E. coli*	Multiple stream segments in the watershed are listed as impaired on IDEMs’ 303(d) list. 2015/2016 water sampling indicated nutrient, sediment and E. coli levels exceeded the project target during numerous sampling events and overall mean concentrations exceed project targets at some sites.
Introduction of excess nutrients, sediment and *E. coli* to Lake of the Woods, Pleasant Lake, and Riddles Lake	Multiple lakes in the watershed are listed as impaired on IDEM’s 303(d) list.
Limited habitat for aquatic organisms	Streams have limited riparian and in-stream vegetation.
Streambank erosion	Sediment from streambank erosion is contributing to sediment and nutrient loads that exceed targets.
Failing septic systems throughout the watershed	Multiple stream segments in the watershed are listed as impaired on IDEMs’ 303(d) list.
Direct discharges of wastewater from older homes	Multiple stream segments in the watershed are listed as impaired on IDEMs’ 303(d) list.

Land applications of waste material	Multiple stream segments in the watershed are listed as impaired on IDEMs' 303(d) list. Streams have excess phosphorous and nitrogen levels.
Debris and tree removal along the Yellow River	Streams have limited riparian and in-stream vegetation.

Each of the problems described in Table 50 has a corresponding cause, which is defined in the form of a specific pollutant parameter and shown in Table 51. The most common problem in the Headwaters Yellow River Watershed is the impairment of streams, which is caused by *E. coli* concentrations that exceed the 235 CFU/100mL single sample water quality standard (Indiana Administrative Code (327 IAC 2-1.5-8)). Pleasant Lake, Riddles Lake, and Lake of the Woods are each listed as impaired lakes, which is caused by phosphorus concentrations that exceed the 0.3 mg/L water quality standard (Indiana Administrative Code (327 IAC 2-1.5-8)). Streams in the Headwaters Yellow River Watershed have impacted water quality which is shown in the mIBI scores displayed in Figure 24 and there is limited instream habitat and limited riparian and in-stream vegetation, which is demonstrated by QHEI scores that are below the target scores that are shown in Figure 25. Sediment from streambank erosion is contributing to sediment and nutrient loads that exceed targets as the result of TSS concentrations that exceed the group's goal of 25.0 mg/L.

Table 51. List of the Causes for each of the Problems in the Headwaters Yellow River Watershed.

Problem	Potential Cause(s)
Multiple stream segments in the watershed are listed as impaired on IDEMs' 303(d) list.	*E. coli* concentrations exceed the water quality standard of 235 CFU/100mL in a single sample.
Multiple lakes in the watershed are listed as impaired on IDEM's 303(d) list.	Phosphorus concentrations the exceed water quality standard of 0.3 mg/L.
Streams have limited riparian and in-stream vegetation.	QHEI scores are below the group's target score at six of the 12 sample sites from 2015/2016. Windshield survey listed 76 of 222 sites as poor in-stream habitat.
Sediment from streambank erosion is contributing to sediment and nutrient loads that exceed targets.	TSS concentrations in streams exceed the group's goal of 25.0 mg/L.
Streams have excess phosphorus and nitrogen levels.	Mean concentrations of water samples from 2015/2016 sampling exceeded the project target for Nitrate+Nitrite at all 12 sites. Mean total phosphorus concentrations exceed the project target of 0.3 mg/L at four of 12 sites.

5 Identifying Sources and Calculating Loads

Table 52. Potential pollutant sources per problem.

Problem	Potential Cause(s)	Potential Source(s)
Multiple stream segments in the watershed are listed as impaired on IDEMs' 303(d) list.	*E. coli* concentrations exceed the water quality standard of 235 CFU/100mL in a single sample.	Watershed is mainly rural and most homes utilize a septic system. Approximately 98% of the soils in the watershed are described as very limited for septic tank absorption fields, while only 1% are described as somewhat limited.
Multiple lakes in the watershed are listed as impaired on IDEM's 303(d) list.	Phosphorus concentrations the exceed water quality standard of 0.3 mg/L.	Application of lawn fertilizer by lake residents. Excess sediment and nutrient loading from inlet streams from the Headwaters Stock Ditch and Lake of the Woods subwatersheds. 2015/2016 water sampling mean concentration for total phosphorous exceeds target of 0.3 mg/L in Headwaters Stock Ditch and Lake of the Woods subwatersheds.
Streams have limited riparian and in-stream vegetation.	QHEI scores are below the group's target score at six of the 12 sample sites from 2015/2016. Windshield survey listed 76 of 222 sites as poor in-stream habitat.	Headwaters Yellow River watershed land use is dominated by cultivated crops at 76% (142,307 acres), and therefore streams have been channelized and riparian buffers lost over a significant amount of area. Stream buffers absent from 46% of watershed.
Sediment from streambank erosion is contributing to sediment and nutrient loads that exceed targets.	TSS concentrations in streams exceed the group's goal of 25.0 mg/L.	Streambank erosion listed as moderate to very severe at 24% of sites across Headwaters Yellow River watershed during 2015 windshield survey. Armey Ditch, Milner Seltenright Ditch and Lemler Ditch had highest streambank erosion score during windshield survey.
Streams have excess nutrient levels.	Mean concentrations of water samples from 2015/2016 sampling exceeded the project target for Nitrate+Nitrite at all 12 sites. Mean total phosphorus concentrations exceed the project target of 0.3 mg/L at four of 12 sites.	Agricultural application of fertilizer. Cultivated crops account for 76% of land use. Urban runoff potential source for nutrient loading. Developed land accounts for 8% of land use.

Pollutant loading rates discussed for each of the subwatersheds are expressed as the maximum load per day as determined from the twelve month water sampling effort conducted from June 2015 through May 2016. Loading rates are determined by multiplying the concentration of the sampled parameter by the measured discharge during the sampling event. All parameter loading rates are expressed as pounds per day (lbs/day) with the exception of *E. coli* which is reported as most probable number per day (mpn/day). *E. coli* must be reported in this way because laboratory analysis looks at *E. coli* in terms of number of bacteria not the mass of bacteria.

As displayed in Table 53 through Table 56 each subwatershed is represented by one of the sampling sites used during the twelve month sampling effort. It is important to note that some of the water sampling sites ultimately include water volumes from other subwatersheds, such as locations sampled within the Yellow River or drainages that are present in numerous subwatersheds (Figure 14 and Table 7). Those subwatershed loading calculations which do not have impacts from other subwatersheds and therefore are completely representative of the listed subwatershed include Armey Ditch (Site 10), Elmer Seltenright Ditch (Site 2), Fleugel Ditch (Site 7), Headwaters Stock Ditch (Site 8) and Lateral Ditch No. 5 (Site 12). The subwatersheds which are represented by samples taken from within the Yellow River and therefore include water volumes from upstream sources outside of the listed subwatershed include Kline Rouch Ditch (Site 11), Lakes of the Woods (Site 4), Stone Ditch (Site 3) and Milner Seltenright Ditch (Site 1). The most downstream sampling site on the Yellow River and within the Headwaters Yellow River Watershed is located at sampling Site 1, listed as Milner Seltenright Ditch (Figure 14). This location therefore represents the overall water quality conditions exiting the Headwaters Yellow River Watershed.

5.1 E. coli

5.1.1 <u>Potential Sources</u>

E. coli concentrations throughout the Headwaters Yellow River Watershed have historically exceeded state water quality standards and are a central cause of stream impairment in the watershed. In total, 64.3 miles of streams within the Headwaters Yellow River Watershed are designated as impaired for E. coli on Indiana's 303(d) list of impaired waters. Water samples collected from 2015 through 2016 had high *E. coli* concentrations during both base and stormflow events, suggesting there are both point source and non-point sources of *E. coli* to streams of the Headwaters Yellow River Watershed. The TMDL Report for the Kankakee/Iroquois Watershed has described both point source (permitted facilities) and potential non-point sources of *E. coli* in the Headwaters Yellow River Watershed (Tetra Tech 2009). The TMDL report outlined the following potential sources for E. coli from point source and non-point sources: CSO's, failing septic systems, CFO's, CAFO's, pastureland, and wildlife (Tetra Tech 2009). This study found no bacterial discharge violations from any of the NPDES facilities in the Headwaters Yellow River Watershed (Tetra Tech 2009). Previous water quality monitoring studies of the Yellow River in Plymouth have documented improvements to water quality following the implementation of Plymouth's CSO operational plan (Bright 2013). In addition to municipal wastewater treatment plants there are a significant number of residences outside of urban areas that have septic systems.

Septic systems are designed to collect and store sewage in a concrete, fiberglass, or polyethylene tank (USEPA 2015). Solid wastes will collect and settle to the bottom of the tank, after which beneficial bacterial breakdown the solids (USEPA 2015). Liquid waste is transferred from the tank to an absorption field where the liquids are absorbed and filtered by the underlying layers of soil. Soils have unique characteristics and the most important characteristic when considering the design of a septic system is the transmission rate of the soil. Septic systems that are built in unsuitable soils have the potential to leak sewage into nearby streams (USEPA 2015). As described in Section 2.3 the majority of the soils of the Headwaters Yellow River Watershed are very limited for septic tank absorption fields. In addition to soil limitations the Headwaters Yellow River Watershed in general is a rural environment and therefore has a significant number of residences that are outside of municipal sewer districts and utilize septic systems. Plymouth, Bremen, Nappanee, Lakeville, La Paz, and Lake of the Woods are only the portions of the watershed that are serviced by sewer systems, which account for less than 10 percent of the land cover in the Headwaters Yellow River Watershed. Considering both the soil limitations and the density of septic systems in the watershed, the introduction of bacteria to surface waters is likely. During May of 2016 water samples from site number 1, 4, 11, and 12 were analyzed to determine *E. coli* sources. These water samples demonstrate that humans are a larger source of *E. coli* than previously anticipated (Figure 3-15). While there are numerous parcels in the Headwaters Yellow River likely containing septic systems, those parcels that are closest to streams pose the greatest contamination risk (Sowah et al. 2014) The high *E. coli* concentrations observed between 2015 and 2016 during baseflow events combined with the source tracking data suggests that septic systems may be a large source of *E. coli* to streams throughout the watershed; however, there are additional potential sources of *E. coli*.

In addition to human sewage, livestock waste can be a significant source of *E. coli* if managed improperly. There are approximately 9,911 acres of pastureland in the Headwaters Yellow River. The Kline Rouch Ditch subwatershed contains more pastureland than any other subwatershed, with 2,024 acres (Figure 41). If livestock are pastured directly adjacent to streams without riparian buffers waste material is likely to runoff into the stream during precipitation events. The presence of riparian buffers is essential to the prevention of manure runoff into stream, because they have been shown to reduce fecal coliform concentrations by 99% (Sullivan et al. 2007). Riparian buffers reduce *E. coli* concentrations through physical and chemical absorption within the soil profile (Sullivan et al. 2007). Livestock manure may also enter streams if livestock have direct access to the stream. While the direct access of animals to streams is believed to be uncommon in the Headwaters Yellow River Watershed, there were a couple observances during the windshield survey.

Another potential source of *E. coli* into streams of the Headwaters Yellow River Watershed are CFO's and CAFO's. CFO's and CAFO's contain large numbers of animals in a confined area, which excrete large amounts of waste material. Despite regulation of these facilities accidental spills and over-application of manure to fields can enter receiving streams (Centner 2010). Because animals raised in these facilities are warm blooded their waste contains many bacterial species including *E. coli* (Burkholder et al. 2007). The Headwaters Yellow River Watershed contains eleven CFO's and one CAFO. The eastern portion of the watershed contains the greatest concentration of CFO/CAFO's, while none are present in the western portion of the watershed. The location of each CFO/CAFO is displayed in Section 3.2.

While livestock can be a significant source of *E. coli* to waterbodies, there are additional animal sources. The remaining potential sources of *E. coli* to the watershed are wildlife and domestic pet waste runoff. Like any other watershed the Headwaters Yellow River Watershed contains a diverse community of warm-blooded wildlife that contribute waste and *E. coli* to waterbodies. However, the pollution contribution of wildlife is generally believed to be less severe because wildlife are not concentrated or limited to one area in close proximity to waterbodies. The last potential source of *E. coli* to the Headwaters Yellow River Watershed is domesticated pet waste. Domesticated pet waste can contribute *E. coli* to waterbodies following precipitation events. Domesticated pet waste is common in urban areas simply because of the increased population. Therefore, urban areas of the watershed are likely the areas of the watershed with the greatest contribution of domesticated pet waste to waterbodies. The introduction of domestic pet waste to waterbodies in urban areas can be reduced by properly disposing of pet waste and through the implementation of low-impact development (LID) practices.

5.1.2 Loading

Each of the twelve subwatersheds in the Headwaters Yellow River Watershed exceeded the state water quality standard for *E. coli* concentration of 235 MPN/100mL. Table 53 describes the maximum *E. coli* load that was observed during twelve months of water sampling and the reductions that will be needed in each subwatershed to reach target maximum loads. Reductions needed to meet target *E. coli* loads range from 33% to 90% (Table 53). The reductions described in Table 53 closely resemble reductions that were called for in both the Heston-Stock Ditch Watershed Management Plan (Michiana Area Council of Governments 2012) and the Kankakee River Watershed TMDL Report (85-93%) (Tetra Tech 2009).

Table 53. Maximum *E. coli* load (mpn/day) observed from June 2015 through May 2016, target load (mpn/day), and necessary load reduction (mpn/day) for each subwatershed of the Headwaters Yellow River Watershed.

Subwatershed Water Sampling Site ()	Maximum Load (mpn/day)	Target Maximum Load (mpn/day)	Reduction (mpn/day)	% Reduction
Armey Ditch (Site 10)	4.1×10^{12}	4.0×10^{11}	3.7×10^{12}	90%
Dausman Ditch (Site 5)	3.2×10^{12}	5.4×10^{11}	2.7×10^{12}	83%
Elmer Seltenright Ditch (Site 2)	1.1×10^{12}	1.0×10^{11}	1.0×10^{12}	90%
Fleugel Ditch (Site 7)	1.2×10^{11}	8.0×10^{10}	4.0×10^{10}	33%
Headwaters Stock Ditch (Site 8)	5.4×10^{12}	5.3×10^{11}	4.8×10^{12}	89% 87.6% (Michiana Area Council of Governments 2012)
Kline Rouch Ditch (Site 11)	8.1×10^{12}	7.9×10^{11}	7.3×10^{12}	90%
Lake of the Woods (Site 4)	3.3×10^{13}	3.2×10^{12}	2.9×10^{13}	88%
Lateral Ditch No. 5 (Site 12)	2.2×10^{12}	2.1×10^{11}	1.9×10^{12}	86%
Lemler Ditch (Site 6)	3.6×10^{12}	4.9×10^{11}	3.1×10^{12}	86%
Milner Seltenright Ditch (Site 1)	6.0×10^{13}	5.8×10^{12}	5.4×10^{13}	90%
Stone Ditch (Site 3)	3.3×10^{13}	4.5×10^{12}	2.9×10^{13}	88%
West Bunch Branch Ditch (Site 9)	4.3×10^{12}	7.1×10^{11}	3.5×10^{12}	81%

5.2 Nitrogen

5.2.1 Potential Sources

Water samples collected in 2015 and 2016 suggest that all portions of the Headwaters Yellow River Watershed receive excess nitrogen from multiple land uses which is evident by the sampled mean nitrate-nitrite concentration shown in Figure 17 and how target concentrations were exceeded during numerous sampling events (Table 9). Sources of nitrogen into waterbodies include agricultural practices, soil erosion, urban stormwater runoff, wastewater, and lawn fertilizers.

Agricultural practices can introduce excess nitrogen to surface waters if they are not managed properly. In addition to being a source of E. coli and bacteria, livestock waste also contains nitrogen. Nitrogen-based compounds like ammonia and nitrogen oxides are also a common source of nitrogen from fertilizer application. Nitrogen from livestock waste and nitrogen compounds enters surface waters via surface runoff and subsurface drainage following precipitation events. Therefore, the application of manure and nitrogen-based compounds for fertilizers to fields should be done in the proper amount, at the right time of year, using the correct method.

In developed portions of the watershed stormwater runoff is an area of concern. Water that would typically infiltrate through the soil is now forced to runoff hard surfaces such as buildings, parking lots, and roads. Ultimately the water enters a network of storm drains carrying with it pollutants such a nitrogen which can be bound to sediment, vegetation, debris or excess fertilizer from turf grass applications. When stormwater runoff is transported via traditional urban stormwater drainage systems there are insufficient opportunities for the filtration and removal of nitrogen. Stormwater runoff is a potential source of nitrogen in the Headwaters Yellow River Watershed primarily in Plymouth, Bremen, La Paz, Lakeville, and Nappanee.

Human waste contains nutrients such as nitrogen and can enter surface waters in both sewered and septic serviced areas. Populated areas of the Headwaters Yellow River Watershed that are serviced by municipal sewers include Plymouth, Bremen, La Paz, and Lakeville. Municipal sewers can be a potential source of nitrogen to surface waters when sewage is treated improperly or discharged directly to streams during CSO events. While a significant number of people live in populated areas of the watershed there are also a significant number of residences that treat sewage using septic systems. Studies have shown that septic systems can discharge to the subsurface after which nitrogen is transported to surface waters (Iverson et al. 2015). Septic systems are likely a source of nitrogen to streams of the Headwaters Yellow River Watershed considering the soil conditions described in Section 2.3 and the number of rural residences present in the watershed.

The dominant land cover type in urban areas are generally turf grass, which regularly receives fertilizer applications from residents. Lawn fertilizers generally contain nitrogen, phosphorus, and potassium. When applied improperly, lawn fertilizers can become a significant source of nitrogen to waterbodies in urban watersheds. Previous studies have documented residential lawn fertilizer application rates that are comparable to agricultural and golf course applications (Law, Band, and Grove 2004). Therefore, the nitrogen budget for subwatersheds with populated areas such as Plymouth, Bremen, La Paz, Lakeville, and Nappanee is likely influenced by applications of lawn fertilizers.

5.2.2 Loading

Table 54 describes the maximum nitrate-N+ nitrite-N load that was observed during twelve months of water sampling and the reductions that will be needed in each subwatershed to reach the water quality target load of 1.5 mg/L and the drinking water standard of 10 mg/L. The target water quality concentration for the Headwaters Yellow River WMP is 1.5 mg/L, however, the Indiana drinking water standard is included in this analysis since the standard was exceeded within some of the subwatersheds. Of the twelve subwatersheds in the Headwaters Yellow River Watershed there were five that exceeded the Indiana State drinking water quality standard of 10 mg/L for nitrate-N + nitrite-N (Table 54). The subwatersheds include

Dausman Ditch, Fleugel Ditch, Lemler Ditch, Kline Rouch Ditch, and Lateral Ditch No. 5 subwatersheds (Table 54). All subwatersheds exceeded the 1.5 mg/L target maximum daily loading value (Table 54). Reductions needed to meet the target of 1.5 mg/L nitrate-N + nitrite-N loads for the range from 73% to 90%. Reductions needed to meet the target of State drinking water standard of 10 mg/L ranged from 22% to 33%.

Table 54. Maximum nitrate + nitrite load (lbs/day) observed from June 2015 through May 2016, target load (lbs/day), and necessary load reduction (lbs/day) for each subwatershed of the Headwaters Yellow River Watershed.

Subwatershed Water Sampling Site ()	Maximum Load (lbs/day)	Target Maximum Load (lbs/day)	Reduction (lbs/day)	% Reduction
		1.5 mg/L Target	1.5 mg/L Target	1.5 mg/L Target
		10.0 mg/L Indiana Drinking Water Standard	10.0 mg/L Indiana Drinking Water Standard	10.0 mg/L Indiana Drinking Water Standard
Armey Ditch (Site 10)	3,619	566	3,053	84%
		3,773	-	-
Dausman Ditch (Site 5)	15,732	1,844	13,888	88%
		12,290	3,442	22%
Elmer Seltenright Ditch (Site 2)	652	299	353	54%
		1,994	-	-
Fleugel Ditch (Site 7)	1,026	113	913	89%
		755	271	26%
Headwaters Stock Ditch (Site 8)	2,718	744	1974	73%
		4,959	-	-
Kline Rouch Ditch (Site 11)	9,867	1,156	8,711	88%
		7,708	2,159	22%
Lake of the Woods (Site 4)	25,234	4,560	20,674	82%
		30,402	-	-
Lateral Ditch No. 5 (Site 12)	2,992	299	2,693	90%
		1,994	998	33%
Lemler Ditch (Site 6)	9,282	995	8,287	89%
		6,630	2,652	29%

Subwatershed Water Sampling Site ()	Maximum Load (lbs/day)	Target Maximum Load (lbs/day) 1.5 mg/L Target	Reduction (lbs/day) 1.5 mg/L Target	% Reduction 1.5 mg/L Target
		10.0 mg/L Indiana Drinking Water Standard	10.0 mg/L Indiana Drinking Water Standard	10.0 mg/L Indiana Drinking Water Standard
Milner Seltenright Ditch (Site 1)	51,970	8,223	43,747	84%
		54,821	-	-
Stone Ditch (Site 3)	38,369	6,388	31,981	83%
		42,585	-	-
West Bunch Branch Ditch (Site 9)	4,880	995	3,885	80%
		6,630	-	-

5.3 Phosphorus Sources

5.3.1 Potential Sources

Water sampling in the Headwaters Yellow River Watershed demonstrated excess phosphorus is a problem in many portions of the watershed (Table 10 and Figure 20). Each of the land uses in the watershed is believed to be a source of phosphorus. The STEPL model suggests the largest contributor of phosphorus to the Yellow River watershed is cropland at 83%. Phosphorus loss from cropland is closely linked to soil loss; therefore, phosphorus contributions from cropland are primarily a result of sheet erosion, rill erosion, gully erosion, and streambank erosion. In 2015 approximately 14% of the row crop agricultural land dedicated to corn and 24% of the land dedicated to soybeans utilized no-till practices. Considering the widespread distribution of cultivated crops in the watershed (76%), significant opportunities exist to promote the use of no-till practices in the watershed. During water sampling of the watershed approximately 36% of the phosphorus in the Yellow River was bound to sediment particles, suggesting that soil erosion is a significant contributor of phosphorus. While nitrogen is the primary nutrient exported via subsurface drainage tile, both soluble and total phosphorus is exported via subsurface drainage tile (Smith et al. 2015). Therefore, the contributions of phosphorus via subsurface drainage should not be neglected.

Streambank erosion from both urban and rural land uses has the potential to contribute phosphorus to the watershed. During the windshield tour 6% (13) of the 222 sites assessed were listed as having severe or very severe streambank erosion, while another 16% (35) of sites had moderate streambank erosion. The degree to which streambank erosion is contributing phosphorus to the watershed is unclear. However, the windshield survey of the Headwaters Yellow River Watershed indicates that streambank erosion is present and likely contributing to the phosphorus load. Again, approximately 36% of the phosphorus in the Yellow River was bound to sediment. This suggests that soil erosion is a significant source of phosphorus to the system. This sediment bound phosphorus is likely the result of both upland erosion and streambank erosion.

The Headwaters Yellow River Watershed contains 9,903 acres of pastureland that is used primarily for cattle and horses. When the appropriate conservation practices are implemented on pastureland the runoff of animal waste from pastureland can be minimized. However, pastureland can be a significant source of phosphorus if pastured animals are allowed to directly enter streams. This contributes phosphorus to streams in two ways. First, the animal waste that directly enters the stream is rich in phosphorus. Secondly, pastured animals that are allowed to directly enter streams breakdown streambanks and promote phosphorus loss via erosion.

As discussed in Section 5.2.1 stormwater runoff in developed areas of the watershed are potential sources of nutrients including nitrogen and phosphorus. Traditional stormwater drainage systems do not adequately allow for the removal of dissolved or sediment bound phosphorus. A major source of dissolved phosphorus into urban stormwater is lawn fertilizer runoff. Lawn fertilizers are a potential source of phosphorus in urban areas when applied inappropriately. Plymouth, Bremen, Lakeville, La Paz, and Nappanee are the primary urban areas of the watershed potentially contributing phosphorus via stormwater runoff.

In addition to the contribution of coliform bacteria and nitrogen, septic systems and CSO's have the potential to contribute phosphorus to surface waters. While septic systems are estimated to constitute a small portion of the annual phosphorus load to the Yellow River, septic systems have the potential to be significant source of phosphorus during low flow periods (Macintosh et al. 2011; Withers, Jarvie, and Stoate 2011). Water samples collected during base flow conditions exceeded the IDEM recommendation for total phosphorus in multiple streams, which indicates septic systems may be contributing phosphorus to these streams. This is supported by the source tracking samples that are described in Section 5.1. A large portion of the phosphorus contributed by septic systems is soluble reactive phosphorus, which is the form of phosphorus that is used by algae and macrophytes (Withers, Jarvie, and Stoate 2011). Municipal sewers are a potential source of phosphorus to surface waters primarily during stormflow conditions when waste is discharged directly to streams during CSO events.

5.3.2 Loading

All of the subwatersheds in the Headwaters Yellow River Watershed exceeded the water quality targets for total phosphorus. Table 55 describes the maximum total phosphorus load that was observed during twelve months of water sampling and the reductions that will be needed in each subwatershed to reach target loads utilizing the project target maximum concentration of 0.3 mg/L. Reductions needed to meet target total phosphorus loads range from 10% to 80% (Table 55).

Table 55. Maximum total phosphorus load (lbs/day) observed from June 2015 through May 2016, target load (lbs/day), and necessary load reduction (lbs/day) for each subwatershed of the Headwaters Yellow River Watershed.

Subwatershed Water Sampling Site ()	Maximum Load (lbs/day)	Target Maximum Load (lbs/day)	Reduction (lbs/day)	% Reduction
Armey Ditch (Site 10)	207	113	94	45%
Dausman Ditch (Site 5)	760	152	608	80%
Elmer Seltenright Ditch (Site 2)	67	60	7	10%
Fleugel Ditch (Site 7)	13	8	5	39%
Headwaters Stock Ditch (Site 8)	259	149	110	42% 72.0% (Michiana Area Council of Governments 2012)
Kline Rouch Ditch (Site 11)	627	222	405	65%
Lake of the Woods (Site 4)	1,356	912	444	33%
Lateral Ditch No. 5 (Site 12)	122	60	62	51%
Lemler Ditch (Site 6)	524	139	385	74%
Milner Seltenright Ditch (Site 1)	2,730	1,645	1,085	40%
Stone Ditch (Site 3)	1,959	1,278	681	35%
West Bunch Branch Ditch (Site 9)	355	199	156	44%

5.4 Sediment

5.4.1 Potential Sources

Water samples collected between 2015 and 2016 suggest that sediment is a pollutant of concern in many portions of the Headwaters Yellow River Watershed (Table 11 and Figure 21). The introduction of sediment to streams can cause a variety of issues including the introduction of phosphorus, which can increase algal blooms and eutrophication (Lamba, Karthikeyan, and Thompson 2014). The primary sources of sediment in watersheds dominated by agricultural land uses are agriculture and streambank erosion (Lamba, Karthikeyan, and Thompson 2014). The relative contribution of these two sediment sources is dependent on the percentage of the watershed dedicated to agriculture. In watersheds dominated by agricultural land uses (row-crop and pasture) agriculture is the greatest contributor of sediment to streams (Lamba et al. 2015). However, streambank erosion contribution increases as the proportion of land dedicated to other land uses such as deciduous forest increases (Lamba et al. 2015). This land use and sediment contribution relationship is important to identifying the sources of sediment in different portions of the Headwaters Yellow River Watershed. Figure 63 displays the land use distribution for each subwatershed in the Headwaters Yellow River Watershed.

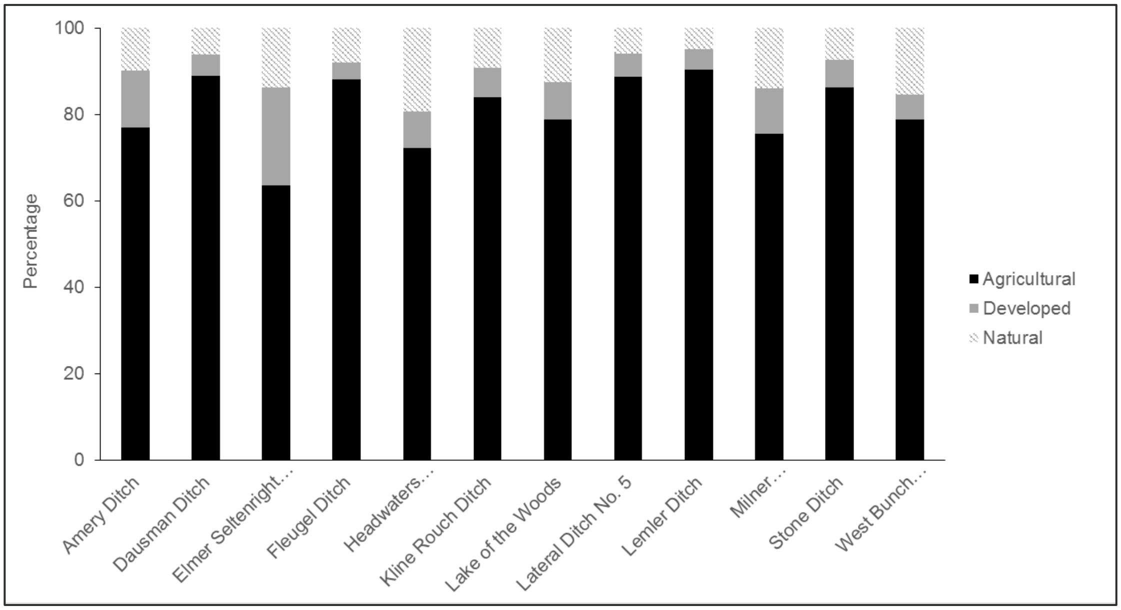


Figure 63. Percentage of agricultural, developed, and natural land uses for each subwatershed of the Headwaters Yellow River Watershed.

5.4.2 Loading

Table 56 describes the maximum TSS load that was observed during twelve months of water sampling and the reductions that will be needed in each subwatershed to reach target loads based on the project target maximum concentration of 25 mg/L. Of the twelve subwatersheds in the Headwaters Yellow River Watershed only two did not exceeded water quality targets for TSS. Those subwatersheds that did not exceed targets were Armey Ditch and Fleugel Ditch. Reductions needed to meet target TSS loads range from 19% to 94% (Table 56).

Table 56. Maximum TSS load (lbs/day) observed from June 2015 through May 2016, target maximum load (lbs/day), and necessary load reduction (lbs/day) for each subwatershed of the Headwaters Yellow River Watershed.

Subwatershed	Maximum Load (lbs/day)	Target Maximum Load (lbs/day)	Reduction (lbs/day)	% Reduction
Armey Ditch (Site 10)	9,433	9,433	-	-
Dausman Ditch (Site 5)	101,848	12,668	89,180	88%
Elmer Seltenright Ditch (Site 2)	4,636	2,695	1,941	42%
Fleugel Ditch (Site 7)	431	674	-	-
Headwaters Stock Ditch (Site 8)	7,946	2,965	4,981	63% (51% Michiana Area Council of Governments 2012)
Kline Rouch Ditch (Site 11)	112,990	18,462	94,528	84%
Lake of the Woods (Site 4)	833,023	76,006	757,017	91%
Lateral Ditch No. 5 (Site 12)	10,571	4,986	5,585	53%
Lemler Ditch (Site 6)	51,457	11,590	39,867	76%
Milner Seltenright Ditch (Site 1)	246,695	137,053	109,642	44%
Stone Ditch (Site 3)	132,013	106,462	25,551	19%
West Bunch Branch Ditch (Site 9)	288,417	16,576	271,841	94%

6 Goals

Following the collection of twelve months of water quality and habitat data the Headwaters Yellow River Watershed steering committee developed goals for the improvement of the watershed. The goals described below will be used in the future to evaluate success and guide the adaptive watershed planning process. For the purposes of calculating the required load reductions for nutrient, sediment and E. coli based goals, water sampling Site 1 located within the Yellow River was used. Site 1 was chosen because it is the most downstream sampling point and represents the overall water quality exiting the Headwaters Yellow River Watershed. Additionally, nutrient, sediment and E. coli goal reduction amounts are expressed as a maximum daily loading value.

6.1 Goal Statements

6.1.1 Watershed Planning

Problem Statement: There is no central planning organization to promote the restoration of the Yellow River Watershed.

Goal #1: Develop a central planning organization within five years to implement the WMP.

Goal #1 Indicator: Establishment of a planning organization separate from the Marshall County SWCD whose goal is to achieve the goals outlined in the WMP. The planning organization can be composed of SWCD members but should not solely be the responsibility of the Marshall County SWCD who initiated the development of the Headwaters Yellow River WMP.

6.1.2 *E. coli*

Problem Statement: *E. coli* concentrations exceed the state water quality standard of 235 cfu/100mL in the headwaters of the Yellow River.

Goal #2: We want to reduce the maximum daily *E. coli* load of 6.0×10^{13} mpn/day to 5.8×10^{12} mpn/day (a 90% reduction) in 15 years. This would meet the Kankakee/Iroquois River TMDL designation (Tetra Tech 2009).

- Decrease maximum daily *E. coli* loading by 30% in 5 years – 1.8×10^{13}
- Decrease maximum daily *E. coli* loading by 60% in 10 years – 3.6×10^{13}
- Decrease maximum daily *E. coli* loading by 90% in 15 years – 5.4×10^{13}

Goal # 2 Indicator: Public outreach and educational events focused at improving the overall importance of septic system maintenance monitoring should be held annually. Water sampling will be completed to determine *E. coli* levels at the 5, 10 and 15 year intervals. Ideally a minimum of one baseflow and one stormflow event should be captured during each sampling year.

6.1.3 Phosphorus

Problem Statement: Total phosphorus concentrations in the headwaters of the Yellow River exceed the state TMDL target of 0.3 mg/L. Lake of the Woods, Pleasant Lake, and Riddles Lake are listed as impaired for phosphorus.

Goal #3: We want to reduce the watershed maximum daily total phosphorus load of 2,730 lbs/day to 1,645 lbs/day (a 40% reduction) within 15 years.

- Decrease maximum daily total phosphorus loading by 15% in 5 years – 410 lbs/day
- Decrease maximum daily total phosphorus loading by 30% in 10 years – 819 lbs/day
- Decrease maximum daily total phosphorus loading by 40% in 15 years – 1,092 lbs/day

Goal # 3 Indicator: Water sampling will be completed to determine total phosphorus levels at the 5, 10 and 15 year intervals. Ideally a minimum of one baseflow and one stormflow event should be captured during each sampling year. Phosphorus reduction can also be estimated by reviewing the annual trends of cropland utilizing reduced tillage and cover crop practices and implementation of other best management practices that would reduce sediment/nutrient loading.

6.1.4 Nitrogen

Problem Statement: Nitrate-N + Nitrite-N concentrations exceed the target maximum concentration of 1.5 mg/L.

Goal #4: We want to reduce the watersheds maximum daily nitrate-N+nitrite-N load of 51,197 lbs/day to 8,223 lbs/day (an 84% reduction) within 15 years.

- Decrease maximum daily nitrate-nitrite loading by 30% in 5 years – 15,591 lbs/day
- Decrease maximum daily nitrate-nitrite loading by 60% in 10 years – 31,182 lbs/day
- Decrease maximum daily nitrate-nitrite loading by 85% in 15 years – 44,175 lbs/day

Goal #4 Indicator: Water sampling will be completed to determine nitrate-nitrite levels at the 5, 10 and 15 year intervals. Ideally a minimum of one baseflow and one stormflow event should be captured during each sampling year. Nitrogen reductions could also be estimated by tracking implementation of best management practices throughout the watershed.

6.1.5 Sediment

Problem Statement: TSS concentrations exceed 25 mg/L in the headwaters of the Yellow River watershed.

Goal #5: We want to reduce the watershed maximum daily TSS load of 246,695 lbs/day to 137,053 lbs/day (a 44% reduction) in 15 years.

- Decrease maximum daily TSS loading by 15% in 5 years – 37,004 lbs/day
- Decrease maximum daily TSS loading by 30% in 10 years – 74,009 lbs/day
- Decrease maximum daily TSS loading by 45% in 15 years – 111,013 lbs/day

Goal #5 Indicator: Water sampling will be completed to determine TSS levels at the 5, 10 and 15 year intervals. Ideally a minimum of one baseflow and one stormflow event should be captured during each sampling year. Sediment reductions could also be estimated by tracking implementation of best management practices throughout the watershed.

6.1.6 Habitat

Problem Statement: Streams in the watershed have “poor” (score 30-42) habitat according to the QHEI.

Goal #6: Improve QHEI scores of streams to “fair” (score 43-54) in 10 years and “good” (55-69) in 20 years.

Goal #6 Indicator: Stream habitat will be assessed using the QHEI method at previously sampled sites at the 10 and 20 year intervals.

6.1.7 Education

Problem Statement: There has been limited education and outreach related to the Headwaters of the Yellow River.

Goal #7: Develop and complete annual educational/outreach programs for the Headwaters Yellow River Watershed.

- Complete one educational/outreach program each of the first four years.
- Complete two or more educational/outreach program each year starting by year five.

Goal #7 Indicator: The education goal will be assessed by the number of education events held each year. Surveys of program attendees can also be completed to track the awareness of the public to the Headwaters Yellow River Watershed issues and proposed solutions to the problems.

7 Identifying Critical Areas

Critical areas are areas where WMP implementation can remediate non-point source pollution in order to improve water quality conditions. Water quality, habitat, and windshield survey data suggests that each of the twelve (HUC-12) subwatersheds of the Headwaters Yellow River Watershed have qualities that do not align with the goals described in Section 6. However, there are some subwatersheds that contribute disproportionally to the water quality issues of the Headwaters Yellow River Watershed. Therefore, select subwatersheds have been identified as a high or medium priority critical areas (Figure 64). This prioritization of critical areas should maximize the benefits of future management actions.

High Priority critical areas include: Armey Ditch (071200010303), Headwaters Stock Ditch (071200010304), West Bunch Branch Ditch (071200010305), Lake of the Woods (071200010309), Lateral Ditch No. 5 (071200010301) and Kline Rouch Ditch (071200010302) subwatersheds (Figure 64). These subwatersheds were listed as high priority critical areas because of the following documented issues:

- Lateral Ditch No. 5 (071200010301) –
    - Highest average *E. coli* concentration between all sites sampled during the 12 month sampling period (Figure 15).
    - Highest average Nitrate+Nitrite concentration between all sites sample during the 12 month sampling period (Figure 17).
    - Average total phosphorus concentration exceeds the project target value (highest overall; Figure 20).
    - Contained the fifth lowest mIBI score between all sites sampled during the 12 month sampling period (Figure 24) and is below project target value.
- Kline Rouch Ditch (071200010302)
    - Second highest average *E. coli* concentration between all sites sampled during the 12 month sampling period (Figure 15).
    - Second highest average Nitrate+Nitrite concentration between all sites sampled during the 12 month sampling period (Figure 17).
    - Average total phosphorus concentration exceed the project target value (third highest overall; Figure 20).
    - mIBI score was below the project target value (Figure 24).
- Armey Ditch (071200010303)
    - Contained the lowest mIBI score between all sites sampled during the project water sampling period (Figure 24) and is below project target value.
    - QHEI score was below the project target level (Figure 25).
    - All streams are included on the 303(d) list for *E. coli* impairments (22.2 miles)
    - Overall, windshield survey results indicate that relative to the Headwaters Yellow River watershed as a whole, streambank erosion in the Armey Ditch subwatershed is more prevalent, channelization is more prevalent and in-stream cover is less prevalent (Table 12, Table 14).

- West Bunch Branch (071200010305)
  - Highest average TSS concentration between all sites sampled during the project water sampling period (Figure 21).
  - QHEI score was below the project target level (Figure 25).
  - Contains 11.2 miles of stream which are included on the 303(d) list of impaired waterbodies for *E. coli* and/or impaired biotic communities.
  - Relative to the Headwaters Yellow River watershed as a whole, windshield survey results indicate stream buffers are less prevalent and in-stream cover is less prevalent (Table 12; Table 47).
- Headwaters Stock Ditch (071200010304)
  - Average total phosphorus concentration exceeds the project target value (fourth highest overall; Figure 20).
  - Fifth highest average E. coli concentration between all sites sampled during the project water sampling period (Figure 15).
  - QHEI was below the project target level (Figure 25).
  - mIBI was the third lowest between all sites sampled during the project water sampling period (Figure 24).
  - Contains two lakes on the 303(d) list for impairments due to high total phosphorus concentrations, Pleasant Lake and Riddles Lake.
- Lake of the Woods (071200010309)
  - Second highest average TSS concentration between all sites sampled during the project water sampling period (Figure 21) and exceeds project target value.
  - Third highest average *E. coli* concentration between all sites sampled during the project water sampling period (Figure 15).
  - Average total phosphorus concentration exceeds the project target value (second highest overall; Figure 20).
  - Contains Lake of the Woods which is included on the 303(d) list for pollutants total phosphorus and fish consumption advisory for PCBs.
  - Contains 21.6 miles of stream listed on the 303(d) list for *E. coli* impairments.
  - QHEI score was below the project target level (Figure 25).

Medium priority critical areas of the watershed include Milner Seltenright Ditch (071200010312), Dausman Ditch (071200010308), and Stone Ditch (071200010310) subwatersheds (Figure 64). These subwatersheds were listed as medium priority critical areas because they contained less parameters which exceeded project targets however there are still documented problems within the subwatersheds.

- Milner Seltenright Ditch (071200010312)
  - Contains 9.3 miles of streams included on the 303(d) list of impaired waterbodies for high *E. coli* levels.
  - Includes the Town of Plymouth which is the largest town in the Headwaters Yellow River watershed, which could provide opportunities for urban BMP implementations discussed in Section 8.1.
  - Contains some quality floodplain habitat along the Yellow River which could be included Riparian Buffer BMP discussed more in Section 8.1 and discussed in the LLWFA report in Appendix B.
- Stone Ditch (071200010310)
  - Fourth highest average *E. coli* concentration between all sites sampled during the project water sampling period (Figure 15).
  - Average total phosphorus concentration exceeded the project target value (fifth highest overall; Figure 20)
- Dausman Ditch (071200010308)
  - Third highest average TSS concentration between all sites sampled during the project water sampling period (Figure 21) and is equal to the project target value of 25 mg/L.
  - Fifth highest average Nitrate+Nitrite concentration between all sites sampled during the project water sampling period (Figure 17).
  - QHEI score was below the project target level (Figure 25).

The subwatersheds not listed as critical and defined as low priority include Elmer Seltenright Ditch (071200010311), Lemler Ditch (071200010307) and Fleugel Ditch (071200010306; Figure 64). These watershed were not considered critical because they had some of the lowest average TSS, total phosphorus and *E. coli* concentrations observed during the 12 month sampling period respectively, and do not contain any listed waterbodies (Figures 21, Figure 20, Figure 15).

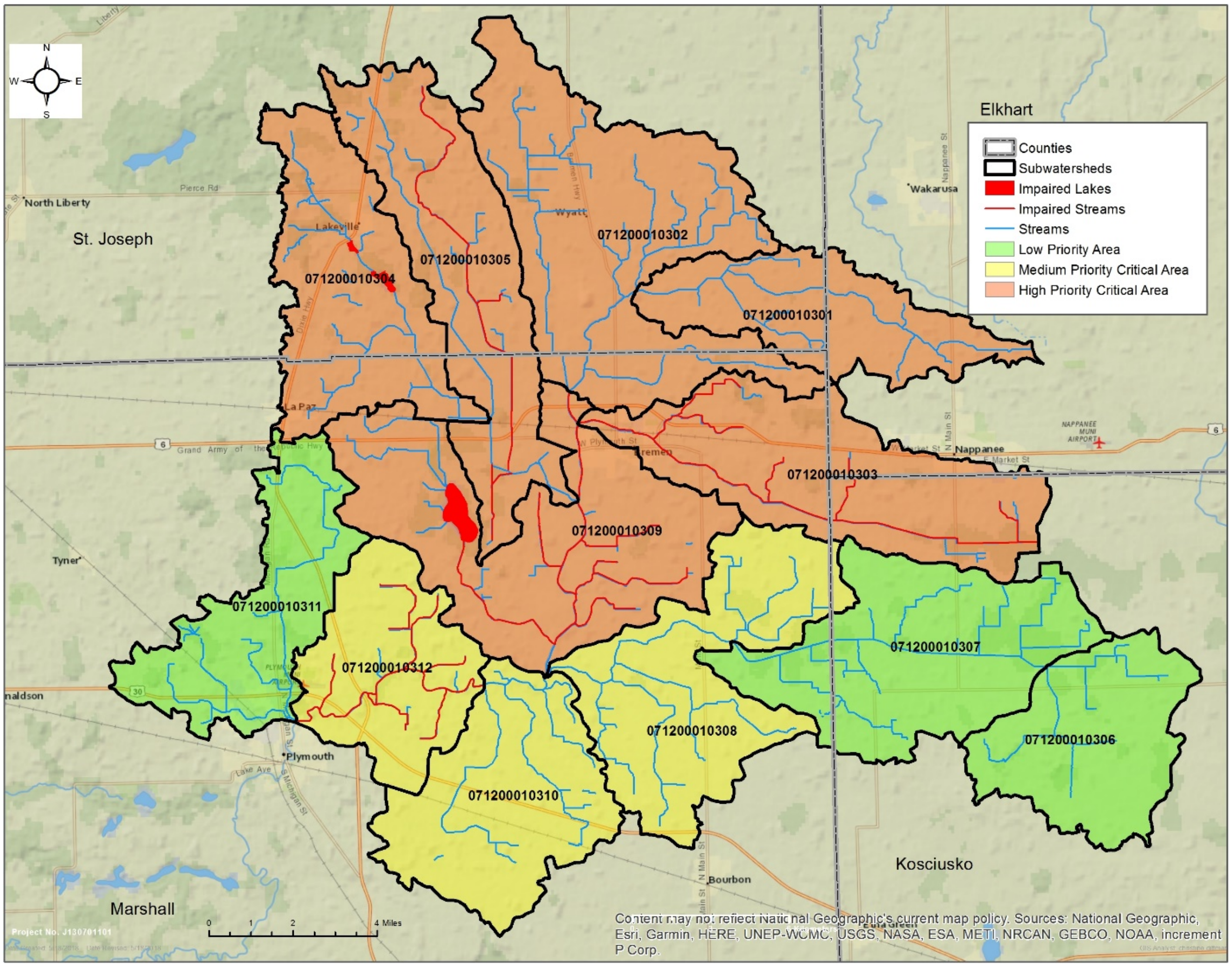


Figure 64. **High and medium priority critical areas and low priority areas of the Headwaters Yellow River Watershed.**

8 Management Measures

8.1 Recommended Management Measures

There are several BMPs and management measure that can be implemented in order to reduce non-point source pollutants in surface waters and address the concerns of watershed stakeholders. The following section describes the BMPs and management measures recommended to address the goals described in Section 6. The recommended BMPs and management measures have been chosen to address identified issues in the critical areas and are generally acceptable to landowners in the watershed based on feedback received during the steering committee meetings. Recommendations are also dependent on the geographic scale of the problem in the watershed and the magnitude of the issue in different portions of the watershed. Therefore, recommendations for the reduction of a non-point source pollutant may be different for the watershed as a whole, compared to a smaller subsets of the watershed. Section 4 describes the problems and potential causes of each problem.

The majority of the land use in the Headwaters Yellow River Watershed is agricultural and the landform is generally uniform; therefore, there are many agricultural BMPs that are recommended throughout the watershed (Table 57). The implementation of the BMPs listed in Table 57 will be prioritized based on numerous factors such as:

- Location within a high or medium priority critical area.
- Landowner interest and buy-in.
- Funding sources.
- Location of potential project(s) to be installed near or in connection with other BMP applications to create a conservation cropping system.
- Locations with direct boundary to a waterway or wetland.
- If the project would be the first installed measure within a defined area.

BMP implementation preference will be targeted within the high priority critical areas of the watershed during the initial implementation of this WMP as significant target pollutant loading rates and 303(d) listed waterways are located within these areas. BMP installation preference would be given to high priority critical areas over medium priority critical areas; however, each potential project will be reviewed prior to implementation to determine the best use of funding sources and overall water quality impact. For example, if funding sources are limited and only one project could be installed between a site in the high priority critical area and medium priority critical area, the medium priority area may be chosen over the high priority are if the medium area is located directly next to a waterway and could be combined with other BMPs for a more comprehensive conservation cropping system. Additionally, site selection or prioritization may be determined by modeling estimates of pollutant reductions, such that the site with the greatest reduction in pollutant loading could be chosen. The selection of which BMP to be installed at a site will be dependent on numerous factors such as:

- Landowner goals and cost-share.
- Land use, soils, wetland or waterway resources.
- Feasibility of construction (both cost and construction process).
- Overall water quality impacts.

Since limited land management work has occurred in the Headwaters Yellow River watershed, the initial implementation of the WMP will be focused on thoughtful BMP implementation in critical areas and developing a culture of land management aimed at improving water quality both for waterways within the watershed and to receiving downstream watersheds. Throughout the critical areas of the Headwaters Yellow River watershed there are hundreds of sites that could benefit from any number of BMP implementations. It will be the goal of the initial implementation of the WMP to connect willing landowners with implementation resources to get projects in the ground.

Table 57. Recommended agricultural BMPs or management measures applicable throughout the Headwaters Yellow River watershed and prioritized for High Priority Critical areas of the watershed.

BMP or Management Measure	NRCS Practice Standard	Description	Targeted Pollutants, watershed characteristic	Target Subwatersheds
Cover Crops	Practice Code: 340	Grasses, legumes, and forbs planted for seasonal vegetative cover.	Phosphorus, sediment, nitrogen application rates	**High Priority:** Lateral Ditch No. 5 071200010301 Kline Rouch Ditch-Yellow River 071200010302 Armey Ditch 071200010303 Headwaters Stock Ditch 071200010304 West Bunch Branch-Stock Ditch 071200010305 Lake of the Woods-Yellow River 071200010309 **Medium Priority:** Stone Ditch 071200010310 Milner Seltenright Ditch-Yellow River 071200010312 Dausman Ditch 0712000308
Filter Strips	Practice Code: 393	A strip or area of herbaceous vegetation that removes contaminants from overland flow.	Sediment, phosphorus	
Grassed Waterways	Practice Code: 412	A shaped or graded channel that is established with suitable vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet.	Sediment, phosphorus	
Conservation Tillage: No-till, reduced till	Practice Code: 329, 345	Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around.	Sediment, phosphorus, nitrogen	
Nutrient Management	Practice Code: 590	Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.	Nitrogen, phosphorus	
Riparian Buffers	Practice Code: 390 391	An area predominantly trees and/or shrubs or grasses, sedges located adjacent to and up-gradient from watercourses or water bodies.	Sediment, phosphorus, Improve riparian and aquatic habitats	
Streambank Protection	Practice Code: 580	Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.	Sediment, phosphorus, improve riparian and aquatic habitats	

BMP or Management Measure	NRCS Practice Standard	Description	Targeted Pollutants, watershed characteristic	Target Subwatersheds
Wetland Restoration, Creation, or Enhancement	Practice Code: 657, 658, 659	Restoring hydrology to drained wetlands, enhancing the plant community in existing wetlands, or creating new wetlands.	Phosphorus, nitrogen, sediment, improve available wetland habitat	
Septic System Care and Maintenance	NA	Septic systems should be pumped and inspected every 3-5 years. Replacement of failing systems as necessary.	*E. coli*	
Open Channels	Practice Code: 582	Water management, wildlife habitat, two-stage ditch	Reduce sediment, phosphorus and nitrogen loading. Streambank stabilization	

As previously described in Section 2.7 no-till farming practices and cover crop utilization in portions of the watershed are low relative to neighboring areas, which suggests that there are significant opportunities to promote and increase the future utilization of these practices. No-till farming practices have been shown to reduce soil erosion and sediment bound phosphorus to surface waters (Uri, Atwood, and Sanabria 1998). The benefits of cover crops vary based on the species that is used, however cover crops generally reduce soil erosion and nitrate leaching from row-crop agricultural land (Snapp et al. 2005). When no-till farming and cover crops are continuously combined together into a conservation cropping system additional soil benefits are obtained including reduced soil compaction, improved soil structure, increased organic matter, and increased available nitrogen. The promotion and incentivization of these agricultural practices will be the single most critical action needed to accomplish phosphorus (Goal #3), nitrogen (Goal #4), and sediment (Goal #5) reduction goals, and can be applied to all subwatersheds with, preference given to critical areas.

There appears to be spatial differences in the concentration and loading of nitrogen and phosphorus from different portions of the Headwaters Yellow River Watershed, likely as a result of soil characteristics. Therefore, the selection of specific cover crops and/or the development of nutrient management plans based on site specific conditions is recommended. For example, the Dausman Ditch drainage, which includes the Dausman Ditch, Fleugel Ditch, and Lemler Ditch subwatersheds contain poorly drained soils that export significant quantities of nitrogen and limited phosphorus. However, the remainder of the subwatersheds contains soils that promote the surface runoff of phosphorus and limited nitrogen. Due to these differences producers should work with their local SWCD and NRCS staff to select cover crop species and develop nutrient management plans that work within their management strategy while also reduce nutrient loss to surface waters. High priority critical areas had the highest nitrate concentrations sampled throughout the watershed and are important areas to implement nutrient management plans. Nutrient management plans can be implemented as individual projects where other BMPs are not being utilized but preference will be given if these plans can be combined with other BMPs on the same property as part of a conservation cropping system.

The installation of filter strips, riparian forested buffers, and grassed waterways are another group of agricultural BMPs that can be applied throughout the Headwaters Yellow River watershed to reduce the runoff of nutrients and sediment to receiving streams. Each of these BMPs function in a similar fashion by establishing vegetation which removes nutrients via plant uptake. The establishment of vegetation also prevents the mobilization of sediments and sediment bound nutrients. Combining riparian buffers with streambank protection measures is desirable as this could help promote improved stream habitat. Specifically, as shown in Figure 62, there are numerous locations within the critical areas where stream buffer absence and severe bank erosion are present together. Sites such as these would be desirable locations to utilize the combination of riparian buffers and streambank protection. As noted during the windshield survey, stream buffers are absent along many miles of waterways and there is no one subwatershed which contains adequate stream buffers throughout. The use of these BMPs should be promoted throughout the watershed and prioritized for implementation in the high priority critical areas of the watershed. These BMPs should be combined with other treatment methods such as no-till and cover crop, to implement conservation cropping systems if appropriate. The implementation of these BMPs will help address Goals 3 (phosphorus), Goal 4 (nitrogen), Goal 5 (sediment) and Goal 6 (stream habitat).

As described in Section 5 coliform bacteria is a wide spread problem in the Headwaters Yellow River Watershed. Source tracking samples revealed that a significant portion of the fecal contamination in the watershed is from human sources. This was true even at samples sites upstream of the nearest waste water treatment facility outfall, suggesting that individual septic systems issues are the source of the *E. coli* problem in the watershed. Funds will be sought out and used for educating and encouraging residents to maintain and repair septic systems. Septic system education and funding efforts will be directed first to high priority critical areas but efforts will also be applied in medium priority critical areas if opportunities are available. Medium priority critical areas are important for *E. coli* reduction efforts, as 303(d) listed streams for *E. coli* are located throughout the watershed (Figure 1). Septic education and maintenance efforts will address Goal 2 (*E. coli*).

Despite the prevalence of agricultural land uses in the watershed, urban areas of the watershed can greatly impact water quality. The implementation of any urban BMP practice is applicable within the primary urban areas of the Headwater Yellow River watershed which include Plymouth, Bremen, La Paz, Lakeville, and Nappanee. The targeted subwatersheds for urban BMP implementation include: Elmer Seltenright Ditch (071200010311), Milner Seltenright Ditch (071200010312), Armey Ditch (071200010303), Lake of the Woods (071200010309) and Headwaters Stock Ditch (071200010304). The majority of these practices are designed to capture, detain, and slowly release stormwater and will further reduce non-point source pollution to the surface waters of the watershed. Recommended practices for urban areas of the watershed include but are not limited to rain gardens, rain barrels, detention basins, pervious pavement, bioswales and pet waste management. Future urban BMP implementation would be prioritized to those subwatersheds listed as high priority critical area, however, urban BMP projects could be completed in a medium priority area and non-critical area watershed depending on funding sources for a project and the availability of similar projects within critical areas. Urban BMP implementation will help address numerous goals of the WMP including Goals 2-5.

In summary, the BMPs most anticipated for implementation include cover crops and no-till. Cover crops and no-till have the greatest potential impact for lowering key pollutants such as sediment and phosphorus loading to waterways throughout the watershed. Cover cropping and no-till BMPs are becoming more popular with producers in the relative area of the Headwaters Yellow River watershed and the applicable knowledge of implementation can be discussed between producers more readily. Pairing the use of cover crops and no-till with some of the other BMPs listed above will drive future water quality improvements. Production fields that combine numerous BMPs will be the most efficient at reducing pollutants from those lands. Where possible, implementation funds will be prioritized to support conservation cropping systems.

For example, the use of riparian buffers and filter strips, paired with streambank stabilization and a nutrient management plan addresses numerous goals of the WMP.

8.2 Anticipated Load Reductions

Table 58 and 59 describes the anticipated load reductions from the BMP practices discussed in Section 8.1 for the displayed unit/amount of BMP implemented. Table 58 and 59 pollutant reduction estimates do not represent the amount of BMP implementation needed to reach all goals outlined in Section 6, but rather represent the initial goal of implementation efforts set by the steering committee and further described in Section 9 Action Register. The amounts presented in Tables 58 and 59 and Section 9 Action Register are to be considered for implementation within the high priority critical areas of the watershed with no set amount per critical area watershed. Future water sampling efforts and WMP evaluations to track water quality improvement progress will help guide adaptive management decisions to where specific BMP implementation efforts should be modified, expanded etc. Section 10 provides a more detailed description of adaptive management procedures and tracking of progress. The discussed BMP implementation amounts in Tables 58 and 59, and in the Action Registers will be a collective goal for the critical areas of the watershed. The exception to this would be for cover crop and no-till which discusses implementation across the entire Headwaters Yellow River watershed; however, implementation efforts will be prioritized to the high priority critical areas.

The increased utilization of no-till and cover crops practices will be a critical component of the restoration of the watershed. Increasing the use of no-till farming to 50% across the watershed would remove the greatest quantity of nutrients and sediment (Table 58). Cover crop utilization across 30% of the watershed will also remove significant quantities of nutrients and sediment (Table 58). Many of the remaining BMPs that have been recommended provide limited watershed scale nutrient and sediment reduction benefits; however, these BMPs will be critical components of actions needed to accomplish habitat restoration goals. For example, the nonpoint source pollution reductions obtained from installing riparian buffers and streambank restoration are orders of magnitude less than the combined benefits of no-till and cover crops. However, these practices will provide improved instream habitat, riparian vegetation, and reduce *E. coli* loads. There are currently no models available that can accurately predict the reduction in *E. coli* loads resulting from BMP practices. However, the water quality data described in Section 5 suggests that proper septic system maintenance can be a primary driver for reducing *E. coli* loading in the Headwaters Yellow River Watershed.

Table 58. Anticipated load reductions for each recommended agricultural BMP or other general management measure applicable to Critical Areas in the Headwaters Yellow River Watershed.

<table>
<tr><th rowspan="2">BMP or Management Measure</th><th colspan="3"><u>Estimated Load Reduction for each BMP</u></th><th rowspan="2">Targeted Subwatersheds</th></tr>
<tr><th>Nitrogen</th><th>Phosphorus</th><th>Sediment</th></tr>
<tr><td>50% No-till utilization*</td><td>58,734 lbs/yr</td><td>11,195 lbs/yr</td><td>3,202 tons/yr</td><td rowspan="3">High Priority:

Lateral Ditch No. 5 071200010301

Kline Rouch Ditch-Yellow River 071200010302</td></tr>
<tr><td>30% Cover crop utilization*</td><td>38,632 lbs/yr</td><td>8,793 lbs/yr</td><td>1,383 tons/yr</td></tr>
<tr><td>Riparian Buffers (66 acres along the Yellow River)*</td><td>104 lbs/yr</td><td>20 lbs/yr</td><td>5.7 tons/yr</td></tr>
</table>

<table>
<tr><td>Wetland Creation (50 acres)*</td><td>50 lbs/yr</td><td>20 lbs/yr</td><td>6 tons/yr</td><td rowspan="8">Armey Ditch
071200010303

Headwaters Stock Ditch
071200010304

West Bunch Branch-Stock Ditch
071200010305

Lake of the Woods-Yellow River
071200010309

Medium Priority:
Milner Seltenright Ditch-Yellow River
071200010312

Dausman Ditch
071200010308

Stone Ditch-Yellow River
071200010310</td></tr>
<tr><td>Grassed Waterways (60 acres)*</td><td>148 lbs/yr</td><td>33 lbs/yr</td><td>6 tons/yr</td></tr>
<tr><td>Filter Strips (120 acres)*</td><td>298 lbs/yr</td><td>65 lbs/yr</td><td>12 tons/yr</td></tr>
<tr><td>Nutrient Management**
(per acre)</td><td>4 lbs/yr</td><td>0.7 lbs/yr</td><td>NA</td></tr>
<tr><td>Streambank Protection/Restoration (120 acres)*</td><td>322 lbs/yr</td><td>68 lbs/yr</td><td>14 tons/yr</td></tr>
<tr><td>Septic System Care and Maintenance (1 system)</td><td>55 lbs/yr</td><td>6.5 lbs/yr</td><td>NA</td></tr>
<tr><td>Streambank Stabilization
per (500 ft)***</td><td>40 lbs/yr</td><td>20 lbs/yr</td><td>20 tons/yr</td></tr>
<tr><td>Two-Stage Ditch</td><td>N/A
But estimated at 17% reduction^</td><td>N/A
But estimated at 33% reduction^</td><td>N/A
But estimated at 38% reduction^</td></tr>
</table>

Sources:
*Spreadsheet Tool for Estimating Pollutant Load (STEPL)
**NRCS Practice Coad 590
***Region 5 Model

^Estimates taken from supporting document about benefits of two-stage ditches accessed off the Indiana Nature Conservancy website. Reductions are based on parameter concentrations upstream and downstream of installed two-stage ditch reach.
https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/howwework/twostage-with-charts.pdf

Table 59. Anticipated load reductions for each of the recommended urban BMPs applicable to Critical Areas in the Headwaters Yellow River Watershed.

BMP or Management Measure	Amount	Estimated Load Reduction for each BMP			Targeted Subwatersheds
		Nitrogen	Phosphorus	Sediment	
Rain Garden	1 unit	12.6 lbs/yr	1.8 lbs/yr	1.4 tons/yr	**High Priority Areas:** Armey Ditch 071200010303 Lake of the Woods-Yellow River 071200010309 Headwaters Stock Ditch 0712000304 **Medium Priority:** Milner Seltenright Ditch-Yellow River 071200010312 **Low Priority:** Elmer Seltenright Ditch-Yellow River 0712000311
Detention Basin	1 unit	5.6 lbs/yr	0.1 lbs/yr	0.1 tons/yr	
Rain Barrel	1 unit	0.8 lbs/yr	0.2 lbs/yr	0.2 tons/yr	
Pervious Pavement	1 acre	47.9 lbs/yr	4.5 lbs/yr	1 ton/yr	
Bioswale	1 acre	14.9 lbs/yr	3.3 lbs/yr	1.4 ton/yr	
Pet Waste Management	-	NA	NA	NA	

Source: Region 5 Model.

8.3 Assistance

Many federal, state, and local agencies provide funding assistance for the implementation of several of the management measured described in Section 8.1. Different funding agencies and grant programs support different management practices and have varying goals, eligibility requirements, and cost-share requirements. Table 60 provides a list of potential assistance programs that correspond to the recommend management measures for the agricultural portions of the Headwaters Yellow River Watershed.

Table 60. List of available technical and funding resources for agricultural producers.

Agency	Program	Overview	Assistance
USDA	Wetland Reserve Program	A voluntary program that provides landowners with financial incentives to restore and protect wetlands in exchange for retiring marginal agricultural land.	Permanent Easement 30-year Easement Restoration Cost-Share Agreement
USDA	Conservation Reserve Program	Voluntary program that offers long-term rental payments and cost-share assistance to establish long-term, resource-conserving cover on environmentally sensitive cropland or, in some cases, marginal pastureland.	50% of the cost of establishing a CRP practice.
USDA	Farmable Wetlands Program	Designed to restore previously farmed wetlands and wetland buffer to improve both vegetation and water flow.	Annual rental payments for a 10- to 15-year period. Upfront CRP signing incentive payment of $100 per acre. Practice incentive payment equal to 40 percent of the eligible costs of installing the practice.
USDA	Conservation Reserve Enhancement Program	The Conservation Reserve Enhancement Program (CREP) is an offshoot of the Conservation Reserve Program (CRP), targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations. In exchange for removing environmentally sensitive land from production and introducing conservation practices, farmers, ranchers, and agricultural land owners are paid an annual rental rate.	Annual rental payments for a 10- to 15-year period.
USDA	Environmental Quality Incentives Program	The Environmental Quality Incentives Program (EQIP) is a voluntary program that provides financial and technical assistance to agricultural producers to plan	Payments are made on completed practices or activities identified in an EQIP contract that meet NRCS standards.

Agency	Program	Overview	Assistance
		and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland.	
IDEM	Nonpoint Source Implementation Grants (319 Program)	Nonpoint source pollution reduction projects can be used to protect water resource areas and the general water resources in a watershed by implementing BMPs.	Organizations are usually required to provide 40% of the total project cost.
IDNR	Lake and River Enhancement Program (LARE)	Engineering Design/Build Projects Engineering Feasibility Studies	LARE will provides funds for 80% of the total project cost.
USFWS	North American Wetlands Conservation Act Grants Program	Provides matching grants to carry out wetlands conservation projects in the United States for the long-term protection of wetland/upland habitats on which waterfowl and other migratory birds depend.	Project Grants - $50,000 to $1,000,000 1:1 non-federal cost - share
EPA	Five-Star and Urban Waters Restoration Program	Seeks to develop nation-wide-community stewardship of local natural resources, preserving these resources for future generations and enhancing habitat for local wildlife. Projects seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development.	Grants - $20,000 to $50,000 1:1 non-federal cost - share

9 Action Register & Schedule

Section 8 describes in detail the recommend management measures and the corresponding anticipated load reductions. The proposed management measures will require different technical assistance, financial cost, and time. The following section describes the resources needed to implement the management recommendations for the Headwaters Yellow River Watershed and describes those efforts to be implemented within the critical areas of the watershed, with the exception of educational efforts which would occur throughout the watershed. Also, included is the schedule and milestone for the completion of each objective, the estimated cost to complete each management recommendation, and potential organizations that can could be partners to complete projects or provide technical assistance for each objective (Table 61).

Table 61. Action Register for the Headwaters Yellow River Watershed (page 9-114 through 10-119).

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
Watershed Planning and Education: Develop a central planning organization to implement the WMP. Develop and complete annual educational/outreach programs for the watershed	Establish a Headwaters Yellow River Watershed group	Producers Landowners, Residents, and County Agencies	Establish a watershed group within five years	$2,000	SWCD County Drainage Board IDNR Municipalities Consultants
	Develop publications to promote recreational use of the river		Develop a publication within two years highlighting recreational opportunities within the Yellow River	$2,000	
	Install educational signage throughout the community		Install two information signs by year five. Install four information signs by year 10	$10,000/ $2,500 per sign	

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
Watershed planning and education continued…	Develop publications to promote agricultural and urban BMPs		By end of year two create one publication for agricultural BMPs and one publication for urban BMPs	$2,000	
The overall goal is to reduce *E.coli* concentrations throughout the watershed not only to meet state water quality standards but to have impaired stream segments delisted. We want to reduce the maximum daily E. coli loading by 90% (reduce from 6.0×10^{13} mpn/day to 5.8×10^{12} mpn/day)	Educate and promote proper septic system maintenance	Landowners, Residents and County Agencies	Hold workshop biannually on proper septic maintenance for landowners in the watershed	$3,000/ 2 year cycle	SWCD IDEM County Health Departments IDNR Consultants
	Seek outside sources of funding for data collection on progress monitoring of *E. coli* levels in the watershed		Complete water sampling at ten sites within the watershed every five years. Collect minimum of one baseflow and one stormflow event at each site.	$2,000/ 5 year cycle	
The current maximum daily load of nitrate-nitrite is 51,197 lbs/day and the current maximum daily load of total phosphorus is 2,730 lbs/day. The load reductions needed to reach target maximum daily loading levels are 8,223 lbs/day for nitrate-nitrite (84% reduction) and 1,645 lbs/day for total phosphorus (40% reduction)	Educate and promote installation of BMPs through field days and workshops	Producers Landowners, Residents, and County Agencies	Hold 1 field day/workshop annually	$5,000	SWCD US Fish and Wildlife IDEM IDNR Municipalities NRCS Consultants
	Educate and promote proper nutrient management		Develop a publication within one year on nutrient management. Hold workshop every two years.	$5,000/ 2 year cycle	

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
Nitrate-nitrite and phosphorus loading reduction continued…	Provide financial assistance to farmers for the development and implementation of nutrient management plans		Implement two nutrient management plans annually*	$10,000	
	Educate landowners on the importance of wetlands for water quality and restore wetland habitat in the watershed		Complete one wetland restoration project every 5 years. Complete an educational field day after each wetland project**	$25,000-$100,000/ 5 year cycle	
	Promote installation of urban BMPs to residents and urban planners/officials		Hold 1 workshop on urban BMPs every two years.	$5,000	
			Install one urban BMP every two years (rain garden, detention basin, pervious pavement, bioswale)*	$5,000-$50,000/ 2 year cycle	

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
Nitrate-nitrite and phosphorus loading reduction continued…	Monitor Phosphorus and Nitrogen levels in the watershed		Complete water sampling at ten sites within the watershed every five years. Collect minimum of one baseflow and one stormflow event at each of the ten sites.	$3,500/ 5 year cycle	
	Educate landowners on the importance streambank protection/ restoration		Preserve 60 acres for streambank protection/ restoration every ten years*	$200,000/ 120 acres total	
The current maximum daily load of sediment is 246,695 lbs/day. The load reduction needed to reach target maximum daily loading levels is 137,053 lbs/day (44% reduction).	Provide financial assistance to producers for planting cover crops	Producers Landowners, Residents, and County Agencies	Increase watershed use of cover crops to 20% (28,500 acres) in five years and 30% (42,700 acres) in ten years.	$750,800	NRCS County Surveyor SWCD IDNR IDEM Municipalities Consultants
	Educate landowners on the importance of two-stage ditches for water quality and provide financial assistance to landowners to construct two-stage-ditches		Construct 1,000 feet of two-stage ditch every five years. (Construct total of 3,000 feet of two-stage ditch in 15 years)*	$255,000	

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
Sediment loading reduction continued…	Provide financial assistance to producers to implement no-till		Increase watershed use of no-till to 40% (57,000 acres) in ten years and 50% (71,000 acres) in 15 years.	$641,500	
	Seek outside sources of funding for streambank stabilization projects		Stabilize 100 feet of streambank every year*	$15,000	
	Monitor TSS levels in the watershed		Complete TSS sampling at ten sites within the watershed every five years. Collect minimum of one baseflow and one stormflow event at each of the ten sites.	$2,000/ 5 year cycle	
	Educate landowners on importance of grassed waterways		Install four acres of grassed waterways annually*	$196,500/60 acres total	
Streams in the watershed have poor to fair habitat quality for aquatic organisms. The target is to have the majority of streams with fair to good habitat quality (QHEI scores of 43-69)	Educate the public about what organisms live in the streams of the watershed and how their populations are assessed	Landowners, Residents and County Agencies	Complete one field day/workshop on stream biology every five years	$5,000/ 5 year cycle	Schools IDNR SWCD IDEM NRCS Consultants

Goal	Objective	Target Audience	Milestones	Cost	Potential Partners/ Technical Assistance
	Provide financial assistance to promote establishment or preservation of riparian buffers		Preserve or establish five acres of streamside buffers or riparian habitat annually*	$118,000/ 75 acres total	

*Targeted to High Priority Critical Areas (Figure 64)

**LLWFA Report (Appendix B)

10 Tracking Effectiveness

The Marshall County SWCD is planning to submit for 319 implementation funding in 2018 which would allow for a cost-share program to install BMPs and provide financial assistance for an educational outreach program. Should funding be awarded, the SWCD will begin to implement the WMP and the goal set by the Marshall County SWCD would be to hire a watershed coordinator to further implement the plan. The watershed coordinator would be in charge of developing a Headwaters Leadership group as described in Goal 1, Section 6, and assist with guiding the implementation efforts. Having an individual committed to working on the various aspects of an implementation grant was determined critical by the steering committee and Marshall County SWCD. Having a central organization and individual who can lead landowner discussion/relations, hold educational events and develop educational materials, as well as complete the necessary grant reporting requirements will be key. Implementation efforts will be focused on the high priority critical areas of the watershed with installation of BMPs to take place first in the high priority critical areas. Educational efforts however will be available to all stakeholders in the watershed and will be important for developing a culture of responsible land management focused on improving water quality. While BMP implementation efforts will be focused on high priority critical areas, any landowner/project leads determined by the Marshall County SWCD, watershed coordinator or leadership group, located in the three medium priority critical areas and three non-critical subwatersheds will be documented and if applicable the project guided to local County SWCD or NRCS staff that could assist. In order to achieve the goals described in this WMP watershed stakeholders will need to continuously adapt efforts in the watershed. While the development of the Headwaters Yellow River WMP is a significant achievement, this document represents only a portion of the watershed planning process. A critical part of the watershed planning process is the ability to accurately track the completion of objectives over time.

Accurate tracking of progress will allow stakeholders the ability to track which objectives have been accomplished, therefore allowing a greater allocation of time and resources to objectives that have not yet been accomplished. As objectives are completed the management measures can then be adapted if the goals described in Section 6 are not achieved by the existing management measures. Table 62 lists the tracking strategies that will be used to document changes to water quality, educational outreach and BMP implementation across the watershed.

Table 62. Strategies for tracking goals and effectiveness of implementation.

Tracking Strategy	Frequency	Total Estimated Cost	Partners	Technical Assistance
BMP Load Reductions	Continuous	NA	SWCDs and NRCS	Partners Staff
Water Monitoring	Every 5 years	$7,500	SWCDs, IDNR, IDEM, new watershed group	Consultants
Attendance at Workshop/Field Days	Yearly	NA	SWCDs or new watershed group	NA
Number of Educational Publications	Yearly	NA	SWCDs or new watershed group	NA

The Marshall County SWCD and designated watershed coordinator will be responsible for managing the data acquired during the tracking process. Records of implemented BMP projects will be tracked by the Marshall County SWCD and estimated load reductions for each BMP documented. To track water quality data in the watershed, the goal is to complete water sampling every five years. Water sampling is recommended at a minimum of ten sites and should include at a minimum of one base flow and one storm flow sampling event at each site for that year. The ten sites should be the same sites sampled during the development of this WMP (all sites with exception of 2, 6, and 7) and should be taken from each of the nine critical area subwatersheds, with an extra sampling site location to be determined at the time when sampling is approved/planned. Parameters to be collected will include total phosphorus, nitrate, nitrite, TSS, *E. coli* and discharge. The cost estimate outlined in Table 62 includes sampling for the listed parameters at ten sites during one storm flow and one base flow event. Analysis of the water quality data will be used to see if certain critical area subwatersheds are showing noticeable signs of improvement from installed BMP efforts and educational efforts. The adaptive management process will consider the ability to get BMPs installed around the critical areas and determine if public educational events are being utilized by stakeholders. If certain critical subwatersheds are showing signs of improvement while others are not, it will be the responsibility of the Marshall County SWCD, watershed coordinator and leadership group to adjust implementation efforts accordingly. Potential management adjustments could be changing educational outreach formats (time of year event occurs, publication format electronic or paper, event notification process, event locations, type of event i.e. field days vs indoor seminars), types of BMP implemented (which BMPs are more receptive to landowners), and focusing landowner outreach efforts to subwatersheds with minimal BMP installation projects or working off successful projects in areas with significant landowner buy-in. Overall the implementation of the WMP will be an evolving effort with set reviews of management efforts approximately every five years.

Publications produced and attendance at workshops or field day will be tracked by the Marshall County SWCD, watershed coordinator and developed Headwaters Yellow River watershed leadership group. The Marshall County SWCD maintains a website http://www.marshallcountyswcd.org/ that will provide updates on water quality sampling efforts, any associated WMP updates and be a source for meeting and educational outreach event dates.

The Marshall County SWCD or newly developed watershed group will re-evaluate the Headwaters Yellow River WMP every five years following the results of the water sampling effort.

Currently the Marshall County SWCD will be responsible for maintaining all records for the project. Marshall County SWCD – 2903 Gary Drive, Plymouth, IN 46563 – (574) 936-2024 ext. 3.

11 Literature Cited

Bright G. 2013. Stormwater and Combined Sewer Overflow Monitoring.

Burkholder J, Libra B, Weyer P, Heathcote S, Kolpin D, Thorne PS, Wichman M. 2007. Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality. Environ. Health Perspect. 115:308–312.

Centner TJ. 2010. Land Use Policy Addressing water contamination from concentrated animal feeding operations. Land use policy 28:706–711.

Christopher B. Burke Engineering L. 2012. Yellow River Sediment Control Evaluation Preliminary Engineering Report.

Commissioners ECB of. 2006. 2006 Comprehensive Plan for Elkhart County, Indiana.

Commonwealth Biomonitoring. 2002. The Yellow River Water Quality Improvement Project.

Corporation Dynamac. 1991. Lake of the Woods Feasibility Study.

DJ Case and Associates. 2005. Lake of the Woods , Marshall County , Indiana Watershed Management Plan.

Ernst CH, Ernst EM. 2003. Snakes of the United States and Canada. Washington and London: Smithsonian Institution.

Ernst CH, Lovich JE. 2009. Turtles of the United States and Canada. 2nd ed. Baltimore: The Johns Hopkins University Press.

Gleason HA, Cronquist A. 1991. Manual of Vascular Plants of the Northeastern United States and Adjacent Canada. 2nd ed. New York: New York Botanical Garden.

Gregory S V, Swanson FJ, Mckee WA, Kenneth W, Swanson J, Cummins KW. 1991. An Ecosystem Perspective of Riparian Zones. Bioscience 41:540–551.

Groom MJ, Meffe GK, Carroll CR. 2006. Principles of Conservation Biology. 3rd ed. Sunderland.

HNTB and the St. Joseph County Area Plan Commission. Comprehensive Plan for South Bend and St. Joseph County, Indiana.

Indiana Department of Natural Resources. 2015. Indiana Natural Heritage Data Center.

Indiana State Department of Agriculture. 2015. Cover Crop and Tillage Transect Data. Soil Conserv.

Iverson G, O'Driscoll M, Humphrey C, Manda AK, Anderson-Evans E. 2015. Wastewater Nitrogen Contributions to Coastal Plain Watersheds, NC, USA. Water Air Soil Pollut. 226:325.

Jaynes DB, Isenhart TM. 2014. Reconnecting Tile Drainage to Riparian Buffer Hydrology for Enchanced Nitrate Removal. J. Environ. Qual. 43:631–638.

JFNew. 2006a. Pleasant and Riddles Lakes Watershed Diagnostic Study.

JFNew. 2006b. Pleasant and Riddles Lakes Sediment Removal Plan.

Lamba J, Karthikeyan KG, Thompson AM. 2014. Apportionment of suspended sediment sources in an agricultural watershed using sediment fi ngerprinting. Geoderma 239-240:25–33.

Lamba J, Thompson AM, Karthikeyan KG, Fitzpatrick FA. 2015. Geomorphology Sources of fi ne sediment stored in agricultural lowland streams ,. Geomorphology 236:44–53.

Law NL, Band LE, Grove JM. 2004. Nitrogen Input from Residential Lawn Care Practices in Suburban Watersheds in Baltimore County , MD. J. Environ. Plan. Manag. 47:737–755.

Macintosh KA, Jordan P, Cassidy R, Arnscheidt J, Ward C. 2011. Low flow water quality in rivers ; septic tank systems and high-resolution phosphorus signals. Sci. Total Environ. 412-413:58–65.

Marshall County. 2013. Marshall County, Indiana Comprehensive Plan.

Michiana Area Council of Governments. 2012. Heston-Stock Ditch Headwaters Including Pleasant and Riddles Lakes “ Pleasant and Riddles Lakes ; Preserving Water Resources .”

Price J. 2005. Yellow River 2005 Fish Management Report.

Senft H, Roberts K. 1982. Diagnostic Feasibility Study of Lake of the Woods.

Sibley DA. 2003. The Sibley Field Guide to Birds of Eastern North America. 1st ed. New York: Alfred A. Knopf.

Smith DR, King KW, Johnson L, Francesconi W, Richards P, Baker D, Sharpley AN. 2015. Surface Runoff and Tile Drainage Transport of Phosphorus in the Midwestern United States. J. Environ. Qual. 44:495–502.

Snapp SS, Swinton SM, Labarta R, Mutch D, Black JR, Leep R, Nyiraneza J, O’Neil K. 2005. Evaluating Cover Crops for Benefits, Costs and Performance within Cropping System Niches. Am. Soc. Agron. 97:322–332.

Sowah R, Zhang H, Radcliffe D, Bauske E, Habteselassie MY. 2014. Evaluating the influence of septic systems and watershed characteristics on stream faecal pollution in suburban watersheds in Georgia , USA. J. Appl. Microbiol. 117:1500–1512.

Sullivan TJ, Moore ÆJA, Thomas ÆDR, Mallery ÆE, Snyder KU, Wustenberg ÆM, Wustenberg ÆJ, Mackey ÆSD, Moore DL. 2007. Efficacy of Vegetated Buffers in Preventing Transport of Fecal Coliform Bacteria from Pasturelands. Environ. Manage. 40:958–965.

Team Kosciusko County Area Plan Study. 1996. Kosciusko County Comprehensive Plan.

Tetra Tech. 2009. Total Maximum Daily Load Report for the Kankakee/Iroquois Watershed.

The Nature Conservancy. "Improving the Design of Agricultural Drainage Ditches." PDF document accessed on 5/16/2018. https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/howwework/twostage-with-charts.pdf

United States Department of Agriculture. 2007. National Engineering Handbook.

Uri ND, Atwood JD, Sanabria J. 1998. An Evaluation of the Environmental Costs and Benefits of Conservation Tillage. Environ. Impact Asses. Rev. 18:521–550.

USEPA. 2015. A Homeowner’s Guide to Septic Systems. :1–16.

Withers PJA, Jarvie HP, Stoate C. 2011. Quantifying the impact of septic tank systems on eutrophication risk in rural headwaters. Environ. Int. 37:644–653.

Headwaters Yellow River
Watershed Management Plan

APPENDIX A

SOIL ASSOCIATIONS

Soil Association	Percentage (%) of the watershed
Ackerman muck, drained, 0 to 1 percent slopes	0.01
Adrian muck, drained, 0 to 1 percent slopes	0.28
Adrian muck, undrained, 0 to 1 percent slopes	0.02
Antung muck, drained, 0 to 1 percent slopes	0.15
Antung muck, undrained, 0 to 1 percent slopes	0.00
Aubbeenaubbee fine sandy loam, moderately permeable substratum, 0 to 2 percent slopes	0.28
Barry loam	3.23
Baugo silt loam, 0 to 1 percent slopes	0.79
Boyer loamy sand, 1 to 6 percent slopes	0.23
Boyer loamy sand, 6 to 12 percent slopes	0.02
Brady sandy loam	0.55
Brady sandy loam, 0 to 1 percent slopes	1.49
Brems-Morocco loamy sands, 0 to 1 percent slopes	0.34
Bristol loamy sand, 0 to 2 percent slopes	0.03
Bristol loamy sand, 2 to 5 percent slopes	0.03
Bronson sandy loam, 0 to 1 percent slopes	0.59
Bronson sandy loam, 0 to 2 percent slopes	0.49
Brookston loam, 0 to 1 percent slopes	14.07
Carmi loam, 0 to 2 percent slopes	0.23
Cohoctah loam, 0 to 1 percent slopes, frequently flooded, brief duration	0.01
Coloma loamy sand, 0 to 6 percent slopes	0.13
Coloma loamy sand, 6 to 12 percent slopes	0.01
Coloma sand, 2 to 5 percent slopes	0.23
Coloma sand, 5 to 10 percent slopes	0.13
Crosier loam, 0 to 1 percent slopes	22.07
Crosier loam, 1 to 4 percent slopes	1.36
Crumstown fine sandy loam, 0 to 1 percent slopes	0.29
Crumstown fine sandy loam, 1 to 5 percent slopes	0.64
Del Rey silt loam	0.03
Del Rey silty clay loam, 0 to 1 percent slopes	0.14
Edselton muck, drained, 0 to 1 percent slopes	0.01
Edselton muck, undrained, 0 to 1 percent slopes	0.00
Edwards muck, drained	0.00
Edwards muck, drained, 0 to 1 percent slopes	0.06
Edwards muck, undrained, 0 to 1 percent slopes	0.01
Elston sandy loam, 0 to 2 percent slopes	0.24
Gilford mucky sandy loam, 0 to 1 percent slopes	1.32
Gilford mucky sandy loam, gravelly substratum	0.12
Gilford sandy loam, 0 to 1 percent slopes	0.10
Gilford sandy loam, gravelly substratum	0.31
Gravelton loamy sand, occasionally flooded	0.00
Henrietta muck, drained, 0 to 1 percent slopes	0.08
Hillsdale sandy loam, 0 to 1 percent slopes	0.04
Hillsdale sandy loam, 1 to 5 percent slopes	0.54
Hillsdale-Oshtemo sandy loams, 10 to 18 percent slopes, eroded	0.04
Hillsdale-Oshtemo sandy loams, 5 to 10 percent slopes, eroded	0.19
Histosols and Aquolls	0.03
Histosols, 0 to 1 percent slopes, ponded	0.00
Homer sandy loam	0.33
Houghton muck, drained	0.50
Houghton muck, drained, 0 to 1 percent slopes	2.20
Houghton muck, undrained	0.04
Houghton muck, undrained, 0 to 1 percent slopes	0.49
Kosciusko sandy clay loam, 8 to 15 percent slopes, severely eroded	0.04
Kosciusko sandy loam, 0 to 2 percent slopes	0.27
Kosciusko sandy loam, 18 to 30 percent slopes	0.00
Kosciusko sandy loam, 2 to 6 percent slopes	0.37
Kosciusko sandy loam, 6 to 12 percent slopes	0.00

Linkville sandy loam, 0 to 1 percent slopes	0.76
Linkville sandy loam, 1 to 4 percent slopes	0.13
Madaus muck, drained, 0 to 1 percent slopes	0.01
Martinsville loam, 0 to 1 percent slopes	0.30
Martinsville loam, 1 to 5 percent slopes, eroded	0.28
Martinsville loam, 5 to 10 percent slopes, eroded	0.00
Martinsville sandy loam, 0 to 2 percent slopes	0.14
Martinsville sandy loam, 2 to 6 percent slopes	0.01
Martisco muck, drained, 0 to 1 percent slopes	0.01
Maumee loamy sand, 0 to 1 percent slopes	0.00
Maumee mucky loamy fine sand, 0 to 1 percent slopes	0.02
Maxinkuckee muck, drained, 0 to 1 percent slopes	0.04
Metea loamy sand, 0 to 2 percent slopes	0.00
Metea loamy sand, 2 to 6 percent slopes	0.03
Miami clay loam, 10 to 18 percent slopes, severely eroded	0.02
Miami clay loam, 5 to 10 percent slopes, severely eroded	0.30
Miami loam, 5 to 10 percent slopes, eroded	0.04
Milford silty clay loam, 0 to 1 percent slopes	1.40
Morocco loamy sand, 0 to 1 percent slopes	0.00
Moston muck, drained, 0 to 1 percent slopes	0.10
Moston muck, undrained, 0 to 1 percent slopes	0.01
Muskego muck, drained, 0 to 1 percent slopes	0.20
Muskego muck, undrained, 0 to 1 percent slopes	0.02
Newton loamy fine sand, 0 to 1 percent slopes	0.01
Ormas loamy sand, 0 to 2 percent slopes	0.71
Ormas loamy sand, 2 to 6 percent slopes	0.22
Ormas loamy sand, 6 to 12 percent slopes	0.01
Oshtemo fine sandy loam, 0 to 1 percent slopes	0.02
Oshtemo fine sandy loam, 1 to 5 percent slopes	0.02
Oshtemo fine sandy loam, 10 to 18 percent slopes	0.00
Oshtemo fine sandy loam, 5 to 10 percent slopes, eroded	0.02
Oshtemo sandy loam, 0 to 1 percent slopes	1.10
Oshtemo sandy loam, 1 to 5 percent slopes	1.20
Oshtemo sandy loam, 10 to 18 percent slopes	0.03
Oshtemo sandy loam, 5 to 10 percent slopes, eroded	0.42
Osolo loamy sand, 0 to 1 percent slopes	0.01
Osolo loamy sand, 1 to 5 percent slopes	0.13
Owosso sandy loam, 0 to 2 percent slopes	0.58
Palms muck, drained	0.18
Palms muck, drained, 0 to 1 percent slopes	0.67
Palms muck, gravelly substratum, drained	0.53
Palms muck, undrained, 0 to 1 percent slopes	0.12
Pinhook sandy loam, 0 to 2 percent slopes	0.61
Pits, gravel	0.08
Plainfield sand, 0 to 2 percent slopes	0.03
Plainfield sand, 12 to 18 percent slopes	0.01
Plainfield sand, 2 to 6 percent slopes	0.04
Psammaquents	0.05
Psamments	0.04
Rensselaer loam	1.00
Rensselaer loam, 0 to 1 percent slopes	9.25
Rensselaer mucky loam, 0 to 1 percent slopes	0.17
Riddles fine sandy loam, 0 to 2 percent slopes	0.11
Riddles fine sandy loam, 2 to 6 percent slopes	0.08
Riddles-Metea complex, 1 to 5 percent slopes	0.94
Riddles-Metea complex, 10 to 18 percent slopes, eroded	0.08
Riddles-Metea complex, 5 to 10 percent slopes, eroded	0.92
Riddles-Ormas-Kosciusko complex, 2 to 6 percent slopes	0.05
Riddles-Oshtemo fine sandy loams, 0 to 1 percent slopes	2.53

Riddles-Oshtemo fine sandy loams, 1 to 5 percent slopes	6.52
Riddles-Oshtemo fine sandy loams, 5 to 10 percent slopes, eroded	0.11
Sebewa loam, drained, 0 to 1 percent slopes	1.06
Sebewa mucky loam	0.66
Selfridge-Brems complex, 1 to 4 percent slopes	0.03
Selfridge-Brems loamy sands, 1 to 4 percent slopes	0.04
Selfridge-Crosier complex, 0 to 1 percent slopes	0.99
Shipshe sandy loam, 0 to 2 percent slopes	1.80
Shipshe sandy loam, 2 to 6 percent slopes	0.01
Southwest silt loam, 0 to 1 percent slopes	0.22
Toledo silty clay	0.06
Troxel silt loam, 0 to 1 percent slopes	0.19
Tyner loamy sand, 0 to 1 percent slopes	0.08
Tyner loamy sand, 1 to 5 percent slopes	0.11
Tyner loamy sand, 5 to 10 percent slopes	0.06
Udorthents, loamy	0.06
Udorthents, rubbish	0.14
Udorthents-Urban land complex	0.01
Urban land-Brady complex, 0 to 1 percent slopes	0.02
Urban land-Brems-Morocco complex, 0 to 1 percent slopes	0.01
Urban land-Bronson complex, 0 to 1 percent slopes	0.00
Urban land-Brookston complex, 0 to 1 percent slopes	0.06
Urban land-Coloma complex, 2 to 5 percent slopes	0.06
Urban land-Coloma complex, 5 to 10 percent slopes	0.01
Urban land-Crosier complex, 0 to 3 percent slopes	0.42
Urban land-Gilford complex, 0 to 1 percent slopes	0.03
Urban land-Oshtemo complex, 0 to 1 percent slopes	0.03
Urban land-Oshtemo complex, 1 to 5 percent slopes	0.01
Urban land-Oshtemo complex, 5 to 10 percent slopes	0.00
Urban land-Rensselaer complex, 0 to 1 percent slopes	0.09
Urban land-Riddles-Metea complex, 1 to 5 percent slopes	0.05
Urban land-Riddles-Metea complex, 10 to 18 percent slopes	0.00
Urban land-Riddles-Metea complex, 5 to 10 percent slopes	0.01
Urban land-Riddles-Oshtemo complex, 0 to 1 percent slopes	0.08
Urban land-Riddles-Oshtemo complex, 1 to 5 percent slopes	0.03
Urban land-Tyner complex, 0 to 1 percent slopes	0.05
Urban land-Tyner complex, 1 to 5 percent slopes	0.02
Urban land-Tyner complex, 5 to 10 percent slopes	0.00
Urban land-Whitaker complex, 0 to 1 percent slopes	0.02
Washtenaw loam, gravelly substratum	0.01
Washtenaw silt loam, 0 to 2 percent slopes	0.09
Water	0.50
Waterford loam, 0 to 2 percent slopes, frequently flooded, long duration	0.03
Waterford-Cohoctah loams, 0 to 2 percent slopes, frequently flooded, brief duration	0.61
Wawasee fine sandy loam, 2 to 6 percent slopes	0.07
Wawasee fine sandy loam, 6 to 12 percent slopes, eroded	0.00
Wawasee sandy clay loam, 12 to 18 percent slopes, severely eroded	0.01
Wawasee sandy loam, 2 to 6 percent slopes	0.38
Wawasee sandy loam, 6 to 12 percent slopes, eroded	0.15
Whitaker loam	0.28
Whitaker loam, 0 to 1 percent slopes	3.10
Williamstown loam, 0 to 1 percent slopes	0.09
Williamstown loam, 1 to 5 percent slopes, eroded	0.15
Williamstown loam, 5 to 10 percent slopes, eroded	0.01
Williamstown-Crosier complex, 1 to 5 percent slopes	0.06
Williamstown-Crosier loams, 1 to 5 percent slopes	0.12
Williamstown-Moon complex, 1 to 5 percent slopes	0.06
Wunabuna silt loam, drained, 0 to 1 percent slopes	0.11

Headwaters Yellow River
Watershed Management Plan

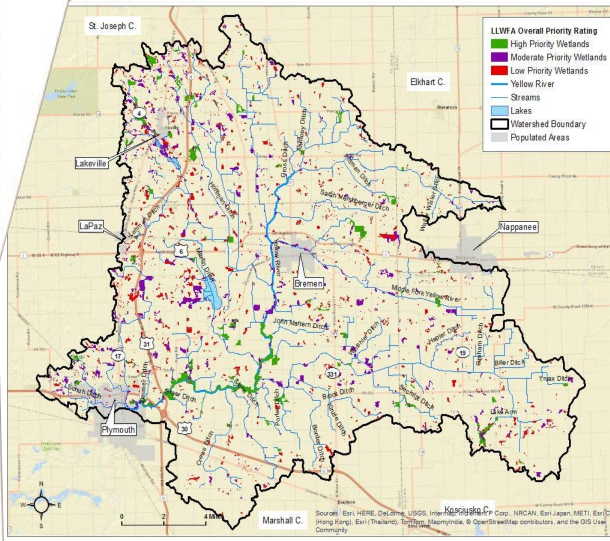
APPENDIX B

LANDSCAPE-LEVEL WETLAND FUNCTIONAL ASSESSMENT (LLWFA) REPORT: HEADWATERS YELLOW RIVER WATERSHED

Landscape-Level Wetland Functional Assessment

Headwaters Yellow River Watershed

15X107600



Cardno
Shaping the Future

Document Information

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Date	January 2018

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Acronyms

CRP	Conservation Reserve Program
CREP	Conservation Reserve Enhancement Program
DEM	Digital elevation model
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
HUC	Hydrologic Unit Code
IGIC	Indiana Geographic Information Council
LLWFA	Landscape-level Wetland Functional Assessment
NHD	National Hydrography Data
NRCS	Natural Resources Conservation Service
NRI	National Resources Inventory
NWI	National Wetland Inventory
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Executive Summary

In September of 2015, the Marshall County Soil and Water Conservation District (SWCD) received an Environmental Protection Agency (EPA) Region 5 Wetland Program Development Grant to complete a Landscape-Level Wetland Functional Assessment (LLWFA) to develop a better understanding of the functional value of wetlands in the Headwaters Yellow River watershed. The LLWFA assessment utilized the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) 2016 dataset as the baseline data for the study. The NWI is a resource that accurately describes the location and size of wetlands in the watershed, but the database does not describe the function of each wetland. Results of the LLWFA assessment provide valuable information to local, regional, and state agencies regarding the future prioritization of restoration and conservation efforts in the Headwaters Yellow River watershed. Tasks completed during this study include the following: development of a NWI+ data base, LLWFA functional analysis of the NWI+ database, desktop review of NWI wetlands, targeted windshield survey of priority wetlands, overall functional wetland prioritization, and specific wetland restoration/enhancement site identification and conceptual plan development.

The landscape-scale changes that have taken place in the Headwaters Yellow River watershed since European settlement have greatly impacted the wetlands of the watershed. At least 1,887 wetlands totaling 1,353.4 acres have been lost to land-use changes; however, there are 3,182 remaining wetlands totaling 10,847 acres, which have been mapped as part of the NWI. The LLWFA utilized geospatial data in ArcGIS 10.4 to perform complex analyses of existing databases to determine the functional significance of the wetlands in the Headwaters Yellow River watershed. Wetland function was determined using relationships between the properties described in the NWI+ database and established wetland functions. The NWI+ database was used to identify wetlands with potential to perform a variety of functions at high or moderate levels. The nine functions that were used to evaluate wetlands include surface water detention, streamflow maintenance, nutrient transformation, sediment and particulate retention, bank and shoreline stabilization, fish and aquatic invertebrate habitat, waterfowl and waterbird habitat, habitat for other wildlife, and conservation of biodiversity. For each of the 3,182 wetlands investigated a final LLWFA score was calculated using the cumulative score developed from the correlations determined from each of the nine functional metrics. From the final LLWFA scores there were determine to be 184 high priority wetlands totaling 2,690 acres, 1,087 moderate priority wetlands totaling 3,993 acres, and 1,911 low priority wetlands totaling 4,163 acres. High priority wetlands had the largest average size at 14.6 acres, followed by moderate (3.7 acres) and low (2.2 acres).

Following the development of the NWI+ database and initial wetland functional assessments using the LLWFA, the wetland polygons within the watershed were prioritized during a desktop review for future investigation during a windshield survey. The windshield survey was conducted on November 15-17 and November 20, 2017. During the windshield survey wetland characteristics were field verified by driving throughout the watershed and conducting rapid visual surveys of wetlands visible from public roads. During the windshield survey data was collected documenting any habitat alterations, upland buffers, adjacent land-uses, and presence of invasive species for each of the surveyed wetlands. Results of the windshield survey included the investigation/designation of a total of 282 sites across the Headwaters Yellow River watershed. A site, as identified during the windshield survey could be defined as a single NWI wetland if that individual wetland was isolated or a site could include multiple NWI wetlands in close vicinity to each other such that they were part of the same wetland complex.

The results of the windshield survey were used to help identify specific sites within the Headwaters Yellow River watershed where wetland priority management activities could take place in the future. The sites highlighted during the windshield survey were given further analysis using Google Maps Pro and Arc Maps 10.4. This was done by analyzing historical aerials and hydric soils maps. The list of sites was limited to the top 25 sites for possible wetland restoration (Appendix C). From there the list of sites was taken down to the top 10 sites ranked by how much of an impact a site would potentially improve water quality of the watershed. This was determined by considering multiple attributes for each site, along with professional experience in preforming wetland restoration and mitigation. The attributes analyzed during the ranking of potential sites were as follows: adjacency to woodland and open waterways, dominant soil types, ease of restoration, ease of site access, potential wetland to parcel size ratio, number of landowners of particles with potential wetlands, estimated restoration cost, location within critical areas identified in the Headwaters Yellow River Watershed Management Plan and any additional considerations observed. A KMZ file was created for the 25 sites listed in Appendix C and allows for the quick location of each site using Google Earth application.

It is important to note that a significant amount of data has been generated as a result of the various analysis completed during this study. Landowner discussions/permissions were not included in this study and therefore will be a significant driver for future wetland work in the Headwaters Yellow River watershed. The various analysis completed have created a better understanding of the functional connections/differences between existing wetlands and provides specific starting locations for future wetland work. Resources that can be used for future wetland projects in the Headwaters Yellow River watershed include the NWI+ GIS shapefile, NWI+ excel database document (Appendix A), windshield survey excel database document (Appendix B), the priority site specific wetland restoration/enhancement excel database document (Appendix C) and the supporting KMZ Google Earth file which shows the location of the sites outlined in Appendix C. All documents will be supplied to the Marshall County SWCD staff at the completion of the study and will be retained at the Plymouth Indiana office.

1 Introduction

1.1 Introduction

The Marshall County Soil and Water Conservation District (SWCD) received an Environmental Protection Agency (EPA) Region 5 Wetland Program Development Grant in September of 2015 to complete a Landscape–Level Wetland Functional Assessment (LLWFA) for the Headwaters Yellow River watershed. The goal of the LLWFA assessment was to work in conjunction with the development of the Headwaters Yellow River Watershed Management Plan (WMP) to identify wetlands within the watershed of greatest value for future protection, restoration and enhancement.

1.2 Ecological Significance of Wetlands

Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils.

The hydrology, soils, and hydrophytes of wetlands create unique wetlands that perform essential ecosystem functions. These ecosystem functions include surface water detention, streamflow maintenance, nutrient transformation, sediment retention, shoreline stabilization, fish habitat, waterfowl habitat, wildlife habitat, and conservation of biodiversity.

1.3 Project Location

The Kankakee River watershed (HUC: 07120001) spans 5,165 square miles of northwest Indiana and northeast Illinois. Approximately, 2,996 square miles of the watershed are in Indiana and 2,169 square miles are in Illinois (Ivens et al. 1981). The Kankakee River watershed was once the location of a complex network of swamps and marshes called the “Grand Marsh” (Ivens et al. 1981). Prior to disturbance the Grand Marsh encompassed approximately 400,000 acres and ranged from three to five miles in width (Ivens et al. 1981). Efforts began in the late 19th century in Indiana to channelize the Kankakee River and drain the adjacent wetlands in order to convert the land to agricultural land (Ivens et al. 1981). Unfortunately, the Grand Marsh was not the only portion of the Kankakee River watershed impacted during the early 1900’s.

Eighteen 10-digit HUC watersheds comprise the Kankakee River watershed, one of which is the Headwaters Yellow River watershed. The Headwaters Yellow River watershed (HUC: 0712000103) encompasses 293 square miles (187,300 acres) of land in northern Indiana and is spread across portions of Marshall, St. Joseph, Elkhart, and Kosciusko Counties (Figure 1-1). Surface water from the Headwaters Yellow River watershed drains a network of open and closed drains to the mainstem of the Yellow River, which flows southwest from Bremen through Plymouth. The Yellow River continues to flow west through Starke County and drains into the Kankakee River near Knox.

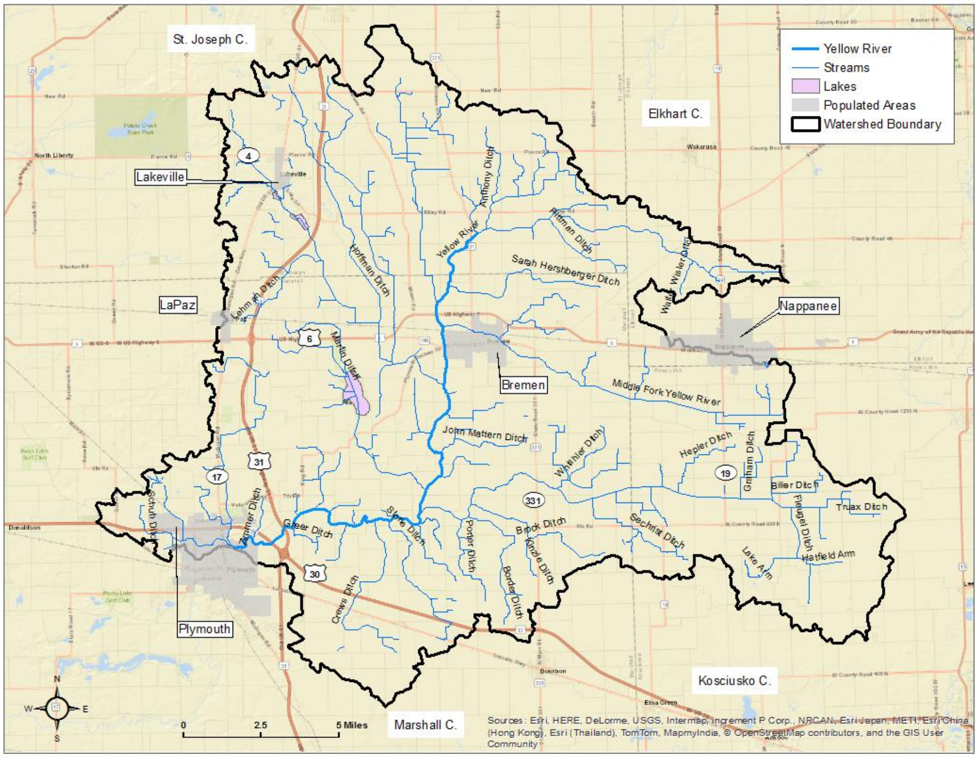

Figure 1-1. Headwaters Yellow River watershed general location map.

The landscape-scale changes that have taken place in the Headwaters Yellow River watershed since European settlement have greatly impacted the wetlands of the watershed. According the United States Fish and Wildlife (USFWS), National Wetlands Inventory (NWI) dataset (2017) for historical wetlands, at least 1,887 wetlands totaling 1,353.4 acres have been lost to land-use changes (Figure 1-2). The USFWS 2016 NWI dataset of existing wetlands in the Headwaters Yellow River watershed identifies 3,182 wetlands totaling 10,847 acres. These wetlands are categorized into three separate wetland types in the NWI database and include emergent wetlands, forested/shrub wetlands and ponds. Forested/shrub wetlands account for the majority (66 percent) of the wetlands in the watershed followed by emergent wetlands (28 percent), and ponds (6 percent; Figure 1-3). There are also three lakes within the Headwaters Yellow River watershed which cover 518 acres and include Pleasant Lake (24 acres), Riddles Lake (74 acres) and Lake of the Woods (420 acres). Of the 3,182 wetlands totaling 10,847 acres in the watershed, approximately 764 wetlands (24 percent) accounting for 2,124 acres (19.5 percent) are listed as being partially drained/ditched or modified by human disturbance by excavation. Additionally, 348 wetlands of the 3,182 wetlands (11 percent) in the watershed are listed as “farmed” wetlands. Farmed wetlands cover 1,523 acres or 14 percent of the overall NWI wetland dataset.

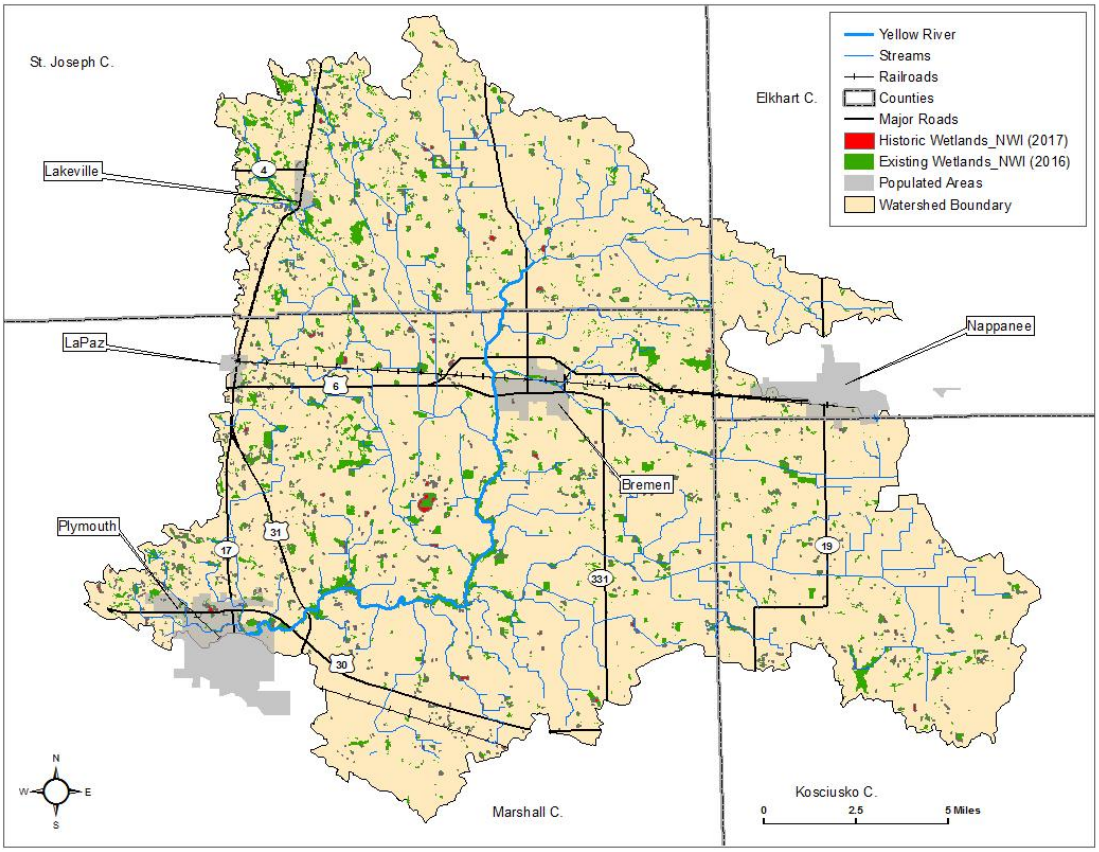

Figure 1-2. NWI existing and historical wetlands within the Headwaters Yellow River watershed.

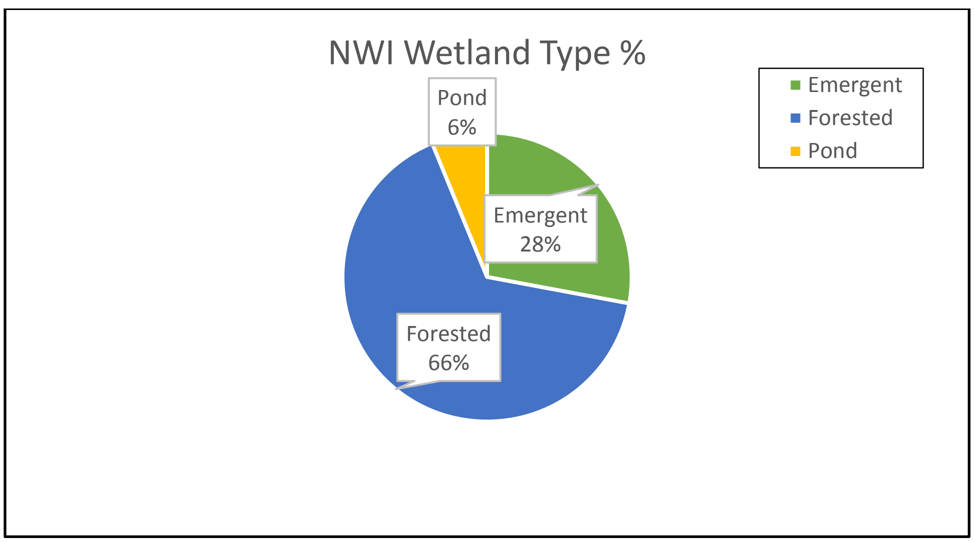

Figure 1-3. Percentage of each NWI wetland type in the Headwaters Yellow River watershed.

1.4 Project Justification

The landscape-scale changes that have taken place in the Headwaters Yellow River watershed since European settlement have greatly impacted the wetlands of the watershed. At least 1,887 wetlands totaling 1,353.4 acres have been lost to land-use changes; however, there are 3,182 remaining wetlands totaling 10,847 acres, which have been mapped as part of the NWI. The NWI is a resource that accurately describes the location and size of wetlands in the watershed, but the database does not describe the function of each wetland. Unfortunately, the resources available to both state and local agencies limit the conservation actions that can be implemented to protect, restore, and enhance wetlands. Therefore, an understanding of the functions each wetland in the Headwaters Yellow River watershed is essential to accomplishment stakeholder goals. An understanding of the functions each wetland performs will provide guidance and refine how wetland protection, restoration, and enhancement opportunities are addressed in the future.

Wetlands provide valuable services to the watershed including surface water detention, streamflow maintenance, nutrient transformation, sediment and other particulate retention, carbon sequestration, bank and shoreline stabilization, provision for fish and aquatic invertebrate habitat, provision for waterfowl and waterbird habitat, provision of habitat for other wildlife, and provision for highly diverse plant communities (Tiner, McGuckin, and Herman 2015). A better understanding of the functional value of each wetland in the Headwaters Yellow River watershed will provide valuable information to local, regional, and state agencies regarding the prioritization of restoration and conservation efforts.

2 Wetland Functions

2.1 Surface Water Detention

Streams throughout the Midwestern United States experience flooding as a result of modifications to the hydrology of upstream waterbodies. Watersheds have been modified in ways that promote the expedient delivery of stormwater downstream, resulting in increased peak discharges (Figure 2-1). These modifications include increased impervious surfaces, gray infrastructure, and subsurface tile drain systems. In the Headwaters Yellow River watershed impervious surfaces and gray infrastructure are primarily located in Plymouth, Bremen, La Paz, Lakeville, and Nappanee. Subsurface drainage tile systems are common in the Headwaters Yellow River watershed and may be used on as much as 20-60 percent of the row-crop land in the watershed (Figure 2-2). Wetlands reduce downstream flooding by detaining and slowly releasing water to receiving waters. Watersheds with at least 40 percent coverage of wetlands and lakes have 80 percent lower flood flows than comparable watersheds (Novitzki 1979). Wetlands and lakes cover approximately six percent of the Headwaters Yellow River watershed.

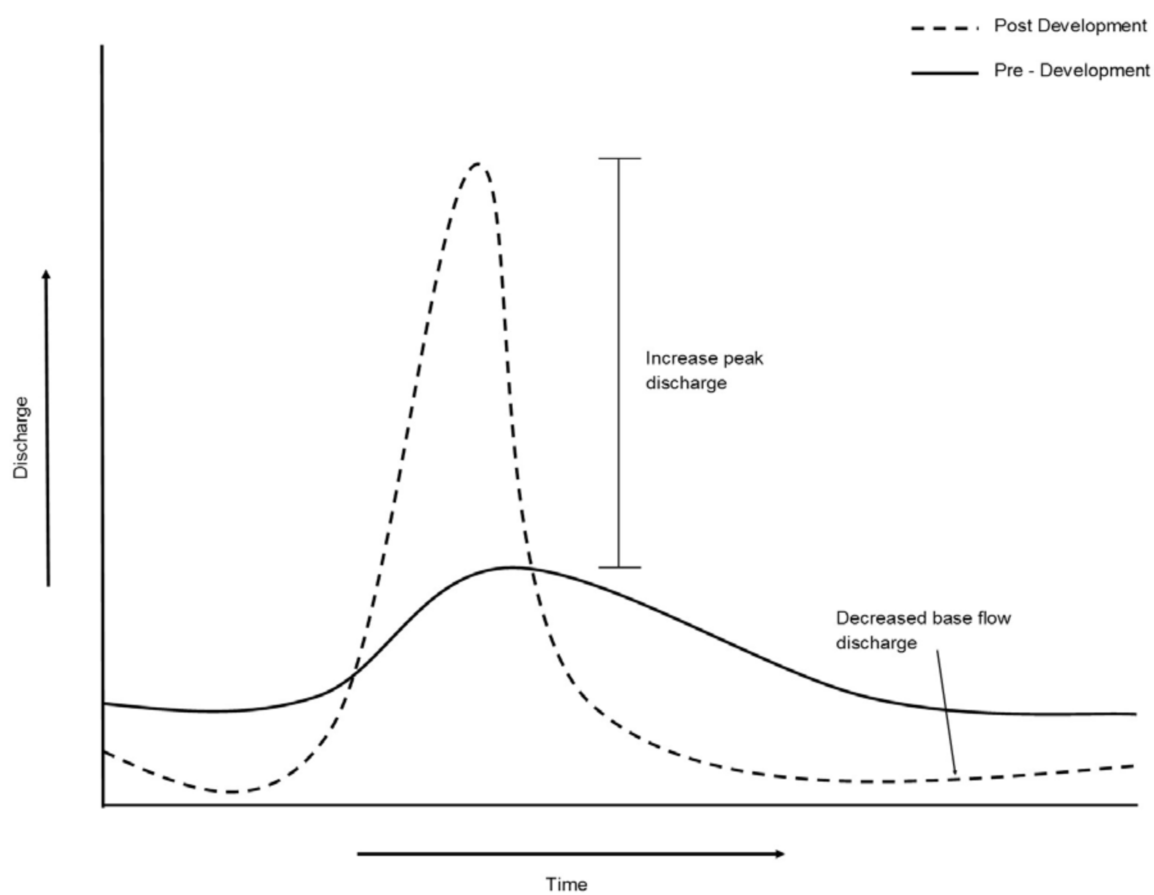

Figure 2-1. Typical discharge patterns of streams in developed and undeveloped watersheds.

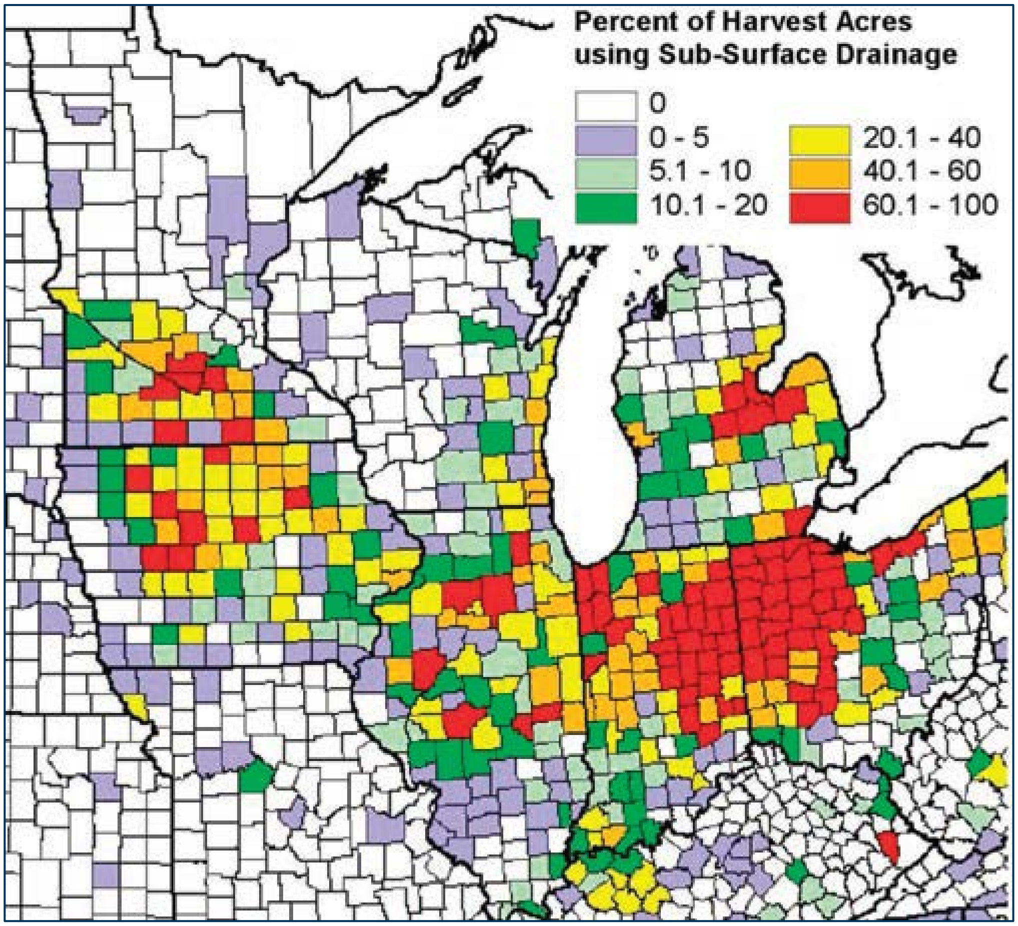

Figure 2-2. Percentage of harvest acres using sub-surface drainage tile Midwestern states (NRI 1992; Census of Agriculture 1992).

2.2 Streamflow Maintenance

Many wetlands are sources of groundwater discharge and some may be in a position to sustain streamflow in the watershed. Wetlands that sustain streamflow can be important for supporting aquatic life in streams (Tiner 2003). All headwater wetlands provide streamflow maintenance, unless they are ditched. Ditched headwater wetlands have decreased streamflow maintenance functionality due to the faster release of water, reducing the period of outflow (Tiner 2003). Floodplain wetlands store water in the form of bank storage. Bank storage is any water that is absorbed and stored in the void in the soil cover in the bed and banks of a stream, lake, or reservoir (NOAA Glossary). Bank storage provides the release of water to streams during periods of baseflows (Whiting 1998). The degree of bank storage is affected by the porosity and permeability of bank material, the width of the floodplain, and the hydraulic gradient (Tiner 2003).

2.3 Nutrient Transformation

The export of phosphorus and nitrogen from streams is an issue throughout the Midwestern United States. Excess nutrients are responsible for numerous water quality issues including the eutrophication of many waterbodies, toxic algae blooms, and the Gulf of Mexico Dead Zone. However, wetlands with fluctuating water tables recycle nutrients very well. Wetlands filter phosphorus laden runoff via plant uptake and have been documented to remove as much as 59 percent of the total phosphorus (Lu et al. 2009).

2.4 Retention of Sediments and Other Particulates

Wetlands can form as sediments are deposited into aquatic basins in floodplains, estuaries, or other habitats (Tiner 2003). As the water body slowly fills in, it morphs into a shallower, and often vegetated, wetland habitat. The wetland, in turn, functions as a catch basin for additional sediments being deposited into or from the main body of water. Wetlands capturing sediment that would otherwise flow into streams and rivers can help reduce turbidity and improve the overall water quality of riparian habitat. Furthermore, wetlands can capture pollutants, including heavy metals, before they reach riparian bodies of water (Kahn et al. 2009).

2.5 Shoreline Stabilization

Vegetated wetlands situated along lake, river, and estuarine shorelines prevent erosion by breaking up wave action and reducing impacts incurred along the margins of these habitats. Shorelines experiencing less wave action, such as those associated with terrene vegetated ponds, provide moderate protection against erosion. However, shorelines located along water bodies experiencing greater wave action, including estuarine wetlands, estuarine rocky shores, marine rocky shores, lotic wetlands, and lentic wetlands, provide a higher level of protection against erosion (Tiner 2003).

2.6 Provision of Habitat for Fish and Other Aquatic Animals

Wetlands that have been identified as significant for streamflow maintenance are considered vital to sustaining the watersheds ability to provide in-stream fish habitat. While these wetlands are not significant habitats themselves, they provide water that is essential for all aquatic life (Tiner 2003). Terrene outflow wetlands and lotic basin wetlands along low order streams discharge cool groundwater to the receiving stream, which provides cooler stream temperatures for cold water species.

2.7 Provision of Waterfowl and Waterbird Habitat

Wetlands are significant waterfowl and waterbird habitat if they are used for nesting, reproduction, or feeding. Shorebirds will use a variety of wetland habitats, including river floodplains, natural and managed wetlands, gravel and sand bars, lake shorelines, reservoirs, and even flooded agricultural fields (Potter et al. 2007). Waterfowl also use wetland habitats for foraging, nesting, and brood rearing. For this type of study, wetlands containing greater amounts of water and those that are frequently flooded for long periods may be of greater emphasis (Tiner 2003).

2.8 Provision of Other Wildlife Habitat

Wetlands provide habitat for a variety of wildlife, and may be used in all stages of an organism’s life cycle, from egg and juvenile though adulthood. On a regional level, the diverse wildlife using wetlands are reflected through recent assessments conducted at large-scale wetland restoration sites in both southern (Goose Pond) and northern (Eagle Marsh) Indiana (Karns et al. 2012, Ruch et al. 2016). The type and amount of wildlife that will use a wetland habitat is, to some extent, contingent upon a number of variables, including the site type (bottomland, upland, or association with nearby waterbodies), surrounding habitat type (natural versus developed), degree of vegetative interspersion, and proximity/distance to other wetlands (Golet 1972). Because certain wildlife species are dependent on large, continuous tracts of forest, wetlands associated with large forest stands are of particular value. Some species of amphibians require seasonal or fishless wetlands for successful reproduction; thus small, seemingly insignificant, wetlands may be critical for their ongoing survival.

2.9 Conservation of Biodiversity

The structure of a wetland as it relates to vegetation density, wetland depth, and drying regime can greatly influence the diversity and types of organisms that utilize a habitat. For example, shallow water mudflats provide foraging habitat for wading shorebirds, but greater water depth, area, and vegetation has shown a positive influence on diving ducks (Webb et al. 2010). A wetland complex containing a matrix of wetlands with varying hydrology (seasonal, semi-permanent, and permanent) can help ensure the persistence of amphibian populations during years of drought; as seasonal and semi-permanent wetlands dry, permanent wetlands become the only habitat available for reproduction (Lannoo 1998). Essentially, different types of wetlands provide habitat for different types of organisms. Thus, wetlands containing varied wetland habitats or those that contribute to a heterogeneous landscape improve opportunities for increased biological diversity and may be considered to be of higher value in a watershed analysis. Unique or uncommon wetlands (such as bogs or fens) may be especially critical for the survival of organisms with specialized habitat requirements or unique life histories. These types of wetlands may be considered to be of high value when identifying important wetland types within a watershed.

3 Methods

3.1 Existing Geospatial Datasets

There were four primary geospatial datasets utilized to conduct the LLWFA. The location of waterbodies in the watershed were displayed using USGS NHD from 2008. Topography and elevation were displayed using USGS elevation contours at a scale of 1:24,000 in combination with DEM data. The location of wetlands in the watershed were displayed using the 2016 USFWS NWI dataset.

3.2 Geospatial Analysis

All geospatial analysis was done in ArcGIS 10.4. GIS data created during the Headwaters Yellow River watershed LLWFA followed the naming convention recommendations of the IGIC. The IGIC recommended naming convention incorporates a keyword, steward, extent, and date component. The keyword provides a description of the contents of the data, the steward identifies the creator of the dataset, the extent describes the geographic extent of the dataset, and the date describes the date the dataset was created or modified. Below is the structure of the recommended naming convention that was utilized:

keyword_steward_extent_date

3.3 NWI+ Database & Data Analysis

The LLWFA utilized geospatial data in ArcGIS 10.4 to perform complex analyses of existing databases to determine the functional significance of the wetlands in the Headwaters Yellow River watershed. This will allow for a refined prioritization of future wetland protection, restoration, and enhancement in the watershed. Wetland function was assessed using techniques developed by the USFWS (USFWS 2013). This technique uses the NWI data to characterize and assess the function of wetlands at a watershed-scale. First, hydrogeomophic-type descriptors were added to the NWI dataset creating a “NWI+ database”. This technique takes into account the landscape position, landform, and water flow path of NWI wetlands (Tiner 2011). Landscape position describes the location of wetlands relative to the location of other waterbodies including lotic, lentic, and terrene systems (Figure 3-1). Landform describes the physical shape of the each wetland including basin, flat, floodplain, fringe, island, and slope shaped wetlands. Water flow path describes the direction of the flow of water associated with each wetland including outflow wetlands, through-flow wetlands, inflow wetlands, isolated wetlands, and bidirectional-nontidal wetlands (Figure 3-2) ; USFWS 2013).

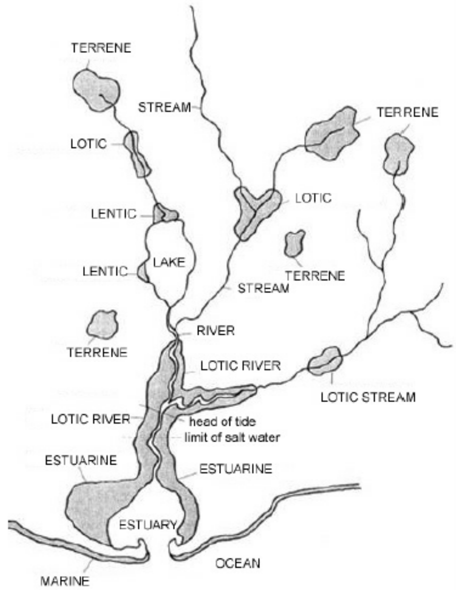

Figure 3-1. Example of wetlands classified by landscape position (Tiner, McGuckin, and Herman 2015).

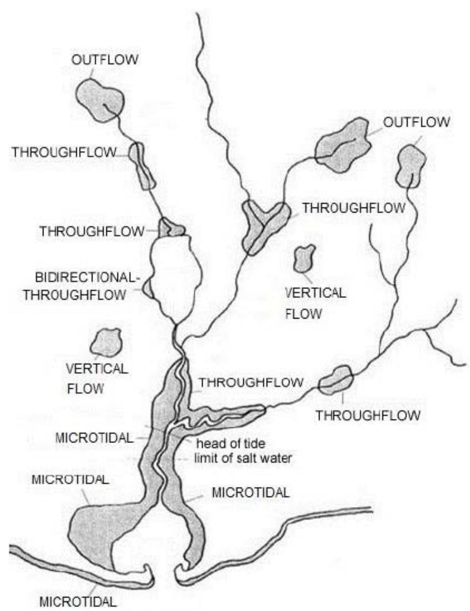

Figure 3-2. Example of wetlands classified by water flow path (Tiner, McGuckin, and Herman 2015).

Wetland function was determined using relationships between the properties described in the NWI+ database and established wetland functions. The NWI+ database was used to identify wetlands with potential to perform a variety of functions at high or moderate levels. The nine functions that were used to evaluate wetlands include surface water detention, streamflow maintenance, nutrient transformation, sediment and particulate retention, bank and shoreline stabilization, fish and aquatic invertebrate habitat, waterfowl and waterbird habitat, habitat for other wildlife, and habitat for unique wetland plant communities.

Wetlands were assigned high correlations, moderate correlations, or no correlations with each of the nine functions based on wetland function correlations described in Tiner 2003.

To determine the overall LLWFA priority of each wetland an overall LLWFA score was calculated. The score was determined by assigning all high correlations with metrics a score of “3”, moderate a score of “1” and no correlation a score of “0.” For each wetland the cumulative score was then calculate and based on the scores of the nine metrics. Wetlands that received a score of < 11 received a “low” priority, 11-17 a “moderate” priority and 18 or greater a “high” priority.

The NWI+ database, functional metric correlations and LLWFA overall scoring can be found in Appendix A.

3.4 Windshield Survey Planning

Following the development of the NWI+ database and initial wetland functional assessments using the LLWFA, the wetland polygons within the watershed were prioritized. This was completed by viewing the NWI data over satellite imagery in Google Earth. Utilizing the historical aerials, each polygon was analyzed to determine its priority to survey during the windshield survey. Wetlands that were excluded, included manmade ponds and retention basins, heavily fragmented wetlands within agricultural and urban areas, and small depressions within farm fields. These excluded areas serve a purpose for recharging groundwater, but do not offer significant ecological functions. Wetlands that were to be surveyed were given a rank of low, medium, and high priority. A more detailed description of the windshield survey planning is available in Section 5.

3.5 Windshield Survey

The windshield survey was conducted by Cardno on November 15-17 and November 20, 2017. During the windshield survey wetland characteristics were field verified by driving throughout the watershed and conducting rapid visual surveys of wetlands visible from public roads. During the windshield survey an excel spreadsheet was completed documenting any habitat alterations, upland buffers, adjacent land-uses, and presence of invasive species for each of the surveyed wetlands (Appendix B). In the event that data could not be collected on a wetland, the wetland number(s) and date of the survey was documented, as well as the reason the wetland could not be surveyed. A more detailed description of the windshield survey is available in Section 5.

4 Results

4.1 Surface Water Detention

The watershed contains 702 wetlands totaling 5,267 acres that are categorized as being highly functioning for surface water detention. Twenty-five percent of the total acreage of the highly functioning wetlands in the watershed are located in the floodplain of the mainstem of the Yellow River (Figure 4-1). There are another 2,481 wetlands totaling 5,613 acres that are categorized as being moderately functioning for surface water detention. The distribution of wetlands categorized as a moderate function for surface water detention are evenly distributed through the Headwaters Yellow River Watershed (Figure 4-1).

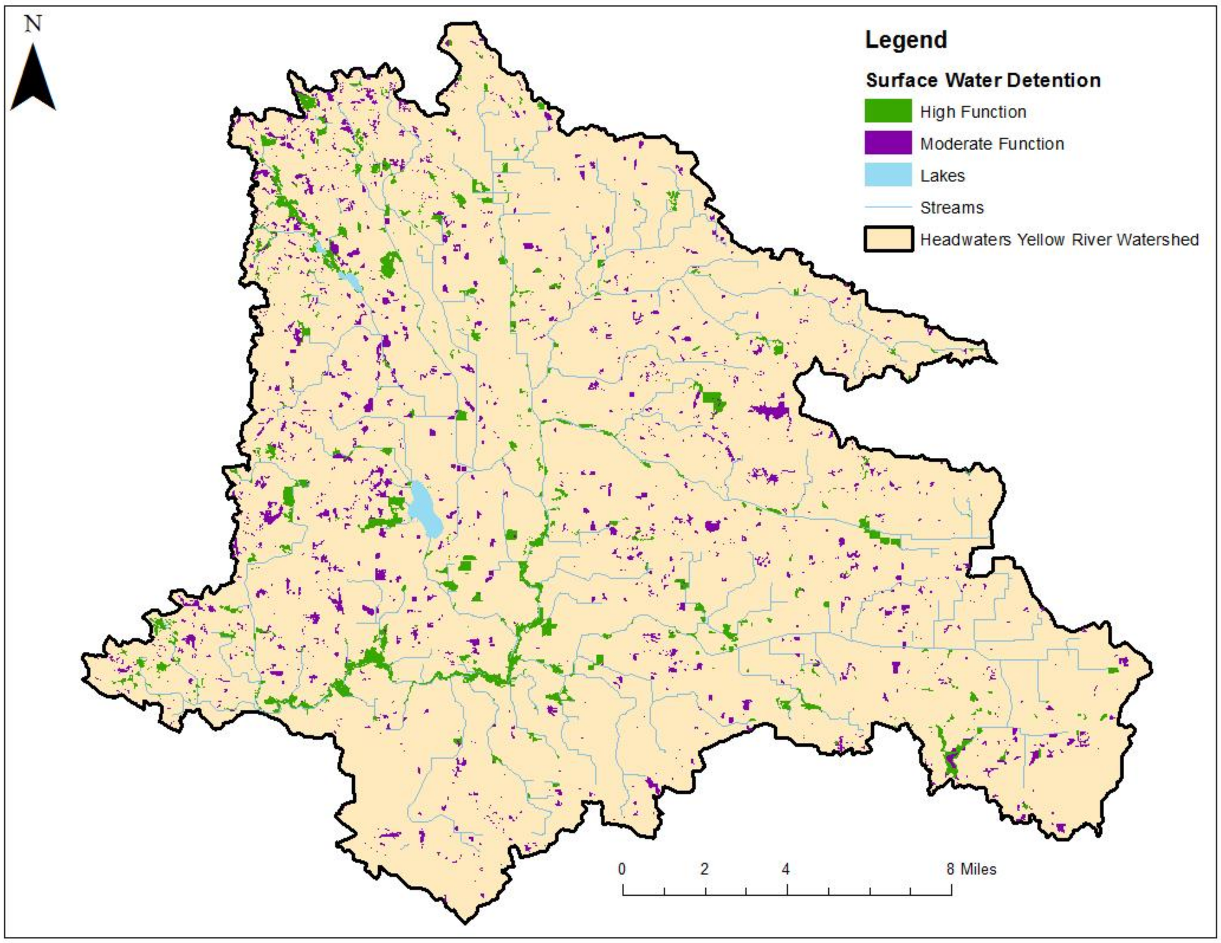

Figure 4-1. Existing high and moderate surface water detention wetlands in Headwaters Yellow River Watershed.

4.2 Streamflow Maintenance

The watershed contains 2,674 wetlands totaling 7,756 acres that are categorized as being highly functioning for streamflow maintenance. These highly functioning wetlands are evenly distributed across the Headwaters Yellow River watershed (Figure 4-2). There are 509 wetlands totaling 3,124 acres categorized as being moderately functioning for streamflow maintenance. Of the 3,161 acres of moderately functioning wetlands in the watershed, 572 acres are located along the floodplain of the mainstem of the Yellow River (Figure 4-2).

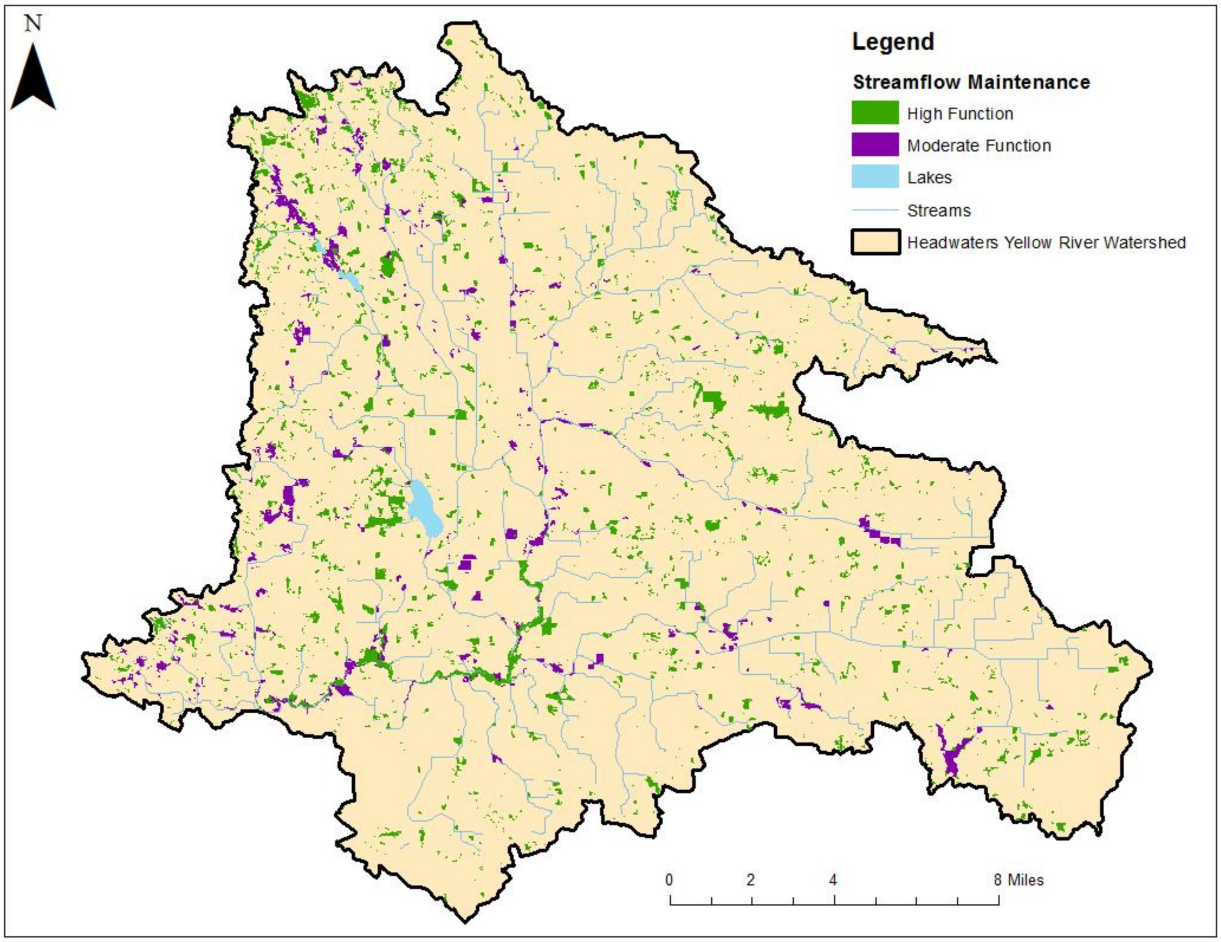

Figure 4-2. Existing high and moderate streamflow maintenance wetlands in Headwaters Yellow River Watershed.

4.3 Nutrient Transformation

There are 1,514 wetlands totaling 5,127 acres that are categorized as being highly functioning for nutrient transformation. The majority of these wetlands are forested wetlands (80 percent), followed by emergent wetlands (15 percent), and ponds (4 percent). The few ponds categorized as highly functioning for nutrient transformation are categorized as high because they share a boundary with another wetland that is categorized as highly functioning. Eighteen percent of the total acreage of the highly functioning wetlands in the watershed are located in the floodplain of the mainstem of the Yellow River (Figure 4-3). The Headwaters Stock Ditch and West Bunch Branch subwatersheds also contain 481 wetlands totaling 1,419 acres categorized as highly functioning for nutrient transformation (Figure 4-3). There are another 1,175 wetlands totaling 5,313 acres that have been categorized as a moderately function wetland for nutrient transformation. The wetlands categorized as moderately functioning are scattered and evenly distributed throughout the watershed (Figure 4-3). Lastly, there are 494 ponds totaling 440 acres in the watershed that perform negligible nutrient transformation.

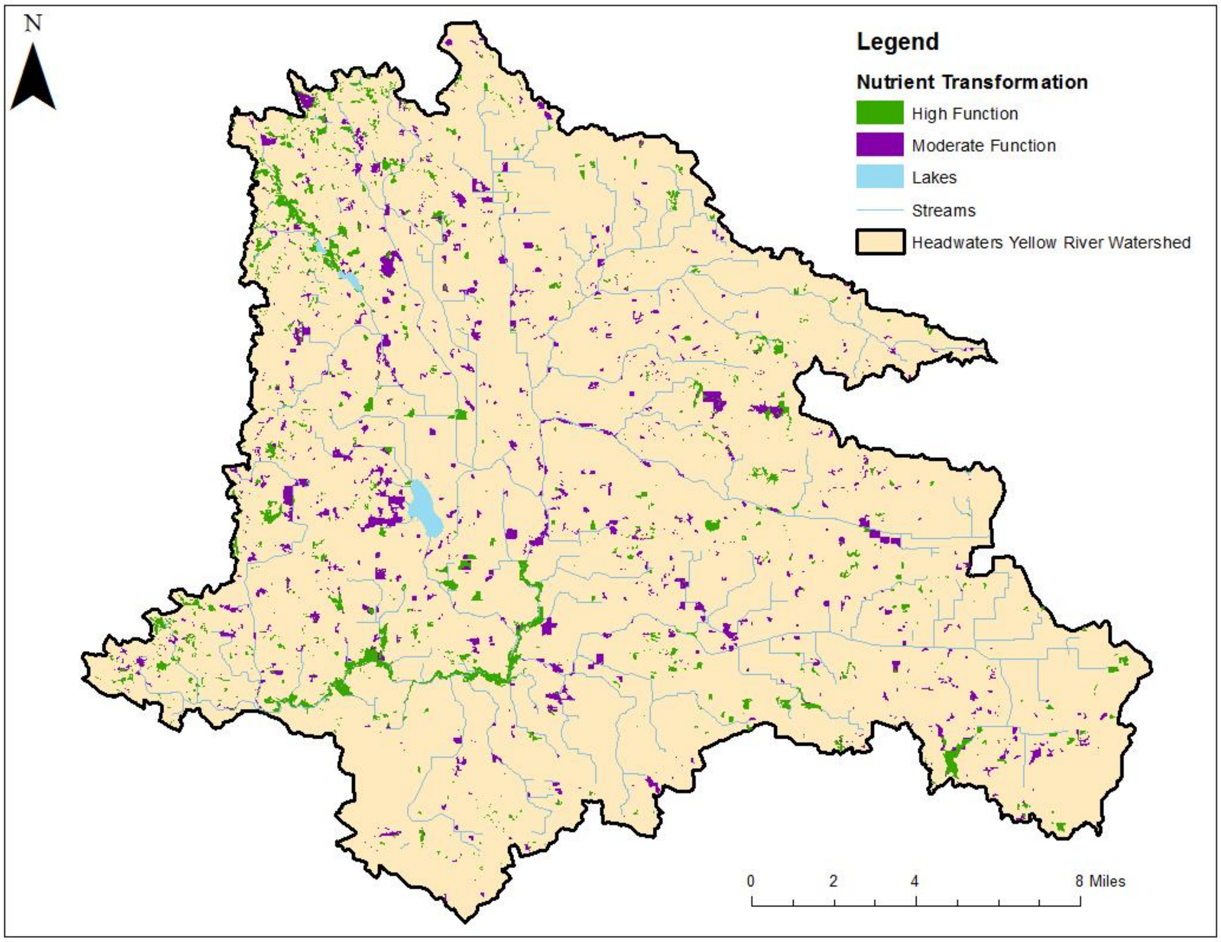

Figure 4-3. Existing high and moderate nutrient transformation wetlands in Headwaters Yellow River Watershed.

4.4 Retention of Sediment and Other Particulates

The watershed contains 710 wetlands totaling 5,277 acres that are categorized as being highly functioning for the retention of sediment and other particulates. The majority of these wetland are forested wetlands (71 percent), followed by emergent wetlands (26 percent), and ponds (3 percent). Twenty-five percent of the total acreage of the highly functioning wetlands are spatially distributed along the mainstem of the Yellow River in the floodplain and in the northwest portion of the watershed (Figure 4-4). However, there are a limited number of highly functioning wetlands for the retention of sediment and other particulates in the eastern portion of the watershed (Figure 4-4). There are another 2,465 wetlands totaling 5,579 acres that are moderately functioning for the retention of sediment and other particulates. These moderately functioning wetlands are scattered and evenly distributed throughout the watershed.

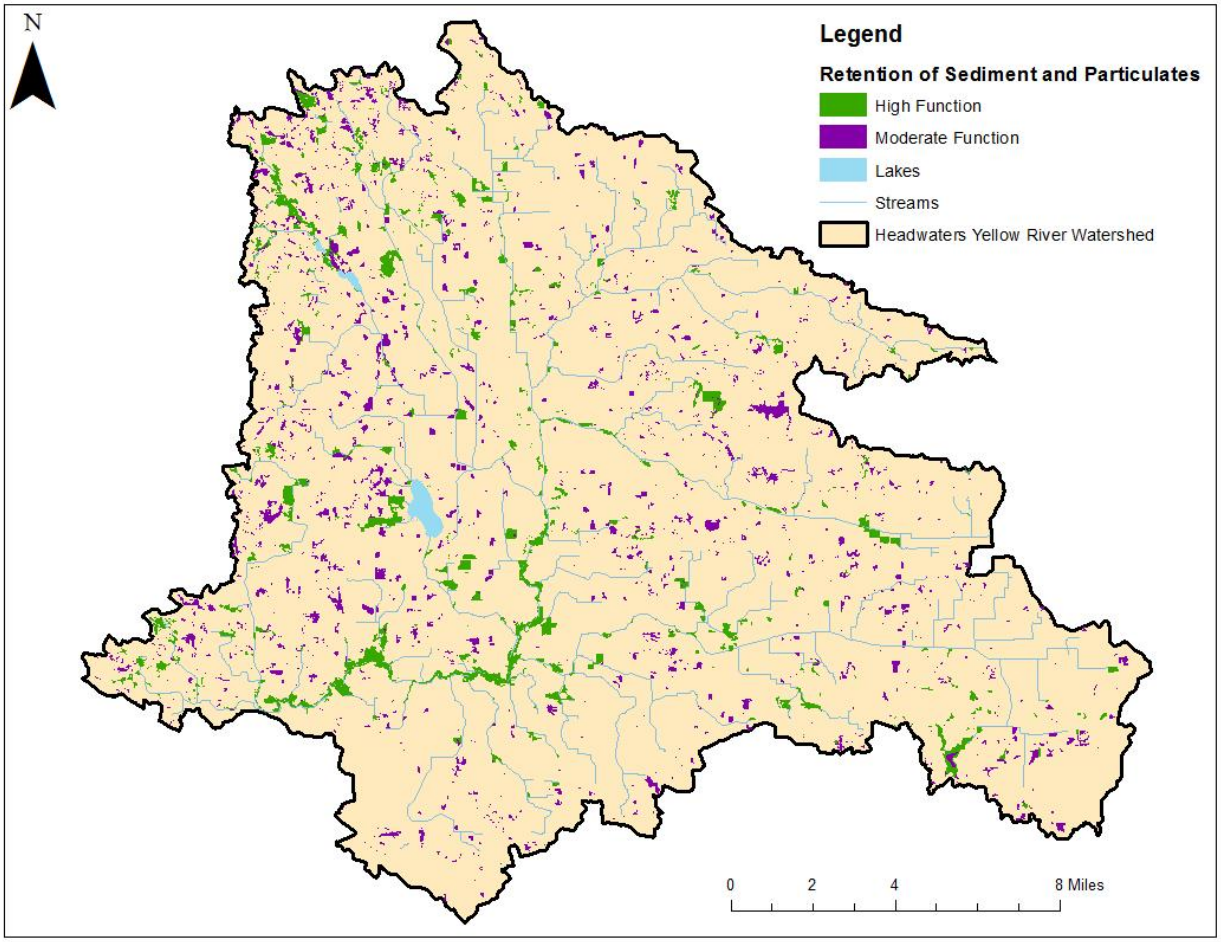

Figure 4-4. Existing high and moderate sediment retention wetlands in Headwaters Yellow River Watershed.

4.5 Shoreline Stabilization

There are 702 wetlands totaling 5,267 acres categorized as highly functioning for shoreline stabilization. The majority of the highly functioning wetlands are forested wetlands (71 percent), followed by emergent wetland (26 percent), and ponds (2 percent). Each of these wetlands shares a boundary with a lentic or lotic waterbody and therefore protects the shoreline. Historically, streambank erosion from the mainstem of the Yellow River has been believed to be a major source of sediment into the Kankakee River. Therefore, the forested floodplain wetlands located along the mainstem of the Yellow River are an important component of the ecosystem (Figure 4-5). Lastly, there are another 779 wetlands totaling 536 acres categorized as moderately functioning for shoreline stabilization. These moderately functioning wetlands are primarily wetlands that are associated with the shoreline stabilization of ponds (Figure 4-5).

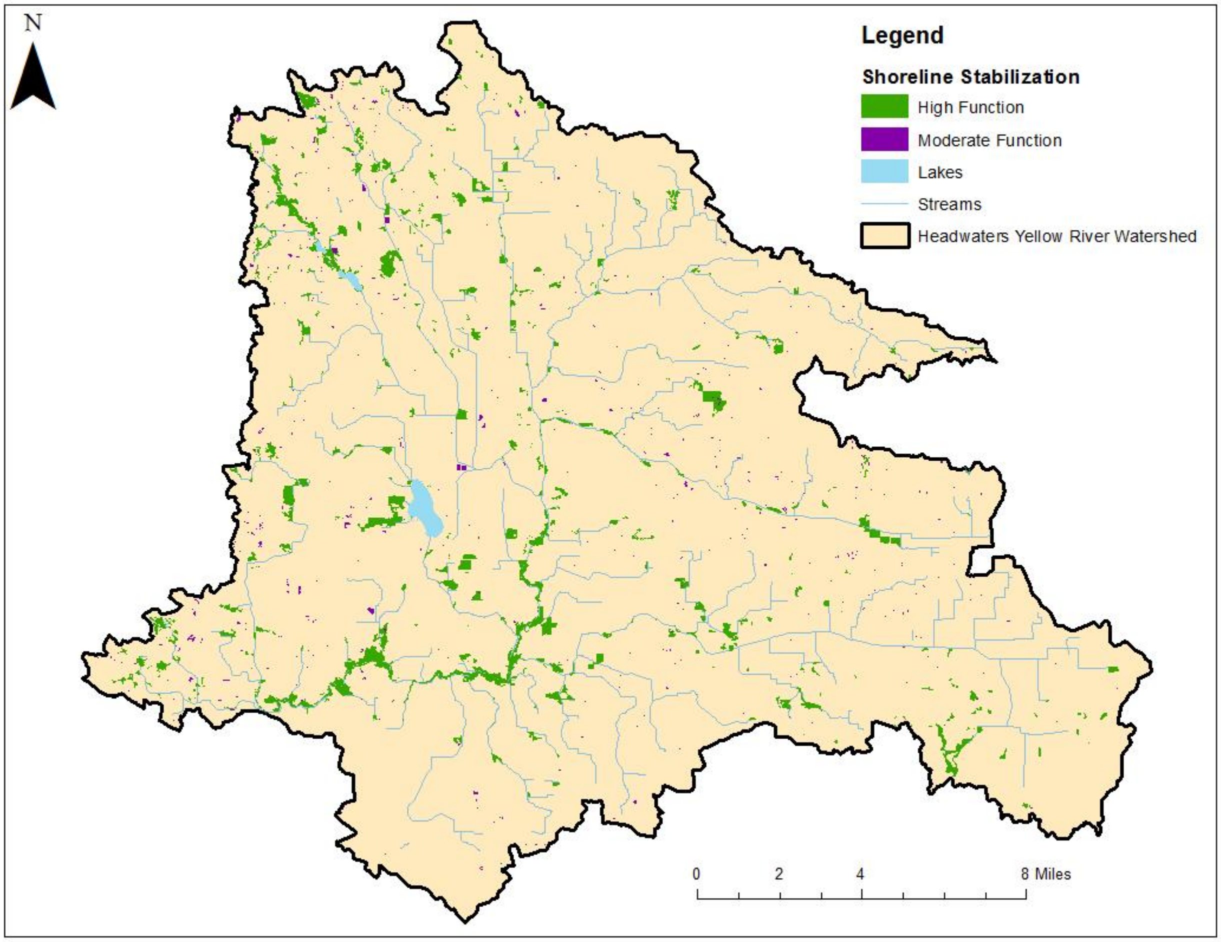

Figure 4-5. Existing high and moderate shoreline stabilization wetlands in Headwaters Yellow River Watershed.

4.6 Provision of Habitat for Fish and Other Aquatic Animals

The watershed contains 936 wetlands totaling 831 acres categorized as highly functioning for the provision of habitat for fish and other aquatic animals. The majority of the highly functioning wetlands in the watershed are forested wetlands (42 percent), followed by emergent wetlands (31 percent), and ponds (27 percent). While many of the forested and emergent wetlands do not provide actual habitat for fish, they provide water to headwater streams and maintain baseflows that are necessary for fish communities. The highly functioning wetlands are evenly scattered throughout the watershed (Figure 4-6). There are another 354 wetlands totaling 3,948 acres categorized as moderately functioning, of local importance, or important for stream shading. The wetlands categorized as moderately functioning, of local importance, or important for stream shading, are located primarily in the floodplain of the mainstem of the Yellow River (Figure 4-6).

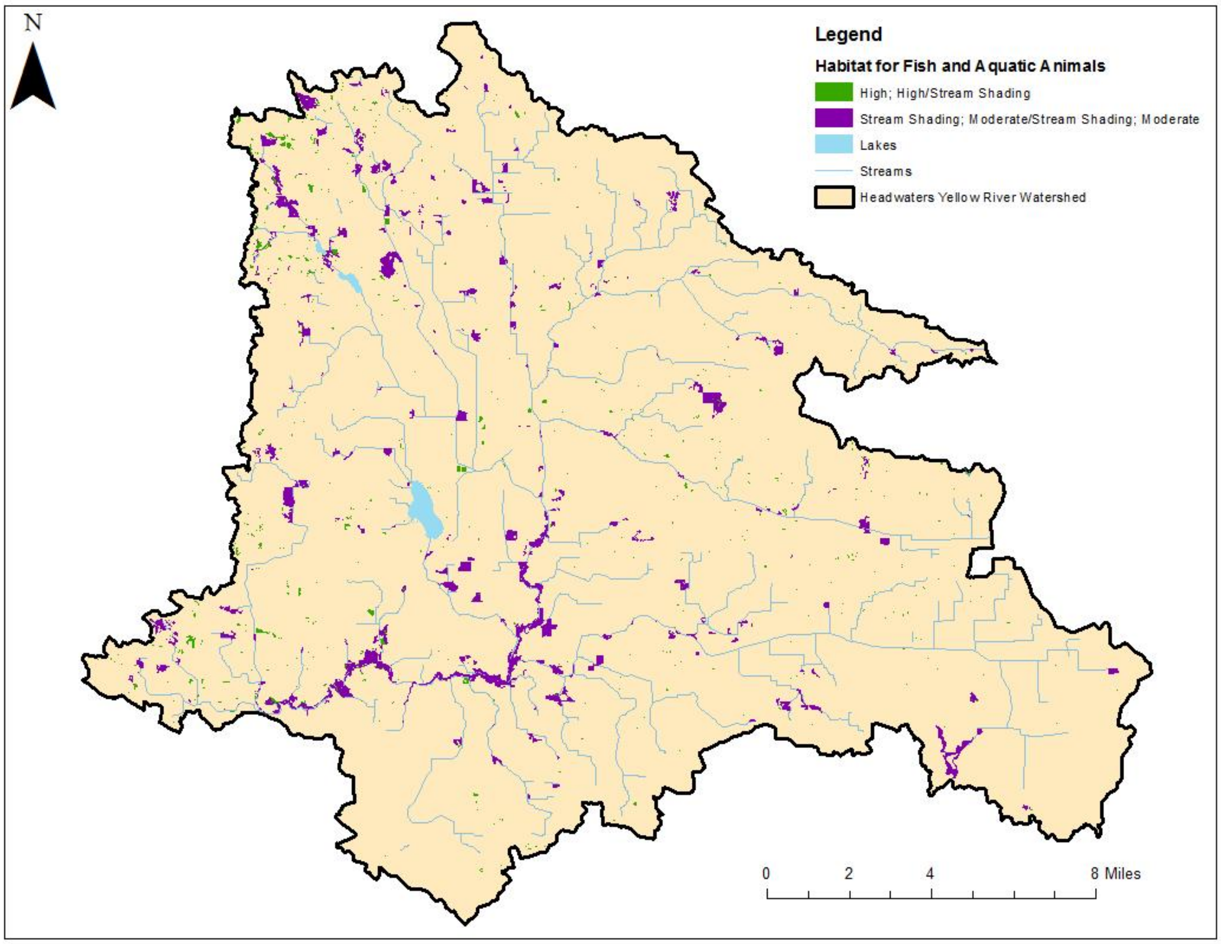

Figure 4-6. Existing high and moderate fish habitat wetlands in Headwaters Yellow River Watershed.

4.7 Provision of Waterfowl and Waterbird Habitat

The watershed contains 651 wetlands totaling 1,823 acres categorized as highly functioning for the provision of waterfowl and waterbird habitat. Highly functioning wetlands for the provision of waterfowl and waterbird habitat are relatively small with an average size of 2.8 acres. There are 300 wetlands totaling 2,974 acres categorized as moderately functioning. While there are relatively few wetlands that are highly functioning, or moderately functioning, for the provision of waterfowl and waterbird habitat, there is a significant quantity of wetland area in the watershed that is appropriate wood duck habitat. Wood ducks prefer wetlands, rivers, lakes, and ponds that are surrounded by deciduous forest (Dugger and Fredrickson 1992). Therefore, the 1,094 acres of primarily forested wetlands along the mainstem of the Yellow River are valuable wood duck habitat (Figure 4-7). In fact, these wetlands alone account for approximately 30 percent of all of the wood duck habitat in the Headwaters Yellow River watershed.

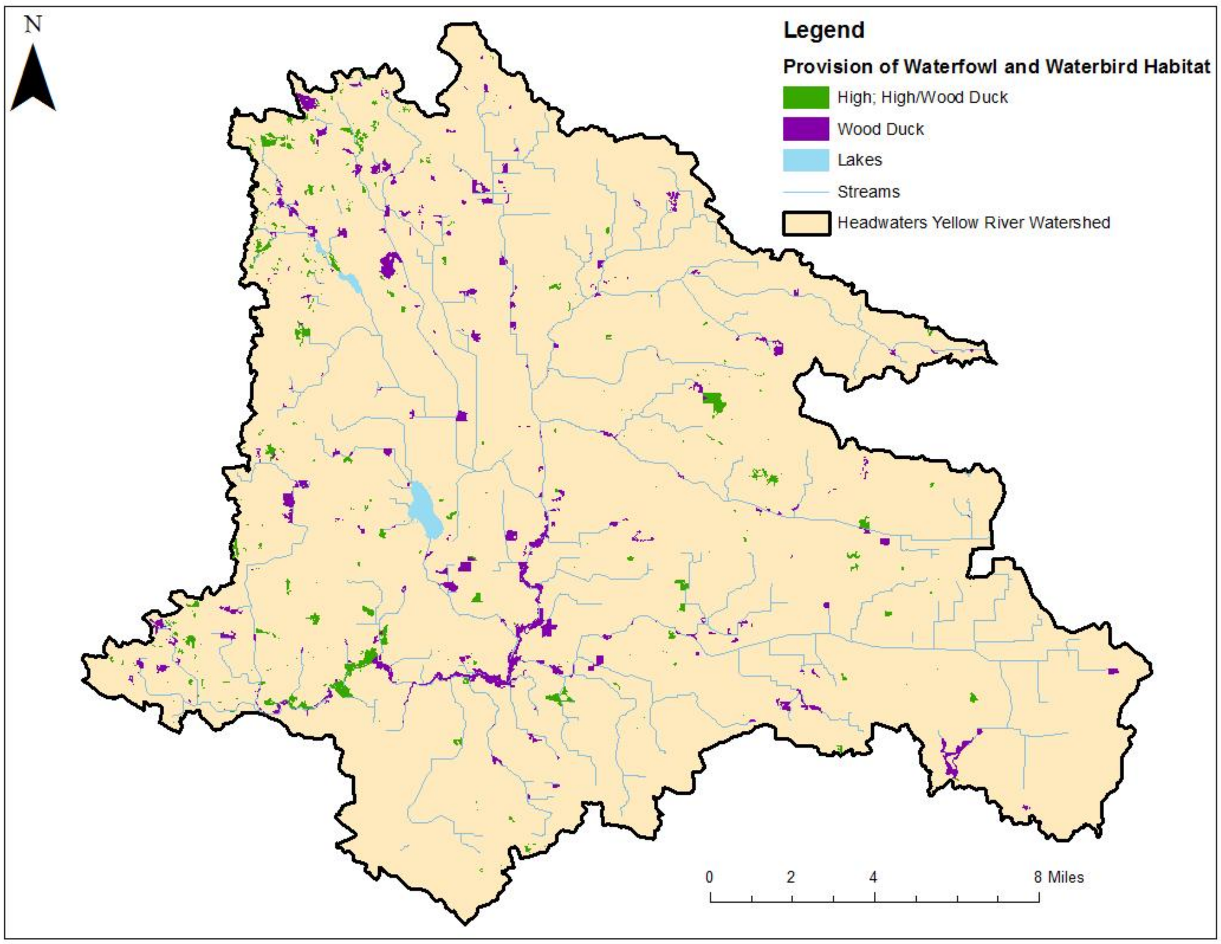

Figure 4-7. Existing high and moderate waterfowl habitat wetlands in Headwaters Yellow River Watershed.

4.8 Provision of Other Wildlife Habitat

The watershed contains 255 wetlands totaling 5,397 acres categorized as highly functioning for the provision of other wildlife habitat. Seventeen percent of the total acreage of the highly functioning wetlands are spatially distributed along the mainstem of the Yellow River in the floodplain and in the northwest portion of the watershed (Figure 4-8). There are 2,928 wetlands totaling 5,482 acres categorized as moderately functioning from the provision of other wildlife habitat. These moderately functioning wetlands are scattered evenly throughout the Headwaters Yellow River watershed.

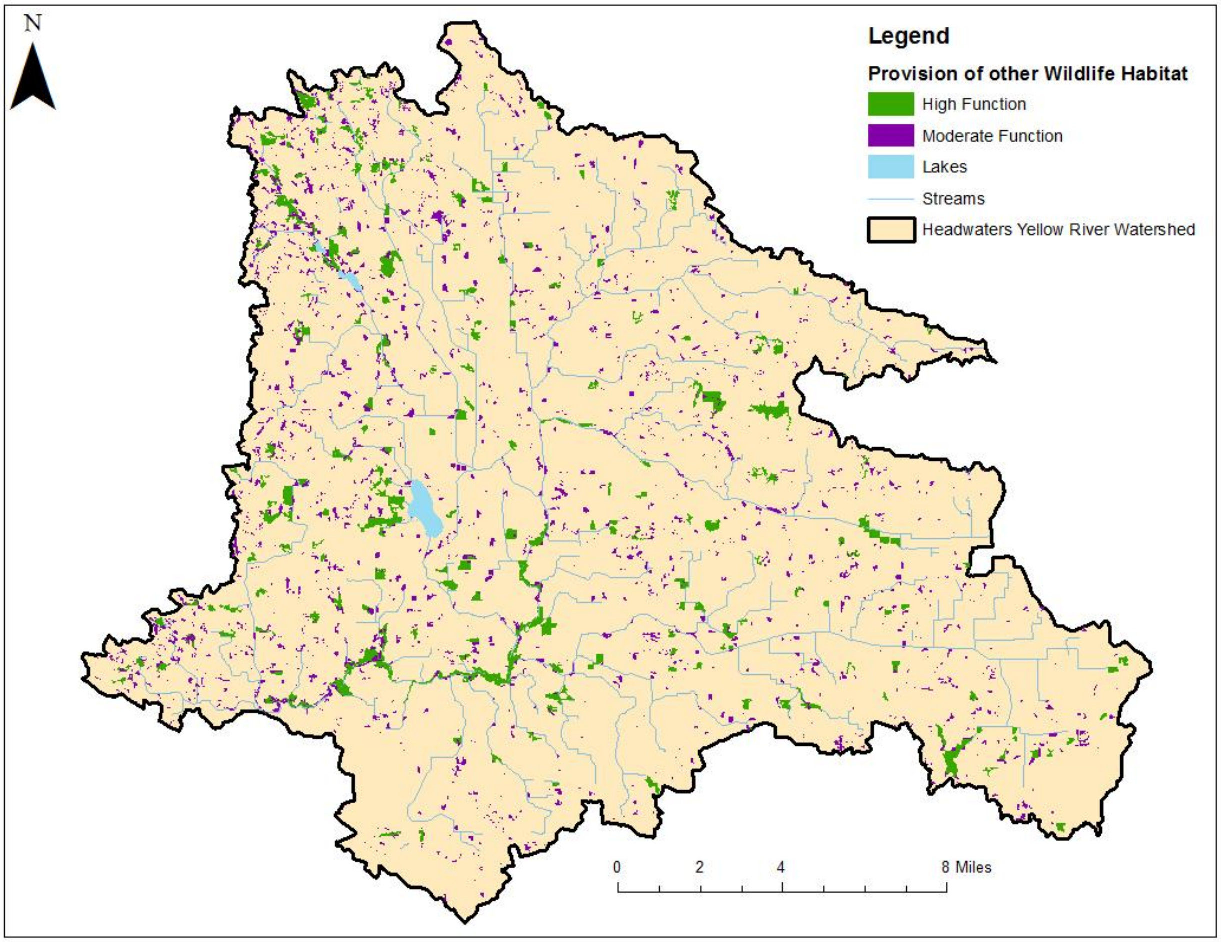

Figure 4-8. Existing high and moderate wildlife habitat wetlands in Headwaters Yellow River Watershed.

4.9 Conservation of Biodiversity

The watershed contains 50 wetlands totaling 2,093 acres categorized as significant for the function of the conservation of biodiversity. There are two wetlands totaling 135 acres categorized as regionally significant for the function of conservation of biodiversity. For the purposes of this assessment, wetlands were identified as significant for the conservation of biodiversity if a wetland was 25 acres or larger and was a forested/shrub or emergent wetland type. The two wetlands listed as regionally significant for the conservation of biodiversity are associated with a rare bog habitat, the only one of its kind within the watershed. The two wetlands are associated with the Glennwood Nature Preserve managed by Acres Land Trust and located in Kosciusko County (Figure 4-9). Significant wetlands for the conservation of biodiversity are spread throughout the watershed but there are a number wetlands located along the Yellow River, south of Bremen (Figure 4-9).

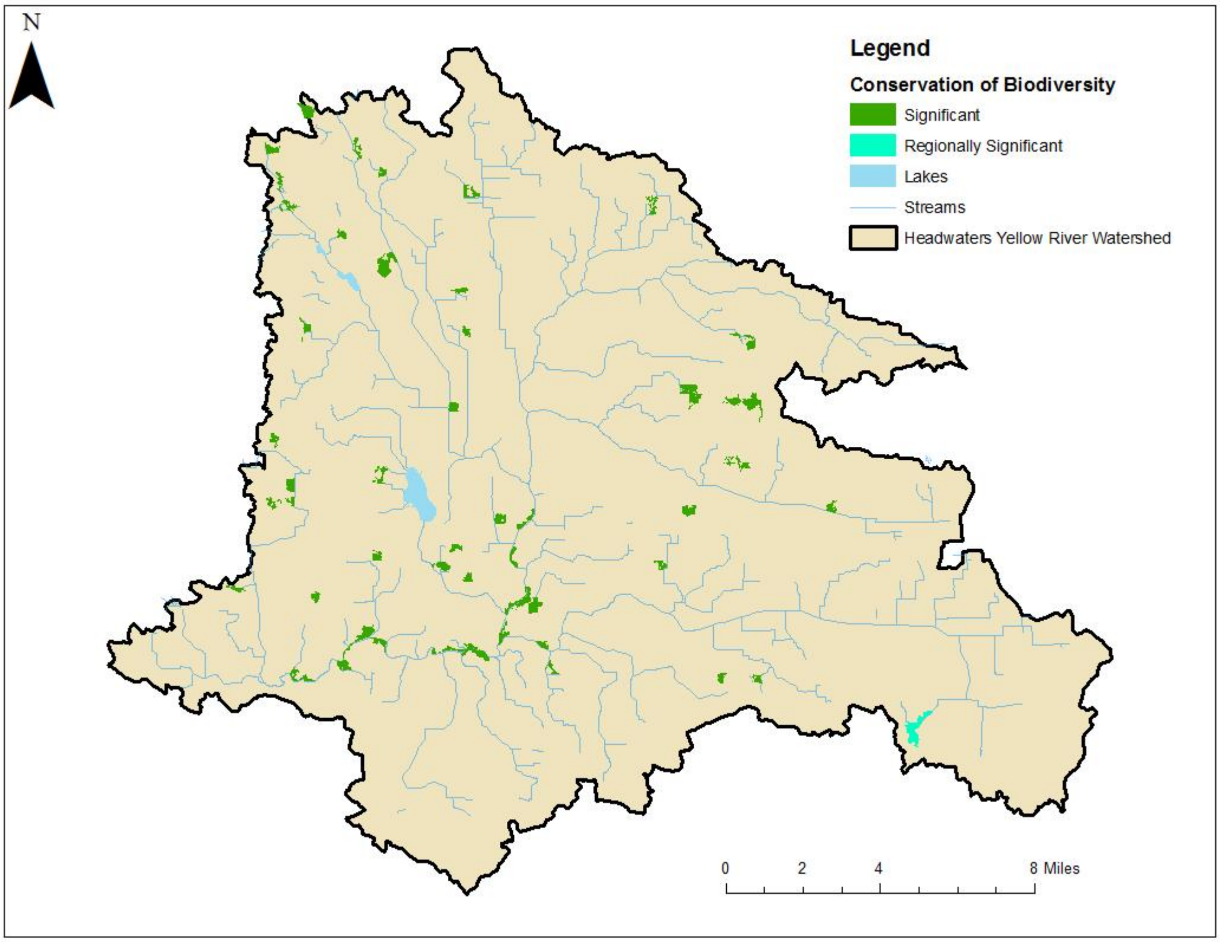

Figure 4-9. Existing significant and regionally significant conservation of biodiversity wetlands in Headwaters Yellow River Watershed.

5 LLWFA Windshield Survey

5.1 Windshield Survey Planning

Prior to conducting the windshield survey, the wetland polygons located within the Yellow River watershed were prioritized for viewing during the windshield survey effort. This was accomplished by viewing the NWI wetlands data over satellite imagery in Google Earth. By doing so, historical aerial images could be utilized to observe and note significant features within and around each wetland. Based on this information, each wetland was then ranked based on its priority to view during the windshield survey. Prioritization of the wetlands allowed for a greater focus on wetlands that performed multiple functions listed in section four, while reducing time spent on impacted and manmade wetlands, and wetlands located too far from public roads. These assigned rankings were low, medium, and high priority, while some were excluded entirely (Figure 5-1).

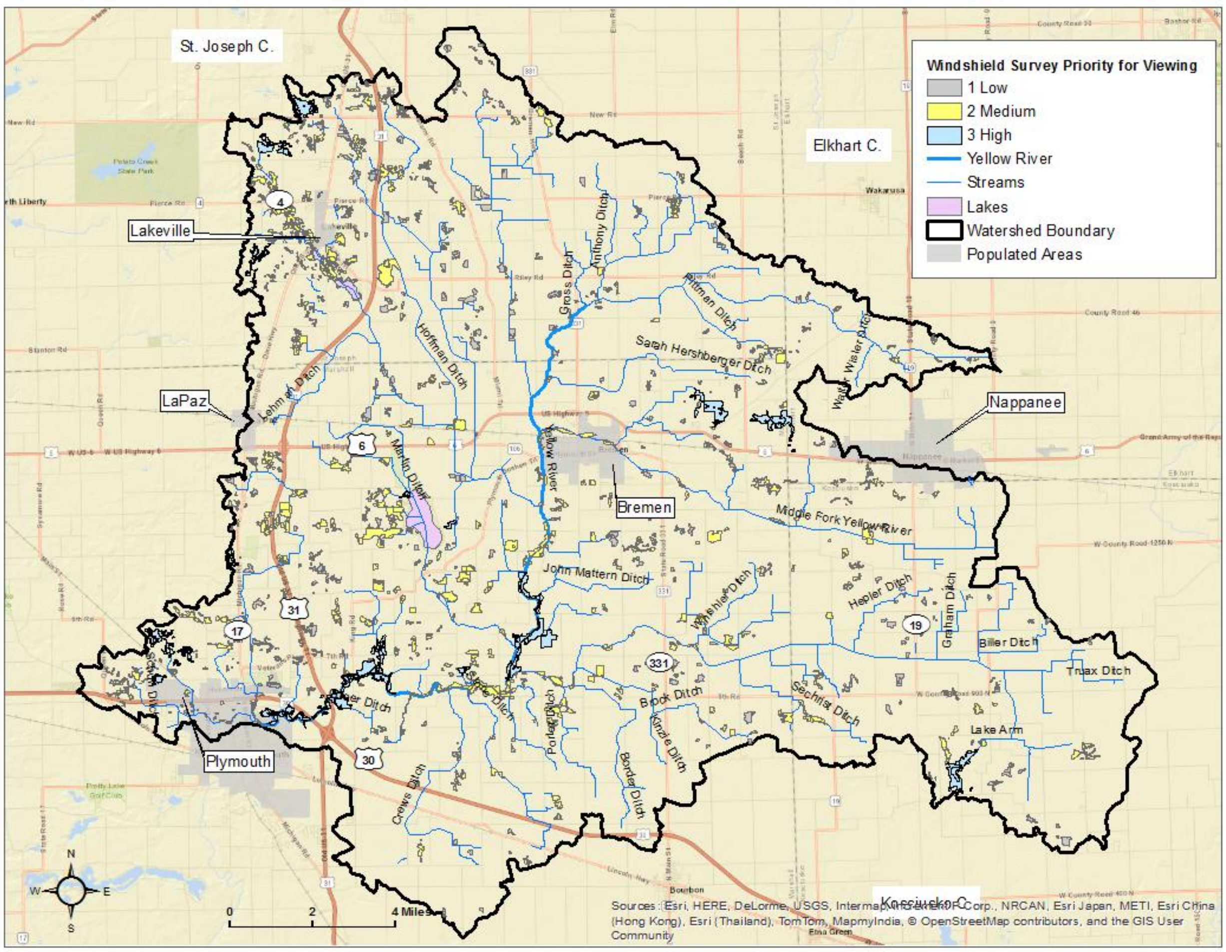

Figure 5-1. Windshield Survey viewing priority ranking developed from satellite imagery review.

5.1.1 Excluded Wetlands

Wetlands that were excluded, included manmade ponds and retention basins, heavily fragmented and impacted wetlands within agricultural and urban areas, and small, isolated, depressions within agricultural areas. An example of an excluded wetland is a row crop field that the hydrology has been altered through the use of drainage tile allowing for the regular growth of crops. The NWI numbers associated with these wetlands were included on the field survey map for any potential notes regarding potential restoration.

5.1.2 Low Priority Wetlands

Low priority wetlands were ranked as such based on the ease of viewing during the survey, the manipulations to the wetland or surrounding area, and if they were impacted as a result of the surrounding land-use. Some that fell within this priority level may serve a higher number of the wetland functions, but the greater distance of these wetlands from public roads would not allow for this to be confirmed without landowner access.

5.1.3 Medium Priority Wetlands

Medium priority wetlands were those that were larger, isolated wetlands that were visible from public roads. Wetlands given this priority level provide some of the wetland functions, but the surrounding land-use, and/or hydrological manipulation, has reduced the number of functions that the wetland originally served. An example of a medium priority wetland is a forested wetland that has been isolated by the surrounding construction of commercial and/or residential properties.

5.1.4 High Priority Wetlands

High priority wetlands were large wetland complexes and other wetlands that were directly associated with the watershed. These were wetlands that were located along the Yellow River, or those that were associated with the headwaters of the ditches within the watershed. As such, these areas potentially provide a large portion of the wetland functions. An example of a high priority wetland is a forested floodplain wetland located along the Yellow River. While the surrounding area may have been developed in some way, these potential remnant wetlands have had minimal impact from the surrounding land-uses.

5.2 Windshield Survey

Utilizing a created map of the Yellow River watershed, the windshield survey was divided between four field days, November 15-17 and November 20, 2017, and was performed entirely from public roads. During this survey an excel spreadsheet (Appendix B) was completed documenting upland buffers, habitat alteration, adjacent land-uses, and the presence of invasive plant species for each wetland. The date, associated NWI FID numbers, and additional comments were documented as well. In the event a wetland was not visible from the road, and accurate notes could not be documented, the NWI number was recorded and notes were taken regarding the reason(s) that no other information was collected. Each available selection on the field spreadsheet is expanded upon in the following sections.

5.2.1 Upland Buffers

An upland buffer is an area of upland vegetation directly adjacent to a wetland (Chase et al. 1995). During the survey it was determined only if an upland buffer was present or not.

5.2.2 Habitat Alteration

Over the course of the survey it was noted if habitat alteration was present or not. For the purposes of this study, habitat alteration was defined as any alteration to the hydrology, or any other change to the wetland that likely had a negative impact to the number of functions that it served. The primary means of alteration for the area was the creation of ditches and installation of drainage tiles to reduce the amount of water in a given area.

5.2.3 Adjacent Land-uses

The adjacent land use consisted of eleven separate types of land-use, with multiple that could be noted for each wetland. The selections available for agriculture were row crop, pasture, and confined feed operation. The two choices for residential were rural and urban, and urban was expanded upon with commercial and industrial uses. The remaining selections that could be chosen were forested, scrub-shrub, prairie, and open water to describe the surrounding natural area. Since it was possible to have more than one land-use around any wetland, multiple options could be selected to describe the adjacent land-use accurately.

5.2.4 Invasive Plant Species

The choices for invasive plant species consisted of six specific options. These options encompassed the main invasive species that are encountered throughout the watershed, as well as the option to note other prevalent invasive species in the wetland and the upland buffer. The species that could be selected from in the field were common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), cattail (*Typha* spp.), buckthorn (*Rhamnus* spp.), purple loosestrife (*Lythrum salicaria*), and teasel (*Dipsacus* spp.).

5.2.5 Additional Comments

The additional comments area was available to expand upon adjacent land-uses and invasive plant species in the event that a selection was not available to accurately document a wetland. Also, this section was used to add comments as to why some wetlands could not be documented, and if there were potential restoration or enhancement activities that could be performed to restore wetland functions.

5.3 Summary of Windshield Survey Efforts

Results of the windshield survey included the investigation/designation of a total of 282 sites across the Headwaters Yellow River watershed (Appendix B). A site, as identified during the windshield survey (Appendix B) could be defined as a single NWI wetland if that individual wetland was isolated or a site could include multiple NWI wetlands in close vicinity to each other such that they were part of the same wetland complex. Most often a site as investigated during the windshield survey would include multiple NWI wetlands (Appendix B). The results of the windshield survey were used to help identify specific sites within the Headwaters Yellow River watershed where wetland priority management activities could take place in the future and are explained in more detail in Section 6.

6 Prioritized Management Actions

6.1 High Priority Wetlands

Wetland prioritization can be performed by any agencies and organizations using any of the functional categories described in section four. Functional categories can be more or less weighted based on the goals and objectives of the organization. However, the goal of this document is to provide guidance to organizations to maximize the benefits of future wetland protection, restoration, and enhancement opportunities. In order to maximize the benefit from future wetland protection, restoration, and enhancement opportunities a wetland ranking system has been utilized. This ranking system takes into account the functional value of each category equally, and therefore prioritizes all of the wetlands in the watershed based on their overall functional significance to the Headwaters Yellow River watershed at an ecosystem scale.

For each of the 3,182 wetlands identified in the Headwaters Yellow River watershed a final LLWFA score was calculated using the cumulative score developed from the correlations determined from each of the nine functional metrics. Each of the nine metrics for each wetland was given a score of 3, 1 or 0 depending on correlation of the wetland to the metric (Appendix A). High correlations received a score of 3, moderate a 1 and no correlation a 0. The overall cumulative score for each wetland was determined as high priority if the score was 18 or higher, moderate for scores of 11 through 17 and low for scores below 11.

There were a total of 184 high priority wetlands totaling 2,690 acres identified throughout the Headwaters Yellow River watershed (Figure 6-1). A total of 1,087 wetlands were identified as moderate priority and totaled 3,993 acres (Figure 6-1). A total of 1,911 wetlands were identified as low priority wetlands and totaled 4,163 acres (Figure 6-1). High priority wetlands had the greatest average size at 14.6 acres, followed by moderate (3.7 acres) and low (2.2 acres).

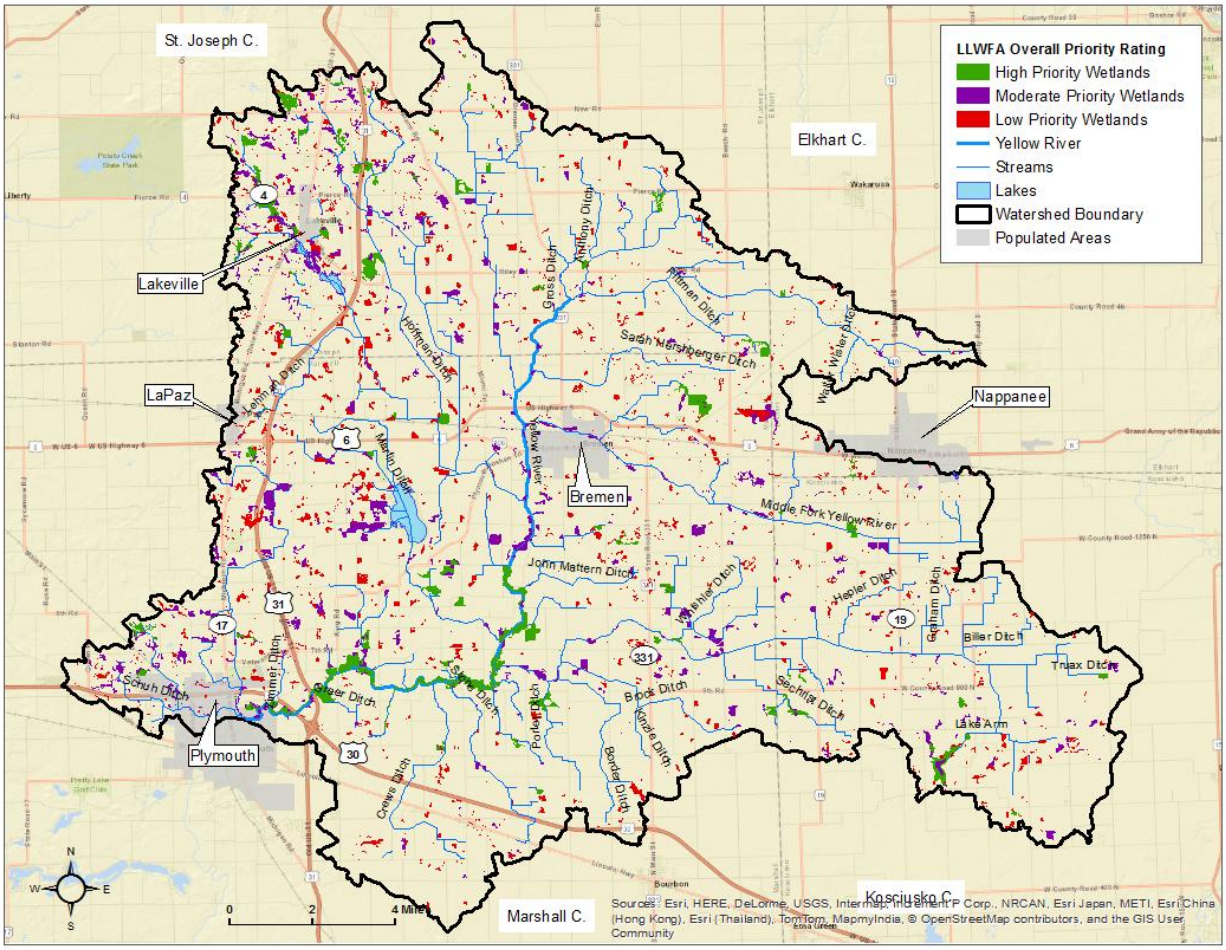

Figure 6-1. Overall LLWFA score priority rating within the Headwaters Yellow River watershed.

6.2 Specific High Priority Sites for Future Wetland Work

During the windshield survey, sites for possible wetland restorations and mitigations were identified (Appendix B). Following the completion of the survey, the identified sites were given further analysis using Google Maps Pro and Arc Maps 10.4. This was done by analyzing historical aerials and hydric soils maps. The list of sites was limited to the top 25 sites for possible wetland restoration (Appendix C). From there the list of sites was taken down to the top 10 sites ranked by how much of an impact a site would potentially improve water quality of the watershed. This was determined by considering multiple attributes for each site, along with professional experience in preforming wetland restoration and mitigation. The attributes analyzed during the ranking of potential sites were as follows: adjacency to woodland and open waterways, dominant soil types, ease of restoration, ease of site access, potential wetland to parcel size ratio, number of landowners of particles with potential wetlands, estimated restoration cost, critical areas identified in Yellow River Watershed Management Plan and any additional considerations observed (Appendix C). The preferred sites were adjacent to woodlands and especially open waterways. The majority of potential sites had some variety of muck soil type predominate. Ease of restoration and site access were assigned numbers, with lower numbers representing a better score. Potential wetland size was determined through analyzing topography and soil maps. This in turn determined which property parcels would have to be obtained for a wetland restoration to be completed. The sites that had a higher ratio of potential wetland acres to parcel acres were favored. Determining the ownership of parcels was important in ranking the top 10 wetlands. If a site had only one land owner it was considered more desirable. Sites located in critical areas identified in the Headwaters Yellow River WMP were given a higher ranking due to their potential for improving water quality in the watershed and availability for future funding sources. Estimated cost for restoration of each wetland was based solely on previous projects completed and best professional judgement. A KMZ file was created for the 25 sites listed in Appendix C and allows for the quick location of each site using Google Earth application. This KMZ file will be available from the Marshal County SWCD for future site inquiries. The latitude and longitude of each site is also available for each site in Appendix C.

6.3 Future Technical and Funding Resources

Available in Table 6-1 below is a list of potential technical and funding resources that could be utilized in future wetland work. The programs and grants listed are not the only options for the Headwaters Yellow River watershed but does include many of the common technical and funding sources used in this area.

Table 6-1. List of available technical and funding resources for wetland protection, restoration, and enhancement.

Agency	Program	Overview	Assistance
USDA	Wetland Reserve Program	A voluntary program that provides landowners with financial incentives to restore and protect wetlands in exchange for retiring marginal agricultural land.	Permanent Easement 30-year Easement Restoration Cost-Share Agreement
USDA	Conservation Reserve Program	Voluntary program that offers long-term rental payments and cost-share assistance to establish long-term, resource-conserving cover on environmentally sensitive cropland, or, in some cases, marginal pastureland.	50 percent of the cost of establishing a CRP practice
USDA	Farmable Wetlands Program	Designed to restore previously farmed wetlands and wetland buffer to improve both vegetation and water flow.	
USDA	Conservation Reserve Enhancement Program	The CREP is an offshoot of the CRP, targets high-priority conservation issues identified by local, state, or tribal governments or non-governmental organizations. In exchange for removing environmentally sensitive land from production and introducing conservation practices, farmers, ranchers, and agricultural land owners are paid an annual rental rate.	

USDA	Environmental Quality Incentives Program	The EQIP is a voluntary program that provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland.	Payments are made on completed practices or activities identified in an EQIP contract that meet NRCS standards.
USFWS	North American Wetlands Conservation Act Grants Program	Provides matching grants to carry out wetland conservation projects in the United States for the long-term protection of wetland and upland habitats which waterfowl and other migratory birds depend upon.	Project Grants - $50,000 to $1,000,000 1:1 non-federal cost - share
USFWS	Partners for Fish and Wildlife	Provides technical and financial assistance to private landowners, tribes and schools on a voluntary basis to restore, enhance and manage private land to improve fish and wildlife habitats.	
EPA	Five-Star and Urban Waters Restoration Program	Seeks to develop nationwide-community stewardship of local natural resources, preserving them for future generations and enhancing habitat for local wildlife. Projects seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development.	Grants - $20,000 to $50,000 1:1 non-federal cost - share
IDEM	Nonpoint Source Implementation Grants (319 Program)	Nonpoint source pollution reduction project can be used to protect water resource areas and the general water resources in a watershed by implementing BMP's	Organizations are usually required to provide 40% of the total project cost.
IDNR	Lake and River Enhancement (LARE) Grants	Engineering Design/Build Projects Engineering Feasibility Studies	LARE will provide funds for 80% of the total project cost.

7 Summary

The Marshall County SWCD received an EPA Region 5 Wetland Program Development Grant in September of 2015 to complete a Landscape–Level Wetland Functional Assessment for the Headwaters Yellow River watershed. The goal of the LLWFA assessment was to work in conjunction with the development of the Headwaters Yellow River Watershed Management Plan (WMP) to identify wetlands within the watershed of greatest value for future protection, restoration and enhancement. A better understanding of the functional value of each wetland in the Headwaters Yellow River watershed will provide valuable information to local, regional, and state agencies regarding the prioritization of restoration and conservation efforts.

The landscape-scale changes that have taken place in the Headwaters Yellow River watershed since European settlement have greatly impacted the wetlands of the watershed. At least 1,887 wetlands totaling 1,353.4 acres have been lost to land-use changes. However, there are 3,182 remaining wetlands totaling 10,847 acres, which have been mapped as part of the NWI. Forested wetlands account for the majority of the wetlands in the watershed (66 percent) followed by emergent wetlands (28 percent), and ponds (6 percent). Of the 3,182 wetlands covering 10,847 acres in the watershed, approximately 764 wetlands (24 percent) accounting for 2,124 acres (19.5 percent) are listed as being partially drained/ditched or modified by human disturbance by excavation. Additionally, 348 wetlands (11 percent) in the watershed are listed as “farmed” wetlands. Farmed wetlands cover 1,523 acres or 14 percent of the overall watershed NWI dataset.

The LLWFA utilized geospatial data in ArcGIS 10.4 to perform complex analyses of existing databases to determine the functional significance of the wetlands in the Headwaters Yellow River watershed. There were a total of 184 high priority wetlands totaling 2,690 acres identified throughout the Headwaters Yellow River watershed. A total of 1,087 wetlands were identified as moderate priority and totaled 3,993 acres. A total of 1,911 wetlands were identified as low priority wetlands and totaled 4,163 acres. High priority wetlands had the greatest average size at 14.6 acres, followed by moderate (3.7 acres) and low (2.2 acres). Critical areas as identified in the Headwaters Yellow River WMP, contain a significant percentage of high and moderate priority wetlands identified in the LLWFA analysis. Critical areas contain 83% of the high priority wetlands, totaling 2,319 acres and 76% of the moderate priority wetlands, totaling 3,004 acres.

The windshield survey included the investigation/designation of a total of 282 sites across the watershed and was used to help identify specific sites within the Headwaters Yellow River watershed where wetland priority management activities could take place in the future. During the windshield survey sites for possible wetland restorations and mitigations were identified and a list of a top 25 sites was developed. The attributes analyzed during the ranking of potential sites included adjacency to woodland and open waterways, dominant soil types, ease or restoration, ease of site access, potential wetland to parcel size ratio, number of landowners of particles with potential wetlands, estimated restoration cost, critical areas identified in Yellow River Watershed Management Plan and any additional considerations observed.

It is important to note that a significant amount of data has been generated as a result of the various analysis completed including the development of the NWI+ database, landscape functional assessment of wetland attributes, windshield survey, and development of specific wetland restoration sites. Landowner discussions/permissions were not included in this study and therefore will be a significant driver for future wetland work in the Headwaters Yellow River watershed. The various analysis completed have created a better understanding of the functional connections/differences between existing wetlands and provides specific starting locations for future wetland work.

8 Literature Cited

Chase, V., Deming, L., Latawiec, F.. *Buffers for Wetlands and Surface Waters: a Guidebook for New Hampshire Municipalities*. N.H. Office of State Planning, 1995.

Dugger, K.M., and L.H. Fredrickson. 13.1.6. Life History and Habitat Needs of the Wood Duck. *Waterfowl Management Handbook*, Jan. 1992, pp. 1–8.

“Glossary of Hydrologic Terms.” *NOAA*, National Oceanic and Atmospheric Administration, www.nws.noaa.gov/om/hod/SHManual/SHMan014_glossary.htm.

Golet, F.C. 1972, Classification and Evaluation of Freshwater Wetlands as Wildlife Habitat in the Glaciated Northeast. University of Massachusetts, Amherst, MA. Ph. D. dissertation.

Ivens BJL, Bhowmik NG, Brigham AR, Gross DL. 1981. The Kankakee River Yesterday and Today. Champaign.

Lu SY, Wu FC, Lu YF, Xiang CS, Zhang PY, Jin CX. 2009. Phosphorus removal from agricultural runoff by constructed wetland. Ecol. Eng. 35:402–409.

Kahn, S., I. Shmad, M.T. Shah, S. Rehman, and A. Khaliq. 2009. Use of constructed wetland for the removal of heavy metals from industrial wastewater. Journal of Environmental Management 90:3451–3457.

Karns, D.R., D.G. Ruch, B. Simpson, B. Feaster, L. Sterrenburg, A. Bellian, B.E. Fisher, D. Gorney, J.D. Holland, R.P. Jean, W.W. Jones, M. McCarty, W.N. McKnight, W.J. Murphy, S. Namestnik, L.P. Tedesco, and J.O. Whitaker, Jr. 2012. Results of a biodiversity survey at Goose Pond Fish and Wildlife Area, Greene County, Indiana. Proceedings of the Indiana Academy of Science 121:45–53.

Lannoo, M.J. 1998. Amphibian conservation and wetland management in the upper Midwest: a catch-22 for the Cricket Frog? Pages 330–339 *in* M.J. Lannoo, editor. Status and Conservation of Midwest Amphibians. University of Iowa Press, Iowa City, Iowa.

Novitzki, R.P. 1979. The hydrologic characteristics of Wisconsin wetlands and their influence on floods, streamflow, and sediment. In: P.E. Greeson et al. (editors). Wetland Functions and Values: The State of Our Understanding. Amer. Water Resources Assoc., Minneapolis, MN. pp. 377-388.

Potter, B.A., R.J. Gates, G.J. Soulliere, R.P. Russel, D.A. Granfors, and D.N. Ewert. 2007. Upper Mississippi River and Great Lakes Region Joint Venture Shorebird Habitat Conservation Strategy. U.S. Fish and Wildlife Service, Fort Snelling, MN. 101 pp.

Ruch, D.G., J. Nelsen, R. Carlson, B. Fisher, A.H. Fleming, D. Gorney, J.D. Holland, M. Jordan, B. Kingsbury, B. Murphy, P. McMurray, K. Roth, P. Rothrock, S. Russel, C. Strang, J. Whitaker Jr., B. Yankowiak. 2016. Results of the 2014 Eagle Marsh Biodiveristy Survey, Allen County, Indiana. Proceedings of the Indiana Academy of Science 125:40-49.

Tiner RW. 2003. Correlating Enhanced National Wetlands Inventory Data with Wetland Functions for Watershed Assessments : A Rationale for Northeastern U. S. Wetlands.

Tiner, R.W. 2011. Dichotomous Keys and Mapping Codes for Wetland Landscape Position, Landform, Water Flow Path, and Waterbody Type Descriptors: Version 2.0. U.S. Fish and Wildlife Service, National Wetlands Inventory Program, Northeast Region, Hadley, MA. 51 pp.

Tiner RW, McGuckin K, Herman J. 2015. Wetland Characterization and Landscape-level Functional Assessment for Long Island, New York.

Webb, Elisabeth B., et al. "Effects of Local and Landscape Variables on Wetland Bird Habitat Use During Migration Through the Rainwater Basin." *Journal of Wildlife Management*, vol. 74, no. 1, Jan. 2010, pp. 109–119., DOI:10.2193/2008-577.

Whiting, P.J. 1998. Bank storage and its influence on streamflow. Stream Notes July 1998. Stream Systems Technology Center, Rocky Mountain Research Station, Fort Collins, CO.

APPENDIX

A

NWI+ DATABASE AND WETLAND FUNCTIONAL CORRELATIONS

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_ Bio_Div_Score	Wildlife_Score	Waterfowl_Hab _Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_ Score	SW_Detention_ Score
0	41.4054	-86.208	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	4.9649	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1	41.442	-86.2641	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	11.0941	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High		Medium		12	Moderate	0	3	3	0	0	1	1	3	1
2	41.4898	-86.0514	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0839	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
3	41.3671	-86.2992	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.8509	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
4	41.3228	-86.15	Dausman Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.3392	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
5	41.4202	-85.974	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2455	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
6	41.4424	-86.115	Armey Ditch	Yes	PUBGx	Freshwater Pond	3.7094	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
7	41.3256	-85.992	Fleugel Ditch	No	PUBG	Freshwater Pond	0.8896	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
8	41.3393	-85.9611	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5360	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
9	41.4723	-86.0363	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	2.6382	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
10	41.478	-86.0085	Lateral Ditch No 5	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	8.6695	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
11	41.5138	-86.0555	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.1740	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
12	41.4084	-86.2269	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.9899	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
13	41.4742	-86.0548	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	1.1125	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
14	41.3102	-86.1915	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3224	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
15	41.4626	-86.097	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.7792	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
16	41.4186	-86.1402	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.9702	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	1	3	3
17	41.3903	-86.269	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	12.8389	BA	IT	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
18	41.4405	-86.0201	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.8954	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
19	41.4172	-86.0939	Armey Ditch/Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	48.3023	BA	IS	TE	Moderate	High	High	Moderate				High	Significant			12	Moderate	1	3	0	0	0	1	3	3	1
20	41.3802	-86.1108	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3343	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
21	41.4145	-86.175	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	31.6637	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium	x	17	Moderate	1	3	1	1	3	3	1	1	3
22	41.3659	-86.0524	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	4.4581	FR	OU	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
23	41.3832	-86.3335	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.8685	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
24	41.3556	-86.0642	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.9435	FR	OU	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
25	41.4074	-86.214	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7941	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
26	41.3586	-85.8969	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.6230	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
27	41.3454	-86.2503	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2836	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
28	41.3605	-86.3151	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6374	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
29	41.3979	-86.3006	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.8977	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
30	41.395	-85.9667	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.5056	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
31	41.3788	-86.2507	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.0560	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
32	41.3402	-86.0363	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.5365	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
33	41.3783	-86.3385	Elmer Seltenright Ditch	No	PEM1F	Freshwater Emergent Wetland	12.4603	BA	IS	TE	Moderate	High	High	Moderate		High	High	High		Low		17	Moderate	0	3	3	3	0	1	3	3	1
34	41.4994	-86.0496	Lateral Ditch No 5	Yes	PUBF	Freshwater Pond	0.0984	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
35	41.4152	-86.0222	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	14.2582	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
36	41.3773	-86.3342	Elmer Seltenright Ditch	No	PSS1F	Freshwater Forested/Shrub Wetland	0.4979	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
37	41.4753	-86.0872	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3067	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		High		12	Moderate	0	1	3	0	0	1	3	3	1
38	41.4313	-86.3159	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.2470	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
39	41.4214	-86.2184	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.5357	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
40	41.4029	-86.2734	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.5555	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
41	41.4002	-86.0312	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	2.9728	FR	IT	LS1	High	High	High	High	High			Moderate		Low		16	Moderate	0	1	0	0	3	3	3	3	3
42	41.3535	-86.3046	Seltenright Ditch/Elmer Seltenrig	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.4034	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate				16	Moderate	0	1	1	1	3	3	3	1	3
43	41.4009	-86.1818	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	33.1039	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
44	41.3526	-86.2433	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.5297	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
45	41.396	-86.1083	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.4034	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
46	41.4523	-86.2818	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.3573	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
47	41.367	-86.305	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.9102	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
48	41.3682	-86.151	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	13.5005	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
49	41.3877	-86.0093	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	4.1933	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
50	41.4483	-86.3018	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	0.2984	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
51	41.4354	-86.0375	Armey Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	5.9367	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
52	41.3648	-86.1378	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.5615	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
53	41.3962	-86.2387	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	2.1536	FR	OU	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
54	41.4531	-86.1485	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6998	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
55	41.3367	-85.932	Fleugel Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.0220	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
56	41.4619	-86.172	Lake of the Woods	Yes	PUBGx	Freshwater Pond	4.9925	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
57	41.384	-86.099	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.2663	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
58	41.4341	-86.3067	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	8.2208	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
59	41.4696	-86.29	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.7581	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
60	41.3871	-86.2855	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6021	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
61	41.4147	-86.1715	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.4046	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	1	3	3
62	41.5287	-86.1967	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.4657	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
63	41.5063	-86.3061	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	3.1966	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
64	41.4969	-86.1294	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.6003	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
65	41.4845	-86.2555	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.8659	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
66	41.501	-86.3006	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.4921	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
67	41.5051	-86.1325	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1052	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
68	41.5452	-86.2733	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5783	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
69	41.5488	-86.273	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1619	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
70	41.5025	-86.1485	Kline Rouch Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	3.6779	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
71	41.5247	-86.2964	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.4799	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
72	41.5509	-86.2735	West Bunch Branch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.5996	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
73	41.5291	-86.1284	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.9754	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
74	41.4889	-86.0964	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.5800	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		High		10	Low	0	1	3	0	0	1	1	3	1
75	41.5246	-86.3013	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3122	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
76	41.5454	-86.2455	West Bunch Branch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	24.9508	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	3	1	3
77	41.5188	-86.0889	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.2054	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
78	41.5618	-86.2836	West Bunch Branch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	1.2516	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
79	41.496	-86.2312	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.4043	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
80	41.5565	-86.2494	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.4963	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
81	41.5291	-86.1851	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.6007	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
82	41.5488	-86.267	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.9383	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
83	41.503	-86.2369	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.2083	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
84	41.4977	-86.2006	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8933	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
85	41.5326	-86.2092	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	6.6438	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
86	41.4961	-86.1867	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.2552	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		High		16	Moderate	0	3	1	1	3	3	1	1	3
87	41.5035	-86.2038	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.7366	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
88	41.4971	-86.2936	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4322	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
89	41.5238	-86.1992	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7259	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
90	41.5124	-86.1296	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5035	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
91	41.5169	-86.2289	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	2.4121	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
92	41.5214	-86.2845	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	1.6128	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
93	41.5147	-86.3077	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	1.6942	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
94	41.5238	-86.2287	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4236	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
95	41.4312	-85.9909	Armey Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	6.6412	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
96	41.4098	-86.0179	Armey Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.0062	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
97	41.3666	-86.0304	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	11.7130	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
98	41.3458	-85.9862	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.3603	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
99	41.3797	-86.034	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.4362	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
100	41.4672	-86.128	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3349	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
101	41.4373	-86.1103	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.9227	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
102	41.4393	-86.215	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.3412	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
103	41.4651	-86.0708	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	1.4043	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
104	41.3063	-86.2499	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.6175	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
105	41.4726	-86.0612	Lateral Ditch No 5	Yes	PUBFx	Freshwater Pond	0.3811	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
106	41.4634	-86.1165	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1702	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
107	41.4585	-86.1187	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2979	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
108	41.388	-86.2994	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2669	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
109	41.3439	-86.1882	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.7854	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
110	41.418	-86.1698	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.7454	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium	x	14	Moderate	0	1	0	3	3	3	0	1	3
111	41.3591	-86.3536	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.7880	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
112	41.3236	-86.2087	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.1956	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
113	41.4718	-86.2681	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.3459	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
114	41.3637	-86.3051	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	6.3127	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	High/Wood Duck	Moderate		Low	x	16	Moderate	0	1	3	1	3	3	1	1	3
115	41.4179	-86.1511	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.5933	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
116	41.4434	-86.0902	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3961	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
117	41.4119	-86.1525	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.2615	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
118	41.4246	-86.2924	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	43.0193	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	High	Significant	Low		17	Moderate	1	3	1	1	3	3	1	1	3
119	41.4205	-86.2928	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1822	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
120	41.384	-86.1205	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.4630	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
121	41.3599	-86.116	Dausman Ditch	Yes	PUBGx	Freshwater Pond	1.9032	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
122	41.412	-86.2792	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	12.0464	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
123	41.5509	-86.2666	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.1821	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
124	41.5576	-86.2148	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.1229	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
125	41.3964	-86.1763	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	10.8537	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
126	41.3798	-86.0947	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.8959	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
127	41.5008	-86.1088	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.9379	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
128	41.3698	-85.9057	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.2278	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low	x	9	Low	0	1	0	0	0	1	3	3	1
129	41.5255	-86.3059	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8274	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
130	41.3684	-86.3706	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	10.2694	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
131	41.558	-86.1683	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.6158	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
132	41.3864	-86.0336	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4682	FR	IS	LS1	High	High		High	High	High		Moderate		Low		16	Moderate	0	1	0	3	3	3	0	3	3
133	41.5474	-86.2638	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.2882	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
134	41.5082	-86.2815	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	3.8268	FR	IS	LS1	High	High	High	High	High	High/Stream Shading	High/Wood Duck	Moderate		Medium		22	High	0	1	3	3	3	3	3	3	3
135	41.3734	-86.0049	Lemler Ditch	No	PUBGx	Freshwater Pond	0.5517	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
136	41.4126	-86.1084	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.4477	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
137	41.5452	-86.2322	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3505	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
138	41.3629	-86.3577	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.9568	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
139	41.3638	-86.2195	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.7523	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
140	41.4701	-86.0719	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.1869	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
141	41.5665	-86.2489	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.3060	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
142	41.5111	-86.1892	Kline Rouch Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.0593	FR	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
143	41.4128	-86.0786	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.0931	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
144	41.3365	-86.1672	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.2866	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
145	41.3636	-86.2956	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.5972	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
146	41.4282	-86.1104	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3008	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate				10	Low	0	1	0	3	1	1	0	3	1
147	41.5762	-86.1978	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5340	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
148	41.5708	-86.25	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.7636	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
149	41.4413	-86.0272	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2860	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
150	41.3384	-85.9441	Fleugel Ditch	No	PEM1Ad	Freshwater Emergent Wetland	0.1491	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1
151	41.4731	-86.0482	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.1271	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
152	41.5	-86.1121	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7969	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
153	41.4572	-86.0596	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	46.0660	BA	IS	TE	Moderate	High	High	Moderate				High	Significant	Medium		12	Moderate	1	3	0	0	0	1	3	3	1
154	41.5655	-86.2361	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.2986	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
155	41.4137	-85.9809	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3584	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
156	41.4048	-86.0725	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	11.5644	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
157	41.476	-86.2657	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.9835	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
158	41.3792	-85.9203	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.3865	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
159	41.359	-86.2773	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.9214	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium	x	14	Moderate	0	1	0	0	3	3	3	1	3
160	41.4788	-86.0913	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.1381	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
161	41.3494	-86.0115	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5874	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
162	41.3386	-86.0352	Lemler Ditch	No	PUBF	Freshwater Pond	0.6781	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
163	41.4706	-86.0226	Lateral Ditch No 5	Yes	PEM1B	Freshwater Emergent Wetland	0.5251	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
164	41.4435	-86.0795	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4830	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
165	41.4189	-86.151	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.2133	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
166	41.5632	-86.1846	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1389	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
167	41.4413	-86.2837	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.0984	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
168	41.3435	-86.1788	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.1066	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Low		20	High	0	3	1	1	3	3	3	3	3
169	41.4993	-86.0536	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	10.8787	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		High		20	High	0	3	1	1	3	3	3	3	3
170	41.3789	-86.2799	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.7877	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
171	41.4419	-86.0975	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0444	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
172	41.4888	-86.0292	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.4153	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
173	41.425	-86.1063	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.1160	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
174	41.5412	-86.2235	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	6.8208	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
175	41.3211	-85.943	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6408	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
176	41.383	-86.3146	Elmer Seltenright Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	4.4865	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
177	41.4645	-86.1068	Armey Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6215	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
178	41.4804	-86.0665	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.9364	FR	TH	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
179	41.4869	-86.1476	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.1578	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
180	41.3734	-86.1143	Lemler Ditch	No	PUBGx	Freshwater Pond	0.9065	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
181	41.4891	-86.0498	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.0419	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
182	41.363	-86.2719	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.5130	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium	x	20	High	0	1	3	3	3	3	3	1	3
183	41.3667	-86.1072	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.4225	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
184	41.4962	-86.0358	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.3363	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
185	41.4758	-86.0342	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	1.8587	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
186	41.4728	-86.053	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.5268	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
187	41.4675	-86.0949	Armey Ditch	Yes	PUBF	Freshwater Pond	0.3112	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
188	41.4304	-86.1419	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	11.0550	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
189	41.4088	-86.0152	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6445	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
190	41.3903	-86.3118	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.7682	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
191	41.365	-86.3271	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.6492	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
192	41.4793	-85.9767	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1913	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
193	41.4029	-86.2096	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.0778	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
194	41.4024	-85.975	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	8.8543	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
195	41.4549	-86.2582	Lake of the Woods	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	3.6279	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
196	41.4071	-86.2062	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	4.9158	FPba	IT	LS1	High	Moderate	High	High	High		High	Moderate		Medium		17	Moderate	0	1	3	0	3	3	3	1	3
197	41.4124	-86.0787	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2846	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
198	41.3312	-86.2144	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.7047	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
199	41.4008	-86.3158	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	2.2463	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
200	41.5035	-86.2727	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4502	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
201	41.4518	-86.0763	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6625	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
202	41.4652	-86.2893	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.3359	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
203	41.3564	-86.0139	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	10.7609	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
204	41.4144	-86.2318	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.9314	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
205	41.3426	-85.9201	Fleugel Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.1307	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
206	41.4715	-86.0706	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9931	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
207	41.3654	-86.009	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.6598	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
208	41.4766	-86.1036	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4272	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
209	41.5457	-86.2649	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3874	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
210	41.4437	-86.1267	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0917	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
211	41.3746	-86.315	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.6555	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
212	41.3805	-86.3213	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	23.5305	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
213	41.5419	-86.2859	Headwaters Stock Ditch	Yes	PFO1B	Freshwater Forested/Shrub Wetland	10.2097	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
214	41.3814	-86.2477	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	2.5302	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
215	41.3304	-86.1925	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6228	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
216	41.5123	-86.2182	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.3304	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
217	41.4793	-86.0714	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	15.3888	BA	IS	TE	Moderate	High	High	Moderate				High		High		11	Moderate	0	3	0	0	0	1	3	3	1
218	41.5536	-86.1338	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3973	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
219	41.3823	-85.956	Lemler Ditch	No	PUBGx	Freshwater Pond	1.0459	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
220	41.5487	-86.2529	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1056	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
221	41.522	-86.0865	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.5878	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
222	41.3971	-86.0387	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4167	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
223	41.4113	-86.0335	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	14.6127	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
224	41.3577	-85.9157	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.6131	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
225	41.4421	-86.2661	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1189	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
226	41.3792	-86.1194	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8078	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
227	41.3157	-85.9456	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5006	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
228	41.5325	-86.1104	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	40.0033	FR	OU	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	High		21	High	1	3	1	1	3	3	3	3	3
229	41.358	-86.3368	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.5896	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
230	41.5359	-86.2215	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.4395	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
231	41.5458	-86.253	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8123	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
232	41.5695	-86.2446	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.5758	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
233	41.5436	-86.2179	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.8075	FR	IS	LS1	High	High		High	High	High		Moderate		Medium		16	Moderate	0	1	0	3	3	3	0	3	3
234	41.4665	-86.1003	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	22.3296	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
235	41.4012	-86.1231	Lake of the Woods	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	3.5639	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
236	41.3696	-86.3	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.7815	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
237	41.4596	-86.304	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.9159	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
238	41.4727	-86.0874	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6567	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
239	41.482	-86.032	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.6790	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
240	41.386	-85.9467	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.0880	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
241	41.3682	-86.2885	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.1395	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
242	41.4588	-86.1791	Lake of the Woods	Yes	PUBGx	Freshwater Pond	5.8228	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
243	41.4655	-86.1966	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1260	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
244	41.5396	-86.192	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.8498	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
245	41.5529	-86.2909	Headwaters Stock Ditch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	10.4943	BA	IS	TE	Moderate	High	High	Moderate		High	High	High		Medium		17	Moderate	0	3	3	3	0	1	3	3	1
246	41.4519	-86.3053	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.8877	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
247	41.4445	-86.2628	Lake of the Woods	Yes	PUBG	Freshwater Pond	0.2858	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
248	41.3602	-86.3678	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	2.0785	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
249	41.4869	-86.15	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.9253	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
250	41.3051	-86.174	Stone Ditch	Yes	PUBFx	Freshwater Pond	0.5337	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
251	41.3833	-86.313	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	2.0494	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
252	41.3358	-85.9094	Fleugel Ditch	No	PUBF	Freshwater Pond	0.4930	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
253	41.4122	-86.1971	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	9.5919	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
254	41.3952	-86.3057	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	17.8879	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				High		Low		7	Low	0	3	0	0	0	1	1	1	1
255	41.4451	-86.032	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4931	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
256	41.4515	-86.1221	Armey Ditch	Yes	PUBF	Freshwater Pond	0.2129	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
257	41.379	-86.103	Dausman Ditch/Lemler Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.7693	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate				18	High	0	1	1	1	3	3	3	3	3
258	41.5192	-86.2187	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8993	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
259	41.3344	-86.1045	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5302	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
260	41.562	-86.2902	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.9926	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
261	41.4997	-86.2634	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.1758	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
262	41.3889	-85.9718	Lemler Ditch	No	PUBGx	Freshwater Pond	0.1484	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
263	41.3769	-85.9967	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2758	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
264	41.4684	-86.0825	Armey Ditch/Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	9.2280	BA	IS	TE	Moderate	High	High	Moderate				Moderate				9	Low	0	1	0	0	0	1	3	3	1
265	41.3296	-85.9924	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	0.7542	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
266	41.5016	-86.03	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.0094	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
267	41.4706	-86.071	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.6990	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		High		10	Low	0	1	3	0	0	1	1	3	1
268	41.45	-86.1426	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.9399	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
269	41.3514	-86.2936	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	0.3043	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
270	41.3882	-86.254	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	9.8868	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
271	41.5051	-86.1622	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7033	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
272	41.5773	-86.2469	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.1940	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
273	41.4313	-86.0263	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.8777	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
274	41.4014	-85.979	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	7.3688	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
275	41.3132	-86.1953	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1938	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
276	41.4374	-86.0221	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.5370	FR	IS	LS1	High	High	Moderate	High	High	Moderate/Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	1	3	3
277	41.4119	-86.3061	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	2.3626	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
278	41.3547	-86.2452	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3672	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
279	41.3251	-86.1573	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7391	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
280	41.3481	-85.9079	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.2130	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
281	41.4893	-86.2027	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.6677	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
282	41.3935	-86.0544	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	13.2136	FR	IT	LS1	High	High	Moderate	High	High			High		Low		16	Moderate	0	3	0	0	3	3	1	3	3
283	41.43	-86.0327	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9600	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
284	41.328	-85.9762	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	1.5729	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
285	41.395	-86.2903	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.4124	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
286	41.4076	-86.2747	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0779	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
287	41.4365	-86.15	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.9750	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
288	41.5008	-86.0492	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.7645	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
289	41.4649	-86.2953	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1031	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
290	41.4071	-86.0919	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8538	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
291	41.4035	-86.0487	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3488	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
292	41.3249	-86.1714	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6235	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
293	41.4846	-86.1728	Kline Rouch Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.4056	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		High		5	Low	0	1	0	0	0	1	1	1	1
294	41.5333	-86.1884	Kline Rouch Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	4.0319	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
295	41.5657	-86.2839	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3288	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
296	41.4158	-86.2481	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	1.8916	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
297	41.4374	-86.1717	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	6.8034	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
298	41.382	-86.1714	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	63.6814	FR	IS	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	1	3	3
299	41.4669	-86.149	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	19.4056	BA	IS	TE	Moderate	High	Moderate	Moderate				High		High		9	Low	0	3	0	0	0	1	1	3	1
300	41.4943	-86.28	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9220	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
301	41.3812	-86.3062	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.4273	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
302	41.4067	-86.2072	Lake of the Woods	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	10.6302	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
303	41.4227	-86.0651	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	7.1427	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
304	41.43	-86.0263	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.0500	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
305	41.518	-86.3053	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	12.0372	FR	TH	LS1	High	High	High	High	High	High	High	High		Medium		24	High	0	3	3	3	3	3	3	3	3
306	41.4315	-86.0098	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.7555	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
307	41.332	-86.2324	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.5029	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
308	41.3672	-86.2668	Milner Seltenright Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.4293	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
309	41.5259	-86.0923	er Seltenright Ditch/Kline Rouch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.8122	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
310	41.3662	-85.9656	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.2171	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
311	41.3799	-86.342	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.0564	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
312	41.4204	-86.0157	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.9701	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
313	41.4341	-86.0635	Armey Ditch	Yes	PUBF	Freshwater Pond	2.4346	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
314	41.5424	-86.1822	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1737	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
315	41.3893	-86.0409	Lemler Ditch	No	PFO1/SS1Ad	Freshwater Forested/Shrub Wetland	11.1400	FR	OU	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
316	41.3548	-86.3492	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.7052	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
317	41.5147	-86.1474	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5972	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
318	41.5118	-86.1643	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.7977	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
319	41.4272	-86.2768	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.5532	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
320	41.4939	-86.2522	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	3.0686	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
321	41.5222	-86.2344	West Bunch Branch	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	2.2005	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
322	41.3635	-86.0579	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2454	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
323	41.4115	-86.2214	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.2734	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
324	41.3863	-86.2841	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	1.4876	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
325	41.5159	-86.18	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.7322	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
326	41.5079	-86.2855	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2932	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
327	41.4593	-86.294	Headwaters Stock Ditch	Yes	PABGx	Freshwater Pond	0.4260	BApd	IS	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
328	41.3488	-86.0762	Dausman Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	4.6256	FR	OU	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
329	41.398	-85.9937	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.5628	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
330	41.5441	-86.109	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.6318	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
331	41.558	-86.1467	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.6364	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
332	41.3772	-86.2318	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.2858	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
333	41.3555	-86.3073	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	5.0827	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
334	41.4603	-86.2917	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.4699	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
335	41.3706	-86.3651	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.1795	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
336	41.4358	-86.0189	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.0048	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
337	41.5009	-86.1331	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.1658	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
338	41.5637	-86.18	Kline Rouch Ditch	Yes	PUBG	Freshwater Pond	1.1677	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
339	41.3943	-86.0516	Dausman Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	1.9194	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
340	41.5712	-86.2436	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2242	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
341	41.3984	-86.007	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	7.4707	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
342	41.4024	-86.1121	Dausman Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4054	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
343	41.2879	-86.2031	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.4360	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
344	41.3932	-85.992	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.8038	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
345	41.3576	-86.3467	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.8242	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
346	41.3827	-86.2088	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.0199	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
347	41.3149	-86.1946	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.3027	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
348	41.4172	-86.1326	Lake of the Woods	Yes	PSS1A	Freshwater Forested/Shrub Wetland	0.1007	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
349	41.5023	-86.1647	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.5287	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
350	41.4638	-86.1191	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1291	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
351	41.4669	-86.2971	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4568	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
352	41.5045	-86.2801	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.7853	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
353	41.3459	-86.0783	Dausman Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	5.5465	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
354	41.5381	-86.2702	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.6071	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
355	41.4954	-86.1733	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	2.4845	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
356	41.3891	-86.2563	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	13.9967	BA	IT	TE	Moderate	High	Moderate	Moderate			High	High		Medium		12	Moderate	0	3	3	0	0	1	1	3	1
357	41.3192	-86.2039	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.4560	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
358	41.4105	-86.0331	Armey Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.8988	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
359	41.5005	-86.2437	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.9433	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
360	41.3498	-86.2506	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.6249	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
361	41.5343	-86.2253	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.2896	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
362	41.5358	-86.214	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.9536	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
363	41.5679	-86.2504	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.2001	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
364	41.5659	-86.1724	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	16.5354	FR	OU	LS1	High	High	Moderate	High	High			High		High		16	Moderate	0	3	0	0	3	3	1	3	3
365	41.3492	-86.3483	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.7988	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
366	41.3618	-86.1883	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.5611	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
367	41.5164	-86.2124	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	12.9037	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
368	41.5194	-86.1481	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5322	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
369	41.5011	-86.2841	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2983	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
370	41.352	-86.1702	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.3441	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
371	41.514	-86.13	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.6847	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
372	41.428	-86.0511	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2798	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
373	41.4359	-85.9667	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5395	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
374	41.3677	-86.1597	Dausman Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.6131	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
375	41.4364	-86.0339	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.7119	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
376	41.3645	-86.2705	Milner Seltenright Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.1435	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
377	41.4364	-86.1544	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.9707	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
378	41.4174	-86.1066	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.4151	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
379	41.2999	-86.2157	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.6866	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
380	41.5706	-86.2667	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1837	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
381	41.5517	-86.3086	Headwaters Stock Ditch	Yes	PABGx	Freshwater Pond	4.2323	FR	IT	LS1	High	High		High	High	High	High	Moderate		Medium		19	High	0	1	3	3	3	3	0	3	3
382	41.3392	-85.9543	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3408	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
383	41.3684	-86.1907	Stone Ditch/Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.9396	FPba	IT	LS1	High	Moderate	High	High	High			Moderate				14	Moderate	0	1	0	0	3	3	3	1	3
384	41.3726	-86.1331	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.6936	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
385	41.4324	-85.9731	Armey Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.8616	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
386	41.4707	-86.1	Armey Ditch	Yes	PUBF	Freshwater Pond	0.9290	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
387	41.3603	-86.3072	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.7777	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
388	41.4696	-86.0307	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.9172	BA	IS	TE	Moderate	High	Moderate	Moderate				High		High		9	Low	0	3	0	0	0	1	1	3	1
389	41.3675	-86.1673	Dausman Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	25.7891	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Low		17	Moderate	1	3	1	1	3	3	1	1	3
390	41.4833	-86.1051	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	11.7593	BA	IS	TE	Moderate	High	High	Moderate				High		High		11	Moderate	0	3	0	0	0	1	3	3	1
391	41.3841	-86.3207	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.0241	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
392	41.5268	-86.2832	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.9611	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
393	41.3733	-86.2182	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	3.9757	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
394	41.4296	-86.0376	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.3395	FR	IS	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
395	41.3571	-86.2866	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	1.0220	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
396	41.3684	-85.9712	Lemler Ditch	No	PUBG	Freshwater Pond	0.1121	FR	IS	LS1	High	High		High	High	High		Moderate		Low		16	Moderate	0	1	0	3	3	3	0	3	3
397	41.3011	-86.2135	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4478	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
398	41.3421	-86.0522	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2128	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
399	41.4562	-86.0671	Armey Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	20.1103	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
400	41.3915	-86.3373	Elmer Seltenright Ditch	No	PSS1/EM1Cd	Freshwater Forested/Shrub Wetland	14.6999	BA	IS	TE	Moderate	Moderate	High	Moderate			High	High		Low		12	Moderate	0	3	3	0	0	1	3	1	1
401	41.4806	-86.0639	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	55.2440	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	High		21	High	1	3	1	1	3	3	3	3	3
402	41.5715	-86.2664	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2353	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
403	41.4318	-85.9976	Armey Ditch	Yes	PUBG	Freshwater Pond	0.6128	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
404	41.3054	-86.1827	Stone Ditch	Yes	PUBF	Freshwater Pond	0.8831	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
405	41.3167	-86.2326	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6296	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
406	41.4159	-86.0777	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.5548	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
407	41.3458	-86.2714	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.0787	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
408	41.4059	-86.1133	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.0797	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
409	41.3697	-86.1093	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4604	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
410	41.3861	-86.0029	Lemler Ditch	No	PUBGx	Freshwater Pond	0.6846	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
411	41.3931	-86.2877	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.9046	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
412	41.4079	-86.1281	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.8284	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
413	41.5241	-86.3035	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	5.5066	FR	TH	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
414	41.5365	-86.3081	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	1.8406	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
415	41.4322	-86.2521	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	12.0422	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
416	41.4659	-86.0554	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3967	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
417	41.4349	-86.1086	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9563	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
418	41.4514	-86.288	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1850	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
419	41.3896	-86.0332	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3901	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
420	41.4332	-86.0633	Armey Ditch	Yes	PUBF	Freshwater Pond	0.2831	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
421	41.5518	-86.1258	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.2668	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
422	41.4969	-86.1123	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2826	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
423	41.3647	-86.0345	Lemler Ditch	No	PUBF	Freshwater Pond	0.1902	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
424	41.4628	-86.2442	Headwaters Stock Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	1.5628	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
425	41.3392	-85.9177	Fleugel Ditch	No	PEM1Ad	Freshwater Emergent Wetland	1.9976	FR	OU	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
426	41.3796	-86.0066	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	4.1432	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
427	41.4672	-86.3007	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	3.4484	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
428	41.5163	-86.2742	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4205	FPba	IS	LE	High	High	Moderate		High			Moderate		Medium		11	Moderate	0	1	0	0	3	0	1	3	3
429	41.4967	-86.1803	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0110	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
430	41.3461	-85.9886	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.2511	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
431	41.386	-86.0123	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	12.6900	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High		Low		12	Moderate	0	3	3	0	0	1	1	3	1
432	41.4828	-86.0109	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.5791	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
433	41.3563	-86.1021	Dausman Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	1.6479	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
434	41.4174	-86.1499	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	13.6278	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
435	41.5166	-86.1433	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5516	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
436	41.3981	-85.9843	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.5150	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
437	41.4553	-86.2729	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.3303	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
438	41.5005	-86.2952	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.2997	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
439	41.5136	-86.2445	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	8.1675	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
440	41.3831	-86.1873	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.0654	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
441	41.3805	-86.2856	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.7832	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
442	41.4546	-86.2941	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	6.0468	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
443	41.4492	-86.0951	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8373	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
444	41.3872	-86.2846	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.8571	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
445	41.5206	-86.0918	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4523	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
446	41.5443	-86.2791	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.3206	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
447	41.4583	-86.1072	Armey Ditch	Yes	PUBF	Freshwater Pond	0.3843	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
448	41.4094	-86.1818	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.8030	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
449	41.3586	-86.0085	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.7416	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
450	41.4829	-86.0128	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	0.2534	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
451	41.3715	-86.0546	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	4.9128	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
452	41.3727	-86.1015	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	4.5768	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
453	41.5441	-86.2661	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.6058	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
454	41.4852	-86.2041	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	25.2104	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium		17	Moderate	1	3	1	1	3	3	1	1	3
455	41.5054	-86.138	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.1825	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
456	41.3759	-86.2881	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6035	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
457	41.4675	-86.2389	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.0931	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
458	41.3637	-85.9067	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.1368	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low	x	10	Low	0	1	0	3	1	1	0	3	1
459	41.4619	-86.1008	Armey Ditch	Yes	PEM1C	Freshwater Emergent Wetland	12.4253	BA	TH	TE	Moderate	High	High	High				High		Medium		13	Moderate	0	3	0	0	0	3	3	3	1
460	41.3507	-86.0804	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.4692	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
461	41.571	-86.2531	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	22.4224	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
462	41.515	-86.2603	Headwaters Stock Ditch	Yes	PFO1/SS1B	Freshwater Forested/Shrub Wetland	13.9282	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
463	41.3846	-86.0131	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4193	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
464	41.4312	-85.9903	Armey Ditch	Yes	PUBF	Freshwater Pond	0.1969	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
465	41.409	-86.2766	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1705	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
466	41.382	-86.2864	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.2234	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
467	41.4889	-86.0519	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	0.4218	BA	IT	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
468	41.3563	-86.3299	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.7091	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
469	41.4874	-86.199	West Bunch Branch	Yes	PUBGx	Freshwater Pond	1.0875	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
470	41.4908	-86.1024	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.6124	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
471	41.3742	-86.3726	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.6584	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
472	41.4384	-86.174	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.7336	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
473	41.3935	-85.9776	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.0931	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
474	41.5239	-86.2091	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.1266	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
475	41.4712	-86.25	Headwaters Stock Ditch	Yes	PFO1/EM1Ad	Freshwater Forested/Shrub Wetland	5.3200	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
476	41.434	-86.2576	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	2.0102	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
477	41.4939	-86.0478	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2052	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
478	41.317	-86.1989	Stone Ditch	Yes	PUBFx	Freshwater Pond	0.1558	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
479	41.4125	-86.0798	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.7860	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
480	41.4869	-86.2234	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.5968	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
481	41.513	-86.0559	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2172	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
482	41.3797	-86.3085	Elmer Seltenright Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	2.8333	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
483	41.3795	-86.2962	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	0.4389	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
484	41.3459	-86.2138	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2941	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
485	41.3898	-85.9734	Lemler Ditch	No	PUBGx	Freshwater Pond	0.0834	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
486	41.419	-86.0141	Armey Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	1.0687	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
487	41.4464	-86.3134	Elmer Seltenright Ditch	No	PSS1F	Freshwater Forested/Shrub Wetland	1.5756	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
488	41.499	-86.1214	Lateral Ditch No 5	Yes	PABG	Freshwater Pond	0.5585	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		High		13	Moderate	0	1	3	3	1	1	0	3	1
489	41.4639	-86.131	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.6441	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
490	41.4984	-86.1217	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.8119	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
491	41.377	-86.3336	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.4706	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
492	41.381	-86.285	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1466	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
493	41.4777	-85.9837	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1807	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
494	41.3116	-86.196	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5048	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
495	41.3721	-86.2138	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.1357	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
496	41.4894	-86.2848	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.7083	FR	OU	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
497	41.3635	-86.028	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	0.0700	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
498	41.4095	-86.3153	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	0.8524	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
499	41.3678	-86.0457	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	4.7457	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
500	41.344	-85.9072	Fleugel Ditch	No	PUBF	Freshwater Pond	0.2840	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
501	41.3825	-86.076	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.8078	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
502	41.4115	-86.093	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.2694	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
503	41.4307	-86.1579	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.6705	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
504	41.4219	-86.0625	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.1151	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
505	41.4618	-86.1261	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.2028	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
506	41.3856	-86.3055	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	0.1372	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
507	41.4704	-86.2636	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5554	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
508	41.341	-85.9711	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.5751	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
509	41.4378	-86.0918	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.9026	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
510	41.5606	-86.2644	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	8.3960	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
511	41.4575	-86.1079	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8483	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
512	41.4892	-86.2909	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	5.4661	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
513	41.3865	-85.9398	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	4.8890	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
514	41.447	-86.0566	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8811	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
515	41.4136	-86.0798	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.5217	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
516	41.3148	-86.1936	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.7982	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
517	41.4794	-86.2232	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.0405	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
518	41.3719	-86.187	Dausman Ditch/Lake of the Wood	Yes	PFO1C	Freshwater Forested/Shrub Wetland	40.2251	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant			21	High	1	3	1	1	3	3	3	3	3
519	41.2869	-86.2206	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.4732	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
520	41.3258	-85.9918	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	1.3941	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
521	41.4728	-86.2326	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2178	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
522	41.4385	-86.2125	West Bunch Branch	Yes	PUBGx	Freshwater Pond	9.0503	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
523	41.4907	-86.1679	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.0959	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
524	41.4227	-86.1529	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	4.6547	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
525	41.3997	-86.2946	Elmer Seltenright Ditch	No	PABF	Freshwater Pond	0.4352	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
526	41.3123	-86.231	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1892	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
527	41.5619	-86.2797	West Bunch Branch	Yes	PUBF	Freshwater Pond	1.9654	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
528	41.3821	-86.2702	Milner Seltenright Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	8.1210	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
529	41.445	-86.2453	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	12.9084	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
530	41.3572	-86.0279	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5057	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
531	41.3829	-85.9363	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.8785	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
532	41.3648	-86.2824	Milner Seltenright Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	5.2808	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
533	41.4734	-86.019	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2712	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
534	41.4421	-86.0998	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3223	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
535	41.4318	-86.313	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3029	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
536	41.488	-86.1486	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.9423	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
537	41.5473	-86.1333	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.6362	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
538	41.4717	-86.2176	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.3813	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
539	41.4906	-86.1797	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.9146	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
540	41.5623	-86.169	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	15.6552	BA	IS	TE	Moderate	High	Moderate	Moderate				High		High		9	Low	0	3	0	0	0	1	1	3	1
541	41.416	-86.1214	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.6865	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
542	41.5742	-86.2588	West Bunch Branch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	11.0741	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
543	41.3504	-86.0901	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.6512	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
544	41.4168	-86.1288	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.2019	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
545	41.4521	-86.0932	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3576	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
546	41.5254	-86.2284	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.6933	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
547	41.5378	-86.2807	Headwaters Stock Ditch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	9.8758	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
548	41.437	-86.0119	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3636	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
549	41.3937	-86.0098	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.0016	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
550	41.4778	-86.1186	Kline Rouch Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	1.8961	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
551	41.5089	-86.279	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	0.5202	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
552	41.5565	-86.2133	Kline Rouch Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	5.7481	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
553	41.4578	-86.0674	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	79.2091	BA	IS	TE	Moderate	High	Moderate	Moderate				High	Significant	Medium		10	Low	1	3	0	0	0	1	1	3	1
554	41.4447	-86.0865	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5202	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
555	41.576	-86.2102	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	5.4828	FR	IT	LS1	High	High	High	High	High			Moderate		High		16	Moderate	0	1	0	0	3	3	3	3	3
556	41.4587	-86.1231	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.9626	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
557	41.4067	-86.2043	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.1170	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
558	41.3641	-86.3221	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	1.7189	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
559	41.3812	-86.0881	Dausman Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	18.3568	FR	IT	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3
560	41.379	-86.3459	Elmer Seltenright Ditch	No	PFO1/EM1Ad	Freshwater Forested/Shrub Wetland	7.2709	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
561	41.3772	-86.084	Dausman Ditch/Lemler Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.0434	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate				14	Moderate	0	1	1	1	3	3	1	1	3
562	41.4025	-86.2792	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.7121	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
563	41.347	-86.188	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.1184	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
564	41.3542	-86.0788	Lemler Ditch/Dausman Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	25.4631	BA	IS	TE	Moderate	High	High	Moderate				High	Significant			12	Moderate	1	3	0	0	0	1	3	3	1
565	41.3495	-86.0586	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4529	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
566	41.3477	-86.1971	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.6272	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
567	41.5223	-86.1629	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8866	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
568	41.4247	-86.0563	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4069	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
569	41.4121	-86.058	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5001	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
570	41.4491	-86.0973	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5516	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
571	41.3163	-85.9462	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.3617	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
572	41.5569	-86.2698	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7223	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
573	41.3522	-85.961	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2721	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
574	41.4814	-86.0576	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3559	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
575	41.4299	-86.0138	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7349	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
576	41.5704	-86.269	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.4205	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
577	41.3558	-86.0526	Lemler Ditch	No	PFO1Cd	Freshwater Forested/Shrub Wetland	20.8635	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
578	41.3545	-86.3232	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.7295	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
579	41.4294	-86.1904	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4563	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
580	41.4488	-86.104	Armey Ditch	Yes	PUBF	Freshwater Pond	0.1562	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
581	41.3808	-86.325	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.4210	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
582	41.5051	-86.1872	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3777	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
583	41.3577	-86.277	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.6266	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	18	High	0	1	1	1	3	3	3	3	3
584	41.3184	-85.9498	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.7920	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
585	41.4882	-86.1413	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.2696	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
586	41.3952	-85.9764	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.1212	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
587	41.3898	-86.1104	Dausman Ditch	Yes	PUBGx	Freshwater Pond	1.4213	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
588	41.3116	-86.215	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.0669	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
589	41.4144	-86.1248	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6258	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
590	41.3895	-86.3201	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	27.4291	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Low		17	Moderate	1	3	1	1	3	3	1	1	3
591	41.5483	-86.1556	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.0966	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
592	41.5695	-86.1968	Kline Rouch Ditch	Yes	PUBG	Freshwater Pond	0.7277	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
593	41.5256	-86.3027	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.6342	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
594	41.4614	-86.294	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9128	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
595	41.4711	-86.2286	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.0399	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
596	41.3556	-86.2841	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.2275	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Medium	x	14	Moderate	0	1	0	0	3	3	3	1	3
597	41.32	-86.1671	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.4650	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
598	41.4362	-86.0573	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.0950	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
599	41.4728	-86.1696	Kline Rouch Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	4.3527	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
600	41.4178	-86.1416	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.6368	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
601	41.4795	-86.0309	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4612	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
602	41.343	-86.156	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.5270	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
603	41.3276	-86.2165	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9054	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
604	41.3722	-86.373	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.9528	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
605	41.5174	-86.286	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5375	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
606	41.454	-86.0997	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5415	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
607	41.3854	-86.0052	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4835	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
608	41.3847	-86.193	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.6861	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
609	41.5188	-86.2087	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.4679	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
610	41.3702	-86.2879	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.4823	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
611	41.4349	-86.2949	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6523	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
612	41.4218	-86.0486	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3170	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
613	41.4783	-86.2591	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.6928	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
614	41.3661	-86.3862	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.0983	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
615	41.5117	-86.1911	Kline Rouch Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	14.8580	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		High		16	Moderate	0	3	1	1	3	3	1	1	3
616	41.3627	-86.2762	Milner Seltenright Ditch	Yes	PEM1F	Freshwater Emergent Wetland	2.3047	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
617	41.3358	-86.1962	Stone Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	17.2472	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
618	41.5428	-86.1071	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.2745	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
619	41.3124	-85.9434	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.1871	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
620	41.4994	-86.2831	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	11.1122	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
621	41.5689	-86.2556	West Bunch Branch	Yes	PUBG	Freshwater Pond	0.4573	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
622	41.4159	-86.2488	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	12.9547	BA	IS	TE	Moderate	High	High	Moderate			High	High		Medium		14	Moderate	0	3	3	0	0	1	3	3	1
623	41.4507	-86.2908	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	3.2613	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
624	41.483	-86.3053	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1323	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
625	41.4362	-86.0129	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4596	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
626	41.5744	-86.2666	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.6891	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
627	41.3639	-85.9678	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2878	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
628	41.3139	-85.9495	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.0909	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
629	41.406	-86.26	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.4745	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
630	41.457	-86.2111	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	38.4198	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
631	41.5151	-86.1739	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.5909	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
632	41.3172	-85.9488	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	7.8482	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
633	41.4041	-86.2103	Lake of the Woods	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	29.0483	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	3	1	3
634	41.4523	-86.1423	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.3374	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
635	41.3864	-86.0096	Lemler Ditch	No	PUBGx	Freshwater Pond	0.9543	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
636	41.4692	-86.2168	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4585	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
637	41.4701	-86.0854	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.4737	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
638	41.5168	-86.1783	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	14.4826	BA	IS	TE	Moderate	High	Moderate	Moderate				High		High		9	Low	0	3	0	0	0	1	1	3	1
639	41.4187	-86.1125	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.0030	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
640	41.3184	-86.2054	Stone Ditch	Yes	PUBFx	Freshwater Pond	0.9616	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
641	41.4077	-86.2511	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.2342	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
642	41.4431	-86.2685	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	19.3938	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				High		Medium		7	Low	0	3	0	0	0	1	1	1	1
643	41.4979	-86.0398	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1455	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
644	41.4722	-86.0189	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.4111	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
645	41.3987	-86.2929	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	6.9398	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
646	41.5109	-86.2646	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.7777	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
647	41.3791	-86.2825	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.2976	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
648	41.525	-86.215	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.7937	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
649	41.4253	-86.256	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.2649	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
650	41.4772	-85.9743	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.4734	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
651	41.3744	-86.2227	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.2098	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
652	41.4591	-86.2724	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.8634	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
653	41.5618	-86.3144	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	8.4624	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
654	41.3885	-86.0336	Lemler Ditch	No	PFO1/SS1A	Freshwater Forested/Shrub Wetland	7.9493	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
655	41.3769	-86.0615	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.8728	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
656	41.5442	-86.2723	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3592	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
657	41.4788	-86.0279	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.2639	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
658	41.3095	-86.2463	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	23.8090	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
659	41.4075	-86.2058	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.3982	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
660	41.4479	-86.0672	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.5893	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
661	41.4357	-86.1087	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3229	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
662	41.4096	-86.1303	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.2411	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
663	41.5356	-86.3033	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6675	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
664	41.3926	-86.234	r Seltenright Ditch/Lake of the W	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.4012	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
665	41.3822	-85.9984	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.1426	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
666	41.4783	-86.0581	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.3259	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
667	41.4165	-86.1227	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.6884	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
668	41.3388	-86.0352	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	8.7411	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
669	41.43	-86.1034	Armey Ditch	Yes	PUBGh	Freshwater Pond	1.0959	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
670	41.5328	-86.198	Kline Rouch Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	22.9372	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		High		16	Moderate	0	3	1	1	3	3	1	1	3
671	41.5221	-86.2659	Headwaters Stock Ditch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	25.9134	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	3	1	3
672	41.4995	-86.2371	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	2.3230	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
673	41.4843	-86.1129	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.8571	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
674	41.3991	-86.0325	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	9.7082	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
675	41.465	-86.2652	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	9.8603	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
676	41.3569	-86.3305	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4131	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
677	41.4949	-86.0295	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	0.8253	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
678	41.5263	-86.2769	Headwaters Stock Ditch	Yes	PSS1/EM1Cx	Freshwater Forested/Shrub Wetland	0.6196	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
679	41.4799	-86.1457	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2789	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
680	41.4865	-86.2413	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.7471	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
681	41.5238	-86.254	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3586	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
682	41.3646	-86.3387	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	5.1140	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
683	41.3315	-86.1666	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.6729	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
684	41.4922	-86.2681	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3449	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
685	41.5454	-86.2157	Kline Rouch Ditch	Yes	PABFx	Freshwater Pond	0.1963	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
686	41.4247	-86.213	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5993	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
687	41.3963	-86.0062	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.4965	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
688	41.5239	-86.3066	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	3.8237	FR	OU	LS1	High	High	High	High	High	High	High	Moderate		Medium		22	High	0	1	3	3	3	3	3	3	3
689	41.4489	-86.0379	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.0167	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
690	41.5677	-86.2665	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3710	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
691	41.3947	-86.0547	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.4254	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
692	41.3404	-86.0371	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	3.1648	FR	IT	LS1	High	High	High	High	High			Moderate		Low		16	Moderate	0	1	0	0	3	3	3	3	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
693	41.3881	-85.9926	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.3508	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
694	41.4523	-86.0782	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1741	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
695	41.3843	-86.3162	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	1.9054	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
696	41.4745	-86.1802	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9517	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	1	3	3
697	41.3745	-86.2832	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.4284	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
698	41.3783	-86.2415	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.8142	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
699	41.3921	-86.0352	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3082	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
700	41.4769	-86.1054	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.1689	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
701	41.5507	-86.1841	Kline Rouch Ditch	Yes	PFO1/SS1Cd	Freshwater Forested/Shrub Wetland	4.8052	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
702	41.3953	-85.9736	Lemler Ditch	No	PUBFx	Freshwater Pond	0.3662	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
703	41.4455	-86.2822	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9016	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
704	41.3689	-86.2486	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	32.4553	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
705	41.3853	-86.2834	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6411	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
706	41.4006	-86.0183	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3979	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
707	41.4892	-86.0273	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.5603	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
708	41.427	-86.1118	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.3133	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
709	41.3751	-86.3734	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.2492	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
710	41.3823	-85.9379	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2557	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
711	41.4144	-86.2175	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	4.1866	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
712	41.4733	-86.0537	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	2.4284	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
713	41.5656	-86.2708	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.8863	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
714	41.498	-86.0879	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.2615	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
715	41.3603	-86.3368	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	2.7311	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
716	41.3638	-86.0333	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	8.0799	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
717	41.4005	-86.0516	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.7163	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
718	41.4148	-86.2392	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7229	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
719	41.3392	-85.9149	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.6238	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
720	41.4174	-86.2583	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	11.5840	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
721	41.4051	-86.2733	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4837	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
722	41.3812	-86.3456	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.9114	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	Moderate		Low		18	High	0	1	3	1	3	3	3	1	3
723	41.5522	-86.1096	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.0737	BA	IS	TE	Moderate	High	High	Moderate				High		High		11	Moderate	0	3	0	0	0	1	3	3	1
724	41.3926	-86.3383	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.0115	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
725	41.4611	-86.2676	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.2909	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
726	41.4299	-86.2396	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.5336	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
727	41.4215	-86.3177	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.2778	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
728	41.3665	-86.298	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	11.6242	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
729	41.4152	-86.1016	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.3260	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
730	41.3748	-86.3053	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.1221	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
731	41.4183	-86.2434	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.7719	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
732	41.3482	-86.2465	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.0538	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
733	41.4115	-86.3138	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.2290	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
734	41.3926	-86.2064	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.4823	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
735	41.5086	-86.1011	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.0345	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
736	41.5532	-86.2934	Headwaters Stock Ditch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	7.8903	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
737	41.5244	-86.3	Headwaters Stock Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.3686	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
738	41.4515	-86.1741	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8353	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
739	41.4337	-86.2537	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2378	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
740	41.4888	-86.0101	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5540	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
741	41.5618	-86.275	West Bunch Branch	Yes	PEM1Cd	Freshwater Emergent Wetland	12.2939	FR	TH	LS1	High	Moderate	High	High	High			High		Medium	x	16	Moderate	0	3	0	0	3	3	3	1	3
742	41.4559	-86.3011	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	5.5893	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
743	41.458	-86.1634	Armey Ditch	Yes	PUBG	Freshwater Pond	1.1307	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
744	41.4348	-86.069	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	48.9329	BA	IS	TE	Moderate	High	High	Moderate			High	High	Significant	Medium		15	Moderate	1	3	3	0	0	1	3	3	1
745	41.3428	-85.922	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	6.3924	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
746	41.4329	-86.3074	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.7295	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
747	41.3716	-86.3745	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.3717	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
748	41.3588	-85.9658	Fleugel Ditch	No	PUBF	Freshwater Pond	0.1892	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
749	41.5041	-86.1427	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.5198	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
750	41.5522	-86.1257	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.0739	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
751	41.4818	-86.1665	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.7367	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
752	41.4145	-86.1122	ake of the Woods/Dausman Ditc	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0949	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
753	41.5153	-86.2697	Headwaters Stock Ditch	Yes	PUBG	Freshwater Pond	10.4706	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		High		Medium		12	Moderate	0	3	0	3	1	1	0	3	1
754	41.549	-86.2608	West Bunch Branch	Yes	PUBGx	Freshwater Pond	1.4573	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
755	41.4051	-86.0283	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4713	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
756	41.3791	-86.3045	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.5177	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
757	41.3867	-85.9477	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.6725	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
758	41.4084	-86.2324	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.4182	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
759	41.3962	-86.1087	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0034	FR	IS	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Low		20	High	0	1	3	1	3	3	3	3	3
760	41.3982	-86.089	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.0953	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
761	41.378	-86.277	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.1397	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
762	41.3574	-86.2516	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5731	FR	OU	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
763	41.4512	-86.2248	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	14.3893	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
764	41.5199	-86.2177	West Bunch Branch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	6.3791	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
765	41.5316	-86.1274	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4218	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	1	3	3
766	41.361	-86.3684	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.4306	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
767	41.3746	-86.2886	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.2555	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
768	41.3532	-86.1699	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.8220	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
769	41.4339	-86.273	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.5331	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
770	41.3918	-85.9687	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4174	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
771	41.451	-86.0434	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.5509	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
772	41.4282	-86.1267	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.3299	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
773	41.4783	-85.9714	Lateral Ditch No 5	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	4.5941	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
774	41.4263	-86.3006	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	13.7213	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
775	41.3653	-86.0467	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	8.2186	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
776	41.3655	-86.3825	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.0245	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
777	41.5341	-86.2239	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3775	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
778	41.546	-86.3033	Headwaters Stock Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	0.7955	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
779	41.525	-86.2669	Headwaters Stock Ditch	Yes	PSS1/EM1Cd	Freshwater Forested/Shrub Wetland	0.8891	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
780	41.5106	-86.1232	Lateral Ditch No 5	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.9620	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
781	41.514	-86.1483	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8141	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
782	41.3892	-86.3323	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.1763	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
783	41.4062	-86.275	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.3811	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
784	41.4089	-86.1395	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.3114	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
785	41.4622	-86.2843	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.8164	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
786	41.4086	-86.1793	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8305	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
787	41.3557	-86.3504	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.2288	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
788	41.3831	-86.2852	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.4549	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
789	41.3528	-86.0631	Lemler Ditch	No	PUBGx	Freshwater Pond	0.9821	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
790	41.5403	-86.1642	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	1.0504	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
791	41.3644	-86.0553	Lemler Ditch	No	PUBGx	Freshwater Pond	0.5616	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
792	41.4208	-86.2732	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.7592	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
793	41.3818	-86.0145	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.0405	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
794	41.3348	-86.2112	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.9369	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
795	41.4029	-86.0266	Lemler Ditch	No	PUBF	Freshwater Pond	0.6574	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
796	41.4679	-86.0742	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4757	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
797	41.3917	-86.3321	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.2519	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
798	41.3538	-86.0607	Lemler Ditch	No	PFO1Cd	Freshwater Forested/Shrub Wetland	26.9730	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High	Significant	Low		19	High	1	3	1	1	3	3	3	1	3
799	41.4043	-86.0424	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.9235	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
800	41.4351	-86.0158	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.8928	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
801	41.3304	-86.1213	Dausman Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.9825	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
802	41.4043	-86.0677	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8003	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
803	41.5157	-86.2654	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.2845	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
804	41.5571	-86.1426	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.3211	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
805	41.5896	-86.2184	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.8551	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
806	41.3776	-86.3669	Elmer Seltenright Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.4698	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
807	41.3508	-86.2529	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	4.6119	FR	IT	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
808	41.4477	-86.2011	West Bunch Branch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	1.7806	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
809	41.5396	-86.2889	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9794	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
810	41.5028	-86.0614	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.9170	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
811	41.363	-86.0348	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.3208	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
812	41.3786	-86.3355	Elmer Seltenright Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.2299	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
813	41.3921	-86.3355	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	2.2787	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
814	41.4558	-86.1001	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.2169	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
815	41.5301	-86.1557	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.4090	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
816	41.3679	-85.9022	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	22.6774	BA	IS	TE	Moderate	High	High	Moderate				High		Low	x	11	Moderate	0	3	0	0	0	1	3	3	1
817	41.3421	-85.9356	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	9.1989	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
818	41.5617	-86.2645	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3720	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
819	41.3388	-85.9442	Fleugel Ditch	No	PEM1Ad	Freshwater Emergent Wetland	0.5034	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1
820	41.4558	-86.1056	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.2410	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
821	41.4131	-86.1493	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.1715	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
822	41.4619	-86.2453	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.2487	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
823	41.5518	-86.1892	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.2945	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
824	41.4939	-86.1729	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	2.1975	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
825	41.5139	-86.0833	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.4575	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
826	41.4965	-86.2861	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7119	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
827	41.3023	-86.2487	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.3958	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
828	41.3727	-86.32	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.2041	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
829	41.4349	-86.0258	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2833	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
830	41.4518	-86.1671	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.3528	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
831	41.3568	-86.0957	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3754	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
832	41.3838	-86.1871	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.5191	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
833	41.3232	-86.1523	Dausman Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.7117	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
834	41.5088	-86.2385	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1328	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
835	41.5568	-86.2376	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.7736	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
836	41.3834	-86.08	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.2640	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
837	41.3762	-86.1975	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.2947	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
838	41.3788	-86.3008	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	3.2717	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
839	41.4474	-86.1072	Armey Ditch	Yes	PUBF	Freshwater Pond	0.7754	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
840	41.5231	-86.2794	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	13.1025	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
841	41.4876	-86.299	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9014	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
842	41.4768	-86.0588	Lateral Ditch No 5	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.7069	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
843	41.4113	-86.013	Armey Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	22.7179	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
844	41.3816	-86.0546	Lemler Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	2.0542	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
845	41.4022	-86.1124	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.5866	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
846	41.293	-86.2064	Stone Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2714	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
847	41.5098	-86.2792	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.2016	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
848	41.4999	-86.2492	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.5422	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
849	41.4487	-86.0584	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9716	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
850	41.3517	-85.9371	Fleugel Ditch	No	PFO1Cd	Freshwater Forested/Shrub Wetland	8.7724	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
851	41.4321	-86.1646	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7568	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
852	41.3475	-86.2564	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.3851	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
853	41.3806	-86.3483	Elmer Seltenright Ditch	No	PSS1F	Freshwater Forested/Shrub Wetland	1.3768	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
854	41.315	-86.1895	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.3233	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
855	41.491	-86.0484	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5297	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
856	41.3979	-85.9882	Lemler Ditch	No	PUBF	Freshwater Pond	0.2248	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
857	41.4959	-86.1598	Kline Rouch Ditch	Yes	PEM1F	Freshwater Emergent Wetland	4.2529	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		High		15	Moderate	0	1	3	3	0	1	3	3	1
858	41.4292	-86.0195	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4858	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
859	41.4676	-86.2974	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.4506	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
860	41.3637	-86.138	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.6986	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
861	41.5767	-86.2694	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.0110	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
862	41.3649	-86.2049	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.6427	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
863	41.4847	-85.9907	Lateral Ditch No 5	Yes	PUBF	Freshwater Pond	0.4064	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
864	41.3544	-86.3202	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	3.5307	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
865	41.5495	-86.3082	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.2961	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
866	41.3678	-85.9872	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.9763	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
867	41.3694	-86.2163	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0314	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
868	41.5322	-86.2611	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.7756	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
869	41.5022	-86.185	Kline Rouch Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	1.6932	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
870	41.4154	-86.0403	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.7078	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
871	41.3653	-86.003	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6271	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
872	41.3773	-86.055	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	6.2958	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
873	41.3654	-86.2801	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4367	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
874	41.3541	-85.95	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.1616	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
875	41.323	-86.1811	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3605	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
876	41.3971	-86.3013	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2754	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
877	41.3923	-86.2434	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.3830	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
878	41.3405	-85.9583	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2772	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
879	41.3463	-86.1025	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3313	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
880	41.5438	-86.2105	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7047	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
881	41.5271	-86.2674	Headwaters Stock Ditch	Yes	PSS1Ad	Freshwater Forested/Shrub Wetland	0.2218	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
882	41.3471	-86.0481	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2448	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
883	41.3673	-86.0087	Lemler Ditch	No	PFO1/SS1A	Freshwater Forested/Shrub Wetland	19.5494	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
884	41.3556	-86.3257	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.4943	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
885	41.5181	-86.2891	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.2016	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
886	41.2988	-86.1945	Stone Ditch	Yes	PUBF	Freshwater Pond	0.2358	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
887	41.5443	-86.1895	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.6766	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		High		18	High	0	3	1	1	3	3	1	3	3
888	41.522	-86.2769	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.9460	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
889	41.37	-85.9939	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3553	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
890	41.4969	-86.0289	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4813	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
891	41.3932	-85.9921	Lemler Ditch	No	PUBF	Freshwater Pond	0.5422	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
892	41.5357	-86.2281	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.7102	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
893	41.5474	-86.2506	West Bunch Branch	Yes	PEM1Cd	Freshwater Emergent Wetland	1.0112	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
894	41.3397	-85.9673	Fleugel Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.7789	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
895	41.43	-86.007	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.1422	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
896	41.4563	-86.2157	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.6554	BA	IS	TE	Moderate	High	High	Moderate				Moderate				9	Low	0	1	0	0	0	1	3	3	1
897	41.3548	-85.971	Lemler Ditch	No	PUBGh	Freshwater Pond	0.4946	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
898	41.3873	-86.0156	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	4.2636	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
899	41.5219	-86.1416	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.8971	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		High		10	Low	0	1	3	0	0	1	1	3	1
900	41.3197	-85.9642	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.0852	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
901	41.3659	-86.2813	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.7327	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
902	41.4214	-86.0716	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.5852	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
903	41.3568	-86.197	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.8271	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
904	41.5072	-86.1006	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.6265	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
905	41.4665	-86.0251	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5049	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
906	41.4414	-86.294	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2063	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
907	41.4364	-86.1616	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.5962	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
908	41.3741	-86.2844	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1934	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
909	41.423	-86.0721	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.8195	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
910	41.4251	-86.2821	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.3487	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
911	41.3949	-85.9747	Lemler Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.1650	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
912	41.32	-85.9272	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.1271	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
913	41.5294	-86.3044	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.3091	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
914	41.551	-86.2844	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.6729	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
915	41.4773	-86.1884	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7215	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
916	41.3599	-86.3073	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.1059	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
917	41.3593	-85.9999	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.2192	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
918	41.456	-86.2021	West Bunch Branch	Yes	PUBGx	Freshwater Pond	6.0566	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
919	41.3761	-86.2869	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8262	BA	OU	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
920	41.4448	-86.3064	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	8.4102	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
921	41.4554	-86.2849	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.4813	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
922	41.5374	-86.302	Headwaters Stock Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	2.0740	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
923	41.3879	-86.0041	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	11.3429	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
924	41.3716	-86.3473	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.5093	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
925	41.5553	-86.2606	West Bunch Branch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	2.4426	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
926	41.4357	-85.966	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1834	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
927	41.3874	-86.0235	Lemler Ditch	No	PUBGx	Freshwater Pond	0.9609	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
928	41.4567	-86.1007	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3865	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
929	41.4538	-86.2038	West Bunch Branch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	1.1848	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
930	41.4928	-86.1195	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.7590	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
931	41.3401	-85.9613	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.0053	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
932	41.3522	-86.0288	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.1626	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
933	41.4058	-86.0481	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	5.7224	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
934	41.4152	-86.0596	Armey Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1676	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
935	41.3772	-85.9992	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4052	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
936	41.5588	-86.301	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.8698	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
937	41.3575	-86.2982	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.2930	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
938	41.467	-86.2491	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.5889	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
939	41.3919	-86.021	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2534	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
940	41.4493	-86.087	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.4590	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
941	41.3024	-86.2068	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9661	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
942	41.4214	-86.288	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	3.7426	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
943	41.3165	-86.2015	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.7282	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
944	41.4744	-86.0626	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	0.4768	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
945	41.5539	-86.3072	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5714	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
946	41.4483	-86.1166	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7017	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
947	41.463	-86.0605	Armey Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	7.6491	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
948	41.4976	-86.1464	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.8631	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
949	41.4053	-86.0576	Dausman Ditch	Yes	PEM1B	Freshwater Emergent Wetland	2.8416	FR	IT	LS1	High	High	High	High	High			Moderate		Low		16	Moderate	0	1	0	0	3	3	3	3	3
950	41.3864	-86.0043	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.4296	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
951	41.5662	-86.253	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1357	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
952	41.3816	-86.3044	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	14.3965	FPba	IT	LS1	High	Moderate		High	High	High	High	High		Low		19	High	0	3	3	3	3	3	0	1	3
953	41.3575	-86.3393	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4519	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
954	41.3077	-86.19	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.0167	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
955	41.3785	-86.2523	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.8204	FPba	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
956	41.5752	-86.2109	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5569	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
957	41.5529	-86.2545	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.9512	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
958	41.4979	-86.2414	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	2.5037	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
959	41.3809	-86.0049	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	2.6772	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
960	41.3061	-86.1788	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1876	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
961	41.3751	-86.0049	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	5.0592	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
962	41.4872	-86.0266	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2194	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
963	41.3734	-86.2164	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7449	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
964	41.3791	-86.2274	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4648	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
965	41.4486	-86.1265	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.2467	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
966	41.4783	-86.0109	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2430	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
967	41.4236	-86.3144	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.8428	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
968	41.4024	-86.2203	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.0897	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
969	41.3938	-86.2453	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4431	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
970	41.3647	-85.9071	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	19.1163	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Low	x	20	High	0	3	1	1	3	3	3	3	3
971	41.4492	-86.1938	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.0840	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
972	41.3703	-85.9952	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2824	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
973	41.565	-86.2742	West Bunch Branch	Yes	PUBF	Freshwater Pond	1.3938	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
974	41.5639	-86.2114	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7706	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
975	41.4468	-86.0897	Armey Ditch	Yes	PUBF	Freshwater Pond	0.9789	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
976	41.4178	-86.0723	Dausman Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.4570	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
977	41.4727	-86.266	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3662	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
978	41.3638	-86.21	Stone Ditch	Yes	PUBFx	Freshwater Pond	10.3250	FPba	IS	LS1	High	Moderate	High	High	High	High	High	High		Low		22	High	0	3	3	3	3	3	3	1	3
979	41.3407	-86.2135	Stone Ditch	Yes	PUBGx	Freshwater Pond	1.2084	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
980	41.5523	-86.2695	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.0763	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
981	41.4314	-86.1452	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.9774	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
982	41.4371	-86.0177	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3098	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
983	41.3823	-86.3162	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.5612	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
984	41.4019	-86.0179	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	5.8994	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
985	41.4235	-86.055	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.4632	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
986	41.3648	-86.3246	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.0723	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
987	41.5583	-86.282	West Bunch Branch	Yes	PFO1/EM1B	Freshwater Forested/Shrub Wetland	2.0567	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
988	41.5601	-86.2528	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7041	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
989	41.5711	-86.2469	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.8263	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
990	41.3508	-86.2515	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3062	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
991	41.473	-86.0994	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.2218	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
992	41.3736	-86.1256	Dausman Ditch	Yes	PUBG	Freshwater Pond	0.1115	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
993	41.424	-86.0689	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.5746	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
994	41.3692	-86.2945	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1315	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
995	41.3703	-86.2057	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.5804	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	Moderate		Low		18	High	0	1	3	1	3	3	3	1	3
996	41.5432	-86.3032	Headwaters Stock Ditch	Yes	PFO1/SS1B	Freshwater Forested/Shrub Wetland	24.2959	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
997	41.4867	-86.2982	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5332	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
998	41.4831	-86.2462	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	22.6908	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				High		Medium		7	Low	0	3	0	0	0	1	1	1	1
999	41.4802	-86.3021	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3983	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1000	41.3475	-85.9358	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2671	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1001	41.3647	-86.0031	Lemler Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.7989	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1002	41.4095	-86.2308	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.9016	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1003	41.3698	-86.2935	Milner Seltenright Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.7824	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
1004	41.3133	-86.1976	Stone Ditch	Yes	PUBG	Freshwater Pond	0.4749	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1005	41.5451	-86.1285	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3355	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1006	41.4707	-86.2206	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0904	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1007	41.4287	-86.1625	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	5.3588	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1008	41.4998	-86.1568	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9717	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		High		12	Moderate	0	1	3	0	0	1	3	3	1
1009	41.4302	-86.0173	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2850	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1010	41.3503	-86.2694	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.4173	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1011	41.4084	-86.0954	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2727	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1012	41.4707	-86.2426	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.2499	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1013	41.3152	-86.187	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.5422	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1014	41.4318	-86.1063	Armey Ditch	Yes	PUBGh	Freshwater Pond	6.4906	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1015	41.5085	-86.1887	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.5318	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
1016	41.3608	-86.0283	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2310	FR	IS	LS1	High	High		High	High	High		Moderate		Low		16	Moderate	0	1	0	3	3	3	0	3	3
1017	41.4492	-86.0442	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.3680	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1018	41.3791	-86.3342	Elmer Seltenright Ditch	No	PSS1F	Freshwater Forested/Shrub Wetland	0.1881	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1019	41.3187	-86.1997	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.6861	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1020	41.3897	-85.9717	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.5184	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1021	41.4158	-86.2145	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.4824	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1022	41.4201	-86.0769	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1206	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1023	41.3467	-85.9339	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.1537	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1024	41.5229	-86.2473	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.8594	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1025	41.4203	-86.2384	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.6034	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1026	41.3991	-86.1998	Lake of the Woods	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	4.5806	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1027	41.3724	-86.382	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.4800	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1028	41.3397	-86.0373	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2549	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1029	41.3973	-86.2171	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	40.6369	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
1030	41.4057	-86.1088	Dausman Ditch	Yes	PUBGx	Freshwater Pond	1.0171	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1031	41.5509	-86.2631	West Bunch Branch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	8.5369	FR	OU	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1032	41.4188	-86.1684	Lake of the Woods	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	6.1698	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
1033	41.4654	-86.144	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.3745	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1034	41.3763	-86.2892	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1913	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1035	41.4614	-86.1951	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.0959	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1036	41.5505	-86.3062	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	2.1938	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1037	41.4039	-86.047	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.7582	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1038	41.453	-86.2005	West Bunch Branch	Yes	PUBGx	Freshwater Pond	5.8731	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1039	41.5543	-86.3007	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	43.8655	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	High/Wood Duck	High	Significant	Medium		21	High	1	3	3	1	3	3	1	3	3
1040	41.3871	-85.9915	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.2569	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1041	41.4691	-86.0007	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	2.5609	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
1042	41.4278	-86.2211	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.3662	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1043	41.4229	-86.0832	Armey Ditch	Yes	PUBF	Freshwater Pond	0.1888	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1044	41.4182	-86.2079	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.3028	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1045	41.4994	-86.1467	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.9443	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate				16	Moderate	0	1	1	1	3	3	1	3	3
1046	41.3671	-86.2091	Stone Ditch	Yes	PUBF	Freshwater Pond	0.3878	FR	TH	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1047	41.4221	-86.2034	st Bunch Branch/Lake of the Wo	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.3794	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
1048	41.4999	-86.1865	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.6500	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
1049	41.4817	-86.0545	Lateral Ditch No 5	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.1914	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1050	41.568	-86.2586	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	10.8246	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
1051	41.5489	-86.2843	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	5.0863	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium	x	14	Moderate	0	1	0	0	3	3	1	3	3
1052	41.4331	-86.0231	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4607	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1053	41.4587	-86.0954	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3523	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1054	41.4758	-86.0875	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.4590	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1055	41.4271	-86.261	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	1.6697	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1056	41.4217	-86.3017	Elmer Seltenright Ditch	No	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	32.9561	BA	IS	TE	Moderate	Moderate	High	Moderate				High	Significant	Low		10	Low	1	3	0	0	0	1	3	1	1
1057	41.3223	-86.219	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.0111	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1058	41.4735	-86.007	Lateral Ditch No 5	Yes	PUBG	Freshwater Pond	0.3082	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1059	41.4617	-86.199	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.4163	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1060	41.5463	-86.2633	West Bunch Branch	Yes	PEM1F	Freshwater Emergent Wetland	0.9661	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
1061	41.5146	-86.1043	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8595	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1062	41.5446	-86.269	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.2119	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1063	41.5131	-86.2775	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.5633	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1064	41.5182	-86.2788	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.7463	FR	TH	LE	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
1065	41.3984	-86.1721	Lake of the Woods	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.6269	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1066	41.5162	-86.1463	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.5606	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1067	41.3836	-86.1321	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.6715	FR	IS	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1068	41.3702	-86.2163	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.7021	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1069	41.5671	-86.2462	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.5550	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
1070	41.5049	-86.0361	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.7868	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1071	41.3794	-86.2973	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.3482	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1072	41.4115	-86.3077	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.7935	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1073	41.3965	-86.2385	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	6.6506	FR	OU	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1074	41.3608	-86.3226	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.5983	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1075	41.5161	-86.2798	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	12.7098	FPba	TH	LE	High	High	High		High			High		Medium		15	Moderate	0	3	0	0	3	0	3	3	3
1076	41.3846	-86.1763	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	52.8476	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
1077	41.5404	-86.2421	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	13.3747	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
1078	41.5559	-86.2909	Headwaters Stock Ditch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	2.8054	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
1079	41.4985	-86.0235	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	0.9436	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1080	41.485	-86.0535	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.3553	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1081	41.4864	-86.0365	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1883	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1082	41.4941	-86.0562	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1621	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1083	41.4858	-86.0181	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.8611	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1084	41.4873	-86.02	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1911	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1085	41.4938	-86.0313	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.4470	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1086	41.4714	-86.0201	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.5603	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1087	41.4729	-86.0194	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	1.4257	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1088	41.4746	-86.0203	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.4067	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1089	41.475	-86.0211	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.6060	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1090	41.478	-85.9745	Lateral Ditch No 5	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.3871	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		High		5	Low	0	1	0	0	0	1	1	1	1
1091	41.4779	-85.9893	Lateral Ditch No 5	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.7468	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
1092	41.4626	-86.0618	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2671	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1093	41.4688	-86.0629	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.6807	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1094	41.4703	-86.0298	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	0.0756	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1095	41.4705	-86.0213	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2805	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1096	41.444	-86.028	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.0875	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1097	41.4459	-86.028	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2464	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1098	41.4438	-86.0216	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.0549	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1099	41.4414	-86.0611	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.2236	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1100	41.4454	-86.0675	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1526	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1101	41.4323	-86.0563	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.5811	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1102	41.4326	-86.0481	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3572	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1103	41.4358	-86.0614	Armey Ditch	Yes	PUBF	Freshwater Pond	0.2328	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1104	41.4361	-86.0373	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2017	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1105	41.4381	-86.0237	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.7956	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1106	41.4386	-86.0274	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.0872	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1107	41.4384	-86.0202	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.9402	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1108	41.441	-86.0231	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.0912	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1109	41.436	-86.012	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3143	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1110	41.4363	-86.0116	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.1605	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1111	41.4386	-86.0211	Armey Ditch	Yes	PUBG	Freshwater Pond	0.2090	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1112	41.4356	-85.9885	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1720	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1113	41.4382	-85.9913	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.1869	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1114	41.4387	-85.9862	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.7866	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1115	41.4366	-85.9753	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.1724	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1116	41.435	-85.9739	Armey Ditch	Yes	PUBGx	Freshwater Pond	2.4377	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1117	41.4038	-86.3093	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.6653	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1118	41.404	-86.3078	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.0876	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1119	41.4041	-86.3066	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1477	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1120	41.3936	-86.3023	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.7725	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1121	41.3972	-86.3048	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2610	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1122	41.3981	-86.293	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	3.4566	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1123	41.3964	-86.2876	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	2.8778	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1124	41.3949	-86.2876	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	3.0427	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1125	41.3952	-86.2931	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	1.7519	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1126	41.3958	-86.2928	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.2387	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
1127	41.4042	-86.2707	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.5705	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1128	41.4038	-86.2669	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5011	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1129	41.4029	-86.2683	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.5932	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1130	41.4036	-86.2705	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.8674	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1131	41.4039	-86.2735	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.3172	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1132	41.3998	-86.2739	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4326	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1133	41.4019	-86.2799	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8619	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1134	41.3989	-86.2796	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.2076	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1135	41.3927	-86.2727	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	6.8103	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1136	41.3912	-86.2716	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3177	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1137	41.3956	-86.269	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	4.5723	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1138	41.389	-86.2685	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.8148	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1139	41.3923	-86.2694	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	14.0512	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
1140	41.3881	-86.2678	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.5298	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1141	41.3948	-86.272	Milner Seltenright Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.7083	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1142	41.396	-86.2777	Milner Seltenright Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9767	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1143	41.3961	-86.274	Milner Seltenright Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.5870	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1144	41.4021	-86.2489	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0763	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1145	41.4027	-86.2513	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.9212	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1146	41.3988	-86.2449	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.1508	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1147	41.3944	-86.255	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1849	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1148	41.3997	-86.2422	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.1669	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1149	41.3999	-86.241	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	7.1120	BA	IT	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
1150	41.4045	-86.2258	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1911	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1151	41.3963	-86.2286	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.9279	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1152	41.393	-86.2265	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	8.9413	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1153	41.3936	-86.2239	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.0409	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1154	41.4015	-86.2089	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.6869	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1155	41.3997	-86.1984	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.6416	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1156	41.4014	-86.1977	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.6987	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1157	41.3966	-86.1946	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.2116	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1158	41.3944	-86.2033	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.8619	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1159	41.3919	-86.2067	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1872	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1160	41.4029	-86.1837	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	21.4881	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
1161	41.3928	-86.1764	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.7098	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1162	41.392	-86.1757	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.0309	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1163	41.3974	-86.1768	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.6577	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1164	41.3962	-86.1742	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.5343	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1165	41.4035	-86.1588	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1622	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1166	41.3936	-86.1585	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.0916	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1167	41.3936	-86.158	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1222	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1168	41.392	-86.1501	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.2553	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1169	41.392	-86.1446	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.8496	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1170	41.393	-86.1451	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.5536	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1171	41.393	-86.1236	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.8165	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1172	41.3975	-86.127	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.8261	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1173	41.393	-86.1201	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.9497	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1174	41.3963	-86.1238	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.0903	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1175	41.3942	-86.123	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	4.6151	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1176	41.3916	-86.1351	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.5991	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1177	41.397	-86.1299	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.2825	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1178	41.4022	-86.1348	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.3111	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1179	41.4024	-86.1363	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.3747	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1180	41.4024	-86.1369	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.9089	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1181	41.3921	-86.3127	Elmer Seltenright Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.1615	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1182	41.3798	-86.309	Elmer Seltenright Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	1.3832	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1183	41.38	-86.2991	Elmer Seltenright Ditch	No	PEM1F	Freshwater Emergent Wetland	0.8724	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1184	41.3828	-86.3071	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.2849	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1185	41.3813	-86.3037	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	2.2717	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1186	41.3813	-86.3018	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3161	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1187	41.3825	-86.3023	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	5.1894	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1188	41.381	-86.3055	Elmer Seltenright Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.4705	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1189	41.3793	-86.3039	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2264	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1190	41.3797	-86.2997	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.4097	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1191	41.3846	-86.2812	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.5208	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1192	41.3851	-86.2802	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1876	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1193	41.3878	-86.2806	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1732	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1194	41.3851	-86.2836	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	0.3276	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1195	41.3773	-86.2795	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.0194	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1196	41.3786	-86.2789	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9457	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1197	41.3887	-86.2511	Milner Seltenright Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	4.8898	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
1198	41.3796	-86.2516	Milner Seltenright Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	1.9341	FPba	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1199	41.3786	-86.2476	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	10.1993	FPba	TH	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	High		Medium		20	High	0	3	3	1	3	3	3	1	3
1200	41.381	-86.2495	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.1575	FPba	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1201	41.378	-86.2488	Milner Seltenright Ditch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	7.9479	FR	TH	LS1	High	High	High	High	High	High/Stream Shading	High/Wood Duck	Moderate		Medium		22	High	0	1	3	3	3	3	3	3	3
1202	41.3882	-86.2338	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.1864	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1203	41.3885	-86.2339	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.2125	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1204	41.3884	-86.2345	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5093	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1205	41.3884	-86.2361	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.3689	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1206	41.3772	-86.2417	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2365	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1207	41.3824	-86.2345	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6987	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1208	41.383	-86.2333	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.6034	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
1209	41.3833	-86.2265	r Seltenright Ditch/Lake of the W	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.0566	BA	IS	TE	Moderate	High	High	Moderate				Moderate				9	Low	0	1	0	0	0	1	3	3	1
1210	41.379	-86.2259	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1345	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1211	41.3901	-86.2151	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	3.3286	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1212	41.3855	-86.222	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7190	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1213	41.3867	-86.2209	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.1008	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1214	41.3883	-86.2313	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6064	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1215	41.3777	-86.2061	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	14.3958	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
1216	41.3779	-86.1982	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.4993	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1217	41.3846	-86.1919	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.2349	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1218	41.3825	-86.1826	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	28.6822	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Medium		21	High	1	3	1	1	3	3	3	3	3
1219	41.378	-86.1848	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3445	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1220	41.3828	-86.1861	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.4741	FPba	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1221	41.3819	-86.1853	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5031	FPba	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1222	41.3786	-86.1434	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.8615	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1223	41.3793	-86.1445	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.9277	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1224	41.3785	-86.1367	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3487	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1225	41.3791	-86.1257	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.9894	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1226	41.3775	-86.1214	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2537	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1227	41.3781	-86.1263	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9226	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1228	41.3792	-86.1228	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.0059	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1229	41.3781	-86.1211	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.6613	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1230	41.3537	-86.299	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.7840	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1231	41.3612	-86.2744	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3673	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	18	High	0	1	1	1	3	3	3	3	3
1232	41.3667	-86.3158	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1698	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1233	41.3682	-86.3101	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.5744	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1234	41.3675	-86.2991	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.1163	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1235	41.3682	-86.3025	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.2953	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1236	41.3683	-86.3012	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1500	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1237	41.3734	-86.3118	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	5.8064	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1238	41.3762	-86.3124	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4060	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1239	41.3757	-86.3107	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	3.4179	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1240	41.3686	-86.3013	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3927	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
1241	41.3753	-86.2855	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2964	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1242	41.3754	-86.2864	Milner Seltenright Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	3.4799	FR	OU	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
1243	41.3763	-86.2855	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5483	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1244	41.3762	-86.2967	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.2784	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1245	41.3727	-86.2812	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.5273	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1246	41.3686	-86.2843	Milner Seltenright Ditch	Yes	PUBGx	Freshwater Pond	0.5610	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1247	41.3721	-86.2879	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.0543	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1248	41.3722	-86.2889	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.4854	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1249	41.3733	-86.2706	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.4486	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1250	41.371	-86.2645	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.4228	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
1251	41.3778	-86.266	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3763	FR	OU	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
1252	41.3692	-86.2657	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	4.1579	FR	TH	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1253	41.3716	-86.2657	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8620	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1254	41.3688	-86.2643	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.1163	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	High/Wood Duck	High		Medium	x	20	High	0	3	3	1	3	3	3	1	3
1255	41.3698	-86.2638	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.9387	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Medium		18	High	0	1	3	1	3	3	3	1	3
1256	41.3759	-86.2748	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1212	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1257	41.3765	-86.2757	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.1526	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1258	41.37	-86.245	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0643	FR	TH	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
1259	41.3717	-86.2498	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	10.3131	FPba	TH	LS1	High	Moderate	Moderate	High	High			High		Medium		14	Moderate	0	3	0	0	3	3	1	1	3
1260	41.3754	-86.2535	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.9047	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1261	41.3739	-86.2593	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1728	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1262	41.3742	-86.2584	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	1.3406	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1263	41.3724	-86.2501	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.9577	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1264	41.3762	-86.2497	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.8725	FR	TH	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
1265	41.3739	-86.2501	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.3944	FR	TH	LS1	High	High	Moderate	High	High	Moderate		Moderate		Medium		15	Moderate	0	1	0	1	3	3	1	3	3
1266	41.3747	-86.2485	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	10.0875	FPba	TH	LS1	High	Moderate	High	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	3	1	3
1267	41.3714	-86.2519	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	9.5239	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1268	41.3695	-86.2576	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.3201	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Medium		20	High	0	1	3	1	3	3	3	3	3
1269	41.3688	-86.2601	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	1.0649	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1270	41.3692	-86.258	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	1.2305	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1271	41.3702	-86.2601	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	1.4094	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1272	41.3686	-86.2491	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	2.0687	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1273	41.3691	-86.2525	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	1.4248	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1274	41.3646	-86.2553	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9788	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1275	41.3644	-86.2577	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	2.0964	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1276	41.3668	-86.2585	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	1.4312	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1277	41.3758	-86.2348	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8520	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1278	41.3802	-86.2336	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	15.6735	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
1279	41.3643	-86.2414	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.5028	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1280	41.3714	-86.21	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.4203	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1281	41.3701	-86.2089	Stone Ditch	Yes	PUBF	Freshwater Pond	0.3976	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1282	41.3714	-86.2183	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.0487	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1283	41.3717	-86.2201	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9223	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1284	41.3633	-86.2084	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5375	FR	TH	LS1	High	High	High	High	High			Moderate		Low		16	Moderate	0	1	0	0	3	3	3	3	3
1285	41.364	-86.2078	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.1600	FPba	IT	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1286	41.3635	-86.2287	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	10.5771	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1287	41.3644	-86.2085	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3464	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1288	41.3655	-86.2133	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8378	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1289	41.3645	-86.2193	ilner Seltenright Ditch/Stone Dit	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3180	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate				18	High	0	1	1	1	3	3	3	3	3
1290	41.3654	-86.2239	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3299	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
1291	41.3741	-86.2055	Stone Ditch/Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.2426	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
1292	41.3763	-86.2054	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.4823	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1293	41.3734	-86.2074	Stone Ditch	Yes	PUBF	Freshwater Pond	0.1112	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1294	41.3717	-86.2107	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.2709	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1295	41.3704	-86.2064	Stone Ditch	Yes	PUBFx	Freshwater Pond	0.4442	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1296	41.37	-86.2061	Stone Ditch	Yes	PABF	Freshwater Pond	0.2853	FPba	IT	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1297	41.3648	-86.1951	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	12.4615	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1298	41.3662	-86.2114	ilner Seltenright Ditch/Stone Dit	Yes	PFO1C	Freshwater Forested/Shrub Wetland	51.7951	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant			21	High	1	3	1	1	3	3	3	3	3
1299	41.3748	-86.1761	Dausman Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.4848	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1300	41.3642	-86.1911	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	13.3454	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Low		20	High	0	3	1	1	3	3	3	3	3
1301	41.3713	-86.1897	Stone Ditch/Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	13.9444	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High				20	High	0	3	1	1	3	3	3	3	3
1302	41.3648	-86.1899	Stone Ditch/Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	19.9784	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High				20	High	0	3	1	1	3	3	3	3	3
1303	41.3703	-86.1827	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7162	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1304	41.3702	-86.1748	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.1562	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1305	41.3644	-86.1876	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.3017	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1306	41.3672	-86.1827	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.9193	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1307	41.3698	-86.1865	Stone Ditch/Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9718	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate				18	High	0	1	1	1	3	3	3	3	3
1308	41.3758	-86.1587	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2341	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1309	41.3691	-86.1638	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.1796	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1310	41.3693	-86.1665	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.4520	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1311	41.3702	-86.1625	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.1891	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1312	41.3666	-86.1684	Dausman Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	4.1976	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1313	41.3652	-86.1607	Dausman Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.6279	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1314	41.3683	-86.1731	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.7525	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1315	41.3657	-86.1595	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7326	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1316	41.369	-86.1461	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4730	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1317	41.3709	-86.1473	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	23.3390	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
1318	41.3773	-86.122	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0266	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1319	41.3764	-86.1213	Dausman Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3933	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1320	41.3768	-86.125	Dausman Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.4737	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1321	41.3772	-86.1225	Dausman Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.8328	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1322	41.3715	-86.1307	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.7535	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1323	41.3732	-86.1262	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7703	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1324	41.3765	-86.1204	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5309	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1325	41.364	-86.1227	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8338	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1326	41.3655	-86.122	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9233	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1327	41.3736	-86.1238	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8110	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1328	41.3631	-86.3062	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1041	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1329	41.3608	-86.3088	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.6434	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1330	41.3633	-86.3068	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.4361	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1331	41.3612	-86.3072	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.5218	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1332	41.3592	-86.3085	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	3.0179	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1333	41.356	-86.3167	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.5519	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1334	41.3575	-86.2996	Milner Seltenright Ditch	Yes	PUBGx	Freshwater Pond	4.5424	FPox	IT	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1335	41.3586	-86.3019	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	0.4903	FPox	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1336	41.357	-86.3011	Milner Seltenright Ditch	Yes	PUBG	Freshwater Pond	0.4768	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1337	41.3562	-86.3019	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	3.2397	FPox	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1338	41.3573	-86.3043	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.8409	FPox	IT	LS1	High	Moderate	High	High	High		High	Moderate		Medium		17	Moderate	0	1	3	0	3	3	3	1	3
1339	41.3622	-86.2891	Milner Seltenright Ditch	Yes	PUBGx	Freshwater Pond	0.2633	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1340	41.3555	-86.2976	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.0234	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1341	41.3568	-86.2949	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.1169	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1342	41.3572	-86.2909	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	3.4547	FPba	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
1343	41.3553	-86.2854	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.3146	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium	x	20	High	0	1	3	3	3	3	3	1	3
1344	41.356	-86.2877	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	0.3826	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
1345	41.3568	-86.2853	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	1.4187	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium	x	20	High	0	1	3	3	3	3	3	1	3
1346	41.3534	-86.2843	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.9953	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
1347	41.3545	-86.2897	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5590	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1348	41.3631	-86.2698	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	21.6408	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	High		Medium	x	22	High	0	3	3	1	3	3	3	3	3
1349	41.3618	-86.2662	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	57.6506	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium	x	21	High	1	3	3	1	3	3	3	1	3
1350	41.3616	-86.2714	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	6.5127	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	Moderate		Medium	x	18	High	0	1	3	1	3	3	3	1	3
1351	41.3597	-86.2689	Milner Seltenright Ditch	Yes	PUBF	Freshwater Pond	4.4194	FR	TH	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium	x	20	High	0	1	3	3	3	3	3	1	3
1352	41.3648	-86.281	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2770	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
1353	41.3595	-86.2735	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.8192	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
1354	41.3537	-86.2776	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2887	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
1355	41.3555	-86.2797	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7681	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
1356	41.357	-86.275	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.1490	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	16	Moderate	0	1	1	1	3	3	3	1	3
1357	41.3571	-86.259	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.5231	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1358	41.3595	-86.2627	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.3766	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
1359	41.3512	-86.2479	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.5339	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1360	41.352	-86.25	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.6183	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1361	41.351	-86.2473	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4648	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1362	41.3517	-86.2489	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1517	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1363	41.3582	-86.2371	Milner Seltenright Ditch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	10.2581	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
1364	41.3662	-86.2448	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	13.2743	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
1365	41.3565	-86.2441	Milner Seltenright Ditch	Yes	PUBGx	Freshwater Pond	0.8675	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1366	41.3529	-86.2287	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.3625	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1367	41.3615	-86.1927	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1189	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1368	41.3643	-86.2002	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	62.3753	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High	Significant	Low		21	High	1	3	1	1	3	3	3	3	3
1369	41.3527	-86.1899	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0769	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1370	41.3537	-86.1777	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.1827	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1371	41.3582	-86.1668	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.0726	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1372	41.3585	-86.1679	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.6592	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1373	41.3591	-86.1653	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.3590	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1374	41.3608	-86.1656	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.3824	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1375	41.3554	-86.1542	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.4988	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1376	41.3589	-86.1519	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.1461	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1377	41.3605	-86.1381	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.2780	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1378	41.362	-86.1394	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.5441	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1379	41.3485	-86.2701	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3955	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1380	41.3488	-86.2688	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1641	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1381	41.348	-86.2697	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3088	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1382	41.3424	-86.2639	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1984	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1383	41.3471	-86.2464	Milner Seltenright Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.8097	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1384	41.3503	-86.2387	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8177	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1385	41.3391	-86.2391	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0574	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1386	41.3415	-86.2406	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0372	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1387	41.3429	-86.2158	Stone Ditch	Yes	PUBF	Freshwater Pond	0.1290	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1388	41.3416	-86.2154	Stone Ditch	Yes	PUBF	Freshwater Pond	0.2627	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1389	41.342	-86.2138	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.1034	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1390	41.3481	-86.1979	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.2703	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1391	41.3421	-86.2058	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9677	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1392	41.3422	-86.2076	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6533	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1393	41.3466	-86.1301	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.6073	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1394	41.3503	-86.1266	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2337	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1395	41.3326	-86.2319	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.8287	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1396	41.334	-86.2139	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	6.5614	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1397	41.3358	-86.2143	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.5216	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1398	41.332	-86.2164	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8855	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1399	41.3208	-86.2055	Stone Ditch	Yes	PUBGx	Freshwater Pond	0.4008	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Low		13	Moderate	0	1	3	3	1	1	0	3	1
1400	41.3237	-86.2061	Stone Ditch	Yes	PUBGx	Freshwater Pond	3.6370	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1401	41.3212	-86.2053	Stone Ditch	Yes	PUBFx	Freshwater Pond	0.2997	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1402	41.3211	-86.2055	Stone Ditch	Yes	PABFx	Freshwater Pond	0.3313	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1403	41.3211	-86.2058	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3700	BA	IT	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1404	41.3226	-86.194	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4385	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1405	41.3348	-86.1978	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0329	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1406	41.3244	-86.1674	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	9.1444	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1407	41.3266	-86.1685	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.0847	FR	OU	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	1	3	3
1408	41.3235	-86.1663	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.8212	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1409	41.3243	-86.1425	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.2615	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1410	41.3445	-86.1787	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.1658	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1411	41.3259	-86.1325	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9321	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1412	41.3143	-86.1414	Dausman Ditch	Yes	PUBGx	Freshwater Pond	1.1335	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1413	41.32	-86.1317	Dausman Ditch	Yes	PUBGx	Freshwater Pond	4.5333	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1414	41.3188	-86.2679	Stone Ditch	Yes	PUBFx	Freshwater Pond	1.1611	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1415	41.3114	-86.2476	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.7702	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1416	41.3115	-86.2518	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.3259	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1417	41.3168	-86.2318	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8213	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1418	41.3093	-86.2301	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.9766	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1419	41.311	-86.231	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7552	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1420	41.3088	-86.2436	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.6365	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1421	41.3098	-86.2451	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.5289	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1422	41.3203	-86.2215	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2410	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1423	41.3189	-86.2208	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	7.4036	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1424	41.3195	-86.2039	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1618	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1425	41.3197	-86.1992	Stone Ditch	Yes	PUBG	Freshwater Pond	0.3121	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1426	41.3157	-86.2002	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.0815	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1427	41.3151	-86.2018	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1675	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1428	41.3141	-86.1992	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1474	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1429	41.3141	-86.1986	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1641	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1430	41.3153	-86.2009	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2952	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1431	41.3169	-86.1967	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.1408	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1432	41.3169	-86.1979	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.5369	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1433	41.3098	-86.1928	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4861	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1434	41.3111	-86.1929	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5681	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1435	41.3172	-86.185	Stone Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.0188	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1436	41.3139	-86.188	Stone Ditch	Yes	PUBF	Freshwater Pond	0.3548	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1437	41.3196	-86.1683	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.1449	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1438	41.3231	-86.1517	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.8389	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1439	41.3163	-86.1223	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1744	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1440	41.3162	-86.1311	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5814	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1441	41.3036	-86.2523	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.5709	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1442	41.3066	-86.2576	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5450	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1443	41.305	-86.255	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4302	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1444	41.3086	-86.2534	Stone Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2377	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1445	41.305	-86.2312	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6107	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1446	41.306	-86.2311	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5755	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1447	41.3089	-86.2313	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	14.4117	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1448	41.3026	-86.2236	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.2192	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1449	41.3012	-86.2198	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3548	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1450	41.3091	-86.2179	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5116	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1451	41.3021	-86.2129	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4115	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1452	41.308	-86.2081	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5149	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1453	41.3017	-86.2048	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6877	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1454	41.306	-86.204	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.8791	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1455	41.3076	-86.1894	Stone Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.3272	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1456	41.3055	-86.1781	Stone Ditch	Yes	PUBGx	Freshwater Pond	1.2981	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1457	41.3044	-86.1814	Stone Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	2.0337	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1458	41.3063	-86.1818	Stone Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.3955	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1459	41.3059	-86.1789	Stone Ditch	Yes	PUBF	Freshwater Pond	0.5021	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1460	41.3151	-86.1365	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5203	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1461	41.3899	-86.3342	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	5.4802	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
1462	41.3927	-86.3425	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	9.8583	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
1463	41.3789	-86.3537	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.1581	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1464	41.3793	-86.3562	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.6178	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1465	41.3859	-86.3565	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.6325	FR	OU	LS1	High	High	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1466	41.3832	-86.355	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	8.1920	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1467	41.3849	-86.3529	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	20.0425	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	Wood Duck	High		Low		20	High	0	3	1	1	3	3	3	3	3
1468	41.385	-86.3482	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	7.3315	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Low		20	High	0	1	3	1	3	3	3	3	3
1469	41.3866	-86.3555	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.2637	FPba	TH	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1470	41.3817	-86.355	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	4.5556	FR	TH	LS1	High	High	High	High	High			Moderate		Low		16	Moderate	0	1	0	0	3	3	3	3	3
1471	41.3828	-86.3517	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	6.5600	FR	TH	LS1	High	High	High	High	High	Moderate		Moderate		Low		17	Moderate	0	1	0	1	3	3	3	3	3
1472	41.3851	-86.3458	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1010	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1473	41.3851	-86.3456	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3512	BA	TH	TE	Moderate	High	Moderate	High			High	Moderate		Low		12	Moderate	0	1	3	0	0	3	1	3	1
1474	41.386	-86.3484	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.4191	FPba	OU	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1475	41.3837	-86.3449	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.5922	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1476	41.3861	-86.3453	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.3756	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1477	41.3882	-86.3371	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	2.8557	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1478	41.3841	-86.3373	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	0.5755	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1
1479	41.3856	-86.342	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	3.1797	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1
1480	41.3783	-86.3479	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	6.6703	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1481	41.3812	-86.3458	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.7849	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1482	41.3825	-86.3484	Elmer Seltenright Ditch	No	PSS1Cd	Freshwater Forested/Shrub Wetland	1.8843	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1483	41.3791	-86.3387	Elmer Seltenright Ditch	No	PEM1F	Freshwater Emergent Wetland	0.9034	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1484	41.3791	-86.3417	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	2.9428	BA	IT	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1485	41.3786	-86.3399	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.1066	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1486	41.3798	-86.3373	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.7707	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1487	41.3787	-86.3335	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.6830	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1488	41.3896	-86.3289	Elmer Seltenright Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	12.3499	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1489	41.3906	-86.3196	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.1632	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1490	41.3818	-86.3317	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	4.7729	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1491	41.3835	-86.3326	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	4.4354	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1492	41.374	-86.3765	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2602	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1493	41.372	-86.3754	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.1677	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1494	41.3712	-86.3734	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.9269	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1495	41.3671	-86.3832	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.1146	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1496	41.3681	-86.3705	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.8838	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1497	41.3692	-86.3678	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.1765	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1498	41.368	-86.374	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.8365	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1499	41.3707	-86.371	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.9848	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1500	41.3694	-86.3668	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5742	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1501	41.3712	-86.3704	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	2.0574	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
1502	41.3747	-86.3701	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	8.0156	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1503	41.3783	-86.3661	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1914	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1504	41.3775	-86.3567	Elmer Seltenright Ditch	No	PEM1F	Freshwater Emergent Wetland	1.3703	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1505	41.3769	-86.3557	Elmer Seltenright Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.5099	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1506	41.3769	-86.3526	Elmer Seltenright Ditch	No	PABF	Freshwater Pond	1.5663	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1507	41.3755	-86.3554	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2353	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1508	41.3758	-86.3535	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5426	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1509	41.3741	-86.3542	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.9121	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1510	41.3731	-86.3569	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.6708	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1511	41.3719	-86.356	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4658	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1512	41.3731	-86.3533	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3961	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1513	41.3725	-86.3549	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2785	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1514	41.373	-86.3524	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3518	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1515	41.3741	-86.3633	Elmer Seltenright Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.2019	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1516	41.3709	-86.3624	Elmer Seltenright Ditch	No	PFO1/EM1Ad	Freshwater Forested/Shrub Wetland	17.0166	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
1517	41.3714	-86.361	Lateral Ditch No 5	Yes	PEM1Ad	Freshwater Emergent Wetland	5.9601	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1518	41.371	-86.3653	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.2714	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1519	41.3702	-86.3646	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.5328	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1520	41.3658	-86.3666	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	5.2596	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1521	41.368	-86.366	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.9801	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1522	41.3686	-86.3646	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.1173	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1523	41.3675	-86.3635	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.5464	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1524	41.3668	-86.3637	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	2.9833	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1525	41.3654	-86.3695	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.6351	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1526	41.3643	-86.3663	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.0794	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1527	41.369	-86.358	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.1335	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1528	41.3678	-86.3604	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.5082	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1529	41.3658	-86.3536	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.5277	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1530	41.3691	-86.3519	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	20.9804	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1531	41.3688	-86.3503	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.6093	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1532	41.3698	-86.3543	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4627	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1533	41.3675	-86.3541	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.3219	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1534	41.3701	-86.3531	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	5.1394	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1535	41.3764	-86.3455	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.2585	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1536	41.3773	-86.3408	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1004	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1537	41.3754	-86.3505	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6031	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1538	41.3758	-86.3511	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.2520	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1539	41.3764	-86.3512	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3084	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1540	41.3702	-86.3456	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.1691	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1541	41.3702	-86.3486	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.8365	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1542	41.3638	-86.3389	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.6807	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1543	41.3716	-86.3445	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	6.2749	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
1544	41.3719	-86.3463	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.0333	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1545	41.3764	-86.3425	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2683	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1546	41.3732	-86.3365	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.4425	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1547	41.373	-86.3379	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.6731	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1548	41.3733	-86.3366	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.4089	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1549	41.3723	-86.3363	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2011	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1550	41.3715	-86.3356	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3490	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1551	41.3701	-86.3358	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1633	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1552	41.371	-86.3373	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2852	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1553	41.3681	-86.3358	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.0800	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1554	41.3746	-86.3428	Elmer Seltenright Ditch	No	PEM1F	Freshwater Emergent Wetland	2.0627	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
1555	41.375	-86.3442	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.5052	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1556	41.3743	-86.3447	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.2577	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1557	41.3757	-86.3439	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1638	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1558	41.3753	-86.3362	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	0.2098	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1559	41.3658	-86.3265	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.6372	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1560	41.3774	-86.3341	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.3327	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1561	41.373	-86.3301	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.1326	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1562	41.3732	-86.3177	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3959	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1563	41.3762	-86.3174	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5897	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1564	41.3664	-86.3245	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5900	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1565	41.3668	-86.3317	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3778	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1566	41.3648	-86.3811	Elmer Seltenright Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.3936	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1567	41.361	-86.3729	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.0306	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1568	41.3644	-86.3711	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	12.6786	FPba	IS	LS1	High	Moderate	High	High	High			High		Low		16	Moderate	0	3	0	0	3	3	3	1	3
1569	41.3629	-86.3647	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	4.4895	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1570	41.3627	-86.3638	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5858	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1571	41.3633	-86.3592	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5545	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1572	41.3569	-86.3639	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.4967	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1573	41.358	-86.3528	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4812	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1574	41.3571	-86.3538	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	1.1771	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1575	41.3627	-86.3357	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	5.8509	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1576	41.36	-86.3411	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.0592	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1577	41.3584	-86.3355	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.0856	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1578	41.3584	-86.3339	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.0874	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1579	41.3644	-86.3495	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.3119	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1580	41.3622	-86.3325	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	1.2006	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1581	41.3647	-86.3332	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	1.7152	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1582	41.3631	-86.3335	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3854	FPba	IS	LS1	High	Moderate	High	High	High		High	Moderate		Low		17	Moderate	0	1	3	0	3	3	3	1	3
1583	41.3593	-86.3355	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.9876	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1584	41.3595	-86.3292	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.0551	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1585	41.3603	-86.3303	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1303	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1586	41.3584	-86.3174	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.4129	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1587	41.3537	-86.3197	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.7755	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1588	41.3572	-86.3252	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	1.3669	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1589	41.3479	-86.3453	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1366	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1590	41.3503	-86.3469	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.3579	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1591	41.541	-86.1065	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4167	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1592	41.5409	-86.1069	Kline Rouch Ditch	Yes	PSS1A	Freshwater Forested/Shrub Wetland	0.4009	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1593	41.5291	-86.0958	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.8871	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1594	41.5317	-86.0955	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.7054	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1595	41.5155	-86.1059	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9539	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1596	41.5139	-86.1012	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.1638	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1597	41.5168	-86.0873	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.6959	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1598	41.5165	-86.0834	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.0940	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1599	41.5141	-86.0815	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.0873	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1600	41.5048	-86.116	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.8119	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1601	41.5085	-86.099	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1920	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1602	41.5085	-86.0795	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2454	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1603	41.5064	-86.0832	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.5428	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1604	41.5059	-86.0938	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	1.1686	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
1605	41.4872	-86.1097	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.3572	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1606	41.4967	-86.1112	Lateral Ditch No 5	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.5389	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1607	41.4981	-86.0796	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	0.7067	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
1608	41.4898	-86.0958	Lateral Ditch No 5	Yes	PUBF	Freshwater Pond	0.1451	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1609	41.4887	-86.0972	Lateral Ditch No 5	Yes	PUBF	Freshwater Pond	0.5479	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1610	41.4913	-86.0718	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	4.1961	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1611	41.491	-86.0816	Lateral Ditch No 5	Yes	PUBFx	Freshwater Pond	0.1233	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1612	41.4831	-86.1112	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	5.4319	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1613	41.4766	-86.1072	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.6294	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1614	41.4783	-86.0967	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.7036	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1615	41.4741	-86.1162	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0333	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1616	41.4835	-86.0964	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4134	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1617	41.4838	-86.0974	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2627	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1618	41.48	-86.1005	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	5.0320	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
1619	41.4808	-86.0915	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0130	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1620	41.4805	-86.0855	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2465	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1621	41.4781	-86.0983	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.0985	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1622	41.4724	-86.0964	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.3751	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1623	41.4726	-86.0975	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.8819	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1624	41.4772	-86.0966	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.6388	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1625	41.4711	-86.1004	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5717	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
1626	41.4713	-86.0994	Armey Ditch/Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8775	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate				12	Moderate	0	1	3	0	0	1	3	3	1
1627	41.4849	-86.0816	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	1.5190	FR	TH	LS1	High	High	High	High	High			Moderate		High		16	Moderate	0	1	0	0	3	3	3	3	3
1628	41.4835	-86.0813	Lateral Ditch No 5	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.2571	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
1629	41.4822	-86.0748	Lateral Ditch No 5	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4057	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1630	41.4818	-86.0761	Lateral Ditch No 5	Yes	PEM1C	Freshwater Emergent Wetland	0.3354	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1631	41.4793	-86.0769	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.2736	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1632	41.4813	-86.0752	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	0.5580	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1633	41.478	-86.0727	Lateral Ditch No 5	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	3.9660	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1634	41.4698	-86.1087	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2483	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1635	41.4716	-86.1168	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2610	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1636	41.4689	-86.1174	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2959	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1637	41.4689	-86.1146	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5672	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1638	41.4688	-86.1135	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.7481	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1639	41.4703	-86.1173	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8229	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1640	41.471	-86.1147	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0439	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1641	41.4633	-86.1007	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9027	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1642	41.4706	-86.0702	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.1875	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1643	41.4575	-86.0758	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5014	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1644	41.4559	-86.1008	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3848	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1645	41.4558	-86.102	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3679	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1646	41.4522	-86.1006	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0848	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1647	41.4534	-86.119	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.8382	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1648	41.4493	-86.1034	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3318	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1649	41.4571	-86.0924	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.4426	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1650	41.4552	-86.0845	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.2677	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1651	41.4552	-86.0939	Armey Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	2.4920	BA	OU	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
1652	41.4518	-86.0921	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.9854	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1653	41.4494	-86.0966	Armey Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.3353	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1654	41.4486	-86.0941	Armey Ditch	Yes	PUBF	Freshwater Pond	0.2718	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1655	41.4481	-86.0936	Armey Ditch	Yes	PUBF	Freshwater Pond	0.3957	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1656	41.4482	-86.0933	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7590	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
1657	41.4488	-86.0874	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5899	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1658	41.4436	-86.086	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.6040	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1659	41.4475	-86.0933	Armey Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7427	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1660	41.4441	-86.1036	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.4232	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1661	41.4413	-86.0923	Armey Ditch	Yes	PUBF	Freshwater Pond	0.1151	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1662	41.4308	-86.0915	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.9369	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1663	41.4327	-86.0764	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.6450	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1664	41.4358	-86.0767	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.5366	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1665	41.4409	-86.0811	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.1657	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1666	41.4309	-86.0893	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.2063	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1667	41.4317	-86.0874	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.1078	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1668	41.4417	-86.085	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	7.4038	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1669	41.4409	-86.0837	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.0032	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1670	41.4431	-86.0853	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9151	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1671	41.4333	-86.0774	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4153	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1672	41.4207	-86.1111	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.0296	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1673	41.4198	-86.111	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3750	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1674	41.4185	-86.1072	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7007	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1675	41.4194	-86.1091	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.6135	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1676	41.4196	-86.1046	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.8742	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
1677	41.4198	-86.088	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8242	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1678	41.4232	-86.0675	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.7768	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
1679	41.4247	-86.0791	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	6.8776	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
1680	41.4211	-86.0594	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.8428	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1681	41.4226	-86.0601	Armey Ditch	Yes	PUBGx	Freshwater Pond	3.6724	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1682	41.4253	-86.0529	Armey Ditch	Yes	PUBF	Freshwater Pond	0.2289	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1683	41.4169	-86.0601	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8394	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1684	41.4161	-86.0604	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.5652	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1685	41.4191	-86.0545	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.9638	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1686	41.419	-86.0344	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.6781	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
1687	41.4236	-86.037	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3004	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1688	41.424	-86.045	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2945	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1689	41.4279	-86.0325	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1535	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1690	41.4289	-86.0308	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0359	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1691	41.4288	-86.0431	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6289	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1692	41.4241	-86.0415	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	8.0307	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
1693	41.4261	-86.0265	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3194	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1694	41.4272	-86.0122	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.0694	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1695	41.4292	-86.0264	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0019	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1696	41.4222	-86.01	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.1078	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1697	41.4274	-86.0135	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.5685	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1698	41.4181	-86.0142	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8967	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1699	41.4172	-86.0216	Armey Ditch	Yes	PUBF	Freshwater Pond	0.3615	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1700	41.4278	-85.9933	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.6730	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1701	41.4282	-85.9967	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.8908	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1702	41.4186	-85.9969	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.9005	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1703	41.4277	-85.9775	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.2515	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1704	41.4282	-85.9726	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4452	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1705	41.4184	-85.9876	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3499	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1706	41.4297	-85.9808	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4493	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1707	41.4176	-85.9647	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3068	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1708	41.4273	-85.9678	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3826	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1709	41.4413	-86.0255	Armey Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.8633	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1710	41.4365	-86.0601	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6150	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1711	41.4149	-86.1219	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.7918	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1712	41.4166	-86.1115	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7419	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1713	41.4156	-86.1141	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.2824	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1714	41.4154	-86.1135	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.3257	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1715	41.4157	-86.1114	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4135	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
1716	41.4162	-86.1167	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.5815	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1717	41.4142	-86.1103	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9790	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1718	41.4125	-86.0855	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.5540	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1719	41.4114	-86.0854	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3950	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1720	41.411	-86.0892	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6144	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1721	41.4114	-86.0842	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6781	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1722	41.4058	-86.0706	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5094	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1723	41.4054	-86.0694	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.3673	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1724	41.4073	-86.0682	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.8267	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1725	41.4064	-86.0571	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.4309	FR	IS	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1726	41.4063	-86.0508	Lemler Ditch	No	PUBF	Freshwater Pond	0.1283	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1727	41.4065	-86.0496	Lemler Ditch	No	PUBF	Freshwater Pond	0.3521	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1728	41.4056	-86.0363	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2561	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1729	41.4058	-86.0353	Lemler Ditch	No	PUBGx	Freshwater Pond	0.6087	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1730	41.4075	-86.0284	Lemler Ditch	No	PUBGx	Freshwater Pond	0.1550	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1731	41.4081	-86.0274	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2463	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1732	41.4059	-86.0252	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2142	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1733	41.4075	-86.0263	Lemler Ditch	No	PUBGx	Freshwater Pond	0.5570	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1734	41.4069	-86.0284	Lemler Ditch	No	PUBF	Freshwater Pond	0.8085	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1735	41.4065	-86.0269	Lemler Ditch	No	PUBF	Freshwater Pond	1.2120	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1736	41.4063	-86.0304	Lemler Ditch	No	PUBF	Freshwater Pond	1.4174	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1737	41.4154	-86.0115	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.1937	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1738	41.4031	-86.0054	Lemler Ditch	No	PUBGx	Freshwater Pond	0.3367	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1739	41.4033	-86.005	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.7295	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1740	41.4028	-86.0049	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	1.2080	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1741	41.4109	-86.0081	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	22.7515	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Medium		14	Moderate	0	3	0	0	3	3	1	1	3
1742	41.4066	-85.9804	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2916	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1743	41.3975	-86.1076	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3216	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1744	41.3981	-86.1115	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.2093	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1745	41.398	-86.1104	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.6014	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1746	41.4004	-86.1162	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6181	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1747	41.4	-86.1144	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.5590	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1748	41.3982	-86.1178	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.7847	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1749	41.3994	-86.1166	ake of the Woods/Dausman Ditc	Yes	PEM1Af	Freshwater Emergent Wetland	3.0038	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate				7	Low	0	1	0	0	0	1	1	3	1
1750	41.3962	-86.1163	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.9200	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1751	41.3909	-86.08	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.3913	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1752	41.4032	-86.069	Dausman Ditch	Yes	PUBGx	Freshwater Pond	2.0426	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1753	41.3998	-86.0567	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.1022	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1754	41.3996	-86.0582	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.2067	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1755	41.4	-86.0591	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.9900	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1756	41.4029	-86.0602	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2502	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1757	41.3909	-86.0148	Lemler Ditch	No	PUBGx	Freshwater Pond	0.1791	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1758	41.3935	-86.0181	Lemler Ditch	No	PUBGx	Freshwater Pond	0.5038	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1759	41.3911	-86.0229	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.6102	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1760	41.3913	-86.0311	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.2704	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1761	41.3934	-86.0147	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.1214	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1762	41.4023	-86.0053	Lemler Ditch	No	PUBF	Freshwater Pond	0.1616	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1763	41.393	-85.9968	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.1869	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1764	41.3939	-85.9968	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	6.0268	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1765	41.3919	-85.9987	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4170	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1766	41.3948	-85.9953	Lemler Ditch	No	PUBGx	Freshwater Pond	0.9892	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1767	41.3906	-85.9945	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.4641	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1768	41.3967	-85.9813	Lemler Ditch	No	PUBGx	Freshwater Pond	0.8448	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1769	41.4015	-85.9775	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3045	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1770	41.4027	-85.9807	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.5083	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1771	41.3793	-86.1056	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8428	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Low		18	High	0	1	1	1	3	3	3	3	3
1772	41.3878	-86.1078	Dausman Ditch	Yes	PUBF	Freshwater Pond	0.3526	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1773	41.3784	-86.1183	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.1386	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1774	41.3805	-86.1144	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3269	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1775	41.3798	-86.1134	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.2950	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1776	41.3819	-86.112	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.5435	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Low		20	High	0	1	3	3	3	3	3	1	3
1777	41.3783	-86.1178	Dausman Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.3459	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
1778	41.3852	-86.0984	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.5448	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1779	41.3848	-86.0988	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.6727	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1780	41.3803	-86.0867	Dausman Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	4.5998	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	1	3	3
1781	41.3786	-86.0859	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	17.3218	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1782	41.3885	-86.0992	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	12.6249	FR	TH	LS1	High	High	Moderate	High	High			High		Low		16	Moderate	0	3	0	0	3	3	1	3	3
1783	41.3839	-86.0678	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.8131	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1784	41.3866	-86.0581	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2825	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1785	41.3765	-86.058	Lemler Ditch	No	PUBGx	Freshwater Pond	0.2739	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1786	41.3856	-86.0494	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4134	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1787	41.385	-86.013	Lemler Ditch	No	PUBF	Freshwater Pond	0.2246	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1788	41.3823	-86.0038	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.1316	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1789	41.3807	-85.9791	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.9467	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1790	41.3801	-85.9848	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	8.5253	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1791	41.3788	-85.9341	Lemler Ditch	No	PUBFx	Freshwater Pond	0.3958	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1792	41.3734	-86.1162	Lemler Ditch	No	PUBFx	Freshwater Pond	0.4367	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1793	41.3722	-86.116	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.4795	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1794	41.3666	-86.1132	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	11.7317	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1795	41.3678	-86.1009	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	14.1629	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1796	41.3692	-86.1119	Lemler Ditch/Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.7750	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate				12	Moderate	0	1	3	0	0	1	3	3	1
1797	41.3726	-86.1191	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.0458	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1798	41.3731	-86.1127	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	11.3148	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1799	41.3715	-86.1132	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	2.1991	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1800	41.3737	-86.1176	Lemler Ditch	No	PUBFx	Freshwater Pond	0.4002	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1801	41.3768	-86.1192	Dausman Ditch	Yes	PUBFx	Freshwater Pond	0.0797	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1802	41.3686	-86.1124	Lemler Ditch/Dausman Ditch	Yes	PUBF	Freshwater Pond	0.9805	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate				16	Moderate	0	1	3	3	1	1	3	3	1
1803	41.3678	-86.1069	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.4301	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1804	41.3681	-86.1063	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.2843	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1805	41.3641	-86.1135	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5190	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1806	41.3676	-86.1144	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8814	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1807	41.3672	-86.0942	Lemler Ditch	No	PUBGx	Freshwater Pond	0.7755	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1808	41.3727	-86.0959	Lemler Ditch	No	PUBGx	Freshwater Pond	0.1910	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1809	41.3761	-86.0837	Lemler Ditch	No	PUBGx	Freshwater Pond	0.7084	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1810	41.3733	-86.0858	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.5454	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1811	41.3742	-86.0878	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	12.0547	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3
1812	41.3662	-86.0779	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.9181	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1813	41.3752	-86.0836	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.3175	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1814	41.3695	-86.0463	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.6793	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1815	41.3682	-86.0467	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	3.1576	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1816	41.3725	-86.0161	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.5957	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1817	41.3727	-86.0182	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.1903	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1818	41.3663	-85.9892	Lemler Ditch	No	PUBFx	Freshwater Pond	0.4330	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1819	41.3727	-85.9949	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.9580	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1820	41.3624	-85.9877	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.2544	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1821	41.3646	-85.9905	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.5368	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1822	41.3714	-85.9837	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	6.8822	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
1823	41.3704	-85.9647	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.3174	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1824	41.3728	-85.9639	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.2572	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1825	41.3733	-85.9616	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.1074	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1826	41.3737	-85.9614	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.0904	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1827	41.3623	-85.9639	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.9128	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1828	41.3639	-85.9636	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.5196	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1829	41.3653	-85.9636	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.2605	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1830	41.3657	-85.9623	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.2692	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1831	41.3697	-85.9757	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.2279	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1832	41.3669	-85.9339	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.2340	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1833	41.3526	-86.1003	Dausman Ditch	Yes	PSS1Cd	Freshwater Forested/Shrub Wetland	1.9677	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
1834	41.3535	-86.1014	Dausman Ditch	Yes	PSS1Cd	Freshwater Forested/Shrub Wetland	1.1811	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
1835	41.3545	-86.0645	Lemler Ditch	No	PUBGx	Freshwater Pond	0.4437	FR	OU	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
1836	41.353	-86.0495	Lemler Ditch	No	PEM1Cd	Freshwater Emergent Wetland	3.9365	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	3	1	3
1837	41.353	-86.0464	Lemler Ditch	No	PFO1Cd	Freshwater Forested/Shrub Wetland	18.5007	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1838	41.3571	-86.0443	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.5948	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1839	41.3599	-86.0462	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2046	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1840	41.3611	-86.0454	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2325	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1841	41.3612	-86.0023	Lemler Ditch	No	PUBFx	Freshwater Pond	0.1147	FR	IS	LS1	High	High	High	High	High	High	High	Moderate		Low		22	High	0	1	3	3	3	3	3	3	3
1842	41.3609	-86.0036	Lemler Ditch	No	PUBF	Freshwater Pond	0.3412	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1843	41.3593	-85.9804	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	2.0747	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1844	41.36	-85.9822	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	2.5067	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1845	41.3611	-85.9875	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.4379	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1846	41.3609	-85.9855	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.8139	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1847	41.3611	-85.9834	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.0615	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1848	41.3621	-85.9853	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3912	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1849	41.362	-85.9833	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	2.0038	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1850	41.3628	-85.9839	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.2712	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1851	41.3588	-85.9938	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	5.7288	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1852	41.357	-85.9736	Lemler Ditch	No	PUBFx	Freshwater Pond	0.2165	FR	IS	LS1	High	High	High	High	High	High	High	Moderate		Low		22	High	0	1	3	3	3	3	3	3	3
1853	41.3554	-85.9735	Lemler Ditch	No	PUBFx	Freshwater Pond	0.5570	FR	IS	LS1	High	High	High	High	High	High	High	Moderate		Low		22	High	0	1	3	3	3	3	3	3	3
1854	41.3501	-85.9723	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	4.5843	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1855	41.3575	-85.9647	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	3.0788	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1856	41.3504	-85.9652	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	5.0929	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1857	41.3514	-85.9701	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	3.8385	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1858	41.35	-85.9625	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	1.3534	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1859	41.349	-85.9437	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	2.6642	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1860	41.3539	-85.9381	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	2.3807	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1861	41.3484	-85.9119	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	11.0886	FR	IS	LS1	High	High	Moderate	High	High			High		Low		16	Moderate	0	3	0	0	3	3	1	3	3
1862	41.3489	-85.9221	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	7.2998	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1863	41.3582	-85.9054	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.4271	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1864	41.3601	-85.8972	Fleugel Ditch	No	PUBGx	Freshwater Pond	0.2332	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1865	41.3387	-86.1103	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.6483	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1866	41.3476	-86.111	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.3036	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1867	41.3483	-86.111	Dausman Ditch	Yes	PUBGx	Freshwater Pond	0.2578	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1868	41.3441	-86.0978	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.2331	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1869	41.3488	-86.0862	Dausman Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	9.4885	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1870	41.3455	-86.077	Dausman Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	1.0100	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1871	41.3427	-86.0524	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	0.8224	FR	OU	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1872	41.3402	-86.0351	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.9492	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1873	41.3419	-86.0348	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.3030	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1874	41.3424	-86.0339	Lemler Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4771	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1875	41.3387	-86.0337	Lemler Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.1026	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1876	41.3407	-86.0351	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.3983	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1877	41.3422	-86.0358	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.2772	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1878	41.347	-86.0224	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.3582	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1879	41.3386	-86.0242	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.5491	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1880	41.3402	-86.0309	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.2344	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1881	41.3427	-86.0255	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.2081	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1882	41.3432	-86.0279	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.9497	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1883	41.3487	-86.0094	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.4034	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1884	41.3457	-86.002	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.1131	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1885	41.346	-86.0094	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.4590	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1886	41.3465	-86.0014	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.4181	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1887	41.3439	-85.9923	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.4524	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1888	41.3454	-85.9931	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	1.8900	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1889	41.3487	-86.0052	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	2.0772	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1890	41.3439	-85.9885	Fleugel Ditch	No	PEM1Ad	Freshwater Emergent Wetland	20.9706	FR	OU	LS1	High	Moderate	Moderate	High	High	Moderate		High		Low		15	Moderate	0	3	0	1	3	3	1	1	3
1891	41.3403	-85.9867	Fleugel Ditch	No	PFO1/SS1Cd	Freshwater Forested/Shrub Wetland	11.0835	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1892	41.3383	-85.9873	Fleugel Ditch	No	PSS1/EM1Ad	Freshwater Forested/Shrub Wetland	6.5361	FR	OU	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
1893	41.3374	-85.9822	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	5.0923	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Low		9	Low	0	1	0	0	0	3	1	3	1
1894	41.3378	-85.9774	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.6518	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Low		9	Low	0	1	0	0	0	3	1	3	1
1895	41.3412	-85.9759	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.9292	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Low		9	Low	0	1	0	0	0	3	1	3	1
1896	41.3485	-85.9834	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	9.5988	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1897	41.3444	-85.9724	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5641	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1898	41.3444	-85.9754	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	2.3518	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1899	41.3481	-85.974	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.4151	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1900	41.3481	-85.9727	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2533	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1901	41.334	-85.9832	Fleugel Ditch	No	PSS1/EM1Cd	Freshwater Forested/Shrub Wetland	27.1362	BA	IS	TE	Moderate	Moderate	High	Moderate				High	egionally Significa	Low	x	12	Moderate	3	3	0	0	0	1	3	1	1
1902	41.344	-85.9701	Fleugel Ditch	No	PSS1/EM1Cd	Freshwater Forested/Shrub Wetland	10.0391	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Low		18	High	0	3	1	1	3	3	3	1	3
1903	41.3489	-85.9616	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3648	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1904	41.3361	-85.957	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.0211	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1905	41.335	-85.9588	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	10.8193	FR	IT	LS1	High	High	Moderate	High	High			High		Low		16	Moderate	0	3	0	0	3	3	1	3	3
1906	41.3361	-85.942	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	5.9051	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1907	41.3394	-85.9383	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.5512	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1908	41.339	-85.956	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.6022	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1909	41.3426	-85.9535	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	16.8450	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
1910	41.3382	-85.9246	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.2029	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1911	41.34	-85.9271	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	16.9254	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1912	41.3385	-85.9406	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.5166	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1913	41.3406	-85.9228	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.4771	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1914	41.3402	-85.9203	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	6.0829	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1915	41.3428	-85.9241	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.2329	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
1916	41.3357	-86.112	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2953	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1917	41.3327	-86.1093	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4001	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1918	41.3284	-86.1139	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8074	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1919	41.332	-85.9942	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4111	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1920	41.3331	-85.9954	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	1.1330	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1921	41.3341	-85.9953	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	0.5003	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1922	41.3282	-85.9859	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.3546	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Low		9	Low	0	1	0	0	0	3	1	3	1
1923	41.3281	-85.981	Fleugel Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.3306	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1924	41.3272	-85.9803	Fleugel Ditch	No	PABF	Freshwater Pond	0.2775	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
1925	41.3289	-85.9854	Fleugel Ditch	No	PEM1C	Freshwater Emergent Wetland	0.9246	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1926	41.3286	-85.9857	Fleugel Ditch	No	PUBG	Freshwater Pond	0.3885	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
1927	41.3258	-85.9807	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.1664	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1928	41.3258	-85.9803	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.2299	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1929	41.3263	-85.9804	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	0.1226	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1930	41.3322	-85.9926	Fleugel Ditch	No	PSS1A	Freshwater Forested/Shrub Wetland	0.7796	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1931	41.3298	-85.9656	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	14.1663	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
1932	41.3351	-85.9708	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.0480	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1933	41.3331	-85.9595	Fleugel Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	9.0101	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1934	41.3354	-85.944	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	18.5253	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
1935	41.3329	-85.9457	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	7.0396	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1936	41.3343	-85.9527	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	5.4675	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1937	41.3228	-85.9451	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.4019	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1938	41.3355	-85.9371	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	10.1328	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
1939	41.3262	-86.1231	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	38.8041	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
1940	41.3199	-85.9625	Fleugel Ditch	No	PEM1A	Freshwater Emergent Wetland	1.8405	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1941	41.3161	-85.9521	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.0774	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1942	41.3171	-85.9522	Fleugel Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.4979	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1943	41.313	-85.9511	Fleugel Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	7.2708	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1944	41.321	-85.9632	Fleugel Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	3.8564	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1945	41.3111	-85.9363	Fleugel Ditch	No	PFO1/SS1C	Freshwater Forested/Shrub Wetland	1.3618	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1946	41.3097	-85.9325	Fleugel Ditch	No	PFO1/SS1C	Freshwater Forested/Shrub Wetland	22.0646	BA	IS	TE	Moderate	High	High	Moderate				High		Low		11	Moderate	0	3	0	0	0	1	3	3	1
1947	41.3149	-85.9363	Fleugel Ditch	No	PFO1/SS1C	Freshwater Forested/Shrub Wetland	2.8026	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
1948	41.3092	-85.9162	Fleugel Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.4377	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
1949	41.5885	-86.2161	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.7988	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1950	41.5885	-86.2147	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	6.4409	FR	TH	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
1951	41.5895	-86.1998	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.2128	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1952	41.5827	-86.1939	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.2238	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1953	41.5831	-86.1947	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.1947	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1954	41.5848	-86.2022	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.2110	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
1955	41.5885	-86.2036	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.7837	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1956	41.5837	-86.2007	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7657	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1957	41.5834	-86.1999	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8312	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
1958	41.5836	-86.1954	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3255	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		High		12	Moderate	0	1	3	0	0	1	3	3	1
1959	41.5799	-86.1915	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.0079	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1960	41.5721	-86.2417	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3914	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1961	41.5672	-86.2383	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.9611	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
1962	41.5671	-86.2377	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1918	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1963	41.5674	-86.2363	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.6119	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1964	41.5669	-86.239	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2015	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
1965	41.567	-86.2347	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.3376	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1966	41.5768	-86.2109	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.6285	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1967	41.5767	-86.2098	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6012	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1968	41.5738	-86.2122	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.7164	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1969	41.5713	-86.2139	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2023	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1970	41.5698	-86.2163	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7171	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1971	41.5714	-86.2173	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1891	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1972	41.5721	-86.2145	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2521	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
1973	41.5711	-86.2183	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7558	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1974	41.5727	-86.2077	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5156	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
1975	41.568	-86.1943	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.7257	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1976	41.57	-86.1933	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.4041	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
1977	41.5706	-86.1955	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.6309	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1978	41.5724	-86.198	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	11.2290	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	High		High		20	High	0	3	1	1	3	3	3	3	3
1979	41.5765	-86.1956	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1151	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
1980	41.5764	-86.1817	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1557	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1981	41.5769	-86.1811	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2803	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1982	41.5758	-86.1822	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3001	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1983	41.5728	-86.1818	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.9276	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1984	41.5715	-86.1811	Kline Rouch Ditch	Yes	PABG	Freshwater Pond	0.1403	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		High		13	Moderate	0	1	3	3	1	1	0	3	1
1985	41.572	-86.1789	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.0519	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1986	41.5745	-86.1826	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0760	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1987	41.5688	-86.1861	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4659	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
1988	41.5676	-86.1892	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1713	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1989	41.5688	-86.1907	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.6990	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
1990	41.5646	-86.2341	West Bunch Branch	Yes	PUBG	Freshwater Pond	0.4074	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1991	41.5649	-86.2341	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1575	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
1992	41.5656	-86.2314	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1351	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
1993	41.5654	-86.2312	West Bunch Branch	Yes	PUBG	Freshwater Pond	0.0749	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
1994	41.5645	-86.2389	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.0814	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1995	41.5653	-86.2347	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.4048	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1996	41.5655	-86.2373	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2357	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1997	41.5662	-86.2373	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1587	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
1998	41.5591	-86.2377	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3118	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
1999	41.5599	-86.2379	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.9036	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2000	41.5607	-86.2346	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1545	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2001	41.5574	-86.2315	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	10.3055	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2002	41.5649	-86.2085	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3363	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2003	41.5601	-86.2236	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.2354	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2004	41.555	-86.2243	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3392	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2005	41.5594	-86.2141	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3458	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2006	41.5542	-86.2245	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	2.0597	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2007	41.5546	-86.211	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.6631	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2008	41.5642	-86.2015	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2132	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2009	41.5669	-86.2009	Kline Rouch Ditch	Yes	PUBG	Freshwater Pond	0.1323	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2010	41.5658	-86.1869	Kline Rouch Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.5240	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
2011	41.564	-86.1804	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.4715	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2012	41.5641	-86.1857	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.1042	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2013	41.5664	-86.1876	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5483	FR	IS	LS1	High	High	High	High	High			Moderate		High		16	Moderate	0	1	0	0	3	3	3	3	3
2014	41.5628	-86.1758	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1762	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2015	41.563	-86.1836	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	8.2416	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2016	41.5621	-86.1855	Kline Rouch Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.0409	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2017	41.5574	-86.1776	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1095	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2018	41.5679	-86.1818	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.7544	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2019	41.5555	-86.1516	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2155	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2020	41.5439	-86.2374	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.9376	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2021	41.5469	-86.2375	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	3.6041	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2022	41.5471	-86.2399	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9946	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2023	41.5473	-86.2424	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	4.1300	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2024	41.5456	-86.2397	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	16.8083	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
2025	41.5471	-86.2435	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4838	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2026	41.5473	-86.2286	West Bunch Branch	Yes	PEM1F	Freshwater Emergent Wetland	1.0571	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2027	41.5485	-86.2262	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3943	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2028	41.5476	-86.2268	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8058	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2029	41.5434	-86.2328	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.8021	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2030	41.5435	-86.2303	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.4142	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2031	41.5465	-86.224	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.1407	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2032	41.5485	-86.224	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	2.0710	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2033	41.5389	-86.222	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.9905	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2034	41.5421	-86.2239	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	4.7858	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2035	41.5402	-86.2234	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.9663	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2036	41.5429	-86.226	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.9327	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2037	41.5436	-86.2274	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5717	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2038	41.5474	-86.2172	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2234	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2039	41.5488	-86.2165	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1527	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2040	41.5519	-86.2237	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.4041	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2041	41.5446	-86.2209	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.7303	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2042	41.5405	-86.2181	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9147	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2043	41.544	-86.2192	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.5524	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2044	41.5443	-86.2199	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.2389	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2045	41.5414	-86.1922	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3433	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2046	41.5518	-86.181	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3283	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2047	41.5521	-86.1816	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3293	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2048	41.5403	-86.1649	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.8126	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2049	41.5397	-86.1645	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	1.4212	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2050	41.5446	-86.1564	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3128	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2051	41.5444	-86.1632	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1385	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		High		18	High	0	1	1	1	3	3	3	3	3
2052	41.5444	-86.1533	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.7389	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2053	41.5398	-86.138	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5840	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2054	41.5416	-86.1532	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	11.7818	BA	IS	TE	Moderate	High	High	Moderate				High		High		11	Moderate	0	3	0	0	0	1	3	3	1
2055	41.5451	-86.1484	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.9042	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2056	41.5491	-86.1471	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.4454	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2057	41.5358	-86.2326	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3312	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2058	41.5363	-86.2255	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2153	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2059	41.5366	-86.238	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1060	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2060	41.5368	-86.2282	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1065	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2061	41.5344	-86.2272	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.1466	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2062	41.5347	-86.2287	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5305	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2063	41.5323	-86.2275	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3821	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2064	41.5335	-86.2278	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.4134	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2065	41.5288	-86.2374	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.3733	FPba	OU	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2066	41.5299	-86.2296	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	7.2858	FR	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2067	41.5286	-86.2355	West Bunch Branch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	4.5852	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2068	41.5284	-86.2279	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2270	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2069	41.4583	-86.2137	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8399	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2070	41.5338	-86.2214	West Bunch Branch	Yes	PUBGx	Freshwater Pond	1.0018	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2071	41.537	-86.2208	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1650	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2072	41.5334	-86.2112	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	25.9254	FR	TH	LS1	High	High	Moderate	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	1	3	3
2073	41.5311	-86.2099	West Bunch Branch	Yes	PEM1Ad	Freshwater Emergent Wetland	1.5873	FR	OU	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2074	41.53	-86.2183	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1611	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2075	41.5254	-86.2206	West Bunch Branch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	4.2218	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2076	41.5249	-86.2205	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0858	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2077	41.5305	-86.2091	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.9557	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2078	41.5283	-86.2226	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.6380	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2079	41.5276	-86.2212	West Bunch Branch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	2.6062	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2080	41.5271	-86.2222	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	6.0626	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2081	41.5285	-86.2202	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	8.0372	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2082	41.5262	-86.2188	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5345	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2083	41.5269	-86.2193	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1824	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2084	41.5362	-86.1896	Kline Rouch Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.6091	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
2085	41.5374	-86.1897	Kline Rouch Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.6467	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	3	1	3
2086	41.5316	-86.2025	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2086	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2087	41.5288	-86.2003	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.3551	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2088	41.5387	-86.1725	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1256	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2089	41.5344	-86.1835	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.7050	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2090	41.5347	-86.1359	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2895	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2091	41.535	-86.1451	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3114	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2092	41.5382	-86.1243	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.7735	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2093	41.5211	-86.2325	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8868	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2094	41.5241	-86.2316	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	2.7789	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2095	41.5264	-86.2211	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	6.7977	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2096	41.5217	-86.2418	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2518	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2097	41.5257	-86.2387	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1853	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2098	41.524	-86.2263	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.5048	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2099	41.5157	-86.2398	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.5413	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2100	41.5243	-86.217	West Bunch Branch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.7224	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2101	41.526	-86.2177	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.7373	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2102	41.5249	-86.2134	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1875	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2103	41.5211	-86.2146	West Bunch Branch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.3519	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2104	41.5217	-86.2161	West Bunch Branch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	6.1022	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
2105	41.5203	-86.216	West Bunch Branch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	1.5301	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2106	41.5184	-86.2174	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.2874	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2107	41.5187	-86.2182	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.2326	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2108	41.5108	-86.2179	West Bunch Branch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	1.1585	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2109	41.5192	-86.1899	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3923	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
2110	41.5247	-86.1984	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.0535	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2111	41.5228	-86.1916	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.5779	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
2112	41.524	-86.1981	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3864	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2113	41.5243	-86.1974	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9562	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2114	41.5261	-86.1922	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5289	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
2115	41.5189	-86.1945	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3729	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2116	41.5197	-86.1953	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4586	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2117	41.5187	-86.1964	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.3022	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2118	41.5199	-86.1912	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.6667	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	3	1	3
2119	41.512	-86.1927	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9726	BA	TH	TE	Moderate	High	Moderate	High				Moderate		High		9	Low	0	1	0	0	0	3	1	3	1
2120	41.5255	-86.1833	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9590	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2121	41.5154	-86.1741	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.7499	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2122	41.5164	-86.1797	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	4.2665	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2123	41.5184	-86.1747	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7020	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2124	41.5213	-86.1649	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2966	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2125	41.5251	-86.1646	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2109	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2126	41.5141	-86.1499	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.2195	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		16	Moderate	0	1	1	1	3	3	1	3	3
2127	41.5144	-86.1525	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.3969	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2128	41.5228	-86.1419	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.3899	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2129	41.5231	-86.1438	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0331	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2130	41.5064	-86.2427	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3235	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2131	41.5061	-86.2437	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	2.1739	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2132	41.5075	-86.2405	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.0907	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2133	41.4995	-86.2425	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.2549	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2134	41.5006	-86.2431	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7406	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2135	41.5109	-86.2187	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8821	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2136	41.5131	-86.2079	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3339	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2137	41.502	-86.2182	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.3999	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2138	41.5008	-86.2069	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	26.0942	FR	OU	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium		17	Moderate	1	3	1	1	3	3	1	1	3
2139	41.5075	-86.1762	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.4875	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2140	41.5105	-86.1862	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1374	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		High		14	Moderate	0	1	0	3	3	3	0	1	3
2141	41.5086	-86.1745	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.5128	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2142	41.5077	-86.1744	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	4.6689	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2143	41.5073	-86.1768	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4483	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2144	41.4997	-86.1737	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.6105	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2145	41.5007	-86.1846	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.7396	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
2146	41.4995	-86.1778	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1607	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
2147	41.5061	-86.1783	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3920	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2148	41.5054	-86.1712	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.0839	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2149	41.5052	-86.1716	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.1064	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2150	41.5062	-86.1717	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.1099	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2151	41.5124	-86.1645	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3026	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2152	41.5076	-86.1659	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3815	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2153	41.5122	-86.1704	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1493	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2154	41.5058	-86.1643	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3278	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2155	41.5062	-86.1637	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.4903	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2156	41.5044	-86.1621	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4581	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2157	41.5016	-86.1675	Kline Rouch Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.4735	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2158	41.5033	-86.1642	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.1530	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2159	41.4996	-86.157	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.2985	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2160	41.5001	-86.1572	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4514	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2161	41.4997	-86.1559	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3252	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2162	41.5101	-86.1439	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.2479	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2163	41.5104	-86.1453	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.1473	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		High		18	High	0	3	1	1	3	3	1	3	3
2164	41.5014	-86.1517	Kline Rouch Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.4329	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2165	41.5031	-86.1375	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	2.0944	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2166	41.5039	-86.1416	Kline Rouch Ditch	Yes	PUBG	Freshwater Pond	0.9904	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2167	41.5055	-86.1379	Lateral Ditch No 5	Yes	PABG	Freshwater Pond	1.2875	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		High		13	Moderate	0	1	3	3	1	1	0	3	1
2168	41.5037	-86.1414	Kline Rouch Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4613	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2169	41.5102	-86.1201	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	1.0402	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2170	41.4997	-86.1329	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.2981	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2171	41.5042	-86.135	Lateral Ditch No 5	Yes	PUBGx	Freshwater Pond	0.1183	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2172	41.5011	-86.1326	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5521	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2173	41.5061	-86.1308	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	0.5948	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2174	41.4946	-86.2379	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1140	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2175	41.495	-86.2372	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2298	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2176	41.4943	-86.2376	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1421	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2177	41.4983	-86.2376	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.6815	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2178	41.4851	-86.2364	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.0122	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2179	41.488	-86.2372	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.5212	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2180	41.49	-86.2388	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.6757	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2181	41.4882	-86.2304	West Bunch Branch	Yes	PEM1Ad	Freshwater Emergent Wetland	2.7825	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2182	41.49	-86.2228	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.9409	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2183	41.4903	-86.2241	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3995	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2184	41.4874	-86.2099	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3811	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2185	41.4948	-86.2029	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3465	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2186	41.4967	-86.2026	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.6509	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2187	41.4911	-86.2075	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	3.6387	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2188	41.4888	-86.2055	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.2844	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2189	41.4874	-86.206	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.5657	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2190	41.4884	-86.1857	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7070	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2191	41.4878	-86.1768	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.3589	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2192	41.4893	-86.179	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.8423	FR	IS	LS1	High	High	Moderate	High	High			Moderate		High		14	Moderate	0	1	0	0	3	3	1	3	3
2193	41.4904	-86.1822	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.0699	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2194	41.5	-86.1809	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	8.5541	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		High		12	Moderate	0	1	0	0	3	3	1	1	3
2195	41.4867	-86.1866	Kline Rouch Ditch	Yes	PEM1C	Freshwater Emergent Wetland	4.6356	FR	IS	LS1	High	High	High	High	High			Moderate		High		16	Moderate	0	1	0	0	3	3	3	3	3
2196	41.4944	-86.1598	Kline Rouch Ditch	Yes	PUBFx	Freshwater Pond	0.8137	FR	IS	LS1	High	High	High	High	High	High	High	Moderate		High		22	High	0	1	3	3	3	3	3	3	3
2197	41.4861	-86.1485	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.0189	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2198	41.4893	-86.1431	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.6354	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2199	41.4926	-86.1217	Lateral Ditch No 5	Yes	PEM1A	Freshwater Emergent Wetland	1.4229	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2200	41.4856	-86.1186	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.1962	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2201	41.4908	-86.1281	Lateral Ditch No 5	Yes	PEM1Af	Freshwater Emergent Wetland	15.8942	BA	IS	TE	Moderate	High	Moderate	Moderate				High		High		9	Low	0	3	0	0	0	1	1	3	1
2202	41.4825	-86.2441	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.9210	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2203	41.4731	-86.224	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	11.2696	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
2204	41.4838	-86.1752	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6265	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2205	41.4836	-86.1762	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8004	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2206	41.4785	-86.1639	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1006	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2207	41.4729	-86.1703	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.7445	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		High		14	Moderate	0	1	1	1	3	3	1	1	3
2208	41.4848	-86.1414	Kline Rouch Ditch	Yes	PUBF	Freshwater Pond	0.5442	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		High		16	Moderate	0	1	3	3	1	1	3	3	1
2209	41.4828	-86.1468	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4286	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2210	41.4846	-86.1471	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.4974	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2211	41.4797	-86.1349	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1361	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2212	41.4802	-86.1415	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.3645	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2213	41.4806	-86.1377	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.4622	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2214	41.4808	-86.1324	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.1402	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2215	41.4725	-86.1449	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.1580	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2216	41.4754	-86.1374	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3448	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2217	41.4753	-86.1317	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8129	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2218	41.477	-86.1367	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.9639	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2219	41.4771	-86.1299	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.7495	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2220	41.4773	-86.1329	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.2533	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2221	41.4746	-86.1221	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5680	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2222	41.4748	-86.1209	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.2604	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2223	41.4687	-86.1194	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5286	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2224	41.4707	-86.1213	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.7135	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2225	41.4713	-86.1198	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5085	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2226	41.4717	-86.1189	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.4623	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2227	41.4737	-86.1242	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.0193	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2228	41.473	-86.2423	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	6.9691	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2229	41.4736	-86.2074	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	17.7179	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2230	41.4828	-86.2233	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.2992	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2231	41.4795	-86.2118	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	3.4016	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2232	41.4785	-86.2151	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	6.7570	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2233	41.4627	-86.2435	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2157	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2234	41.4609	-86.2443	Headwaters Stock Ditch	Yes	PUBG	Freshwater Pond	0.3061	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2235	41.4572	-86.2358	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	9.5575	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2236	41.4616	-86.2378	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8027	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2237	41.4629	-86.2153	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1529	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2238	41.4705	-86.2184	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.0953	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2239	41.4608	-86.2071	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	16.7498	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2240	41.463	-86.1941	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.4048	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2241	41.4671	-86.1976	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	3.4826	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2242	41.4672	-86.2019	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.3254	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2243	41.4679	-86.2003	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2753	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2244	41.4677	-86.1939	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.1229	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2245	41.4724	-86.1922	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.0702	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2246	41.4627	-86.1754	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.5975	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2247	41.464	-86.18	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.1541	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2248	41.4655	-86.1826	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	6.7054	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2249	41.4658	-86.1451	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2357	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2250	41.4686	-86.1454	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.4316	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2251	41.4687	-86.1478	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	1.3244	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2252	41.4698	-86.1442	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2630	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2253	41.4716	-86.1457	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.7198	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2254	41.4701	-86.1236	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	7.1299	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2255	41.4737	-86.1207	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8885	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
2256	41.4695	-86.1357	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.1180	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2257	41.4704	-86.1266	Kline Rouch Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.3333	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
2258	41.4589	-86.1358	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.2259	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2259	41.4588	-86.1314	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.2789	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2260	41.4582	-86.2343	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.2865	FR	OU	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2261	41.454	-86.2441	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.4795	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2262	41.4485	-86.2398	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.7633	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2263	41.446	-86.2386	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.2590	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2264	41.4492	-86.239	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.5709	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2265	41.4468	-86.2395	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.9024	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2266	41.4506	-86.2156	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1201	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2267	41.451	-86.1954	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6209	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2268	41.4572	-86.1768	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1449	FR	TH	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
2269	41.4497	-86.1735	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	0.7564	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2270	41.4521	-86.1728	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.3240	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2271	41.4487	-86.1727	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.7145	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2272	41.453	-86.1821	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.5107	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2273	41.4531	-86.1796	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0740	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2274	41.4534	-86.1845	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.9481	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2275	41.4546	-86.1656	Lake of the Woods/Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	23.7934	FPba	IS	LS1	High	Moderate	Moderate	High	High			High				14	Moderate	0	3	0	0	3	3	1	1	3
2276	41.4456	-86.1787	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	1.7617	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2277	41.4464	-86.1781	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.5637	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2278	41.4464	-86.1871	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	15.9154	FPba	OU	LS1	High	Moderate	Moderate	High	High			High		Medium		14	Moderate	0	3	0	0	3	3	1	1	3
2279	41.4564	-86.1838	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.8501	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2280	41.4531	-86.1525	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	16.3821	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Medium		14	Moderate	0	3	0	0	3	3	1	1	3
2281	41.457	-86.1622	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.4560	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2282	41.4576	-86.166	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.3964	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2283	41.4515	-86.1675	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.8866	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2284	41.4567	-86.1538	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2805	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2285	41.4569	-86.148	Kline Rouch Ditch	Yes	PUBGx	Freshwater Pond	0.2237	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
2286	41.458	-86.1408	Armey Ditch	Yes	PUBGx	Freshwater Pond	3.0132	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2287	41.4506	-86.1423	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.2675	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
2288	41.4494	-86.1387	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.6016	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
2289	41.4579	-86.1355	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1486	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2290	41.4585	-86.1367	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2738	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2291	41.4577	-86.1244	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3354	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2292	41.4571	-86.129	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2672	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2293	41.4522	-86.1333	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3418	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2294	41.4551	-86.1305	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.0819	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2295	41.4587	-86.1268	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.4474	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2296	41.4525	-86.1232	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2315	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2297	41.4532	-86.1258	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6698	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2298	41.4499	-86.1351	Armey Ditch	Yes	PUBF	Freshwater Pond	0.4853	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2299	41.4478	-86.1342	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4877	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2300	41.4494	-86.1205	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9879	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2301	41.4509	-86.1233	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.4682	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2302	41.4452	-86.1352	Armey Ditch	Yes	PUBGx	Freshwater Pond	1.1121	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2303	41.446	-86.133	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.3885	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2304	41.4432	-86.1254	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.8610	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2305	41.4494	-86.1224	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.6620	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2306	41.4349	-86.2289	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.0592	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2307	41.436	-86.2391	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.2656	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2308	41.4376	-86.242	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	3.2057	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2309	41.4354	-86.2274	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	6.8961	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2310	41.4331	-86.2353	Lake of the Woods	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.3410	FR	TH	LE	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2311	41.4333	-86.2363	Lake of the Woods	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	3.7441	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2312	41.4331	-86.2372	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.1117	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2313	41.4321	-86.2354	Lake of the Woods	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.6251	FPba	IS	LE	High	High	High		High			Moderate		Medium		13	Moderate	0	1	0	0	3	0	3	3	3
2314	41.4321	-86.2271	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.2270	FPba	IS	LE	High	High		High	High	High		Moderate		Medium		16	Moderate	0	1	0	3	3	3	0	3	3
2315	41.4383	-86.2102	West Bunch Branch	Yes	PUBGx	Freshwater Pond	8.7283	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2316	41.4353	-86.206	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	3.6905	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2317	41.4396	-86.1912	West Bunch Branch	Yes	PUBGx	Freshwater Pond	1.4715	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2318	41.4417	-86.1918	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.7030	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2319	41.438	-86.1889	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	4.1290	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2320	41.4406	-86.175	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	5.9263	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2321	41.4331	-86.1637	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.3376	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2322	41.4337	-86.1645	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.5655	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2323	41.4364	-86.1647	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.4683	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2324	41.4408	-86.1468	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1330	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2325	41.4316	-86.1199	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1496	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate				16	Moderate	0	1	3	3	1	1	3	3	1
2326	41.439	-86.1308	Armey Ditch	Yes	PUBFx	Freshwater Pond	0.3499	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2327	41.4392	-86.1247	Armey Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	11.9027	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Medium		14	Moderate	0	3	0	0	3	3	1	1	3
2328	41.421	-86.2352	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.3074	FPba	IS	LE	High	High	High		High			Moderate		Medium		13	Moderate	0	1	0	0	3	0	3	3	3
2329	41.4322	-86.238	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.1126	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2330	41.4306	-86.2219	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.1760	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2331	41.4277	-86.2208	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	2.4641	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2332	41.4222	-86.216	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	14.1941	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High		Medium		12	Moderate	0	3	3	0	0	1	1	3	1
2333	41.4209	-86.211	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1509	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2334	41.4206	-86.2108	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1249	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2335	41.4195	-86.2121	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	5.0117	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2336	41.4301	-86.1996	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2497	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2337	41.4186	-86.2057	West Bunch Branch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.9864	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2338	41.4292	-86.1734	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0166	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2339	41.4217	-86.1719	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.3186	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	14	Moderate	0	1	1	1	3	3	1	1	3
2340	41.4291	-86.1743	e of the Woods/West Bunch Bra	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.4596	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate				16	Moderate	0	1	1	1	3	3	1	3	3
2341	41.4274	-86.1666	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.3980	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	14	Moderate	0	1	1	1	3	3	1	1	3
2342	41.4298	-86.1644	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	8.4075	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2343	41.4306	-86.1669	Lake of the Woods	Yes	PUBF	Freshwater Pond	1.7743	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
2344	41.4311	-86.1616	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1642	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2345	41.4237	-86.1684	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	4.0641	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	14	Moderate	0	1	1	1	3	3	1	1	3
2346	41.424	-86.166	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3021	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	14	Moderate	0	1	1	1	3	3	1	1	3
2347	41.4237	-86.1534	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.0231	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2348	41.4233	-86.1531	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	2.5423	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2349	41.4181	-86.1429	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.4761	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2350	41.4244	-86.1226	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.1922	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2351	41.4202	-86.1347	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.9964	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2352	41.423	-86.1334	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.4269	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2353	41.418	-86.1214	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.5288	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2354	41.4121	-86.1753	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	20.8809	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium	x	16	Moderate	0	3	1	1	3	3	1	1	3
2355	41.4156	-86.2358	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1708	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2356	41.4109	-86.2201	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.3131	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2357	41.4145	-86.2202	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.0473	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2358	41.412	-86.2175	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2914	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2359	41.4075	-86.2133	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.3426	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2360	41.4072	-86.2173	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.4791	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2361	41.4069	-86.2099	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	7.8314	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2362	41.4137	-86.2036	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.1479	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2363	41.4166	-86.2035	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2937	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2364	41.4173	-86.2053	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3232	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2365	41.4144	-86.1868	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	2.2355	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2366	41.4132	-86.1806	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.1840	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2367	41.4182	-86.1731	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.0671	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2368	41.4139	-86.179	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.9611	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2369	41.4114	-86.1739	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	3.5212	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2370	41.4157	-86.1692	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.0670	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium	x	12	Moderate	0	1	0	0	3	3	1	1	3
2371	41.4154	-86.1577	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	4.5036	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2372	41.4171	-86.1632	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	5.2089	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2373	41.4148	-86.1474	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.7684	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2374	41.4158	-86.1404	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	17.2624	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2375	41.4081	-86.1401	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4601	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2376	41.4087	-86.1399	Lake of the Woods	Yes	PUBG	Freshwater Pond	0.4882	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2377	41.4094	-86.1397	Lake of the Woods	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.2282	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2378	41.4137	-86.1334	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.3144	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2379	41.4135	-86.1301	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.9058	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2380	41.4153	-86.1292	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.5515	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2381	41.4134	-86.1357	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	1.3203	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2382	41.4138	-86.1363	Lake of the Woods	Yes	PUBG	Freshwater Pond	0.1898	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2383	41.4179	-86.1222	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.7904	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2384	41.4178	-86.134	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.1291	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2385	41.4067	-86.131	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1327	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2386	41.4054	-86.1268	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.4791	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2387	41.4063	-86.1275	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.5291	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2388	41.4069	-86.129	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.7720	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2389	41.4068	-86.1382	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	4.6609	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2390	41.4077	-86.1355	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.4598	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2391	41.4094	-86.134	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.2632	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2392	41.4131	-86.1226	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.4818	FR	OU	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2393	41.4142	-86.1266	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0630	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2394	41.4034	-86.122	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.4461	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2395	41.4044	-86.1243	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.4885	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2396	41.4033	-86.1251	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	5.6187	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2397	41.4289	-86.3154	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.1478	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
2398	41.4293	-86.3157	Elmer Seltenright Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.5356	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2399	41.4306	-86.3142	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.2001	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2400	41.4295	-86.3144	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.4636	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2401	41.4307	-86.315	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	0.3392	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2402	41.4304	-86.3145	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.3279	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2403	41.4288	-86.3149	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.9197	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2404	41.4306	-86.3136	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4004	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2405	41.4301	-86.3182	Elmer Seltenright Ditch	No	PSS1/EM1C	Freshwater Forested/Shrub Wetland	4.9211	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2406	41.4224	-86.3175	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.3733	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2407	41.4293	-86.311	Elmer Seltenright Ditch	No	PFO1/EM1A	Freshwater Forested/Shrub Wetland	0.3719	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2408	41.43	-86.3105	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	0.5019	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Low		5	Low	0	1	0	0	0	1	1	1	1
2409	41.428	-86.3149	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1143	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2410	41.4159	-86.3116	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	1.0499	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2411	41.4173	-86.3081	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.7878	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2412	41.4188	-86.3118	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.0978	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2413	41.4188	-86.3096	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.1760	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2414	41.4201	-86.313	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.2162	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2415	41.4196	-86.3119	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.4760	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2416	41.4173	-86.3058	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.4493	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2417	41.4191	-86.3059	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.5788	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2418	41.4182	-86.3054	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	2.0577	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2419	41.4191	-86.3051	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.0763	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2420	41.4193	-86.3051	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.0520	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2421	41.4193	-86.3045	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.4793	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2422	41.4182	-86.3051	Elmer Seltenright Ditch	No	PEM1Ch	Freshwater Emergent Wetland	0.6995	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2423	41.4226	-86.3073	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1385	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2424	41.422	-86.306	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.2368	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2425	41.4233	-86.3114	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.4983	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2426	41.4207	-86.3108	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.5733	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2427	41.4216	-86.3118	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.8827	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2428	41.4191	-86.3048	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.4871	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
2429	41.4234	-86.3012	Elmer Seltenright Ditch	No	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	4.8763	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
2430	41.4234	-86.2964	Elmer Seltenright Ditch	No	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	2.7358	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
2431	41.4232	-86.3051	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	2.1177	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2432	41.4216	-86.2991	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	13.1337	BA	IS	TE	Moderate	Moderate	High	Moderate				High		Low		9	Low	0	3	0	0	0	1	3	1	1
2433	41.4249	-86.2961	Elmer Seltenright Ditch	No	PEM1Cd	Freshwater Emergent Wetland	5.4090	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	3	1	1
2434	41.4254	-86.2952	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.3221	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2435	41.4245	-86.2952	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.6141	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2436	41.4315	-86.2927	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	19.4434	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate		High		Low		15	Moderate	0	3	0	1	3	3	1	1	3
2437	41.4293	-86.2926	Elmer Seltenright Ditch	No	PFO1/EM1Ad	Freshwater Forested/Shrub Wetland	25.6494	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	High	Significant	Low		17	Moderate	1	3	1	1	3	3	1	1	3
2438	41.4277	-86.29	Elmer Seltenright Ditch	No	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	5.6395	FPba	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
2439	41.4245	-86.2913	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	2.4490	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
2440	41.4298	-86.2752	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.5790	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2441	41.4295	-86.2769	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.2659	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2442	41.4266	-86.2789	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	2.3012	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2443	41.4277	-86.2769	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.7389	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2444	41.4289	-86.2785	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.2012	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2445	41.4211	-86.2692	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	3.8216	FR	OU	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2446	41.4223	-86.2776	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	6.9937	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2447	41.4232	-86.2748	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	13.5726	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2448	41.4233	-86.2706	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	9.7216	BA	OU	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2449	41.4283	-86.2787	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.2609	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2450	41.4195	-86.2623	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.0845	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2451	41.4217	-86.2633	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.2446	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2452	41.4215	-86.2649	Lake of the Woods	Yes	PUBGx	Freshwater Pond	1.8553	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2453	41.4187	-86.2653	Lake of the Woods	Yes	PUBGx	Freshwater Pond	8.3354	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2454	41.4221	-86.2622	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.1370	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2455	41.4262	-86.2621	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7130	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2456	41.4233	-86.2639	Lake of the Woods	Yes	PUBFx	Freshwater Pond	0.3617	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2457	41.4249	-86.2627	Lake of the Woods	Yes	PUBFx	Freshwater Pond	1.7312	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2458	41.4245	-86.2654	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	4.9093	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2459	41.429	-86.2606	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.6736	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2460	41.4285	-86.2548	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	1.1977	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2461	41.428	-86.2589	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2360	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2462	41.4272	-86.2544	Lake of the Woods	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.5184	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2463	41.4279	-86.2542	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	0.1039	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2464	41.4244	-86.2565	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.5096	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2465	41.4243	-86.2552	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	1.1332	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2466	41.4246	-86.256	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1265	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2467	41.4232	-86.2494	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	9.6260	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2468	41.4216	-86.2535	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.4349	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2469	41.4196	-86.2484	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	99.1948	FR	TH	LS1	High	High	Moderate	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	1	3	3
2470	41.41	-86.3162	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	1.5789	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
2471	41.4085	-86.3179	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.4305	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
2472	41.41	-86.3168	Elmer Seltenright Ditch	No	PFO1/EM1F	Freshwater Forested/Shrub Wetland	6.8521	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Low		15	Moderate	0	1	3	3	0	1	3	3	1
2473	41.4127	-86.3173	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.7439	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2474	41.4113	-86.3182	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.3029	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2475	41.4121	-86.3181	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.0823	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2476	41.4168	-86.3156	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.2459	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2477	41.4163	-86.3092	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	2.2901	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2478	41.4164	-86.3125	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.0428	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2479	41.4179	-86.3147	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.2286	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2480	41.4171	-86.3136	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.5088	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2481	41.4167	-86.3129	Elmer Seltenright Ditch	No	PSS1C	Freshwater Forested/Shrub Wetland	0.3336	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2482	41.4108	-86.3129	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.7367	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
2483	41.4111	-86.3054	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.1781	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2484	41.412	-86.3056	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	1.4234	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2485	41.4073	-86.3096	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	16.2160	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3
2486	41.409	-86.3146	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7259	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2487	41.4115	-86.2988	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.6992	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2488	41.4113	-86.2966	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.7365	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2489	41.4112	-86.2941	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.4308	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2490	41.4111	-86.295	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.6412	FPba	IT	LS1	High	Moderate		High	High	High		Moderate		Low		14	Moderate	0	1	0	3	3	3	0	1	3
2491	41.4085	-86.2863	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.6775	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2492	41.4089	-86.2808	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.8214	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2493	41.4086	-86.2857	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.1792	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2494	41.4074	-86.2797	eltenright Ditch/Elmer Seltenrig	Yes	PEM1C	Freshwater Emergent Wetland	4.0463	BA	IS	TE	Moderate	High	High	Moderate				Moderate				9	Low	0	1	0	0	0	1	3	3	1
2495	41.4068	-86.2785	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7817	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2496	41.4072	-86.2765	Milner Seltenright Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	10.7639	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
2497	41.4164	-86.2472	Lake of the Woods	Yes	PUBFx	Freshwater Pond	1.4437	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2498	41.4163	-86.2481	Lake of the Woods	Yes	PUBFx	Freshwater Pond	1.0866	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2499	41.4084	-86.2504	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.4497	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2500	41.5763	-86.2533	West Bunch Branch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.8010	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2501	41.5795	-86.2461	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2034	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2502	41.5703	-86.2785	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.9575	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2503	41.5672	-86.2847	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.0243	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2504	41.5669	-86.2793	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	13.6616	FR	OU	LS1	High	High	High	High	High	Moderate/Stream Shading	Wood Duck	High		Medium		20	High	0	3	1	1	3	3	3	3	3
2505	41.5715	-86.2858	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.4126	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2506	41.5775	-86.2678	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.2208	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2507	41.5758	-86.267	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.1037	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2508	41.5747	-86.2652	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.2170	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2509	41.5775	-86.2706	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.0468	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2510	41.5785	-86.2672	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.2671	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2511	41.5772	-86.268	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2015	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2512	41.5768	-86.2672	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3122	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2513	41.5767	-86.261	West Bunch Branch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.6189	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2514	41.5735	-86.2651	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2478	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2515	41.5757	-86.264	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2001	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2516	41.5729	-86.2671	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.1267	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2517	41.5737	-86.2657	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3727	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2518	41.572	-86.2755	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.8159	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2519	41.5722	-86.2658	West Bunch Branch	Yes	PABF	Freshwater Pond	0.3139	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2520	41.5735	-86.2664	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.2495	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2521	41.5716	-86.2701	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7670	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2522	41.5668	-86.2766	West Bunch Branch	Yes	PABG	Freshwater Pond	1.1362	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2523	41.568	-86.2769	West Bunch Branch	Yes	PABG	Freshwater Pond	1.8868	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2524	41.5703	-86.2719	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	10.7546	BA	IS	TE	Moderate	High	High	Moderate				High		Medium		11	Moderate	0	3	0	0	0	1	3	3	1
2525	41.5669	-86.2675	West Bunch Branch	Yes	PUBGh	Freshwater Pond	0.3348	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2526	41.5673	-86.2669	West Bunch Branch	Yes	PUBGh	Freshwater Pond	0.3832	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2527	41.5696	-86.2705	West Bunch Branch	Yes	PABG	Freshwater Pond	3.3385	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2528	41.5716	-86.2664	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.3356	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2529	41.5788	-86.2606	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1516	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2530	41.5762	-86.257	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.0806	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2531	41.5757	-86.2514	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2807	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2532	41.5729	-86.2466	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.3639	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2533	41.572	-86.2584	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.6795	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2534	41.5715	-86.2447	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.1585	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2535	41.5733	-86.2422	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	9.0806	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2536	41.5724	-86.2477	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.5403	FR	TH	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2537	41.5676	-86.2505	West Bunch Branch	Yes	PUBF	Freshwater Pond	2.8856	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2538	41.5698	-86.2448	West Bunch Branch	Yes	PABF	Freshwater Pond	0.2414	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2539	41.5623	-86.3172	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5915	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2540	41.5602	-86.3167	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.6354	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2541	41.5599	-86.3168	Headwaters Stock Ditch	Yes	PUBG	Freshwater Pond	0.2830	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2542	41.5603	-86.3078	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	7.0991	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2543	41.563	-86.3108	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9625	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2544	41.5578	-86.3018	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1757	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2545	41.5581	-86.3027	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1624	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2546	41.5551	-86.308	Headwaters Stock Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	2.0512	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2547	41.5558	-86.31	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.0589	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2548	41.5561	-86.2966	Headwaters Stock Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	18.9776	BA	IS	TE	Moderate	High	High	Moderate		High	High	High		Medium		17	Moderate	0	3	3	3	0	1	3	3	1
2549	41.5648	-86.2813	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.5306	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2550	41.5638	-86.2818	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3075	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2551	41.5629	-86.2825	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.6213	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2552	41.5635	-86.2821	West Bunch Branch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.4965	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2553	41.5621	-86.2807	West Bunch Branch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.2350	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2554	41.5615	-86.2834	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1971	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2555	41.563	-86.282	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6329	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2556	41.5627	-86.283	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9979	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2557	41.5614	-86.2909	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	1.5863	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2558	41.5623	-86.2904	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	4.4967	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2559	41.5605	-86.2894	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.1456	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2560	41.5581	-86.2884	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	4.2875	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2561	41.5592	-86.287	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3648	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2562	41.5594	-86.2862	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	0.7288	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	3	1	1
2563	41.5582	-86.2918	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5078	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2564	41.5582	-86.2925	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.7735	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2565	41.5554	-86.2915	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5768	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2566	41.5548	-86.2887	Headwaters Stock Ditch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	1.3094	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
2567	41.5555	-86.2906	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.0731	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2568	41.5564	-86.2854	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.9570	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
2569	41.5542	-86.2792	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.5524	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1
2570	41.5575	-86.28	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6670	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2571	41.5572	-86.2792	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.6116	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2572	41.5556	-86.2803	West Bunch Branch	Yes	PEM1F	Freshwater Emergent Wetland	2.1573	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
2573	41.5544	-86.2787	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.2598	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2574	41.5543	-86.2788	West Bunch Branch	Yes	PUBFh	Freshwater Pond	2.2819	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2575	41.5655	-86.2713	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3484	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2576	41.5654	-86.2742	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.9742	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2577	41.5629	-86.2754	West Bunch Branch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	0.4436	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2578	41.5626	-86.2747	West Bunch Branch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	1.2707	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2579	41.5606	-86.2738	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.6932	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Medium	x	14	Moderate	0	1	0	0	3	3	1	3	3
2580	41.5623	-86.2735	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	3.8967	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2581	41.5615	-86.2645	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.0894	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2582	41.5599	-86.264	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2160	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2583	41.5603	-86.264	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3188	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2584	41.5572	-86.2761	West Bunch Branch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.4195	FR	OU	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium	x	18	High	0	1	1	1	3	3	3	3	3
2585	41.5552	-86.2698	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.3805	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2586	41.5593	-86.2634	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.8369	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2587	41.5571	-86.2628	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2985	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2588	41.5566	-86.2619	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3334	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2589	41.5574	-86.2629	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.0705	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2590	41.5569	-86.2616	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2993	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2591	41.5593	-86.2735	West Bunch Branch	Yes	PEM1Ad	Freshwater Emergent Wetland	0.2850	FR	OU	LS1	High	Moderate	Moderate	High	High			Moderate		Medium	x	12	Moderate	0	1	0	0	3	3	1	1	3
2592	41.5634	-86.2481	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.4148	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2593	41.5651	-86.2525	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.6568	FR	IS	LS1	High	High		High	High	High		Moderate		Medium	x	16	Moderate	0	1	0	3	3	3	0	3	3
2594	41.5664	-86.2481	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1498	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2595	41.5629	-86.2488	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.9887	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2596	41.565	-86.2509	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3640	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium	x	14	Moderate	0	1	0	0	3	3	1	3	3
2597	41.5606	-86.2605	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.0754	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2598	41.5596	-86.2481	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.5532	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2599	41.5596	-86.253	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.1664	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2600	41.5573	-86.2505	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.4016	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2601	41.5597	-86.2507	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	7.8643	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1
2602	41.5616	-86.2531	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7477	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
2603	41.56	-86.2491	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.7087	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2604	41.556	-86.2552	West Bunch Branch	Yes	PEM1F	Freshwater Emergent Wetland	2.8186	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
2605	41.5552	-86.2573	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.0885	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2606	41.5594	-86.251	West Bunch Branch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	0.7922	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
2607	41.5608	-86.2501	West Bunch Branch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	0.8699	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium	x	15	Moderate	0	1	3	3	0	1	3	3	1
2608	41.559	-86.25	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.5486	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2609	41.555	-86.2514	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.1222	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
2610	41.5549	-86.2495	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.5877	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
2611	41.5571	-86.2501	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.8425	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2612	41.5538	-86.2519	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.0866	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium	x	10	Low	0	1	0	3	1	1	0	3	1
2613	41.5605	-86.2489	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.1814	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1
2614	41.5607	-86.248	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.7305	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
2615	41.5563	-86.2546	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.5726	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1
2616	41.5537	-86.3175	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2620	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2617	41.553	-86.316	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3233	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2618	41.5514	-86.299	Headwaters Stock Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	0.3398	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2619	41.5524	-86.3086	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2607	FR	IS	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
2620	41.5512	-86.3083	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2616	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2621	41.5525	-86.3091	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4046	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2622	41.5506	-86.3089	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5765	FR	IS	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
2623	41.5501	-86.3055	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.0634	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2624	41.5499	-86.306	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2151	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2625	41.5506	-86.3061	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.6297	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2626	41.5478	-86.3031	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.4136	FR	TH	LS1	High	High		High	High	High	High	Moderate		Medium		19	High	0	1	3	3	3	3	0	3	3
2627	41.5432	-86.3067	Headwaters Stock Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	1.3640	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2628	41.5417	-86.3063	Headwaters Stock Ditch	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	3.0799	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2629	41.5412	-86.3072	Headwaters Stock Ditch	Yes	PFO1/SS1B	Freshwater Forested/Shrub Wetland	0.9223	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2630	41.5404	-86.2977	Headwaters Stock Ditch	Yes	PUBGh	Freshwater Pond	6.5456	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2631	41.5401	-86.2964	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2374	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2632	41.5398	-86.2954	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	5.2008	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2633	41.5395	-86.2981	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9691	BA	IS	TE	Moderate	Moderate	High	High				Moderate		Medium		9	Low	0	1	0	0	0	3	3	1	1
2634	41.5371	-86.2952	Headwaters Stock Ditch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	5.5983	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2635	41.5368	-86.2985	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.4893	BA	IS	TE	Moderate	Moderate	High	High				Moderate		Medium		9	Low	0	1	0	0	0	3	3	1	1
2636	41.5365	-86.2966	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.2900	BApd	TH	TE	Moderate	Moderate		High	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	3	0	1	1
2637	41.5366	-86.2961	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	5.5219	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2638	41.5419	-86.2991	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.1334	BA	IS	TE	Moderate	Moderate	High	High				Moderate		Medium		9	Low	0	1	0	0	0	3	3	1	1
2639	41.5408	-86.3031	Headwaters Stock Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.1758	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2640	41.5458	-86.2779	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4549	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2641	41.5493	-86.2968	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3036	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2642	41.5497	-86.2961	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.1255	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2643	41.5521	-86.2894	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5036	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2644	41.5496	-86.2892	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.6623	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2645	41.5518	-86.2891	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	1.3977	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2646	41.5529	-86.2831	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.0789	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium	x	13	Moderate	0	1	3	3	1	1	0	3	1
2647	41.5513	-86.2863	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.6925	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2648	41.5419	-86.2877	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	2.3292	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2649	41.5427	-86.2848	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	2.6515	FR	IT	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
2650	41.5404	-86.2822	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	5.6285	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2651	41.5522	-86.2703	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.0628	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
2652	41.5504	-86.2757	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2417	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2653	41.5518	-86.2781	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1947	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate			x	7	Low	0	1	0	0	0	1	1	3	1
2654	41.5519	-86.2613	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2570	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2655	41.5418	-86.2509	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.5063	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2656	41.5414	-86.2531	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.3335	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2657	41.5443	-86.2587	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	22.1153	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
2658	41.5513	-86.2601	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9828	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2659	41.5447	-86.2492	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4487	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2660	41.5459	-86.2498	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5759	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2661	41.546	-86.251	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.4836	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2662	41.5448	-86.2503	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2837	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2663	41.5485	-86.2465	West Bunch Branch	Yes	PUBFx	Freshwater Pond	0.2848	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2664	41.5455	-86.2464	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.6044	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2665	41.5423	-86.2477	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	2.0459	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2666	41.5478	-86.2462	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	2.3648	BA	TH	TE	Moderate	High	Moderate	High			High	Moderate		Medium		12	Moderate	0	1	3	0	0	3	1	3	1
2667	41.5362	-86.3008	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3795	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2668	41.5376	-86.303	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3645	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2669	41.5363	-86.3009	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6782	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2670	41.5308	-86.3013	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	3.2654	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2671	41.5285	-86.3057	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	1.3635	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2672	41.5365	-86.2818	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	7.9994	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2673	41.535	-86.2975	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.1652	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2674	41.5321	-86.3009	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4964	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2675	41.5343	-86.2964	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4401	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2676	41.5319	-86.2981	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5371	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2677	41.5327	-86.2948	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.3149	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
2678	41.5338	-86.2895	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.1272	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2679	41.5333	-86.2893	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3876	BApd	TH	TE	Moderate	Moderate		High	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	3	0	1	1
2680	41.5326	-86.2877	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	5.6938	FR	OU	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2681	41.5297	-86.2893	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	22.8704	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	3	1	3
2682	41.5276	-86.2887	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	3.2828	FR	TH	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2683	41.5261	-86.289	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	16.1271	BA	IS	TE	Moderate	Moderate	High	Moderate				High		Medium		9	Low	0	3	0	0	0	1	3	1	1
2684	41.5259	-86.2853	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	10.4699	FR	TH	LS1	High	Moderate	High	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	3	1	3
2685	41.5386	-86.2876	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.6081	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2686	41.5396	-86.2846	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.3736	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2687	41.5289	-86.2848	Headwaters Stock Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	6.2474	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2688	41.5308	-86.2875	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5327	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2689	41.5278	-86.2839	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.0183	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2690	41.5349	-86.2603	West Bunch Branch	Yes	PABGx	Freshwater Pond	0.1488	BApd	IS	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2691	41.5364	-86.2723	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3058	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2692	41.5371	-86.2723	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3532	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2693	41.5373	-86.2759	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.6233	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2694	41.5384	-86.264	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2117	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2695	41.5376	-86.268	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3905	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2696	41.5383	-86.2681	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4091	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2697	41.5376	-86.2786	Headwaters Stock Ditch	Yes	PEM1Cx	Freshwater Emergent Wetland	0.2659	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2698	41.5396	-86.2752	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3983	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2699	41.5371	-86.27	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.2341	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2700	41.538	-86.2629	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1480	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2701	41.5349	-86.2711	Headwaters Stock Ditch	Yes	PSS1/EM1F	Freshwater Forested/Shrub Wetland	0.4526	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2702	41.5322	-86.2783	Headwaters Stock Ditch	Yes	PEM1Cx	Freshwater Emergent Wetland	1.5186	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2703	41.5316	-86.276	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.0688	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2704	41.5298	-86.2644	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.8778	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2705	41.5305	-86.2614	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3745	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2706	41.5338	-86.2637	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.1356	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2707	41.5331	-86.2631	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.0867	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2708	41.5331	-86.2615	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.1970	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2709	41.5326	-86.2624	West Bunch Branch	Yes	PUBF	Freshwater Pond	0.2735	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2710	41.5332	-86.2662	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.1538	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2711	41.5305	-86.2628	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.5046	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2712	41.5336	-86.265	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.1650	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2713	41.5334	-86.267	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.9452	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2714	41.5337	-86.2631	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6040	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2715	41.5288	-86.267	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8826	FR	OU	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2716	41.5329	-86.2648	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1177	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2717	41.5268	-86.2781	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.2303	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2718	41.5272	-86.2777	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4156	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2719	41.5277	-86.2782	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0903	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2720	41.5321	-86.2766	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2925	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2721	41.5392	-86.2522	West Bunch Branch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5673	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2722	41.5392	-86.2502	West Bunch Branch	Yes	PABF	Freshwater Pond	1.1757	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2723	41.5385	-86.2503	West Bunch Branch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.2953	BA	IS	TE	Moderate	High	High	Moderate			High	High		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2724	41.5371	-86.2558	West Bunch Branch	Yes	PUBFx	Freshwater Pond	7.9647	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2725	41.535	-86.2583	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1152	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2726	41.5282	-86.2611	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.2983	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2727	41.5283	-86.2547	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1883	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2728	41.5286	-86.2551	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.1399	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2729	41.5289	-86.2611	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.2298	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2730	41.5292	-86.2549	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.8356	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2731	41.534	-86.2583	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	0.5271	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2732	41.5295	-86.245	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	18.3146	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
2733	41.5312	-86.244	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	1.7348	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2734	41.5251	-86.245	West Bunch Branch	Yes	PUBGx	Freshwater Pond	4.7542	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2735	41.5263	-86.245	West Bunch Branch	Yes	PUBGx	Freshwater Pond	4.7576	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2736	41.5247	-86.2455	West Bunch Branch	Yes	PABGx	Freshwater Pond	0.4139	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2737	41.5205	-86.3057	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.2293	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2738	41.5222	-86.3072	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3813	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2739	41.5231	-86.3015	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4536	FR	TH	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
2740	41.5155	-86.3115	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5868	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2741	41.5175	-86.3016	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.0422	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2742	41.519	-86.2999	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	4.6255	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Medium		20	High	0	1	3	1	3	3	3	3	3
2743	41.5159	-86.3036	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	5.8984	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2744	41.5156	-86.3066	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	9.8703	FR	OU	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	Moderate		Medium		20	High	0	1	3	1	3	3	3	3	3
2745	41.5188	-86.3083	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.6070	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2746	41.5196	-86.3049	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6519	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2747	41.52	-86.3059	Headwaters Stock Ditch	Yes	PABGx	Freshwater Pond	0.1700	BApd	TH	TE	Moderate	High		High	Moderate	High	High	Moderate		Medium		15	Moderate	0	1	3	3	1	3	0	3	1
2748	41.5204	-86.3061	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5204	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2749	41.5218	-86.2982	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.4438	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2750	41.5221	-86.2965	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9581	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2751	41.5217	-86.297	Headwaters Stock Ditch	Yes	PSS1A	Freshwater Forested/Shrub Wetland	1.0122	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
2752	41.522	-86.2988	Headwaters Stock Ditch	Yes	PSS1A	Freshwater Forested/Shrub Wetland	4.4348	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
2753	41.5227	-86.2811	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	9.6939	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2754	41.5206	-86.2803	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	1.2837	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2755	41.5257	-86.2826	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	8.7261	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2756	41.5237	-86.2873	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	9.9366	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2757	41.5243	-86.2934	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.5937	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2758	41.5213	-86.2923	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2677	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2759	41.5212	-86.2913	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3876	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2760	41.519	-86.2908	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.0720	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2761	41.5191	-86.2914	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.5964	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2762	41.5215	-86.2851	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4624	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2763	41.523	-86.2915	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.6254	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2764	41.5149	-86.2855	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.8025	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2765	41.5164	-86.293	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.1650	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2766	41.5161	-86.2857	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.4596	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2767	41.5149	-86.2838	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.1002	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2768	41.5149	-86.2826	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.1424	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2769	41.5162	-86.2827	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.1415	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2770	41.5167	-86.2826	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.5294	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2771	41.5194	-86.2813	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.1514	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2772	41.5129	-86.2953	Headwaters Stock Ditch	Yes	PFO1/EM1F	Freshwater Forested/Shrub Wetland	2.5279	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2773	41.5141	-86.2927	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4271	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2774	41.5133	-86.287	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	1.2014	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2775	41.5137	-86.2907	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	3.9833	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2776	41.5143	-86.2929	Headwaters Stock Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.3303	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2777	41.5125	-86.281	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	0.2473	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2778	41.5135	-86.2839	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.9470	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2779	41.5126	-86.283	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	3.4817	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2780	41.514	-86.2844	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	0.5895	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2781	41.5219	-86.277	Headwaters Stock Ditch	Yes	PUBG	Freshwater Pond	2.0717	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2782	41.5195	-86.279	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	0.8400	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2783	41.5202	-86.2793	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	1.1781	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2784	41.5236	-86.2663	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	3.9542	FR	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2785	41.5195	-86.2734	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.4184	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2786	41.5157	-86.2729	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.0641	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2787	41.5203	-86.2649	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.4766	BA	TH	TE	Moderate	High	Moderate	High				Moderate		Medium		9	Low	0	1	0	0	0	3	1	3	1
2788	41.5154	-86.2731	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	1.4547	FR	TH	LE	High	Moderate	High	High	High	Moderate		Moderate		Medium		15	Moderate	0	1	0	1	3	3	3	1	3
2789	41.5133	-86.2728	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	8.7771	FR	TH	LE	High	Moderate	High	High	High	Moderate		Moderate		Medium		15	Moderate	0	1	0	1	3	3	3	1	3
2790	41.517	-86.27	Headwaters Stock Ditch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	19.8603	BA	IS	TE	Moderate	Moderate	High	Moderate				High		Medium		9	Low	0	3	0	0	0	1	3	1	1
2791	41.5129	-86.268	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5422	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2792	41.5161	-86.2709	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	15.7459	FR	TH	LS1	High	Moderate	High	High	High	Moderate		High		Medium		17	Moderate	0	3	0	1	3	3	3	1	3
2793	41.5143	-86.2754	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.1117	FPba	IT	LE	High	High		Moderate	High	High	High	Moderate		Medium		17	Moderate	0	1	3	3	3	1	0	3	3
2794	41.5135	-86.2745	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.0912	FPba	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2795	41.5137	-86.2748	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.6431	FPba	IT	LE	High	High		Moderate	High	High	High	Moderate		Medium		17	Moderate	0	1	3	3	3	1	0	3	3
2796	41.5144	-86.2636	Headwaters Stock Ditch	Yes	PFO1/SS1B	Freshwater Forested/Shrub Wetland	1.0320	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2797	41.5156	-86.2586	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	1.3267	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2798	41.514	-86.2619	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	6.6846	BA	IT	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2799	41.5234	-86.2579	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	9.0809	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2800	41.5251	-86.2587	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1759	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2801	41.5247	-86.2581	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3646	FR	IS	LS1	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2802	41.5224	-86.2582	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.8883	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2803	41.5069	-86.2999	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.6144	FR	IS	LS1	High	High		High	High	High		Moderate		Medium		16	Moderate	0	1	0	3	3	3	0	3	3
2804	41.5095	-86.3011	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.2946	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2805	41.5093	-86.2966	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.5212	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2806	41.5103	-86.3089	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	3.5305	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2807	41.5117	-86.3052	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9997	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2808	41.5106	-86.3058	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.1012	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2809	41.5079	-86.3061	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	1.0440	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2810	41.5113	-86.2965	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.1270	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2811	41.5078	-86.2975	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.4159	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2812	41.5095	-86.2982	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.9805	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2813	41.5055	-86.3006	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.2916	FR	IS	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2814	41.5097	-86.2914	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	1.6286	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2815	41.5077	-86.2961	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2870	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2816	41.5083	-86.2854	Headwaters Stock Ditch	Yes	PABGx	Freshwater Pond	0.8273	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2817	41.5077	-86.2842	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4109	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2818	41.5082	-86.2823	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.6458	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2819	41.5071	-86.2825	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.9981	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
2820	41.508	-86.28	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.6890	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	High/Wood Duck	Moderate		Medium		18	High	0	1	3	1	3	3	1	3	3
2821	41.507	-86.2826	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	0.6814	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2822	41.5028	-86.2839	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.2293	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2823	41.5042	-86.2802	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5183	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2824	41.4954	-86.2815	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.1082	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2825	41.4953	-86.2824	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2504	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2826	41.4973	-86.2786	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.3424	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2827	41.5095	-86.2759	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.3288	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2828	41.5121	-86.2792	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.2871	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2829	41.5118	-86.2785	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.0036	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2830	41.5133	-86.2773	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.5438	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2831	41.5117	-86.2744	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.8200	FPba	TH	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2832	41.5089	-86.2709	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.1484	FPba	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2833	41.509	-86.2754	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2487	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2834	41.5095	-86.2755	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3082	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
2835	41.5092	-86.2754	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.3265	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2836	41.5088	-86.2786	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.2137	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2837	41.5083	-86.2762	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.4925	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2838	41.5092	-86.27	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	6.9645	FR	TH	LE	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2839	41.5116	-86.2701	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	23.5562	FPba	IS	LE	High	Moderate	High	Moderate	High		High	High		Medium		17	Moderate	0	3	3	0	3	1	3	1	3
2840	41.5075	-86.2687	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.0972	FPba	IS	LE	High	High	High		High			Moderate		Medium		13	Moderate	0	1	0	0	3	0	3	3	3
2841	41.5121	-86.2693	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	0.3606	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2842	41.5091	-86.2627	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3831	FPba	IS	LS1	High	Moderate	High	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	3	1	3
2843	41.5081	-86.2641	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.5138	FPba	IS	LE	High	High	Moderate	Moderate	High			Moderate		Medium		12	Moderate	0	1	0	0	3	1	1	3	3
2844	41.5076	-86.2597	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.7560	FPba	IS	LE	High	High	High		High			Moderate		Medium		13	Moderate	0	1	0	0	3	0	3	3	3
2845	41.5082	-86.2678	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.8647	FR	TH	LE	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2846	41.5118	-86.2661	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.8105	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2847	41.5107	-86.2662	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	3.6112	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2848	41.5056	-86.2675	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	2.3296	FPba	IS	LE	High	Moderate	High		High			Moderate		Medium		11	Moderate	0	1	0	0	3	0	3	1	3
2849	41.5042	-86.2764	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.8991	FR	TH	LS1	High	High	High	High	High	Stream Shading	Wood Duck	Moderate		Medium		18	High	0	1	1	1	3	3	3	3	3
2850	41.5007	-86.2762	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.2635	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2851	41.501	-86.2744	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.4158	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2852	41.502	-86.2763	Headwaters Stock Ditch	Yes	PSS1C	Freshwater Forested/Shrub Wetland	0.5319	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2853	41.5002	-86.2666	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.3225	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2854	41.5055	-86.2516	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.6007	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2855	41.5075	-86.2563	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4750	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2856	41.5098	-86.2571	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.2872	BApd	IT	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2857	41.5099	-86.2552	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.6069	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2858	41.506	-86.2536	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.3147	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2859	41.5084	-86.2524	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5732	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2860	41.5097	-86.2578	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.2128	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2861	41.5101	-86.2561	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.8361	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2862	41.5106	-86.2442	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	111.5472	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	1	3	3
2863	41.5062	-86.2478	West Bunch Branch	Yes	PUBFx	Freshwater Pond	2.5146	FPba	IS	LS1	High	Moderate	High	High	High	High	High	Moderate		Medium		20	High	0	1	3	3	3	3	3	1	3
2864	41.5012	-86.2594	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.5182	FR	TH	LE	High	High	High	High	High			Moderate		Medium		16	Moderate	0	1	0	0	3	3	3	3	3
2865	41.5022	-86.2568	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4385	FPba	IS	LE	High	High	High		High			Moderate		Medium		13	Moderate	0	1	0	0	3	0	3	3	3
2866	41.4926	-86.304	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.1501	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2867	41.4946	-86.3017	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4500	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2868	41.4943	-86.304	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.6152	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2869	41.4933	-86.3018	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.5935	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2870	41.4934	-86.3089	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1064	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2871	41.4942	-86.3085	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1772	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2872	41.4928	-86.3033	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2840	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2873	41.4905	-86.3049	Headwaters Stock Ditch	Yes	PEM1F	Freshwater Emergent Wetland	0.6322	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2874	41.4992	-86.2953	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.0784	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2875	41.4933	-86.2941	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.9330	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2876	41.4959	-86.2979	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.2493	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2877	41.4969	-86.2983	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.5001	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2878	41.4966	-86.2814	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.4547	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2879	41.4976	-86.2805	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.2607	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2880	41.4985	-86.2801	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.2865	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2881	41.4992	-86.2889	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2034	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2882	41.4993	-86.2922	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1402	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2883	41.4944	-86.2803	Headwaters Stock Ditch	Yes	PFO1F	Freshwater Forested/Shrub Wetland	0.5731	BA	IS	TE	Moderate	High	High	Moderate		High	High	Moderate		Medium		15	Moderate	0	1	3	3	0	1	3	3	1
2884	41.4901	-86.2894	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.3431	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2885	41.4875	-86.2921	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0656	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2886	41.4876	-86.2932	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.4733	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2887	41.4876	-86.2909	Headwaters Stock Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	1.3593	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2888	41.4834	-86.2873	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	7.8358	BA	OU	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2889	41.4856	-86.2888	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.4071	BA	OU	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2890	41.4902	-86.2856	Headwaters Stock Ditch	Yes	PSS1Cd	Freshwater Forested/Shrub Wetland	1.7762	FR	OU	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	3	1	3
2891	41.487	-86.2864	Headwaters Stock Ditch	Yes	PSS1F	Freshwater Forested/Shrub Wetland	1.9724	BA	IS	TE	Moderate	Moderate	High	Moderate		High	High	Moderate		Medium		13	Moderate	0	1	3	3	0	1	3	1	1
2892	41.4888	-86.2856	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2661	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2893	41.4897	-86.2869	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.1901	BApd	IS	TE	Moderate	Moderate	High	Moderate	Moderate	High	High	Moderate		Medium		14	Moderate	0	1	3	3	1	1	3	1	1
2894	41.4891	-86.2868	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.1982	BApd	IS	TE	Moderate	Moderate	High	Moderate	Moderate	High	High	Moderate		Medium		14	Moderate	0	1	3	3	1	1	3	1	1
2895	41.485	-86.2876	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.2778	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2896	41.4843	-86.2859	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	3.5933	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2897	41.4871	-86.2876	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.5823	BA	IS	TE	Moderate	Moderate	High	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	3	1	1
2898	41.4942	-86.2788	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.1035	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2899	41.4958	-86.2708	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.1519	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2900	41.4888	-86.2753	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7926	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2901	41.493	-86.2781	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.2897	FR	IS	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
2902	41.4883	-86.2708	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.8826	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2903	41.4863	-86.2745	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3149	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2904	41.4862	-86.2726	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7768	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2905	41.4877	-86.2712	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.2235	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2906	41.4944	-86.2599	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.2895	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2907	41.4983	-86.2506	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	2.0324	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2908	41.4928	-86.2482	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4611	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2909	41.4962	-86.2602	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.2156	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2910	41.4963	-86.2596	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.7218	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2911	41.4963	-86.2581	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5210	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2912	41.4958	-86.2589	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.9615	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2913	41.4961	-86.2568	Headwaters Stock Ditch	Yes	PEM1B	Freshwater Emergent Wetland	3.6064	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2914	41.4938	-86.2513	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.0605	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2915	41.4977	-86.2459	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	17.2514	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2916	41.4929	-86.2566	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.3444	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2917	41.4919	-86.2457	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	3.0393	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2918	41.4907	-86.2588	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	10.1487	BA	IT	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2919	41.4938	-86.2559	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0704	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2920	41.4725	-86.3031	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	0.8132	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2921	41.4794	-86.3092	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.3953	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2922	41.4845	-86.3057	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8313	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2923	41.4803	-86.2896	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3298	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2924	41.4815	-86.2945	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0707	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2925	41.4838	-86.2976	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3901	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2926	41.4721	-86.272	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.0433	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2927	41.4724	-86.2759	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.1518	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2928	41.4718	-86.2749	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.1093	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2929	41.4729	-86.275	Headwaters Stock Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	0.5955	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2930	41.4724	-86.2736	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	0.8674	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2931	41.4713	-86.271	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9421	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2932	41.4719	-86.2738	Headwaters Stock Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	1.4584	BA	IT	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2933	41.4749	-86.2647	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5182	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2934	41.471	-86.2709	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	1.5759	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2935	41.4739	-86.2646	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	7.8457	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2936	41.4784	-86.2715	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0792	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2937	41.4757	-86.2463	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	10.2295	FR	TH	LS1	High	High	Moderate	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	1	3	3
2938	41.4773	-86.2496	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	6.5054	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2939	41.477	-86.2459	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	5.6461	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2940	41.4809	-86.2493	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	13.0108	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
2941	41.4772	-86.2487	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1394	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2942	41.485	-86.2459	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	5.8423	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2943	41.4752	-86.2491	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	0.6778	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2944	41.4718	-86.2496	Headwaters Stock Ditch	Yes	PSS1/EM1Cd	Freshwater Forested/Shrub Wetland	2.9494	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
2945	41.4715	-86.3037	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4555	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2946	41.4701	-86.3039	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.7861	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2947	41.4654	-86.2969	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.3532	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2948	41.4593	-86.2985	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.5964	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2949	41.4602	-86.3008	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.6807	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2950	41.4755	-86.2923	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	6.7362	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
2951	41.4681	-86.2906	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.9413	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
2952	41.4699	-86.2907	Headwaters Stock Ditch	Yes	PEM1Ad	Freshwater Emergent Wetland	3.8483	FR	OU	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
2953	41.4669	-86.291	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5513	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2954	41.466	-86.2898	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.8259	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
2955	41.4602	-86.2944	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.5618	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2956	41.4623	-86.2952	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.4227	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2957	41.4593	-86.2799	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2782	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2958	41.4595	-86.2835	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.8233	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2959	41.4609	-86.2666	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.2218	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2960	41.4631	-86.2667	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.1307	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2961	41.46	-86.268	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4965	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2962	41.4637	-86.2638	Headwaters Stock Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	2.2445	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2963	41.4652	-86.2602	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	0.2949	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2964	41.4597	-86.2548	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	5.4657	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2965	41.4593	-86.2556	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.8394	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2966	41.4614	-86.2539	of the Woods/Headwaters Stock	Yes	PFO1C	Freshwater Forested/Shrub Wetland	22.0068	BA	IS	TE	Moderate	High	High	Moderate				High				11	Moderate	0	3	0	0	0	1	3	3	1
2967	41.4597	-86.2616	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.1048	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2968	41.4551	-86.3065	Headwaters Stock Ditch	Yes	PFO1/EM1A	Freshwater Forested/Shrub Wetland	2.1153	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2969	41.4564	-86.2995	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.8605	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
2970	41.456	-86.3011	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4693	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2971	41.4549	-86.3046	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.8126	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2972	41.4514	-86.3051	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	1.0127	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2973	41.4521	-86.3051	Headwaters Stock Ditch	Yes	PABG	Freshwater Pond	3.3544	BAwv	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
2974	41.4535	-86.3038	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.3181	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2975	41.4451	-86.3083	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	1.5353	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2976	41.4485	-86.3064	Elmer Seltenright Ditch	No	PUBFx	Freshwater Pond	0.2782	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2977	41.4493	-86.3075	aters Stock Ditch/Elmer Seltenrig	Yes	PEM1Ad	Freshwater Emergent Wetland	1.3343	BA	IS	TE	Moderate	Moderate	Moderate	Moderate				Moderate				5	Low	0	1	0	0	0	1	1	1	1
2978	41.446	-86.2957	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.4485	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2979	41.4476	-86.295	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.2757	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2980	41.4471	-86.2966	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	3.6702	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2981	41.4482	-86.3001	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3924	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
2982	41.4472	-86.2991	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	4.9330	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
2983	41.4473	-86.3018	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.2661	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2984	41.4447	-86.3006	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.4686	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2985	41.4439	-86.2989	Elmer Seltenright Ditch	No	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	3.4714	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
2986	41.4453	-86.3002	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.0847	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2987	41.4453	-86.2996	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.1618	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
2988	41.4575	-86.2943	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.5052	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2989	41.4578	-86.282	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.6359	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2990	41.4588	-86.2845	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.1415	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2991	41.4584	-86.2857	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.9932	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2992	41.4529	-86.2949	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	4.3238	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
2993	41.4509	-86.2905	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.5017	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
2994	41.4528	-86.2936	Headwaters Stock Ditch	Yes	PUBGx	Freshwater Pond	0.4866	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
2995	41.4522	-86.2839	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.8097	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2996	41.4539	-86.285	Lake of the Woods	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	4.2299	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2997	41.4542	-86.2868	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.6458	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
2998	41.455	-86.2894	waters Stock Ditch/Lake of the W	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.1972	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate				12	Moderate	0	1	3	0	0	1	3	3	1
2999	41.4553	-86.2892	Headwaters Stock Ditch	Yes	PUBFx	Freshwater Pond	0.4121	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate				16	Moderate	0	1	3	3	1	1	3	3	1
3000	41.4495	-86.2924	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.1059	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
3001	41.4495	-86.2918	Elmer Seltenright Ditch	No	PUBGx	Freshwater Pond	0.1673	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Low		10	Low	0	1	0	3	1	1	0	3	1
3002	41.449	-86.2906	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.7786	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3003	41.4566	-86.2724	Lake of the Woods	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	1.9014	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
3004	41.4504	-86.2822	Lake of the Woods	Yes	PUBGx	Freshwater Pond	0.0365	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
3005	41.4447	-86.2699	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	10.9545	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		16	Moderate	0	3	1	1	3	3	1	1	3
3006	41.4545	-86.2449	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.2064	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3007	41.4519	-86.2522	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.0453	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3008	41.4526	-86.2563	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	13.1719	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
3009	41.4484	-86.2611	Lake of the Woods	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	4.7818	BA	IS	TE	Moderate	Moderate	High	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	3	1	1
3010	41.4467	-86.2617	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	1.3301	BA	IT	TE	Moderate	Moderate	Moderate	Moderate				Moderate		Medium		5	Low	0	1	0	0	0	1	1	1	1
3011	41.4465	-86.2574	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	0.3315	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
3012	41.4464	-86.2596	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	2.2067	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
3013	41.4466	-86.2589	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	1.0083	FR	TH	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
3014	41.4338	-86.3152	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.9539	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3015	41.4379	-86.3174	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	11.2676	FR	OU	LS1	High	High	Moderate	High	High			High		Low		16	Moderate	0	3	0	0	3	3	1	3	3
3016	41.4428	-86.3011	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.2134	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
3017	41.4331	-86.315	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.5386	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3018	41.4342	-86.3039	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	15.6247	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Low		9	Low	0	3	0	0	0	1	1	3	1
3019	41.4346	-86.3096	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.1678	FPba	IS	LS1	High	Moderate	Moderate	High	High			Moderate		Low		12	Moderate	0	1	0	0	3	3	1	1	3
3020	41.445	-86.2944	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	0.0507	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
3021	41.4439	-86.2888	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.8852	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3022	41.4425	-86.29	Elmer Seltenright Ditch	No	PEM1Af	Freshwater Emergent Wetland	2.4429	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3023	41.4432	-86.2911	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.1456	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3024	41.4448	-86.2933	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	0.3601	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3025	41.442	-86.2953	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.2371	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3026	41.4425	-86.2978	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.9201	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
3027	41.4422	-86.2803	Lake of the Woods	Yes	PUBF	Freshwater Pond	0.1089	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3028	41.4333	-86.2886	Elmer Seltenright Ditch	No	PABG	Freshwater Pond	0.3104	FPba	TH	LS1	High	Moderate		High	High	High	High	Moderate		Low		17	Moderate	0	1	3	3	3	3	0	1	3
3029	41.4329	-86.2844	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	5.7729	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
3030	41.4333	-86.2851	Elmer Seltenright Ditch	No	PEM1A	Freshwater Emergent Wetland	1.8014	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
3031	41.4341	-86.2834	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.9467	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3032	41.4339	-86.2832	Elmer Seltenright Ditch	No	PFO1Cd	Freshwater Forested/Shrub Wetland	1.3953	FR	TH	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	Moderate		Low		16	Moderate	0	1	1	1	3	3	3	1	3
3033	41.4344	-86.287	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	0.4248	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3034	41.4432	-86.2644	Lake of the Woods	Yes	PEM1Ad	Freshwater Emergent Wetland	4.6251	FR	IT	LS1	High	Moderate	Moderate	High	High	Moderate	High	Moderate		Medium		16	Moderate	0	1	3	1	3	3	1	1	3
3035	41.4391	-86.2707	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.4136	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3036	41.4385	-86.2719	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	0.6227	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3037	41.4388	-86.2716	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4709	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3038	41.4419	-86.2564	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.3377	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3039	41.4445	-86.2465	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.7356	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	Moderate		Medium		16	Moderate	0	1	1	1	3	3	1	3	3
3040	41.4449	-86.2481	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.2473	FPba	IT	LS1	High	Moderate	Moderate	High	High			Moderate		Medium		12	Moderate	0	1	0	0	3	3	1	1	3
3041	41.4378	-86.2494	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	18.0472	BA	IS	TE	Moderate	High	Moderate	Moderate				High		Medium		9	Low	0	3	0	0	0	1	1	3	1
3042	41.4375	-86.2429	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	0.6082	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3043	41.4396	-86.2468	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.7918	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3044	41.4347	-86.2443	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.9007	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
3045	41.4338	-86.2612	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	1.6881	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3046	41.4347	-86.256	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	2.6535	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3047	41.4369	-86.2535	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	6.6195	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3048	41.4322	-86.2567	Lake of the Woods	Yes	PEM1A	Freshwater Emergent Wetland	0.1816	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3049	41.4317	-86.2476	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	42.5027	BA	IT	TE	Moderate	High	Moderate	Moderate				High	Significant	Medium		10	Low	1	3	0	0	0	1	1	3	1
3050	41.4277	-86.2402	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	19.7848	FR	TH	LS1	High	High	Moderate	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	1	3	3
3051	41.5502	-86.2779	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.8136	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
3052	41.5509	-86.2771	Headwaters Stock Ditch	Yes	PUBF	Freshwater Pond	0.3863	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium	x	16	Moderate	0	1	3	3	1	1	3	3	1
3053	41.4602	-86.0901	Armey Ditch	Yes	PUBF	Freshwater Pond	1.1638	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3054	41.4617	-86.0905	Armey Ditch	Yes	PUBF	Freshwater Pond	1.8254	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3055	41.4623	-86.0933	Armey Ditch	Yes	PUBF	Freshwater Pond	0.7683	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3056	41.3545	-86.0507	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	3.3072	FR	TH	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
3057	41.3622	-86.062	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	4.0424	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3058	41.3374	-85.9144	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	0.7370	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3059	41.3386	-85.9213	Fleugel Ditch	No	PEM1Af	Freshwater Emergent Wetland	7.2089	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3060	41.4275	-86.2541	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	0.0385	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3061	41.4276	-86.2543	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	0.0624	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3062	41.4277	-86.2538	Lake of the Woods	Yes	PSS1/EM1A	Freshwater Forested/Shrub Wetland	0.0969	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3063	41.3709	-86.2945	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.1235	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3064	41.3727	-86.2901	Milner Seltenright Ditch	Yes	PUBFx	Freshwater Pond	0.0356	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
3065	41.5657	-86.2599	West Bunch Branch	Yes	PUBGx	Freshwater Pond	1.3318	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
3066	41.5649	-86.2589	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.0540	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
3067	41.5652	-86.2588	West Bunch Branch	Yes	PUBGx	Freshwater Pond	0.2266	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		Medium		10	Low	0	1	0	3	1	1	0	3	1
3068	41.4253	-86.2424	Lake of the Woods	Yes	PEM1Af	Freshwater Emergent Wetland	52.2918	FR	TH	LS1	High	High	Moderate	High	High			High		Medium		16	Moderate	0	3	0	0	3	3	1	3	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
3069	41.5476	-86.3034	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	6.9335	FR	TH	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
3070	41.4136	-86.1292	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.3284	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	1	3	3
3071	41.4108	-86.2936	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	20.1533	FPba	IT	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3
3072	41.376	-86.2964	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	5.5457	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3073	41.4871	-86.2843	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	32.0023	FR	OU	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium		19	High	1	3	3	1	3	3	1	1	3
3074	41.5772	-86.2545	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	6.5724	BA	IS	TE	Moderate	High	High	Moderate			High	High		Medium		14	Moderate	0	3	3	0	0	1	3	3	1
3075	41.5555	-86.1513	Kline Rouch Ditch	Yes	PUBG	Freshwater Pond	1.6989	BApd	IS	TE	Moderate	High		Moderate	Moderate	High		Moderate		High		10	Low	0	1	0	3	1	1	0	3	1
3076	41.4652	-86.2602	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.0004	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3077	41.4302	-86.1996	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	0.3856	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3078	41.3667	-86.258	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	1.6217	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3079	41.379	-86.1135	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	13.8282	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	High/Wood Duck	High		Low		18	High	0	3	3	1	3	3	1	1	3
3080	41.4962	-86.2815	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.5593	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3081	41.5444	-86.2503	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	24.4826	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High		Medium		18	High	0	3	1	1	3	3	1	3	3
3082	41.4892	-86.1865	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	13.5473	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		High		16	Moderate	0	3	1	1	3	3	1	1	3
3083	41.4979	-86.2786	Headwaters Stock Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	2.6649	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3084	41.3725	-86.3757	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	2.4824	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3085	41.495	-86.2377	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	7.9133	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3086	41.5582	-86.2634	West Bunch Branch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	16.8877	BA	IS	TE	Moderate	High	High	Moderate			High	High		Medium		14	Moderate	0	3	3	0	0	1	3	3	1
3087	41.4803	-86.2898	Headwaters Stock Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	5.7093	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3088	41.4452	-86.2947	Elmer Seltenright Ditch	No	PFO1A	Freshwater Forested/Shrub Wetland	1.1048	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
3089	41.4179	-86.0227	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	31.5821	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	High/Wood Duck	High	Significant	Medium		19	High	1	3	3	1	3	3	1	1	3
3090	41.4467	-86.0898	Armey Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.4671	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3091	41.4297	-86.2767	Lake of the Woods	Yes	PFO1/SS1C	Freshwater Forested/Shrub Wetland	1.6483	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3092	41.4094	-86.2312	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	2.3872	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3093	41.4985	-86.28	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.3665	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3094	41.4023	-86.0279	Lemler Ditch	No	PFO1/SS1C	Freshwater Forested/Shrub Wetland	8.7392	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3095	41.5113	-86.2965	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.5484	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3096	41.3573	-86.1686	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	38.1333	FR	IT	LS1	High	High	Moderate	High	High	Moderate	High	High		Low		20	High	0	3	3	1	3	3	1	3	3
3097	41.4227	-86.0833	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.0046	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3098	41.4453	-86.3006	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	30.2644	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	High	Significant	Low		21	High	1	3	3	1	3	3	3	1	3
3099	41.4065	-86.0282	Lemler Ditch	No	PFO1/SS1C	Freshwater Forested/Shrub Wetland	12.9637	BA	IS	TE	Moderate	High	High	Moderate			High	High		Low		14	Moderate	0	3	3	0	0	1	3	3	1
3100	41.4012	-86.2496	r Seltenright Ditch/Lake of the W	Yes	PFO1A	Freshwater Forested/Shrub Wetland	33.0730	BA	IS	TE	Moderate	High	Moderate	Moderate				High	Significant			10	Low	1	3	0	0	0	1	1	3	1
3101	41.5686	-86.2827	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	64.4585	FR	OU	LS1	High	High	Moderate	High	High	Moderate/Stream Shading	Wood Duck	High	Significant	Medium		19	High	1	3	1	1	3	3	1	3	3
3102	41.4064	-86.1324	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	8.6758	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3103	41.5389	-86.2504	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	2.0497	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3104	41.4019	-86.0051	Lemler Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.6407	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3105	41.356	-85.9727	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	18.3723	FR	IT	LS1	High	High	Moderate	High	High	Moderate	High	High		Low		20	High	0	3	3	1	3	3	1	3	3
3106	41.3043	-86.182	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.8554	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Low		10	Low	0	1	3	0	0	1	1	3	1
3107	41.5378	-86.2755	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	3.2591	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3108	41.3196	-86.1992	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.7200	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3109	41.3889	-86.1084	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	16.2449	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High		Low		12	Moderate	0	3	3	0	0	1	1	3	1
3110	41.557	-86.2758	West Bunch Branch	Yes	PFO1Cd	Freshwater Forested/Shrub Wetland	23.3822	FR	OU	LS1	High	Moderate	High	High	High	Stream Shading	Wood Duck	High		Medium	x	18	High	0	3	1	1	3	3	3	1	3
3111	41.3426	-86.2141	Stone Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	13.7802	FR	TH	LS1	High	High	Moderate	High	High	Moderate/Stream Shading	High/Wood Duck	High		Low		20	High	0	3	3	1	3	3	1	3	3
3112	41.4305	-86.1666	Lake of the Woods	Yes	PEM1C	Freshwater Emergent Wetland	2.5373	FPba	IS	LS1	High	Moderate	High	High	High		High	Moderate		Medium		17	Moderate	0	1	3	0	3	3	3	1	3
3113	41.5027	-86.2839	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.6244	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3114	41.5763	-86.1955	Kline Rouch Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.1271	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		High		7	Low	0	1	0	0	0	1	1	3	1
3115	41.553	-86.2831	Headwaters Stock Ditch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	0.8098	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium	x	9	Low	0	1	0	0	0	1	3	3	1
3116	41.4419	-86.2805	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	1.9108	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3117	41.4274	-86.2544	Lake of the Woods	Yes	PABGx	Freshwater Pond	1.2838	BApd	IT	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Medium		13	Moderate	0	1	3	3	1	1	0	3	1
3118	41.3344	-85.9818	Fleugel Ditch	No	PFO1/SS1Cd	Freshwater Forested/Shrub Wetland	107.9656	FR	OU	LS1	High	Moderate	High	High	High	Moderate/Stream Shading	Wood Duck	High	egionally Significa	Low	x	21	High	3	3	1	1	3	3	3	1	3
3119	41.4148	-86.1881	Lake of the Woods	Yes	PFO1A	Freshwater Forested/Shrub Wetland	40.8303	FPba	IS	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	Medium		17	Moderate	1	3	1	1	3	3	1	1	3
3120	41.5377	-86.2019	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	44.8828	FR	TH	LS1	High	High	Moderate	High	High	Stream Shading	Wood Duck	High	Significant	High		19	High	1	3	1	1	3	3	1	3	3
3121	41.3697	-86.1093	Lemler Ditch	No	PEM1A	Freshwater Emergent Wetland	1.3104	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Low		7	Low	0	1	0	0	0	1	1	3	1
3122	41.3861	-86.2804	Milner Seltenright Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	27.5612	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High	Significant	Medium		13	Moderate	1	3	3	0	0	1	1	3	1
3123	41.3971	-86.1082	Dausman Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	27.2063	FR	TH	LS1	High	High	Moderate	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Low		21	High	1	3	3	1	3	3	1	3	3
3124	41.3654	-86.2807	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.8463	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium	x	7	Low	0	1	0	0	0	1	1	3	1
3125	41.4843	-86.142	Kline Rouch Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	6.4345	BA	IS	TE	Moderate	High	Moderate	Moderate			High	Moderate		High		10	Low	0	1	3	0	0	1	1	3	1
3126	41.2972	-86.2035	Stone Ditch	Yes	PUBFx	Freshwater Pond	3.3471	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
3127	41.4053	-86.2597	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.7313	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3128	41.4851	-85.991	Lateral Ditch No 5	Yes	PFO1C	Freshwater Forested/Shrub Wetland	8.3787	BA	IS	TE	Moderate	High	High	Moderate			High	High		High		14	Moderate	0	3	3	0	0	1	3	3	1
3129	41.4387	-86.0214	Armey Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.1056	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3130	41.3927	-86.2043	Lake of the Woods	Yes	PFO1C	Freshwater Forested/Shrub Wetland	25.9867	FPba	IS	LS1	High	Moderate	High	High	High	Stream Shading	High/Wood Duck	High	Significant	Medium		21	High	1	3	3	1	3	3	3	1	3
3131	41.3817	-86.2484	Milner Seltenright Ditch	Yes	PEM1C	Freshwater Emergent Wetland	15.5836	FR	TH	LS1	High	High	High	High	High	Moderate	High	High		Medium		22	High	0	3	3	1	3	3	3	3	3
3132	41.3571	-86.3014	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	20.4786	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	High		Medium		22	High	0	3	3	1	3	3	3	3	3
3133	41.3752	-86.2534	Milner Seltenright Ditch	Yes	PEM1A	Freshwater Emergent Wetland	3.6856	FPba	IT	LS1	High	Moderate	Moderate	High	High		High	Moderate		Medium		15	Moderate	0	1	3	0	3	3	1	1	3
3134	41.3724	-86.2558	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	63.6584	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium		23	High	1	3	3	1	3	3	3	3	3
3135	41.3734	-86.2073	Stone Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.8021	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3136	41.3565	-86.289	Milner Seltenright Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	45.4733	FR	TH	LS1	High	High	High	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium	x	23	High	1	3	3	1	3	3	3	3	3
3137	41.3587	-86.1633	Dausman Ditch	Yes	PEM1A	Freshwater Emergent Wetland	25.7631	FR	IT	LS1	High	High	Moderate	High	High	Moderate	High	High	Significant	Low		21	High	1	3	3	1	3	3	1	3	3
3138	41.3133	-86.1976	Stone Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.4660	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3139	41.3791	-86.3383	Elmer Seltenright Ditch	No	PUBG	Freshwater Pond	8.8705	BApd	IS	TE	Moderate	High		Moderate	Moderate	High	High	Moderate		Low		13	Moderate	0	1	3	3	1	1	0	3	1
3140	41.3726	-86.3757	Elmer Seltenright Ditch	No	PUBF	Freshwater Pond	1.4464	BApd	IS	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Low		16	Moderate	0	1	3	3	1	1	3	3	1
3141	41.3751	-86.3435	Elmer Seltenright Ditch	No	PFO1C	Freshwater Forested/Shrub Wetland	3.4412	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3142	41.3756	-86.3367	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.9235	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Low		9	Low	0	1	0	0	0	1	3	3	1
3143	41.3681	-86.3357	Elmer Seltenright Ditch	No	PEM1C	Freshwater Emergent Wetland	0.3768	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3144	41.4613	-86.0922	Armey Ditch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	106.6091	FR	TH	LS1	High	High	Moderate	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium		21	High	1	3	3	1	3	3	1	3	3
3145	41.4319	-85.9974	Armey Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.2851	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3146	41.3884	-86.1014	Dausman Ditch	Yes	PEM1Af	Freshwater Emergent Wetland	11.7813	FPba	IS	LS1	High	Moderate	Moderate	High	High			High		Low		14	Moderate	0	3	0	0	3	3	1	1	3
3147	41.3632	-86.0276	Lemler Ditch	No	PEM1Af	Freshwater Emergent Wetland	1.1287	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Low		14	Moderate	0	1	0	0	3	3	1	3	3
3148	41.3272	-85.9807	Fleugel Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	1.6868	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3149	41.5716	-86.1813	Kline Rouch Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	0.4211	BA	IS	TE	Moderate	High	High	Moderate				Moderate		High		9	Low	0	1	0	0	0	1	3	3	1
3150	41.5475	-86.2263	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	10.2273	BA	IS	TE	Moderate	High	Moderate	Moderate			High	High		Medium		12	Moderate	0	3	3	0	0	1	1	3	1
3151	41.5017	-86.2179	West Bunch Branch	Yes	PFO1A	Freshwater Forested/Shrub Wetland	7.4196	BA	IS	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3152	41.5024	-86.1665	Kline Rouch Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	16.1953	FR	TH	LS1	High	Moderate	High	High	High	Moderate	High	High		High		20	High	0	3	3	1	3	3	3	1	3
3153	41.4611	-86.2443	Headwaters Stock Ditch	Yes	PSS1/EM1C	Freshwater Forested/Shrub Wetland	1.0080	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3154	41.4425	-86.1311	Armey Ditch	Yes	PUBGx	Freshwater Pond	0.7989	FPba	IS	LS1	High	Moderate		High	High	High		Moderate		Medium		14	Moderate	0	1	0	3	3	3	0	1	3
3155	41.4124	-86.3175	Elmer Seltenright Ditch	No	PFO1/EM1C	Freshwater Forested/Shrub Wetland	9.1060	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Low		12	Moderate	0	1	3	0	0	1	3	3	1
3156	41.5723	-86.266	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	1.3474	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3157	41.5677	-86.2767	West Bunch Branch	Yes	PFO1/EM1C	Freshwater Forested/Shrub Wetland	2.7404	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3158	41.5697	-86.2708	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	4.4395	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3159	41.5603	-86.3164	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	1.4674	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3160	41.5606	-86.2896	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	0.9338	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3161	41.556	-86.2801	West Bunch Branch	Yes	PEM1C	Freshwater Emergent Wetland	4.7471	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium	x	12	Moderate	0	1	3	0	0	1	3	3	1
3162	41.5426	-86.2968	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	29.3093	FR	TH	LS1	High	Moderate	High	High	High	Moderate		High	Significant	Medium		18	High	1	3	0	1	3	3	3	1	3
3163	41.5462	-86.2634	West Bunch Branch	Yes	PEM1A	Freshwater Emergent Wetland	1.1917	BA	IT	TE	Moderate	High	Moderate	Moderate			High	Moderate		Medium		10	Low	0	1	3	0	0	1	1	3	1
3164	41.5546	-86.2577	West Bunch Branch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	36.0083	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	High/Wood Duck	High	Significant	Medium	x	19	High	1	3	3	1	3	3	1	1	3
3165	41.533	-86.2926	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	40.9080	FR	TH	LS1	High	Moderate	High	High	High	Moderate		High	Significant	Medium		18	High	1	3	0	1	3	3	3	1	3
3166	41.5281	-86.2887	Headwaters Stock Ditch	Yes	PEM1Cd	Freshwater Emergent Wetland	7.5239	FR	TH	LS1	High	Moderate	High	High	High	Moderate		Moderate		Medium		15	Moderate	0	1	0	1	3	3	3	1	3
3167	41.5174	-86.3019	Headwaters Stock Ditch	Yes	PABF	Freshwater Pond	11.0474	FR	TH	LS1	High	High	High	High	High	High	High	High		Medium		24	High	0	3	3	3	3	3	3	3	3

NWI FID#	Latitude	Longitude	Subwatershed	Located in Critical Area in Headwaters Yellow River WMP	ATTRIBUTE	Wetland_Type	Acres	Landform	Flow_Path	Lands_Pos	SW_Detenti	Flow_Maint	Nutr_Trans	Sed_Retent	Shore_Stab	Fish_Habit	Wfowl_Habi	Wildlife_H	C_Biodiver	Desktop Review Priority	Endangered Species Potential	Overall LLWFA Score	Overall LLWFA Priority	Conservation_Bio_Div_Score	Wildlife_Score	Waterfowl_Hab_Score	Fish_Hab_Score	Shore_St_Score	Sed_Rete_Score	Nutr_Tra_Score	Flow_Mai_Score	SW_Detention_Score
3168	41.525	-86.2584	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	2.3892	FR	IT	LS1	High	High	Moderate	High	High			Moderate		Medium		14	Moderate	0	1	0	0	3	3	1	3	3
3169	41.5083	-86.3064	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	4.8929	FR	IS	LS1	High	High	High	High	High	Moderate		Moderate		Medium		17	Moderate	0	1	0	1	3	3	3	3	3
3170	41.5105	-86.3091	Headwaters Stock Ditch	Yes	PEM1C	Freshwater Emergent Wetland	2.5831	BA	IS	TE	Moderate	High	High	Moderate			High	Moderate		Medium		12	Moderate	0	1	3	0	0	1	3	3	1
3171	41.5117	-86.2738	Headwaters Stock Ditch	Yes	PFO1/EM1Cd	Freshwater Forested/Shrub Wetland	15.3305	FR	TH	LE	High	Moderate	High	High	High	Moderate		High		Medium		17	Moderate	0	3	0	1	3	3	3	1	3
3172	41.502	-86.2756	Headwaters Stock Ditch	Yes	PFO1C	Freshwater Forested/Shrub Wetland	2.0019	BA	IS	TE	Moderate	High	High	Moderate				Moderate		Medium		9	Low	0	1	0	0	0	1	3	3	1
3173	41.5099	-86.2571	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.5933	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3174	41.4864	-86.2874	Headwaters Stock Ditch	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	13.9139	BA	IS	TE	Moderate	Moderate	Moderate	Moderate			High	High		Medium		10	Low	0	3	3	0	0	1	1	1	1
3175	41.483	-86.3055	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	0.4535	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3176	41.4622	-86.2845	Headwaters Stock Ditch	Yes	PEM1A	Freshwater Emergent Wetland	1.8658	BA	IT	TE	Moderate	High	Moderate	Moderate				Moderate		Medium		7	Low	0	1	0	0	0	1	1	3	1
3177	41.4455	-86.3085	Elmer Seltenright Ditch	No	PEM1Ad	Freshwater Emergent Wetland	2.9253	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate		Moderate		Low		13	Moderate	0	1	0	1	3	3	1	1	3
3178	41.4335	-86.2886	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	7.2070	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Low		14	Moderate	0	1	1	1	3	3	1	1	3
3179	41.4342	-86.2857	Elmer Seltenright Ditch	No	PFO1Ad	Freshwater Forested/Shrub Wetland	13.3805	FR	TH	LS1	High	Moderate	Moderate	High	High	Stream Shading	Wood Duck	High		Low		16	Moderate	0	3	1	1	3	3	1	1	3
3180	41.4445	-86.2628	Lake of the Woods	Yes	PFO1Ad	Freshwater Forested/Shrub Wetland	2.6720	FR	TH	LS1	High	Moderate	Moderate	High	High	Moderate/Stream Shading	Wood Duck	Moderate		Medium		14	Moderate	0	1	1	1	3	3	1	1	3
3181	41.4279	-86.254	Lake of the Woods	Yes	PABFx	Freshwater Pond	0.7066	BApd	IT	TE	Moderate	High	High	Moderate	Moderate	High	High	Moderate		Medium		16	Moderate	0	1	3	3	1	1	3	3	1
						Total Wetland Acres	10847.1084														# High Priority Wetlands			184		Acres High Priority Wetlands	2690.01					
																					# Medium Priority Wetlands			1087		Acres Medium Priority Wetlands	3993.66					
																					# Low Priority Wetlands			1911		Acres Low Priority Wetlands	4163.44					
																											10847					

APPENDIX

B

WINDSHIELD SURVEY DATASET

Site #	NWI FID#	Sub Watershed	Upland Buffers	Habitat Alteration	Adjacent Land Uses	Invasive Species	Latitude	Longitude	Restore	Comments
1	1569, 1570, 1526	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Agriculture - Pasture	Reed Canary Grass, Phragmites	41.3629	-86.3647	N	part. forest/ag buffer, cant restore
2	1568,	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Pasture	Reed Canary Grass, Cattail	41.3644	-86.3711	N	veg
3	1498, 130,	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Forested		41.368	-86.374	N	to far from road
4	3, 141, 149, 330, 857, 470, 00C	Elmer Seltenright Ditch-Yellow River	YES	YES	Forested, Urban - Residental	Reed Canary Grass	41.3671	-86.2992	N	
5	1516, 1517	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Cattail, Reed Canary Grass	41.3709	-86.3624	Y	ditch
6	1544, 1543,	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Pasture, Forested	Reed Canary Grass, Cattail	41.3719	-86.3463	Y	
7	806, 1503	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Pasture, Agriculture - Row Crop		41.3783	-86.3661	Y	farm field
8	1504, 1505	Elmer Seltenright Ditch-Yellow River	YES	YES	Forested		41.3775	-86.3567	N	
9	1480,	Elmer Seltenright Ditch-Yellow River	YES	NO	Urban - Residental, Agriculture - Row Crop		41.3783	-86.3479	N	far
10	1541, 1530	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Cattail	41.3702	-86.3486	N	
11	1551	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Reed Canary Grass	41.3701	-86.3358	Y	
12	1561	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Reed Canary Grass	41.373	-86.3301	N	
13	3143,1558, 3140, 1486,	Elmer Seltenright Ditch-Yellow River	YES	NO	Rural - Residental	Reed Canary Grass, Cattail	41.3753	-86.3362	E	maybe enhancement
14	1557, 1555, 3142	Elmer Seltenright Ditch-Yellow River	YES	NO	Rural - Residental	Cattail	41.3757	-86.3439	N	
15	1484, 560,	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental	Reed Canary Grass	41.3791	-86.3417	N	
16	1479	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.3856	-86.342	Y	John, foxtail, pigweed, *
17	1462, 400, 1461, 782, 1488	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass, Cattail	41.3927	-86.3425	Y	"huge"
18	590, 1489	Elmer Seltenright Ditch-Yellow River	YES	NO	Rural - Residental	Reed Canary Grass, Cattail	41.3906	-86.3196	N	
19	2487, 498,	Elmer Seltenright Ditch-Yellow River	YES	NO	Rural - Residental	Reed Canary Grass	41.4095	-86.3153	N	enhancement
20	967	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental	Cattail, Reed Canary Grass	41.4236	-86.3144	N	
21	2409, 2408	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental, Urban - Commercial	Reed Canary Grass, Cattail	41.43	-86.3105	Y	old 31, INDOT
22	774,	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.4263	-86.3006	N	
23	2438, 118,	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Agriculture - Pasture	Reed Canary Grass	41.4434	-86.0902	Y	
24	2435, 2436	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental	Reed Canary Grass	41.4245	-86.2952	N	
25	2434	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Cattail, Reed Canary Grass	41.4249	-86.2961	N	
26	3072	Elmer Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Reed Canary Grass	41.4108	-86.2936	Y	large muck field, forest along new 31
27	1122	Elmer Seltenright Ditch-Yellow River	YES	NO	Forested	Reed Canary Grass, Cattail	41.3981	-86.293	N	enhancement
28	1142, 1143	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop		41.396	-86.2777	Y	John likes
29	1132, 1134	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.3998	-86.2739	Y	John likes
30	1139,	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop, Rural - Residental	Cattail, Reed Canary Grass	41.3923	-86.2694	N	forest and prarie, huge
31	528	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop		41.3821	-86.2702	Y	John outstanding**, 30 acres possible, farm field now
32	761,	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.378	-86.277	N	
33	1332, 333	Elmer Seltenright Ditch-Yellow River	YES	YES	Urban - Residental	Reed Canary Grass	41.3555	-86.3073	N	
34	1338, 1337,3133,	Milner Seltenright Ditch-Yellow River	YES	YES	Urban - Residental		41.3573	-86.3043	N	
35	F1	Milner Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop				Y	Farm field p80, next 376, 308, Tyson
36	1253, 1250	Milner Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental		41.3716	-86.2657	Y	prt drained forest
37	1252, 1255, 1254	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop	Cattail, Reed Canary Grass	41.3698	-86.2638	N	enhancement
38	3135, 1271,	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Pasture		41.3702	-86.2601	N	
39	1358, 1349,	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Pasture		41.3618	-86.2662	N	enhance
40	F2	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop				Y	adjacent to 852 *
41	1383, 732	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3471	-86.2464	N	
42	1384, 1363	Milner Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.3503	-86.2387	N	
43	1364	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3662	-86.2448	N	
44	1206, 698,	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3772	-86.2417	N	
45	1201, 1199, 1264, 1266,	Milner Seltenright Ditch-Yellow River	YES	YES	Agriculture - Row Crop	Cattail, Reed Canary Grass	41.378	-86.2488	N	really nice, enhance
46	270, 1197	Milner Seltenright Ditch-Yellow River					41.3887	-86.2511		forested, cant really see
47	3132	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3817	-86.2484	Y	enhancment, add a few acres
48	1277, 332	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop		41.3758	-86.2348	Y	large muck field, connect to forest,adjcent to 1278
49	1278,	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop	Reed Canary Grass	41.3802	-86.2336	N	forested
50	F3	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop				Y	adjacent to 651, p67 **
51	393, 963,	Milner Seltenright Ditch-Yellow River			Agriculture - Row Crop, Rural - Residental		41.3734	-86.2164	N	forested, can't really see
52	1215	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.3777	-86.2061	N	
53	1292	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental		41.3763	-86.2054	N	house in middle
54	837	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.3762	-86.1975	N	
55	1216	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop		41.3779	-86.1982	N	forested
56	1301	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.3713	-86.1897	N	connecting hydric soils
57	F4	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop				Y	adjacent to 1301
58	1298	Stone Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3662	-86.2114	N	forested, hard to see from road
59	1296, 995, 1295	Stone Ditch-Yellow River	YES	NO	Rural - Residental		41.37	-86.2061	N	pipeline right of way
60	1281, 1294	Stone Ditch-Yellow River	YES	YES	Rural - Residental		41.3717	-86.2107	N	
61	1297, 1300, 1368, 1302	Stone Ditch-Yellow River	NO	NO	Agriculture - Row Crop		41.3642	-86.1911	N	John's midigation for Hickory Road Bridge
62	1304,	Dausman Ditch	YES, NO	YES	Agriculture - Row Crop, Agriculture - Pasture	Reed Canary Grass	41.3702	-86.1748	N	deep ditch
63	389, 1312	Dausman Ditch	NO	YES	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.3666	-86.1684	N	deep ditch running through, 1304
64	298	Lake of the Woods-Yellow River	YES		Agriculture - Row Crop, Agriculture - Pasture		41.382	-86.1714	N	
65	1076, 1161, 1162	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental		41.3846	-86.1763	N	
66	1164, 125, 43, 116C	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental		41.3962	-86.1742	N	
67	2370, 2355, 61	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.4114	-86.1739	N	
68	1032, 110	Lake of the Woods-Yellow River	NO	YES	Other (describe in comments), Rural - Residental		41.4188	-86.1684	N	surround by road
69	2340,	Lake of the Woods-Yellow River	YES	YES	Rural - Residental		41.4217	-86.1719	N	
70	297, 472, 2321	Lake of the Woods-Yellow River					41.4406	-86.175	N	mowed yards
71	2324, 907	Lake of the Woods-Yellow River	NO	YES	Rural - Residental		41.4364	-86.1647	Y	Tyson
72	377	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop, Rural - Residental		41.4364	-86.1544	N	
73	2281, 2276	Armey Ditch	NO	YES	Agriculture - Row Crop		41.4546	-86.1656	Y	farm fileds, big ditch, maybe restoreable
74	2288, 268	Armey Ditch	NO	YES	Urban - Residental, Urban - Commercial	Other (describe in comments)	41.4506	-86.1423	N	honey suckle
75	287,	Lake of the Woods-Yellow River	NO	NO	Agriculture - Row Crop		41.4365	-86.15	N	
76	981	Lake of the Woods-Yellow River	NO	NO	Agriculture - Row Crop		41.4314	-86.1452	N	forested
77	16, 2375	Lake of the Woods-Yellow River	NO	NO, YES	Agriculture - Row Crop		41.4158	-86.1404	N	forested
78	2383, 2382, 2379,	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop, Rural - Residental, Forested		41.4138	-86.1363	N	forested, multiple connected
79	3390, 2376, 2377, 2378, 784	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4081	-86.1401	Y	power line right of way, willows, 20-40 acres
80	1169, 1170, 1168	Lake of the Woods-Yellow River	YES	NO, YES	Agriculture - Row Crop, Rural - Residental		41.392	-86.1446	N	
81	434, 115, 165	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4174	-86.1499	N	fresh tile throughout farm field
82	F5	Dausman Ditch	YES	YES	Agriculture - Row Crop				Y	farm field p83, 20 plus, near 37C
83	370, 768	Dausman Ditch	YES	NO	Agriculture - Row Crop, Forested		41.352	-86.1702	N	
84	617, 1405,	Stone Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Forested		41.3358	-86.1962	N	farmed around
85	1397, 794, 1396,	Stone Ditch-Yellow River	YES	NO	Agriculture - Row Crop, Rural - Residental		41.3358	-86.2143	N	

Site #	NWI FID#	Sub Watershed	Upland Buffers	Habitat Alteration	Adjacent Land Uses	Invasive Species	Latitude	Longitude	Restore	Comments
86	307, 1395	Stone Ditch-Yellow River	YES	NO	Agriculture - Row Crop, Other (describe in comments)		41.3326	-86.2319	N	HWY 30
87	1418, 1419, 1447, 1446, 1445	Stone Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3093	-86.2301	N	power line right of south end
88	1457, 3107, 404	Stone Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.3044	-86.1814	N	powerline right of way north side
89	1406, 1407, 1408, 1437, 597	Stone Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.3266	-86.1685	N	
90	1378, 860, 52	Dausman Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.362	-86.1394	N	
91	1222, 1223	Dausman Ditch	YES	YES	Agriculture - Row Crop		41.3786	-86.1434	N	
92	1317, 1316, 48	Dausman Ditch	YES	YES	Agriculture - Row Crop		41.3709	-86.1473	N	
93	374, 1313, 1315	Dausman Ditch	NO	YES	Agriculture - Row Crop		41.3652	-86.1607	N	
94	3138, 1373, 1372, 1371, 3097		YES	YES	Agriculture - Row Crop, Forested	Reed Canary Grass	41.3582	-86.1668	Y	enhancement
95	212,	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental, Agriculture - Row Crop		41.3805	-86.3213	N	very hard to see, either blocked by houses or across farm fields
96	2485, 2484, 277, 1072	Elmer Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop	Cattail, Reed Canary Grass	41.4119	-86.3061	Y	
97	2447, 2448,	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.4232	-86.2748	N	
98	2461, 3182, 3063, 3118, 2463	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.4285	-86.2548	Y	nice bowl, in 10 acres field, conecting to others, couple acres for credits
99	3050, 3045, 415	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop, Rural - Residental		41.4317	-86.2476	N	honey suckle
100	2311, 2312, 2313, 2314, 2330	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass, Cattail	41.4331	-86.2353	E	directly across road from Lake of the Woods
101	3069, 3051,	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Rural - Residental		41.4253	-86.2424	N	farm field, installing tile while on survey
102	2470, 2468, 2469	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4196	-86.2484	Y	farm field, road is up a little higher, and has ditch running to lake, NE corner 4 acres wetland that ties into large forest *
103	204, 2356, 718	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4156	-86.2358	Y	30 acres wetland possible, huge farm field **
104	3093, 1002	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop, Rural - Residental		41.4094	-86.2312	N	wood lot next to house on hill
105	12,	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Forested		41.4084	-86.2269	Y	headwater drainage, multiple landowners, 15 acres *
106	F6	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop				Y	farm field, 8-10 of possible wetlands, p54*
107	968	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.4024	-86.2203	N	forest
108	0, 633, 193,	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4054	-86.208	Y	surrounded by ag field
109	2362	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4069	-86.2099	Y	ag field adjacent to 302 *
110	302,	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4067	-86.2072	Y	forested
111	F7	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Rural - Residental				Y	15 wetland acres, farm field now, near 253 *
112	2364, 2365, 2338, 1044	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop, Rural - Residental		41.4166	-86.2035	Y	30+ wetland acres, p55, connects to F7 *
113	323,	Lake of the Woods-Yellow River	YES	NO	Rural - Residental, Forested		41.4115	-86.2214	E	forested wetland, enhance
114	39	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop, Forested		41.4214	-86.2184	Y	little pond in farm field adjacent
115	2333	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Row Crop		41.4222	-86.216	N	forest in farm field
116	1047	West Bunch Branch-Stock Ditch	YES	NO	Agriculture - Row Crop		41.4221	-86.2034	N	forest
117	21,	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4145	-86.175	N	forested,
118	2369	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Forested, Rural - Residenta		41.4139	-86.179	Y	adjacent to 21, 40+ wetland acres **
119	3120,	Lake of the Woods-Yellow River	YES	NO	Agriculture - Row Crop		41.4148	-86.1881	N	forested
120	F8	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop				Y	nice bowl, 10 wetland acres **
121	1156, 1155, 1026	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4014	-86.1977	N	
122	3131,	Lake of the Woods-Yellow River	YES	NO	Forested, Rural - Residental, Agriculture - Row Crop		41.3927	-86.2043	N	standing water, forest swamp
123	1211	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.3901	-86.2151	Y	ditch down middle, big swell, 15+ wetland acres
124	1209	Lake of the Woods-Yellow River	YES	NO	Forested		41.3833	-86.2265	N	forest, has turkeys
125	1208, 1207	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop		41.3824	-86.2345	N	
126	1202, 1203	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop		41.3882	-86.2338	Y	
127	664	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop, Forested	Other (describe in comments)	41.3926	-86.234	N	nice wood lot, honeysuckle
128	1073, 53	Milner Seltenright Ditch-Yellow River	NO	YES	Agriculture - Row Crop, Rural - Residental		41.3965	-86.2385	N	
129	1148, 1149, 1146	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.3997	-86.2422	Y	could be 3+ wetland acres
130	3101	Milner Seltenright Ditch-Yellow River	NO	NO	Agriculture - Row Crop, Forested	Cattail	41.4012	-86.2496	N	
131	641, 2500	Milner Seltenright Ditch-Yellow River	YES	NO	Agriculture - Row Crop, Forested	Other (describe in comments)	41.4077	-86.2511	N	honey suckle, foresst directly across road too
132	3031, 3032, 3033, 3030, 3180	Elmer Seltenright Ditch-Yellow River	YES	YES	Forested, Agriculture - Row Crop	Phragmites	41.4333	-86.2851	Y	NIPSCO property, 0.5 acres *
133	2982, 2983, 3099,	Elmer Seltenright Ditch-Yellow River	YES	YES	Rural - Residental, Forested		41.4482	-86.3001	N	partilly forested
134	3006, 642	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop, Forested		41.4447	-86.2699	N	
135	3040, 3041, 529	Lake of the Woods-Yellow River	NO	YES	Agriculture - Row Crop		41.4445	-86.2465	N	
136	763	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.4512	-86.2248	Y	Shrock Farm
137	2240, 1035, 1059, 2241,	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.4608	-86.2071	Y	dumping concrete into, directly along 6
138	595, 2204	West Bunch Branch-Stock Ditch					41.4711	-86.2286	N	forested, unable to see from road
139	2176, 2177, 3086	West Bunch Branch-Stock Ditch	NO	NO	Agriculture - Pasture, Rural - Residental		41.4943	-86.2376	N	forested
140	2178	West Bunch Branch-Stock Ditch	NO	YES			41.5305	-86.2091	N	residental pond
141	672	West Bunch Branch-Stock Ditch	NO	NO	Agriculture - Row Crop		41.4995	-86.2371	N	forested, hard to see from road
142	2863	West Bunch Branch-Stock Ditch	YES	NO	Rural - Residental, Forested		41.5106	-86.2442	N	hard to see from road due to houses
143	2866, 2865	Headwaters Stock Ditch	YES	YES	Rural - Residental, Open Water	Phragmites , Cattail	41.5022	-86.2568	N	Riddle Lake
144	2845	Headwaters Stock Ditch	YES	NO	Forested, Rural - Residental	Other (describe in comments)	41.5076	-86.2597	N	honeysuckle
145	646, 2848	Headwaters Stock Ditch	YES	YES	Rural - Residental, Urban - Residental, Forested	Reed Canary Grass	41.5109	-86.2646	N	nice swamp,but has horses alloud through it
146	2844, 2843	Headwaters Stock Ditch	YES	YES	Forested, Open Water, Rural - Residental	Reed Canary Grass	41.5081	-86.2641	N	
147	2840	Headwaters Stock Ditch	YES	YES	Rural - Residental, Open Water, Forested	Reed Canary Grass	41.5116	-86.2701	N	Attached to Riddle Lake
148	2797, 2799, 462	Headwaters Stock Ditch	YES	NO	Rural - Residental, Forested	Reed Canary Grass	41.5144	-86.2636	N	
149	2793,	Headwaters Stock Ditch	NO	YES	Rural - Residental, Open Water	Reed Canary Grass, Other (describe in comments)	41.5161	-86.2709	N	glassland nest toe 2791
150	2791, 753,2480	Headwaters Stock Ditch	YES	YES	Rural - Residental, Open Water	Reed Canary Grass, Other (describe in comments)	41.517	-86.27	N	honey suckle, goes directly up to Riddle Lake
151	2789, 2790,	Headwaters Stock Ditch	YES	YES	Forested, Rural - Residental, Open Water	Reed Canary Grass, Cattail	41.5154	-86.2731	N	some open water
152	3172, 2832,	Headwaters Stock Ditch	YES	YES	Forested, Open Water	Reed Canary Grass	41.5117	-86.2738	N	Ditch connects to Riddle Lake
153	2839, 2833, 2846,	Headwaters Stock Ditch	YES	YES	Forested, Open Water	Reed Canary Grass	41.5092	-86.27	N	adjacent to Riddle Lake
154	2852, 3173, 2853, 2851	Headwaters Stock Ditch	YES	NO	Forested, Agriculture - Row Crop		41.501	-86.2744	N	Forested
155	2902, 2899, 2884, 3081, 2879, 3084, 3094, 620	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop, Forested, Rural - Residenta		41.4942	-86.2788	N	Forested
156	2891, 2894, 3074, 3175,2889	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop, Forested, Rural - Residenta	Reed Canary Grass	41.4902	-86.2856	N	one large forested area, two houses on far edge
157	2812, 2813,	Headwaters Stock Ditch	YES	NO	Forested, Rural - Residental	Reed Canary Grass	41.5078	-86.2975	E	
158	2804, 2814	Headwaters Stock Ditch	YES	YES	Rural - Residental, Open Water	Reed Canary Grass	41.5069	-86.2999	N	
159	630, 2070, 896,	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop, Forested		41.457	-86.2111	N	
160	822, 3154,	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop	Reed Canary Grass	41.4619	-86.2453	Y	drains north, 5 wetland acres
161	2236, 2261	Headwaters Stock Ditch	YES	NO	Rural - Residental, Forested, Agriculture - Row Crop		41.4582	-86.2343	N	along RR
162	F8, 2945, 475, 938,	Headwaters Stock Ditch	NO	YES	Agriculture - Row Crop		41.467	-86.2491	Y	100+ wetland acres, flows north, than east, than south to Yellow, Hoffman Ditch **
163	3170, 2810, 63	Headwaters Stock Ditch	NO	NO	Agriculture - Row Crop	Reed Canary Grass	41.5083	-86.3064	E	open water, across road from each other
164	2807, 3171,	Headwaters Stock Ditch	NO	NO	Agriculture - Pasture, Forested	Reed Canary Grass, Cattail, Phragmites	41.5103	-86.3089	E	
165	2749, 2748, 2747, 305, 2745	Headwaters Stock Ditch	YES	YES	Rural - Residental, Forested	Reed Canary Grass	41.5204	-86.3061	N	fairly good, forested, some standing water, houses along roads
166	2743, 3168, 2742	Headwaters Stock Ditch	YES	YES	Agriculture - Pasture, Rural - Residental		41.519	-86.2999	N	
167	2750-2753	Headwaters Stock Ditch	YES	YES	Rural - Residental, Forested	Reed Canary Grass	41.5218	-86.2982	N	
168	92, 2763,	Headwaters Stock Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass, Cattail	41.5215	-86.2851	N	
169	2755, 2784, 2754, 840,	Headwaters Stock Ditch	YES	YES	Forested, Agriculture - Pasture, Rural - Residental	Reed Canary Grass	41.5206	-86.2803	N	
170	888, 2782	Headwaters Stock Ditch	NO	YES	Rural - Residental, Urban - Commercial	Cattail	41.522	-86.2769	N	

Site #	NWI FID#	Sub Watershed	Upland Buffers	Habitat Alteration	Adjacent Land Uses	Invasive Species	Latitude	Longitude	Restore	Comments
171	2694, 3108	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop, Urban - Commercia	Cattail, Reed Canary Grass	41.5373	-86.2759	N	
172	547, 2673,	Headwaters Stock Ditch	NO	NO	Urban - Residental, Agriculture - Pasture	Phragmites , Reed Canary Grass, Cattail	41.5378	-86.2807	E	
173	3166, 2678, 2679, 2680, 2681	Headwaters Stock Ditch	NO	YES	Agriculture - Pasture, Forested, Rural - Residental	Reed Canary Grass	41.533	-86.2926	N	
174	2635, 2636, 2637, 2638, 2668, 2670, 66:	Headwaters Stock Ditch	YES	YES	Rural - Residental, Forested		41.5362	-86.3008	N	
175	2629, 2628, 2630, 99(	Headwaters Stock Ditch	YES	YES	Rural - Residental, Forested	Reed Canary Grass	41.5417	-86.3063	N	
176	3070, 2627	Headwaters Stock Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.5476	-86.3034	N	
177	1039, 2619	Headwaters Stock Ditch					41.5543	-86.3007	N	probably good, can't see from road
178	736, 2459, 245, 2566, 108,	Headwaters Stock Ditch	YES	YES	Rural - Residental, Forested	Phragmites , Cattail, Reed Canary Grass	41.5532	-86.2934	E	Maple runs between
179	2561, 2563	Headwaters Stock Ditch	YES	YES	Agriculture - Pasture, Rural - Residental		41.5581	-86.2884	N	hard to see from road due to houses
180	2558, 2559, 260, 3161, 256(	Headwaters Stock Ditch	YES	NO	Rural - Residental, Forested, Agriculture - Row Crop	Reed Canary Grass	41.5614	-86.2909	N	
181	945, 2547, 2548	Headwaters Stock Ditch					41.5539	-86.3072	N	can't see from road or veg with binocs
182	2624-2626, 1036	Headwaters Stock Ditch	YES	NO	Rural - Residental, Forested	Reed Canary Grass	41.5501	-86.3055	N	
183	3111, 2570, 2574, 2575, 2573, 3162, 2571, 257.	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Pasture, Forested, Agriculture - Row Crop, Rural - Residenta	Reed Canary Grass	41.556	-86.2801	N	
184	2606, 3165,	West Bunch Branch-Stock Ditch	YES	YES	Rural - Residental, Forested		41.5552	-86.2573	N	
185	2800, 2803,	West Bunch Branch-Stock Ditch	NO	NO	Agriculture - Row Crop	Reed Canary Grass, Cattail	41.5234	-86.2579	E	
186	2802, 3169, 2801	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.5247	-86.2581	Y	Restore but tiny in farm field, across from 2800, 280:
187	2785, 671, 2788,	West Bunch Branch-Stock Ditch	YES	YES	Forested, Rural - Residental	Reed Canary Grass	41.5236	-86.2663	N	activetly logging
188	1077	West Bunch Branch-Stock Ditch	YES	NO	Agriculture - Row Crop, Forested		41.5404	-86.2421	N	hard to see from road, couldn't pull off on highway
189	764, 2106, 258, 2107, 2108	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.5199	-86.2177	N	
190	2773, 85, 2074, 2078, 362	West Bunch Branch-Stock Ditch	NO	YES	Agriculture - Row Crop, Rural - Residental		41.5129	-86.2953	Y	power line right of way, farm field, 40+ acres that's majorty farmed, huge bowl, **
191	2033, 2028, 3151, 2029, 2027, 203z	West Bunch Branch-Stock Ditch	YES	NO	Forested, Agriculture - Row Crop, Rural - Residenta	Other (describe in comments)	41.5485	-86.224	N	honey suckle, house in middle
192	2664, 2667, 2665, 76, 2021-2026,	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.5478	-86.2462	N	
193	992, 1996, 1997, 154, 1962, 1965, 1963, 1964, 19	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.5672	-86.2383	N	very little invasives, good overall
194	2538, 363, 461	West Bunch Branch-Stock Ditch	YES	NO	Agriculture - Row Crop, Rural - Residental	Cattail	41.5676	-86.2505	N	
195	1050, 621	West Bunch Branch-Stock Ditch					41.568	-86.2586	N	can't see from road, forested
196	973, 2577	West Bunch Branch-Stock Ditch	YES	NO	Rural - Residental, Forested	Reed Canary Grass	41.565	-86.2742	N	
197	2550, 2505, 3102, 2504, 252:	West Bunch Branch-Stock Ditch	YES	YES	Agriculture - Pasture, Agriculture - Row Crop, Rural - Residenta	Reed Canary Grass	41.5648	-86.2813	N	
198	542	West Bunch Branch-Stock Ditch	YES	YES	Rural - Residental	Other (describe in comments)	41.5742	-86.2588	N	honey suckle, deep ditch
199	2537, 989, 2535, 340, 1961, 253(	West Bunch Branch-Stock Ditch	YES	YES	Forested, Rural - Residental	Reed Canary Grass	41.5724	-86.2477	N	large forest around houses
200	2013, 2016, 166, 2017,	Kline Rouch Ditch-Yellow River	YES	NO	Agriculture - Row Crop	Reed Canary Grass, Cattail	41.5641	-86.1857	N	
201	2012, 338	Kline Rouch Ditch-Yellow River	NO	NO	Agriculture - Row Crop, Forested	Reed Canary Grass, Cattail	41.564	-86.1804	N	can't connect to 2017, 2013, 16(
202	364	Kline Rouch Ditch-Yellow River	NO	YES	Agriculture - Pasture, Agriculture - Row Crop, Urban - Commercia	Cattail, Reed Canary Grass, Phragmites	41.5659	-86.1724	Y	nice bowl, 15+ wetland acres *
203	540,	Kline Rouch Ditch-Yellow River	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.5623	-86.169	N	forested and ditch connecting 131
204	618, 1591, 1592, 33(	Kline Rouch Ditch-Yellow River			Agriculture - Row Crop, Forested		41.5428	-86.1071	N	large forest surrounding far from road unable to see
205	228,	Kline Rouch Ditch-Yellow River	YES	YES	Rural - Residental, Agriculture - Row Crop		41.5325	-86.1104	N	
206	765, 73	Kline Rouch Ditch-Yellow River	YES	NO	Agriculture - Row Crop		41.5316	-86.1274	N	can't see from road, forest in fields
207	2163, 2164	Kline Rouch Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.5104	-86.1453	N	
208	2168, 455, 2166	Lateral Ditch No. 5	YES	NO	Forested		41.5031	-86.1375	N	standing water in forest along road unable to see 2169, 2167, 749, directly behind thi:
209	2200, 930	Lateral Ditch No. 5	YES	NO	Forested		41.4926	-86.1217	N	cant see wetlands, looks more like uplands
210	1609, 74, 1608	Lateral Ditch No. 5	YES	NO	Forested		41.4887	-86.0972	N	
211	1627, 1628	Lateral Ditch No. 5	YES	YES	Agriculture - Row Crop, Forested	Reed Canary Grass	41.4849	-86.0816	N	
212	184	Lateral Ditch No. 5	YES	YES	Agriculture - Row Crop, Forested		41.4962	-86.0358	N	
213	3129, 863	Lateral Ditch No. 5			Agriculture - Row Crop, Forested		41.4851	-85.991	N	large forest in larger farm field
214	773, 1090, 650	Lateral Ditch No. 5	YES	YES	Agriculture - Row Crop, Forested	Reed Canary Grass	41.4783	-85.9714	N	
215	1091	Lateral Ditch No. 5	YES	YES	Forested, Rural - Residental	Reed Canary Grass	41.4779	-85.9893	N	
216	10, 966	Lateral Ditch No. 5			Forested, Agriculture - Row Crop		41.5432	-86.3032	N	can't see from road, forested
217	401	Lateral Ditch No. 5	YES	YES	Agriculture - Row Crop, Rural - Residental, Forestec		41.4806	-86.0639	N	
218	947, 1096	Armey Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.463	-86.0605	Y	amish farm field, 7+ wetland acres *
219	264	Kline Rouch Ditch-Yellow River	YES	NO	Forested, Agriculture - Row Crop		41.4684	-86.0825	N	
220	2255	Kline Rouch Ditch-Yellow River	YES	YES	Agriculture - Row Crop, Forested, Rural - Residenta		41.4701	-86.1236	N	
221	299	Kline Rouch Ditch-Yellow River	YES	NO	Forested, Rural - Residental, Agriculture - Row Crop		41.4669	-86.149	N	
222	2208, 599	Kline Rouch Ditch-Yellow River	YES	YES	Agriculture - Row Crop		41.4729	-86.1703	N	
223	1651, 1649, 3145, 3054, 3055, 3056, 15,	Armey Ditch	YES	YES	Forested, Rural - Residental, Agriculture - Row Crop	Reed Canary Grass	41.4571	-86.0924	N	powerline right of way
224	1625, 1626, 386	Armey Ditch	YES	NO	Forested		41.4711	-86.1004	N	
225	234, 459, 1641	Armey Ditch	YES	YES	Forested, Agriculture - Row Crop		41.4665	-86.1003	N	
226	1670, 1658, 554, 3091, 975	Armey Ditch	YES	NO	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.4431	-86.0853	N	
227	1653-1656, 1659, 443, 57(	Armey Ditch	NO	NO	Agriculture - Row Crop		41.4494	-86.0966	N	can't really see from road
228	1668, 1669, 1665	Armey Ditch	YES	YES	Forested, Agriculture - Row Crop		41.4417	-86.085	Y	10+ acres or possible wetland, farm field now, also at very top of watershed *
229	101, 661, 417	Armey Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.4373	-86.1103	N	hard to see behind houses
230	1014	Armey Ditch					41.4318	-86.1063		cant see from road
231	19, 1677	Armey Ditch, Dausman Ditch	YES	NO	Agriculture - Row Crop, Forested		41.4198	-86.088	N	
232	729	Dausman Ditch	NO	NO	Agriculture - Row Crop		41.4152	-86.1016	N	small forested area in middle of field
233	84, 541, 667, 1711, 2393, 589, 2394, 544, 2381, 2	Lake of the Woods-Yellow River	YES	YES	Agriculture - Row Crop		41.4131	-86.1226	N	small patching forest through out large farm fields
234	313, 420, 744	Armey Ditch	YES	NO	Agriculture - Row Crop, Forested		41.4341	-86.0635	N	powerline right of way on north side
235	598, 1710, 1103	Armey Ditch	YES	NO	Forested, Agriculture - Row Crop, Rural - Residenta	Other (describe in comments)	41.4362	-86.0573	N	honey suckle, county line road runs directly through
236	514, 849, 153, 553, 399, 164:	Armey Ditch	YES	NO	Agriculture - Row Crop		41.447	-86.0566	N	very far from all road, looks like good wetlanc
237	95, 464,	Armey Ditch	YES	YES	Urban - Residental, Agriculture - Row Crop		41.4312	-85.9909	N	surrounded by suddivison
238	276, 3130, 1107, 829, 1052, 336, 80(	Armey Ditch	YES	YES	Rural - Residental, Agriculture - Row Crop	Reed Canary Grass	41.4374	-86.0221	N	
239	1690, 283, 1689, 394	Armey Ditch	YES	NO	Forested, Rural - Residental, Agriculture - Row Crop	Reed Canary Grass	41.4289	-86.0308	N	
240	3090, 1699, 35	Armey Ditch	YES	NO	Agriculture - Row Crop		41.4179	-86.0227	N	yeloow river modifed through forest
241	312, 486, 1698	Armey Ditch	YES	NO	Forested, Agriculture - Row Crop		41.4204	-86.0157	N	
242	1730, 1731, 1732, 1734, 1735, 1736, 310(	Lemler Ditch-Dausman Ditch	NO	YES	Rural - Residental, Agriculture - Row Crop	Phragmites	41.4081	-86.0274	N	
243	358, 223	Armey Ditch	YES	NO	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.4105	-86.0331	N	
244	3095, 795	Lemler Ditch-Dausman Ditch	YES	NO	Agriculture - Row Crop		41.4023	-86.0279	N	far from road looks like dog
245	674, 41	Lemler Ditch-Dausman Ditch	YES	NO	Agriculture - Row Crop		41.3991	-86.0325	N	far from road
246	315,	Lemler Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental	Other (describe in comments)	41.3893	-86.0409	N	honey suckle
247	1911, 1912, 1916	Fleugel Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested		41.3382	-85.9246	N	
248	745, 205, 1914, 1915, 425, 306(	Fleugel Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested, Rural - Residenta	Reed Canary Grass	41.3428	-85.922	N	
249	1856,	Fleugel Ditch-Dausman Ditch	NO	YES	Agriculture - Row Crop	Cattail	41.3575	-85.9647	Y	wet spot in field, houses on north side though
250	1853, 1854, 3106, 897,	Lemler Ditch-Dausman Ditch	YES	NO	Agriculture - Row Crop, Scrub-shrub	Cattail, Phragmites	41.357	-85.9736	E	looks like some is trying to enhance it themselves
251	1903	Fleugel Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Agriculture - Pasture		41.344	-85.9701	N	looks upland from road
252	3119, 1902, 1891, 1892, 1893,	Fleugel Ditch-Dausman Ditch	YES	NO	Agriculture - Row Crop, Rural - Residental, Agriculture - Pasture	Reed Canary Grass, Cattail, Phragmites	41.3344	-85.9818	E	ACRES, Glennwood Nature Preserve, massive bog, amish horse pasture in yellow polygons
253	1897	Lemler Ditch-Dausman Ditch	NO	YES	Agriculture - Row Crop		41.3485	-85.9834	Y	nice bowl, farmed field now, could be 7+ wetland acres possible *
254	1845, 1848	Lemler Ditch-Dausman Ditch	NO	NO	Rural - Residental, Agriculture - Pasture		41.36	-85.9822	N	not great quality, basically someones yard
255	1850, 1851	Lemler Ditch-Dausman Ditch	NO	NO	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.362	-85.9833	N	not great quality, basically someones yard

Site #	NWI FID#	Sub Watershed	Upland Buffers	Habitat Alteration	Adjacent Land Uses	Invasive Species	Latitude	Longitude	Restore	Comments
256	775, 499, 1816	Lemler Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested		41.3653	-86.0467	N	
257	22	Lemler Ditch-Dausman Ditch	NO	YES	Agriculture - Row Crop, Agriculture - Pasture		41.3659	-86.0524	N	far from road hard to see, adjcent to homestead
258	577, 3057, 1837, 1838	Lemler Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Agriculture - Pasture		41.3545	-86.0507	N	
259	798, 24, 1836, 789	Lemler Ditch-Dausman Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental	Reed Canary Grass	41.3538	-86.0607	N	
260	1870, 543	Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested		41.3488	-86.0862	N	
261	328	Dausman Ditch	YES	YES	Forested, Agriculture - Row Crop		41.3488	-86.0762	N	
262	831	Dausman Ditch	YES	YES	Forested, Agriculture - Row Crop	Reed Canary Grass	41.3568	-86.0957	N	not as large as polygon or not entire woodlot
263	1781, 1782, 559	Dausman Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental, Forested		41.3803	-86.0867	N	
264	501, 836,	Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested		41.3825	-86.076	N	
265	949, 1725	Dausman Ditch	YES	NO	Forested	Reed Canary Grass	41.4053	-86.0576	N	
266	1722-1724, 802, 156	Dausman Ditch	YES	YES	Agriculture - Row Crop, Forested		41.4058	-86.0706	N	too far from road to really see anything
267	1783, 3147,	Dausman Ditch	NO	YES	Agriculture - Row Crop	Reed Canary Grass	41.3885	-86.0992	Y	15+ wetland acres possible, farmed field right now *
268	3110, 1773,	Dausman Ditch	YES	YES	Agriculture - Row Crop, Rural - Residental		41.3889	-86.1084	N	
269	1775, 1776, 3080, 20,	Dausman Ditch	YES	YES	Rural - Residental, Forested, Agriculture - Row Crop		41.3805	-86.1144	N	
270	1772, 257	Dausman Ditch					41.3793	-86.1056	N	can't see at all from road
271	1325, 1326	Dausman Ditch	YES	YES	Agriculture - Row Crop		41.364	-86.1227	N	far from road, hard to see
272	1074,		YES	YES	Urban - Commercial, Urban - Industrial	Other (describe in comments)	41.3608	-86.3226	N	autumnolive
273	1586,		YES	NO	Urban - Industrial	Phragmites	41.3584	-86.3174	N	little spot in small woodland
274	1333, 864, 1587. 578	Elmer Seltenright Ditch-Yellow River	YES	YES	Urban - Industrial, Urban - Commercial		41.356	-86.3167	N	
275	715	Elmer Seltenright Ditch-Yellow River	YES	YES	Urban - Industrial	Phragmites , Reed Canary Grass, Cattail	41.3603	-86.3368	N	in indurtial park poor condition
276	1576,	Elmer Seltenright Ditch-Yellow River	YES	YES	Urban - Industrial, Urban - Commercial	Cattail, Reed Canary Grass	41.36	-86.3411	N	maybe tie into 715
277	F9						41.577159°	-86.246733°	Y	
278	F10						41.568267°	-86.199730°	Y	
279	F11						41.534254°	-86.128627°	Y	
280	F12						41.522971°	-86.092394°	Y	
281	F13						41.504347°	-86.067062°	Y	
282	F14						41.491650°	-86.126578°	Y	

APPENDIX

C

PRIORITY WETLAND RESTORATION SITES

Windshield Survey Site #	NWI FID#	Restoration Prioity	Latitude	Longitude	Location	WMP Critical Area Designation	Adjacent to Stream	Adjacent to Woodland/Wetland	Dominant Soil	Type of Restoration	Ease of Restoration	Ease of Access	Wetland/Parcel Ratio	# of Land Owners	Estimated Restoration Cost	Additional Notes
73	2281, 2276	1	41.456297°	-86.167809°	Marshall County, South of SR 6 and north of RR tracks just west of SR 331	Medium	Yes	No	Waterford/Muck	Hydrology/Vegetation	1	2	0.9:1 (195 of 250 acres)	1 (Doug and Debra DeShepper)	$ 750,000	North South main Ditch and East West Ditch bisect the property could be used for Stream credits and wetland credits
281	F13	2	41.504347°	-86.067062°	St. Joseph County, West of County Line Road, south of Riley Rd	High	Yes	No	Muck/Brookston/ Rensselear	Hydrology/Vegetation	2	3	0.8:1 (80 of 100 acres)	1 (Phillip Lehman Farms)	$ 480,000	Would divide farmable ground, legal drain
280	F12	3	41.522971°	-86.092394°	St Joseph County, Patterson Rd between Cedar and Beech	High	Yes	Yes	Brookston	Hydrology/Vegetation	1	1	1:1 (20 acres)	1 (Samuel and Rosetta Royer)	$ 80,000	Drains North to Lateral #15
111	F7	4	41.417406°	-86.193148°	Marshall county, south side of 4th road just east of Ply-Goshen Trail	Medium	Yes	Yes	Rensselaer/Whitaker	Hydrology/Vegetation	2	1	0.75:1 (30 out of 40)	1 (MJ Balsley)	$ 120,000	Long property along ditch with existing woodlot in corner
120	F8	5	41.404895°	-86.199413°	Marshall County, south side of 5th Road and east of Hawthorne Road	Medium	Yes	Yes	Muck/Rensselaer	Hydrology/Vegetation	2	1	1:1 (25 acres)	1 (Mark and Allen Laudeman)	$ 100,000	25 acres is part of an 80 acre parcel that is 8-18 feet lower than the adjacent upland, water drains south to ditch and then east.
228	1668, 1669, 1665	6	41.441695°	-86.085255°	Marshall County south side of 2b Road west of Beech	Medium	Yes	No	Muck	Hydrology/Vegetation	2	1	0.8:1 (23 of30 acres*)	1 (Freeman or Freemon Borkholder	$ 120,000	Borkholders own many adjacent parcels and to restore just the wetland would involve replatting and splitting an existing parcel
50	F3	7	41.374422°	-86.226353°	Marshall County, south of 7th Road just east of 7B Road	Medium	Yes	Yes	Muskego Muck	Hydrology/Vegetation	2	1	0.75:1 (15 of 20 acres)	1 (Karen Emerick)	$ 60,000	Several parcels in this area all could be restored by breaking tiles; also stream credits available
267	1783, 3147	8	41.388292°	-86.098654°	Marshall County – South side of 6th Road and just west of Cedar	Medium	Yes	Yes	Mukego/Adrian Muck	Hydrology/Vegetation	3	1	0.9:1 (27 of 30 acre portion east of N/S ditch)	2 (Joan & Steve Young and Jeff & Pebbles Unsicker)	$ 120,000	Restoring just the east side of the ditch adjacent to Cedar Road is the easiest, with power line crossing south end
202	364	9	41.565900°	-86.172400°	St. Joseph County, north side of new Road just east of Bremen Hwy (331)	High	Yes	No	Houghton Muck	Vegetation	1	1	1:1 (14 acres)	1 (Jerry Zahner)	$ 50,000	This would make a good wetland mitigation site with credit for up to 1.5 acres of wetland impact somewhere else, additional wetland on south side of New Road adjacent to ditch adds another 7 acres of potential mitigation.
106	F6	10	41.404772°	-86.234875°	Marshall County, SW corner of 5th Road and Juniper Road with Ply-Goshen Trail on south	Medium	Yes	Yes	Houghton Muck/Gilford Mucky Loam	Hydrology/Vegetation	1	1	0.7:1 (70 of 105 acres)	2 (Robert Martin and John & Marilyn Clark)	$ 315,000	40 acres on corner of 5th and Juniper have pass through drainage from the parcel south restoring both or just the south one would be easier than trying to restore the north one
16	1478, 1479	N/A	41.385600°	-86.342000°	Marshall County, on east side of Olive Rd between 6th and 7th Road	Medium	No	Yes	Rensselaer/Brookston	Hydrology/Vegetation	1	1	0..25:1 (50 acres on 200+ acres)	1 (David and Diana Shrock)	$ 600,000	If the parcel could be broken up and just south half obtained for restoration this would be worthwhile
31	528	N/A	41.382100°	-86.270200°	Marshall County, SE corner of Linden and E6B Road	Medium	No	Yes	Muck/Rensselaer	Hydrology/Vegetation	1	1	0.9:1 (35 of 40 acres)	1 (Jori's Place LLC & Todd Langfield)	$ 120,000	wetland restoration potential continues to south and north of 40 acre parcel may require additional acreage
35	F1	N/A	41.367947°	-86.272835°	Marshall County, just east of new US 31 & North Linden Trail south side of 7B Road	Medium	No	Yes	Rensselaer	Hydrology/Vegetation	2	1	0.5:1 (35 of 75 acres)	1 (Joel Grawionski)	$ 300,000	Owner has been continuously improving the site drainage
40	F2	N/A	41.353586°	-86.257368°	Marshall County, SE corner of 8A Road and King Road	Medium	Yes	Yes	Rensselaer/Achtung	Hydrology/Vegetation	2	2	0.4:1 (40 of 100 acres)	1 (Glenn and Martha Roberts)	$ 160,000	well defined drainages with lots of high ground
57	F4	N/A	41.374435°	-86.189894°	Marshall County, SE corner of Hickory and 7th Road	Medium	Yes	Yes	Waterford/Chochtah/ Whitaker Loam	Hydrology/Vegetation	1	1	0.6:1 (50 of 87 acres)	1 (Devon Pitman)	$ 260,000	Floodplain of Yellow River
82	F5	N/A	41.354501°	-86.162426°	Marshall County, NW corner of 9th Road and Fir Road	Medium	Yes	No	Rensselaer	Hydrology/Vegetation	2	1	0.8:1 (100 of 120 acres)	1 (SB Countryside Investors LLC)	$ 480,000	Potential to expand to 240 + acres with three landowners to south (Patricia Fitzgerald, Janice Bail and Marcia Fetters for another 120) plus (Steve and Debra Young on corner 37 acres)
103	204, 2356, 718	N/A	41.408682°	-86.239688°	Marshall County, SW of Lake of the Woods with Jarrah Rd on the west and 5th Rd on the south	Medium	No	Yes		Hydrology/Vegetation	2	1	0.6:1 (100 of 160 acres)	2 (Yockey Family 110 acres and William and Rita Nykiel Trust (50 acres)	$ 400,000	Could drain north or south
105	12	N/A	41.410728°	-86.227192°	Marshall County, North of 5th Road (Ply-Goshen Trail) to 4B Road at south end Lake of the Woods	Medium	Yes	Yes	Houghton Muck	Hydrology/Vegetation	2	3	0.6:1 (30 of 54)	1 (Marilyn and Calvin Ralston)	$ 216,000	Restoring wetland in this area may involve working with several adjacent owners
112	2364, 2365, 2338, 1044	N/A	41.417466°	-86.211446°	Marshall County, east of Lake of the Woods Shore Dr and south of 4th Rd, west of Ply-Goshen Trail	Medium	Yes	No	Moston Muck/Rensselaer	Hydrology/Vegetation	2	1	0.5:1 (35 out of 75 acres)	1 (Ralston)	$ 280,000	Houin family owns all around this parcel
190	2773, 85, 2074, 2078, 362	N/A	41.515294°	-86.287926°	St Joseph County, SW of Quinn Trail and Old US 31	Low	No	Yes	Rensselaer	Hydrology/Vegetation	1	2	1:1 for 10-15	1 (R&J Green (John))	$ 60,000	Easement or replotting of existing 80 acre parcel necessary
218	947, 1096	N/A	41.462368°	-86.060196°	Marshall County, south side of 1st Road and on west side of County Line Road	Medium	No	Yes	Muck/Rensselaer/Whitaker	Hydrology/Vegetation	1	1	0.5:1 (20 of 45 acres)	1 (Ivan Kuhns)	$ 80,000	Pastured, 20 with forested wetland to south
277	F9	N/A	41.577159°	-86.246733°	St Joseph County, North side of Miller Road just east of new US 31 and west of Turkey Trail	Medium	No	Yes	Muck/Brookston/ Rensselaer	Hydrology/Vegetation	2	1	0.55:1 (20 of 44 acres)	1 (Weigand Family)	$ 160,000	Pockets of wetland with forest to north drain south to Ditch across Road
278	F10	N/A	41.568267°	-86.199730°	Joseph County, on New Road east of Ironwood and just west of Hickory	High	Yes	Yes	Crosley/Brookston	Hydrology/Vegetation	3	1	0.5:1 (20 of 40 acres)	1 (Larry Mckinney)	$ 120,000	Ditch angles through property, north of ditch is Crosby, south side is Brookston residences adjacent on east and west sides may create issues
279	F11	N/A	41.534254°	-86.128627°	St Joseph County, south of Pierce and east of Elm	High	Yes	Yes	Brookston	Hydrology/Vegetation	2	1	1:1 (15 acres)	1 (Kevin, Richard, Mark and Janell Bickel)	$ 60,000	Would have to break off parcel from 75 acres owned (currently alfalfa field)
282	F14	N/A	41.491650°	-86.126578°	St. Joseph County, SE corner of Shively and Dogwood	High	No	Yes	Brookston/Crosier	Hydrology/Vegetation	2	2	0.5:1 (20 of 40 acres)	1 (John and Raymond Zeigler)	$ 120,000	Adjacent 40 acres to SE has very little hydric soil.

Headwaters Yellow River
Watershed Management Plan

APPENDIX C

2016 LARE HEADWATERS YELLOW RIVER WATERSHED WATER QUALITY MONITORING REPORT

Headwaters Yellow River Watershed Water Quality Monitoring

Marshall County, Indiana

Shaping the Future

Document Information

Prepared for	Marshall County Soil and Water Conservation District
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Date	June 2016

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Acronyms

CFO	Confined Feeding Operation
CFS	Cubic Feet Per Second
CAFO	Confined Animal Feeding Operation
CSO	Combined Sewer Overflow
DNR	Department of Natural Resources
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HUC	Hydrologic Unit Code
HSG	Hydrologic Soil Group
IDEM	Indiana Department of Natural Resources
KRBC	Kankakee River Basin Commission
LARE	Lake and River Enhancement
LID	Low-Impact Development
MACOG	Michiana Area Council of Government
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Load

WMP	Watershed Management Plan
PCB	Polychlorinated biphenyls

Executive Summary

The Headwaters Yellow River watershed is a 187,000 acres watershed located in north central Indiana. Portions of the watershed are located in Marshall, St. Joseph, Elkhart, and Kosciusko Counties. The Yellow River originates north of Bremen, Indiana and flows southwest through Plymouth. Ultimately the Yellow River drains into the Kankakee River near English Lake, Indiana. There are 73 miles of streams listed as impaired for phosphorus or *E. coli* in the watershed by the Indiana Department of Environmental Management (IDEM). Of the three lakes including Pleasant, Riddles, Lake of the Woods in the watershed each is impaired for phosphorus or PCB’s in fish tissue. As a result of these water quality concerns the Marshall County SWCD conducted a water quality study of the Headwaters Yellow River watershed from the spring of 2015 through the spring of 2016.

The land use of the Headwaters Yellow River watershed is dominated by row-crop agriculture and pasture. Urban land use is limited to only 8.2% of the watershed and includes Plymouth, Bremen, Nappanee, Lakeville, and La Paz. Streams of the watershed are highly degraded with widespread channelization, limited in-stream cover, and limited riparian vegetation. During twelve months of water sampling multiple issues were identified in the watershed. *E. coli* concentrations exceeded state water quality standards in approximately 69% of samples. *E. coli* concentrations exceeded state water quality standard during both stormflow and baseflow conditions, suggesting that there are point sources of *E. coli* in the watershed. Further water sampling revealed that a significant portion of the *E. coli* in the watershed is human in origin. Nutrient concentrations also regularly exceeded state water quality standards. Nitrate + nitrite concentrations exceeded state water quality standards in 15% of samples and phosphorus standards in 33% of samples.

Future improvements to the water quality of the Headwaters Yellow River watershed will require the widespread implementation of agricultural and urban management practices. Due to the prevalence of row-crop agriculture in the watershed, the implementation of long-term conservation cropping systems is the most beneficial practice to reduce nutrient loading. Additional agricultural BMP’s recommended for the watershed include riparian buffers, grassed waterways, streambank stabilization, wetland restoration, blind inlets, and saturated buffers. Soil data suggests that the majority of the soils in the watershed have limited suitability for septic systems. Therefore, the development of programs that promote septic system inspection and maintenance in the watershed are recommend. Addressing the bacterial and nutrient contributions of septic systems in the watershed will likely be critical to the recovery of the watershed. Recommend urban BMP’s include rain gardens, bioswales, pervious pavement, streambank stabilization, and rain harvesting.

Introduction

1.1 Project Background

In 2015 the Headwaters Yellow River Watershed project was initiated by the Marshall County Soil and Water Conservation District (SWCD). The Marshall County SWCD was motivated to conduct a study of the watershed as the result of several water quality concerns related to multiple impaired waterbodies in the Headwaters Yellow River watershed. The Headwaters Yellow River watershed (10 Digit Hydrologic Code [HUC]: 0712000103) is located in north central Indiana and encompasses portions of Marshall, St. Joseph, Elkhart, and Kosciusko Counties. The Headwaters Yellow River watershed is approximately 187,300 acres and is part of the Kankakee River watershed (HUC: 07120001). The mainstem of the Yellow River originates north of Bremen in St. Joseph County and flows southwest and eventually flows through Plymouth. The Yellow River continues to flow west and drains into the Kankakee River, near English Lake. However, the Yellow River southwest of Plymouth is outside of the scope of the Headwaters Yellow River watershed project. Populated areas of the watershed include Lakeville, La Paz, Plymouth, Bremen, and Nappanee (Figure 1-1). The subsequent sections are intended to address the concerns of watershed stakeholders in a holistic manner.

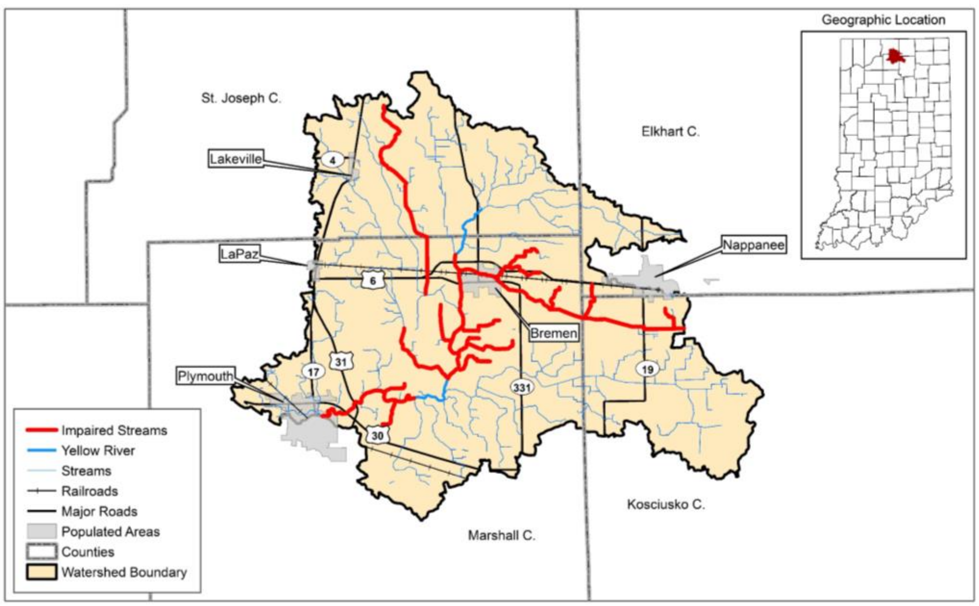

Figure 1-1. Geographic location of the Headwaters Yellow River Watershed in Northern, Indiana.

A watershed is an area of land that drains to a common waterway, such as a stream, lake, estuary or wetland. Using a watershed approach to restore waterbodies addresses problems in a holistic manner and keeps local stakeholders involved in the management actions selected to solve problems in the watershed. A watershed management plan (WMP) for the Headwaters Yellow River watershed will be created using the water quality data described in this report.

1.2 Stakeholder Concerns

A concern is an issue or topic that a stakeholder believes is relevant to the watershed. During the first steering committee meeting for the Headwaters Yellow River watershed on March of 2015, steering committee members identified topics of concern in the watershed. Many of the topics of concern were identified previously through an online survey that was distributed to watershed stakeholders. Table 1-1 presents a categorization of the concerns identified for the Headwaters Yellow River watershed. The primary categorizes of concerns in the watershed are natural resource quality, non-point source pollutant sources, and recreation opportunities. The primary concerns of the Marshall County SWCD included erosion, nutrient concentrations, *E. coli* concentrations, and recreation opportunities in the Headwaters Yellow River watershed. These water quality concerns were further validated with the listing of Lake of the Wood and 73 miles of streams in the watershed on the Indiana Department of Environmental Management (IDEM) 303(d) list of impaired waterbodies.

Table 1-1 Headwaters Yellow River Watershed Stakeholder Concerns

Category	Specific Concern
Natural Resource Quality	Stream water quality including nutrients, sediment, and *E. coli*
	Introduction of excess nutrients, sediment and *E. coli* to Lake of the Woods, Pleasant Lake, and Riddles Lake
	Limited habitat for aquatic organisms
	Introduction of Atrazine to the groundwater
Nonpoint Source Pollutant Sources	Stream bank erosion
	Failing septic systems throughout the watershed
	Direct discharges of wastewater from older homes
	Land applications of waste material
Recreational Opportunities	Management of the Yellow River for fisheries
	Limited boating access to the Yellow River
Miscellaneous	Debris and tree removal along the Yellow River
	Rural & urban drainage
	Rural & urban flooding

1.3 Steering Committee

The Headwaters Yellow River watershed encompasses four counties and five populated areas. Therefore, stakeholders in the watershed come from a large geographic area that includes both rural and urban communities. The steering committee for the Headwaters Yellow River Watershed project was developed to address the concerns of stakeholders that were identified using an online survey. The steering committee members listed in Table 1-2 are representatives of governmental agencies and non-profit organizations with the knowledge and skills necessary to address the concerns expressed by watershed stakeholders in Table 1-1.

Table 1-2 List of the Headwaters Yellow River Watershed Steering Committee members and organizations.

Steering Committee Member	Agency/Organization
Jim Hess	Elkhart County SWCD
Debbie Palmer	Marshall County SWCD
Jeremy Cooper	St. Joseph County SWCD
John Lash	Kosciusko County SWCD
Larry Fisher	Marshall County Drainage Board
Matthew Longfellow	Marshall County Health Department
Madisson Heinl	Center for Lakes and Streams
Joe Skelton	Marshall County Lakes and Waters Council
Troy Manges	Natural Resources Conservation Service
Robert Yoder	Purdue University Cooperative Extension Service
Trend Weldy	Town of Bremen
Jody Melton	Kankakee River Basin Commission
Charlie Houin	Marshall County Farm Bureau

2 Watershed History & Conditions

2.1 Geology/Topography

The Headwaters Yellow River watershed is located in north central Indiana (Figure 1-1), which was greatly influenced by the presence of the Wisconsin Glacier 70,000 years ago. The ice from the glacier was as thick as three miles in some places and ultimately extended just south of current day Indianapolis, Indiana (Wilson, 2008). The extreme weight of the glacier carved out bedrock from Canada and carried it southward through northern Indiana, where the debris was deposited (Wilson, 2008). As the glacier melted and began to retreat stratified drift was deposited creating a level plain called the Kankakee Outwash Plain (Wilson, 2008). The debris present in the outwash plain created fertile farmland throughout northern, Indiana. The advancing of the Wisconsin Glacier also influence the topography of northern, Indiana. As a result of the advance and retreat of the glacier the Headwaters Yellow River watershed has limited topographical relief. The highest elevation in the watershed is approximately 920 feet and the lowest elevation in the watershed is approximately 810 feet (Figure 2-2). The Yellow River has an average gradient of 1.25 feet/mile along its relatively straight 22 stream miles (Figure 1-1).

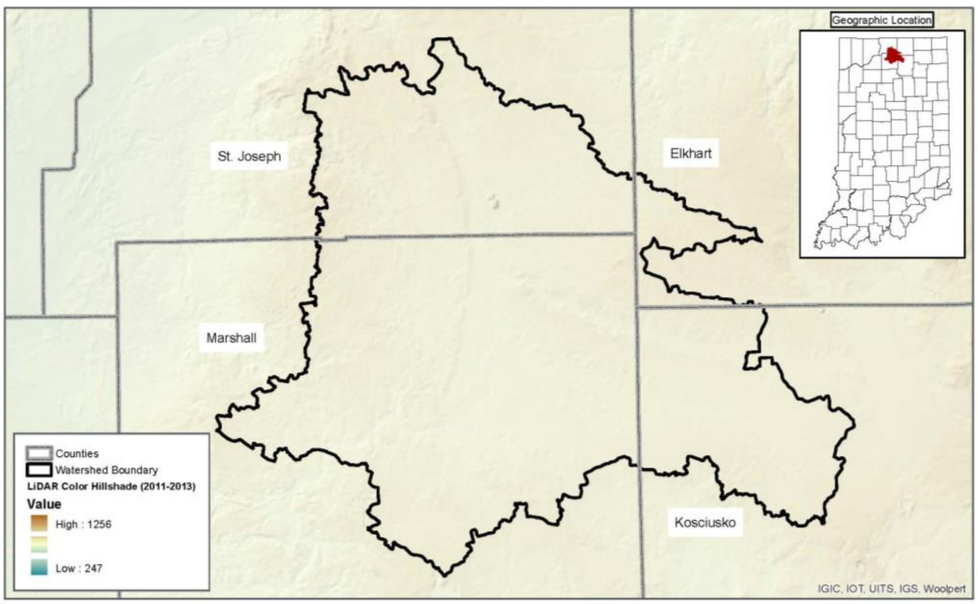

Figure 2-2. Topography of the Headwaters Yellow River Watershed from 2011-2013 LiDAR data.

2.2 Hydrology

The Headwaters Yellow River watershed (HUC: 0712000103) contains twelve subwatersheds across St. Joseph, Kosciusko, Elkhart, and Marshall Counties (Figure 2-3). The subwatershed of the Headwaters Yellow River watershed include Amery Ditch (HUC: 071200010303), Dausman Ditch (HUC: 071200010308), Elmer Seltenright Ditch (HUC: 071200010311), Fleugel Ditch (HUC: 071200010306), Headwaters Stock Ditch (HUC: 071200010304), Kline Rouch Ditch (HUC: 071200010302), Lake of the Woods (HUC: 071200010309), Lateral Ditch No. 5 (HUC: 071200010301), Lemler Ditch (HUC: 071200010307), Milner Seltenright Ditch (HUC: 071200010312), Stone Ditch (HUC: 071200010310), and West Bunch Branch (HUC: 071200010305). Included in each of these subwatersheds is a network of streams, closed drains, lakes, and wetlands.

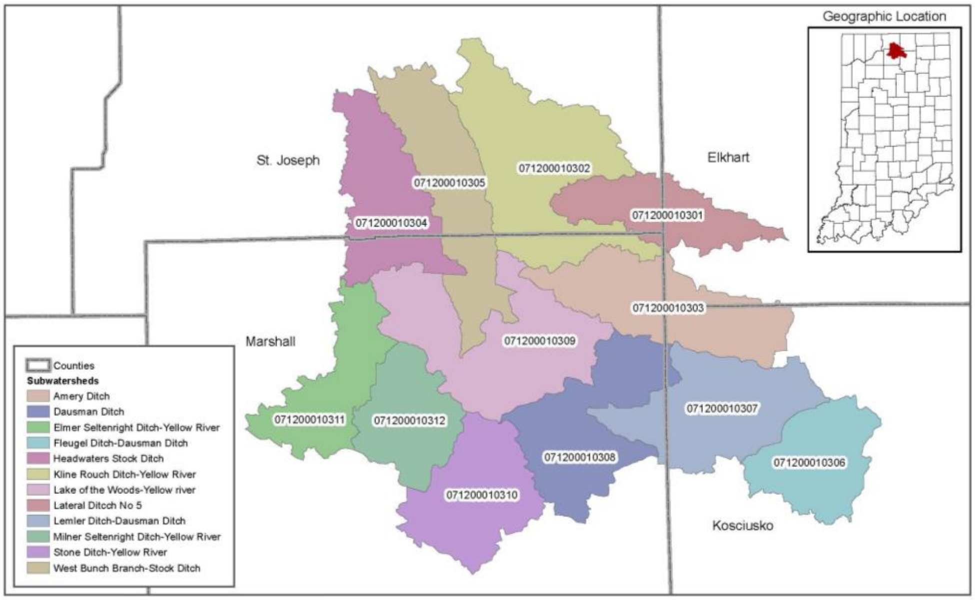

Figure 2-3. Each of the Twelve HUC 12 Subwatershed in the Headwaters Yellow River Watershed.

The twelve subwatershed combine to include a total of 335 miles of streams and 154 miles of closed drains. Water from streams and closed drains ultimately drain to the Yellow River, which originates in southern St. Joseph County (Figure 2-4). The headwaters of the Yellow River flows four miles south, past the west side of Bremen. The river continues in a southwesterly direction for another fourteen miles until the river reaches Plymouth in central Marshall County (Figure 2-4). Portions of the Headwaters Yellow River watershed are located in Elkhart and Kosciusko Counties; however the mainstem of the Yellow River flows only through St. Joseph and Marshall Counties. The streams and closed drains of the watershed are primarily utilized for drainage and irrigation purposes. However, the lower portion of the Yellow River in the watershed is utilized for angling despite limited access. In addition to lentic environments the Headwaters Yellow River contains numerous lotic environments.

There are three primary lakes in the watershed including Pleasant Lake (0.1 square kilometers), Riddles Lake (0.3 square kilometers), and Lake of the Woods (1.7 square kilometers) (Figure 2-4). Pleasant and Riddles Lakes are located in St. Joseph County near Lakeville. Pleasant Lake has a maximum depth of 39 feet (JFNew 2006a). Heston Ditch is the primary inlet to Pleasant Lake (JFNew 2006a). Riddles Lake has a maximum depth of 20 feet. Heston Ditch is also the primary inlet to Riddles Lakes (JFNew 2006a). Lake of the Woods is the largest lake in the watershed and is located in Marshall County southwest of Bremen. Lake of the Woods has a maximum depth of 47.9 feet (DJ Case and Associates 2005). There are five inlets to Lake of the Woods including William Forsythe Ditch, Martin Ditch, Seltenright Ditch, Bohmer Ditch, and Kuntz Ditch (DJ Case and Associates 2005). Each of these lakes is utilized by the public for multiple recreational activities including fishing, boating, and swimming.

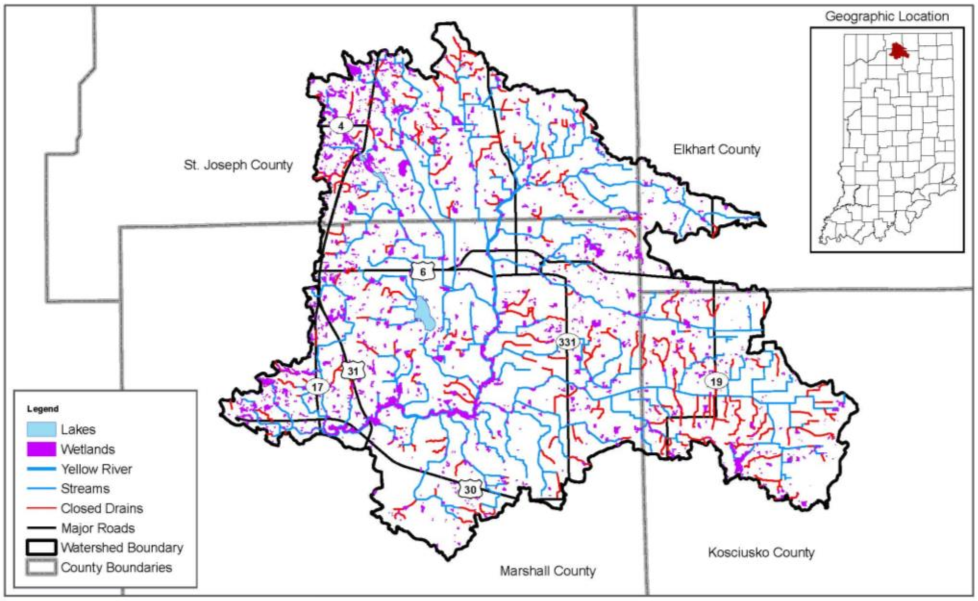

Figure 2-4. Streams, Lakes, Wetlands, and Closed Drains Located in the Headwaters Yellow River Watershed.

The remainder of the lotic environments in the watershed includes wetlands ranging from 169 acres to less than 0.1 acres in size. Nearly 8,000 acres of small wetlands are scattered throughout the watershed, with an average size of 3.6 acres (Figure 2-4). The National Wetland Inventory data suggests that there were once an additional 1,895 wetlands totaling 1,358 acres present in the watershed that no longer exist. The largest existing wetland is a 169 acre wetland complex in the southern portion of the watershed, which is adjacent to the Yellow River upstream from Plymouth (Figure 2-4). Nearly all of the wetland ecosystems in watershed are located on private land. It is likely that a portion of the wetlands on privately owned land are used by stakeholders for recreational activities such as waterfowl hunting. There is one protected wetland in the watershed located near Atwood in Kosciusko County. This is the location of the Glenwood Nature Preserve owned and managed by Acres Land Trust.

Seasonal changes result in significant variation in the discharge of the Yellow River. Historically, the spring months of March and April exhibit the greatest mean discharge (Figure 2-5). During these spring months the annual snowmelt combined with increasing precipitation results in dramatic increases in discharge over short periods of time. The peak discharge for the Yellow River was 5,390 cubic feet per second (cfs) in October of 1954. Conversely, the late summer months of August and September exhibit the lowest mean discharge (Figure 2-5). The dramatic increases in discharge that regularly occur in the Headwaters Yellow River watershed pose flooding risks for residents of the watershed.

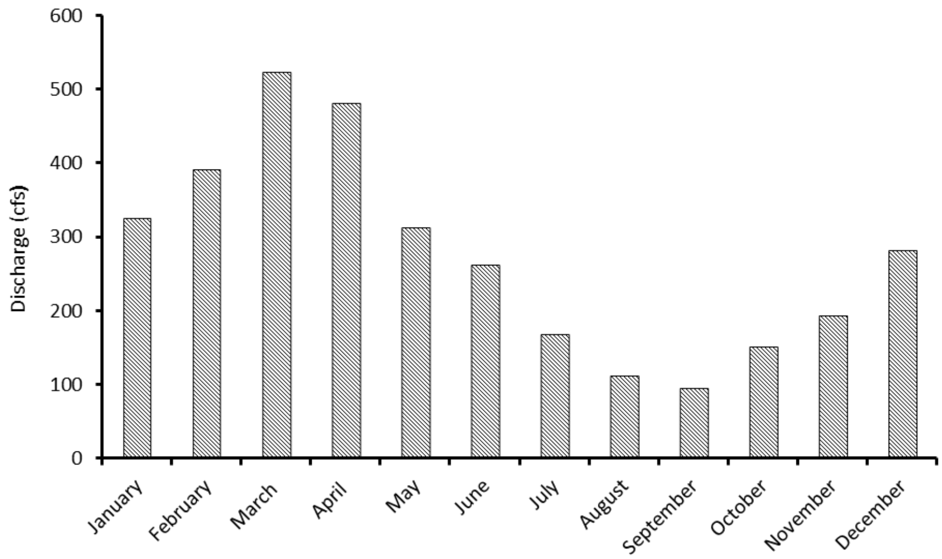

Figure 2-5. Mean (1948-2014) monthly discharge at USGS gauging station (05516500), located on the Yellow River in Plymouth, Indiana.

While flooding in the Headwaters Yellow River Watershed was not a primary area of concern to stakeholders, flooding concerns do exist in the watershed. Figure 2-6 displays areas of the watershed that have been determined to have a 0.2 to 1.0% chance of annual flooding. Approximately 7.0% or 13,285 acres of the Headwaters Yellow River Watershed are classified under this flooding category. Of the five populated areas in the watershed three do not appear to be located in floodplains including Lakeville, La Paz, and Nappanee (Figure 2-6). However, portions of Plymouth and Bremen are located in floodplains. Bremen has the potential to flood on the west side of town where the Yellow River flows past town and on the northeast side of town where Armey Ditch flows through town (Figure 2-6). Plymouth has the potential for flooding along the Yellow River and along Elmer Seltenright Ditch on the north side of town (Figure 2-6).

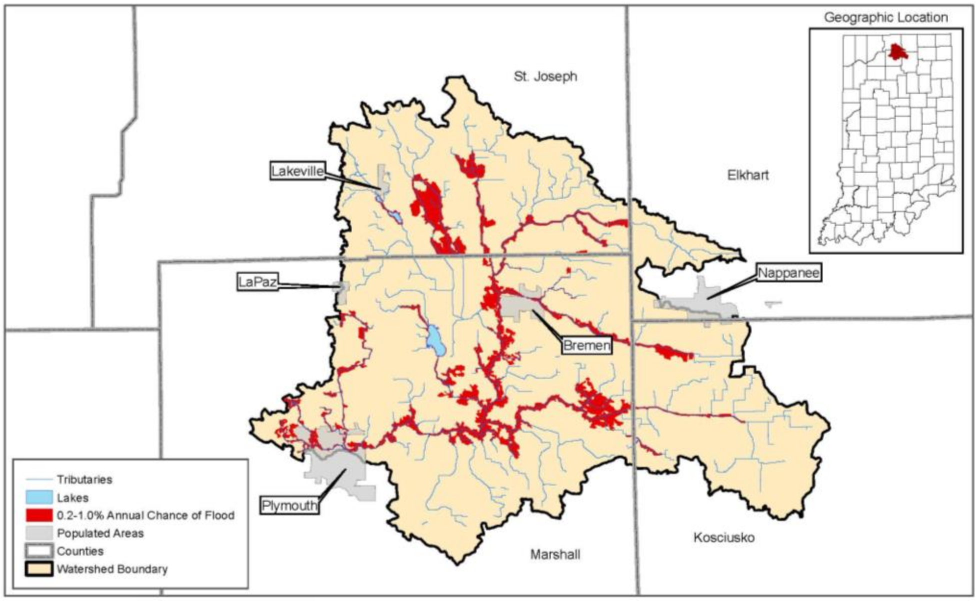

Figure 2-6. FEMA Areas Designated as 0.2-1.0% Annual Chance of Flood in the Headwaters Yellow River Watershed.

2.3 Soils

The soil types present in a watershed greatly influence hydrologic processes. Soils have unique characteristics that influence infiltration rates, erosion, and hydrology. The Headwaters Yellow River watershed contains a total of 175 soil associations, which are provided in Appendix A. Crosier loam (0-1% slopes) is the most common soil association, comprising 22% of the watershed (Appendix B). The second most common soil association is Brookston loam (0-1% slopes), comprising 14% of the watershed (Appendix B). The remaining soil associations individually account for less than 10% of the watershed (Appendix B). Each of these soil associations have unique characteristics that influence watershed-scale processes.

Hydrologic soil groups (HSG's) are determined by the water transmitting soil layer with the lowest saturated hydraulic conductivity and depth to any layer that is more or less impermeable or depth of water table (United States Department of Agriculture 2007). The four HSG categorizes are A, B, C, and D soils. Soils in HSG A have the lowest runoff potential and transmit water freely through the soil, while groups the remaining groups (B, C, and D) have increasing levels of runoff potential and decreasing water transition rates. The runoff potential and water transmission characteristics of each HSG are described in Table 2-3. The primary HSG's in the watershed are B/D (35%), followed by C/D (30%) and B (17%). There is only 1% of the watershed in the HSG C. The eastern portion of the watershed is dominated by B/D and C/D soils, while the western portion of the watershed has a greater portion of A, A/D, and B soils (Figure 2-7). HSG soil classification are closely linked to the location and quantity of hydric soils in the watershed.

Table 2-3. Characteristics of the HSG's of the Headwaters Yellow River watershed (United States Department of Agriculture 2007).

Hydrologic Soil Groups	Runoff Potential	Water Transmission Rate
A	Low	High
B	Moderately Low	Moderate
C	Moderately High	Low
D	High	Very Low

*If Group-D soils within 24 inches of the water table can be adequately drained they are assigned a dual HSG (A/D, B/D, and C/D). The first letter applies to the drained condition and second applies to the undrained condition.

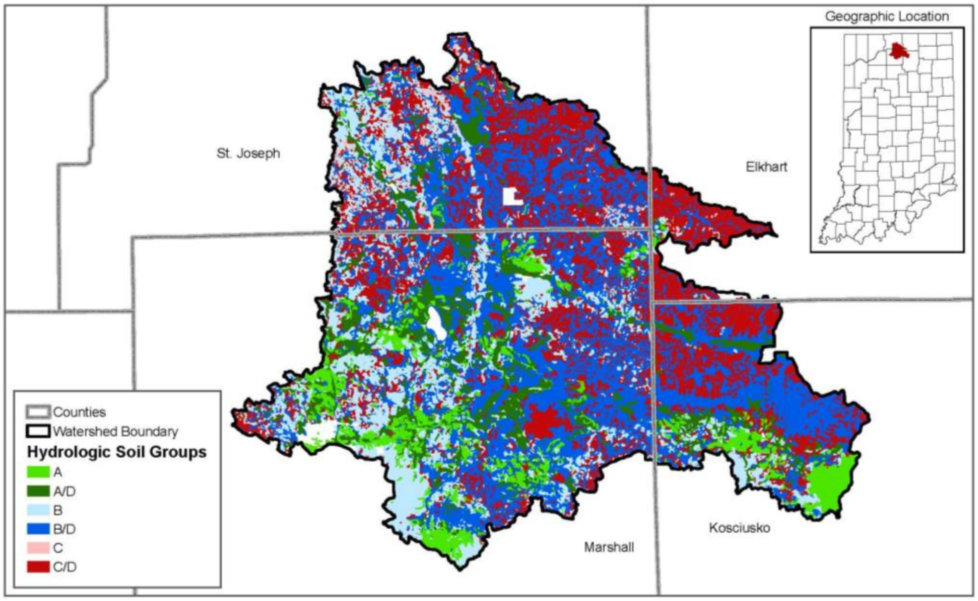

Figure 2-7. NRCS Soil Survey Hydrologic Soil Groups in the Headwaters Yellow River Watershed.

Hydric soils are soils that form under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The Headwaters Yellow River watershed contains a combination of soils that are classified as all hydric, partially hydric, and not hydric. Partially hydric soils account for 58% of the watershed, followed by not hydric at 30%, and all hydric at 12%. The southeastern portion of the watershed contains a significant portion of the hydric soils, while the southwest portion of the watershed contains a significant amount of none hydric soils (Figure 2-8). Partially hydric soils are scattered throughout the watershed, however they are particularly common in the northern portion of the watershed in the southeastern portion of St. Joseph County. (Figure 2-8).

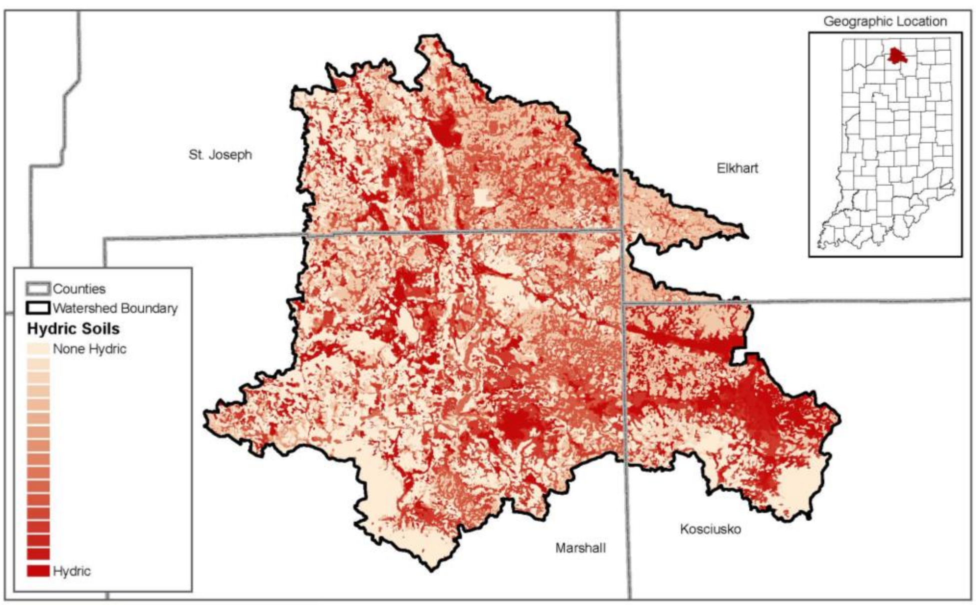

Figure 2-8. NRCS Soil Survey Hydric Soils in the Headwaters Yellow River Watershed.

Many of the soil types in the Headwaters Yellow River are more susceptible to erosion by wind and water. Identifying areas of the watershed that are more susceptible to erosion can assist with the prioritization of conservation efforts to limit soil loss in the Headwaters Yellow River watershed. Approximately 84% of the Headwaters Yellow River watershed is slightly susceptible to erosion. The majority of the slightly erodible soils are located in the eastern portion of the watershed (Figure 2-9). It should be noted that the majority of the soils in the Kosciusko portion of the watershed are slightly erodible. Approximately 14% of the Headwaters Yellow River watershed is moderately susceptible to erosion. The majority of the moderately erodible soils are located in St. Joseph and Marshall Counties, in the western portion of the watershed (Figure 2-9). Less than 1% of the soil in the watershed is severely susceptible to erosion. The soils classified as severely susceptible to erosion are scattered throughout Marshall and St. Joseph County (Figure 2-9).

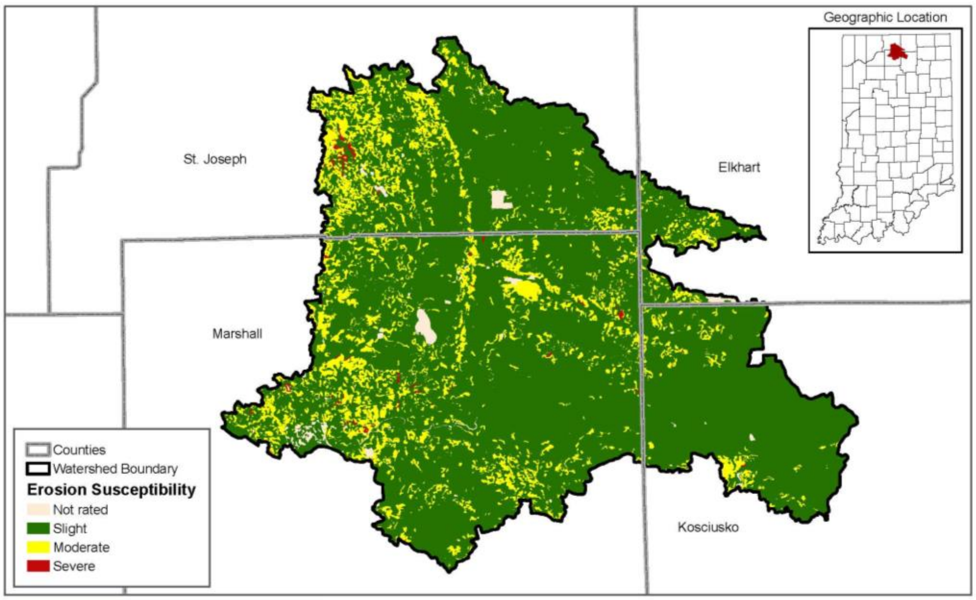

Figure 2-9. NRCS Soil Survey Soil Erosion Susceptibility in the Headwaters Yellow River Watershed.

The majority of the land area in the Headwaters Yellow River watershed is serviced by septic systems. Plymouth, Bremen, Nappanee, Lakeville, La Paz, and Lake of the Woods are only the portions of the watershed that are serviced by sewer systems. Therefore, an understanding of the location of soils with characteristics suitable or unsuitable for septic systems is necessary. Approximately 98% of the soils in the watershed are described as very limited for septic tank absorption fields, while only 1% are described as somewhat limited (Figure 2-10). Due to the widespread limitations in soil absorption for septic systems and the large number of rural residences in the watershed, septic tank design and maintenance should be an area of focus in the Headwaters Yellow River watershed.

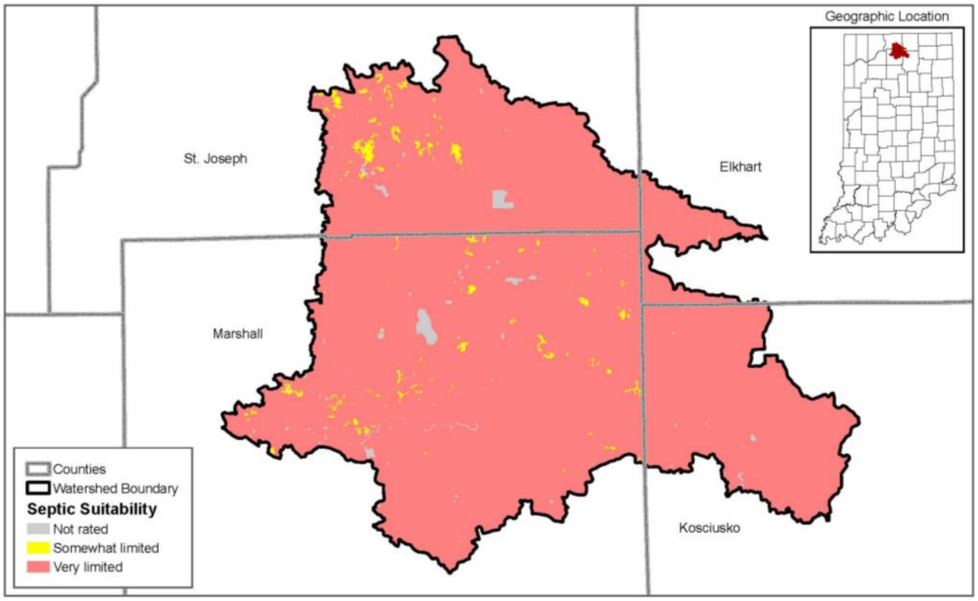

Figure 2-10. NRCS Soil Survey Septic Tank Absorption Suitability in the Headwaters Yellow River Watershed.

2.4 Land Use

Land use in the Headwaters Yellow River watershed is dominated by agriculture. Cultivated cropland comprises the majority of the watershed followed by deciduous forest, developed open space, hay/pasture, low intensity development, and woody wetlands (Table 2-4). The 2015 Natural Resource Conservation Service (NRCS) tillage transect survey suggests that approximately 19.5% of agricultural land dedicated to corn in the watershed was no-till and 49.3% of land dedicated to soybeans was no-till (Indiana State Department of Agriculture 2015). The primary areas of urban development are Plymouth, Bremen, Nappanee, La Paz, Lakeville, and Lake of the Woods (Figure 2-11). The remaining natural ecosystems in the watershed have been highly fragmented. Deciduous forest patches are isolated from each other and are commonly surrounded by a matrix of anthropomorphic land use such as development and row-crop agriculture (Figure 2-11). Deciduous forest fragments are scattered throughout the watershed, but many of the patches are concentrated along the western boundary of the watershed near Lakeville (Figure 3-10). Woody wetlands are concentrated largely along the mainstem of the Yellow River between Bremen and Plymouth, as well as the area east of Lakeville in St. Joseph County (Figure 2-11). The majority of the land in Headwaters Yellow River watershed is privately owned. There are a total of 124 acres of public land in the watershed including Centennial Park (68 acres), Sunnyside Park (24 acres), Lake of the Woods Public Access Site (2 acres), Pleasant Lake Public Access Site (3 acres), and the Lakeville Bike Trail (27 acres).

Table 2-4. Percentage and acreage of each land-use type in the Headwaters Yellow River Watershed.

Land-Use	% of Watershed	Acres
Open Water	0.4%	709
Developed, Open Space	5.4%	10,129
Developed, Low Intensity	2.1%	3,880
Developed, Medium Intensity	0.4%	830
Developed, High Intensity	0.3%	577
Barren Land	0.0%	90
Deciduous Forest	7.2%	13,468
Evergreen Forest	0.2%	367

Land-Use	% of Watershed	Acres
Mixed Forest	0.0%	9
Shrub/Scrub	0.3%	511
Herbaceous	0.2%	345
Hay/Pasture	5.3%	9,903
Cultivated Crops	76.0%	142,307
Woody Wetlands	2.0%	3,752
Emergent Herbaceous Wetlands	0.2%	423

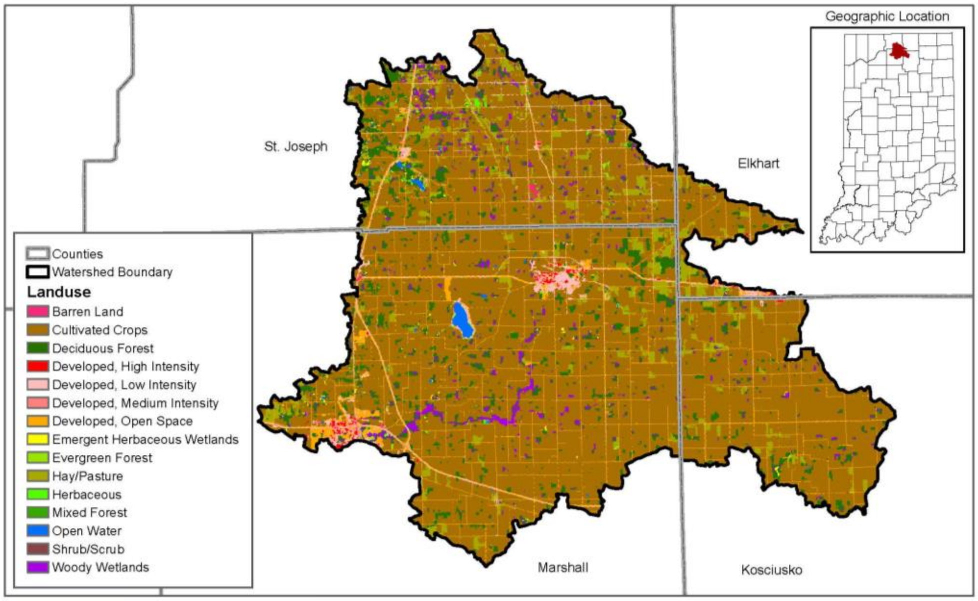

Figure 2-11. Spatial Distribution of each Land-use Type in the Headwaters Yellow River Watershed.

2.5 Other Planning Efforts

There are numerous planning efforts that have taken place or are currently taking place in the Headwaters Yellow River watershed. Figure 2-12 displays the location of each of the planning efforts in the watershed. In 2012 the Michiana Area Council of Governments (MACOG) sponsored a Watershed Management Plan (WMP) for the Heston-Stock Ditch subwatershed (Michiana Area Council of Governments 2012). The Heston-Stock Ditch subwatershed is located in the northwest portion of the Headwaters Yellow River watershed (Figure 2-12). Lake of the Woods is the largest lake in Headwaters Yellow River watershed and has been studied extensively (Figure 2-12). Lake of the Woods developed a diagnostic feasibility study in 1982 and a feasibility study in 1991 (Senft and Roberts 1982; Corporation Dynamac 1991). In 2005 the Kankakee River Basin Commission (KRBC) sponsored the completion of a WMP for Lake of the Woods in Marshall County (DJ Case and Associates 2005). The KRBC is also actively involved in the coordinating and planning of numerous ongoing conservation efforts in the Kankakee River Watershed. Pleasant and Riddles Lakes, which are located in the northwest portion the Headwaters Yellow River Watershed had a watershed diagnostic study and sediment removal plan completed in 2006 (JFNew 2006a; JFNew 2006b). A Total Maximum Daily Load (TMDL) Report was created for the Kankakee/Iroquois Watershed (Tetra Tech 2009), which includes the Yellow River watershed. Lastly, fisheries surveys were conducted on the Yellow River by the Indiana Department of Natural Resources (DNR) in 1987, 1989, and 2005 (Price 2005).

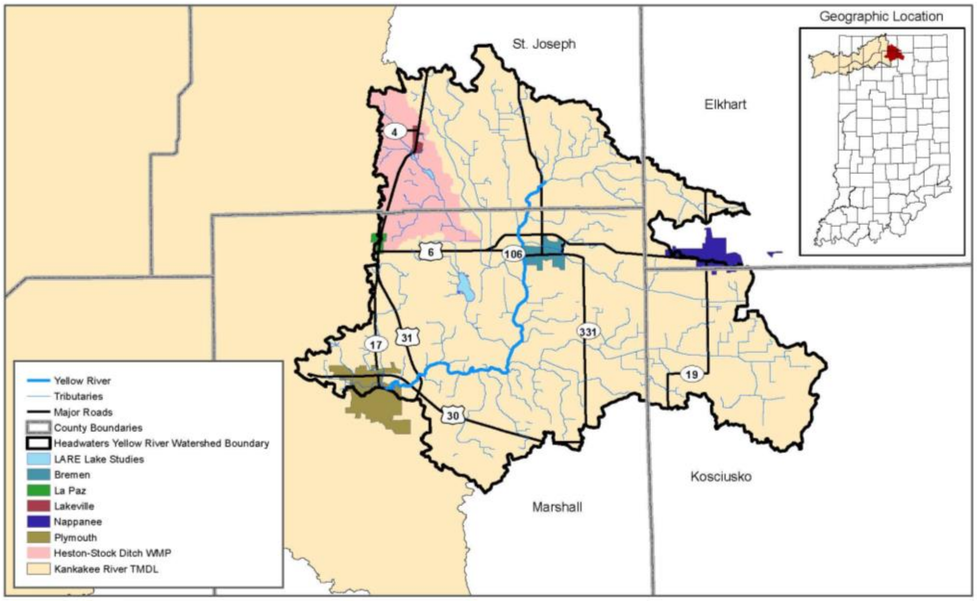

Figure 2-12. Spatial Distribution of Previous Planning Efforts in the Headwaters Yellow River Watershed.

In addition to studies sponsored by local non-profits, many of the local governments in the watershed have developed plans that contain information relevant to the Headwaters Yellow River WMP. Each of the counties in the Headwaters Yellow River watershed have County Comprehensive or Master Plans, which often contain sections regarding environmental objectives (Team Kosciusko County Area Plan Study 1996; Commissioners 2006; Marshall County 2013; HNTB and the St. Joseph County Area Plan Commission). Plymouth, which is the most populated municipality in watershed has a history of monitoring and planning projects to improve the water quality of the Yellow River. In 2002 the City of Plymouth prepared a study to monitor non-point source pollutants and explore ways to reduce pollutant inputs (Commonwealth Biomonitoring 2002). The City of Plymouth has also implemented practices to eliminate CSOs and reduce the frequency of overflows into the Yellow River. An examination was conducted in 2013 to monitor water quality following the implementation of these CSO improvements (Bright 2013). Lastly, the Plymouth Park and Recreation Department has received 2015 LARE funding to stabilize multiples areas of erosion along the Yellow River in Centennial Park.

2.6 Threatened and Endangered Species

The Indiana Department of Natural Resources has created a list of endangered, threatened, and rare species for each county in the state. An understanding of the endangered, threatened, and rare species is important to the watershed planning processes because of the potential to protect these species and the habitats they require. There are six endangered species, one threated species, and four rare species in the Headwaters Yellow River watershed (Table 3-4). The endangered species include the Yellow-headed blackbird (*Xanthocephalus xanthocephalus*), American Manna-grass (*Glyceria grandis*), Blanding's Turtle (*Emydoidea blandingii*), Kirtland's Snake (*Clonophis kirtlandii*), Thinleaf Sedge (*Carex sparganioides var. cephaloidea*), and Highbush-cranberry (*Viburnum opulus var. americanum*).

Photo: Blanding's Turtle (FWS 2015)

The Yellow-headed blackbird was documented near Plymouth where Highway 31 crosses the Yellow River. Yellow-headed blackbirds nest in marshes and forage in pastures (Sibley 2003). The American Manna-grass was documented near the Yellow River, south of Bremen and generally grows in shallow water areas such as wetlands (Gleason and Cronquist 1991). Both the Blanding's Turtle and Kirtland's Snake were documented near Lakeville in St. Joseph County. Blandings Turtles prefer productive clean shallow water habitats (Ernst and Lovich 2009), while Kirkland's Snakes prefer open grassy areas on the edge of waterbodies (Ernst and Ernst 2003). Lastly, both the Thinleaf Sedge and Highbush-cranberry were documented near the Plymouth Airport in Marshall County. Thinleaf Sedge grows in dry woods and Highbush-cranberry grows in moist woods (Gleason and Cronquist 1991). The only high quality natural community in the watershed is a 40 acre circumnuetral bog, located near Atwood in Kosciusko County. This is the location of the Glenwood Nature Preserve owned and managed by Acres Land Trust. The state threatened Slender Cotton-grass (*Eriophorum gracile*) is located in this circumnuetral bog. The full listing of endangered, threatened, and rare species for the Headwaters Yellow River watershed is provided in Table 3-4.

Table 3-4. Endangered, threatened and rare species in the Headwaters Yellow River Watershed (Indiana Department of Natural Resources 2015).

Scientific Name	Common Name	State Status	Type
Tofieldia glutinosa	False Asphodel	SR	Vascular Plant
Xanthocephalus xanthocephalus	Yellow-headed Blackbird	SE	Bird
Platanthera orbiculata	Large Roundleaf Orchid	SX	Vascular Plant
Glyceria grandis	American Manna-grass	SE	Vascular Plant
Diervilla lonicera	Northern Bush-honeysuckle	SR	Vascular Plant
Taxidea taxus	American Badger	SSC	Mammal
Emydoidea blandingii	Blanding's Turtle	SE	Reptile
Panax trifolius	Dwarf Ginseng	WL	Vascular Plant
Pinus strobus	Eastern White Pine	SR	Vascular Plant
Gnaphalium macounii	Winged Cudweed	SX	Vascular Plant
Campeloma decisum	Pointed Campeloma	SSC	Mollusk Gastropod
Clonophis kirtlandii	Kirtland's Snake	SE	Reptile
Campeloma decisum	Pointed Campeloma	SSC	Mollusk Gastropod
Poa alsodes	Grove Meadow Grass	SR	Vascular Plant
Wetland - bog circumneutral	Circumneutral Bog	SG	High Quality Natural Community
Lymnaea stagnalis	Swamp Lymnaea	SSC	Mollusk Gastropod
Eriophorum gracile	Slender Cotton-grass	ST	Vascular Plant
Carex sparganioides var. cephaloidea	Thinleaf Sedge	SE	Vascular Plant
Viburnum opulus var. americanum	Highbush-cranberry	SE	Vascular Plant

SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list

2.7 Summary

The Headwaters Yellow River watershed is a 187,300 acre watershed that has limited topographical relief as the result of receding of the Wisconsin Glacier. The glacial events that occurred 70,000 years ago have also shaped the soil and hydrology of the watershed. The watershed contains significant amounts of partially hydric soils, which are scattered throughout the lower elevation areas of the watershed. Malfunctioning septic systems are likely present in the watershed considering 98% of the soils in the watershed are very limited for septic tank absorption fields. Therefore, failing septic systems should be considered a potential source of pathogens to the many streams in the watershed that are impaired for *E. coli*.

The topography of the watershed has formed twelve subwatersheds, each of which contains unique combinations of lentic and lotic habitats. The Headwaters Yellow River watershed contains three primary lakes, all of which are on the IDEM list of impaired waterbodies. As a result of these impairments each of these lakes has been extensively studied by local, state, and federal agencies in order to improve water quality. Streams of the watershed are largely fed by overland flow and the 154 miles of closed drains in the watershed. The extensive drain networks present in the watershed are a reflection of the dominance of agricultural and developed land uses in the watershed. Flooding is a common occurrence in the watershed, especially during the spring months of March and April. Plymouth and Bremen are the primary urban areas in the watershed with flooding risks.

The land use of the watershed is dominated by row-crop agriculture, with limited use of no-till and cover crop practices relative to other Indiana counties. In 2015 Approximately 14% of the row crop agricultural land dedicated to corn and 24% of the land dedicated to soybeans utilized no-till practices. Considering the widespread distribution of row-crop agricultural lands in the watershed, significant opportunities exist to promote the use of no-till practices in the watershed. The increased use of no-till practices in the watershed would improve soil health and aide in the reduction of non-point source pollutants from row-crop agriculture. Natural ecosystems are rare in the Headwaters Yellow River watershed and the majority of the natural ecosystems that remain in the watershed are not protected.

The most common natural ecosystems in the watershed are deciduous forest fragments and woody wetlands. However, there is one high quality natural area present in the watershed at the Glenwood Nature Preserve. This preserve is location of a circumneutral bog, which contains multiple rare plant species. Many of the remaining state endangered, threated, and rare species have been observed in the watershed in proximity to the limited natural areas that remain in the watershed. Of the 187,300 acres of land in the watershed, only 124 acres (<1%) is publicly owned. Therefore, future efforts to address the concerns of the watershed will need to work closely and in cooperation with private landowners.

3 Water Quality Monitoring Results

Water samples, macroinvertebrate surveys, and habitat surveys were completed at twelve separate sampling locations in the Headwaters Yellow River watershed from June 2015 through May 2016. Figure 3-13 displays the geographic location of each sample site in the watershed. Water samples were collected from each sample site on a monthly basis during the sampling period. During the sampling period multiple stormflow and baseflow events were captured, providing a broad representation of the condition of each stream. Lastly, macroinvertebrate and habitat surveys were completed at each site in August 2015. The subsequent sections provide a summary of the water quality, macroinvertebrate, and habitat data as well as an analysis of the trends observed in the watershed. The raw data for all parameters is provided in Appendix B.

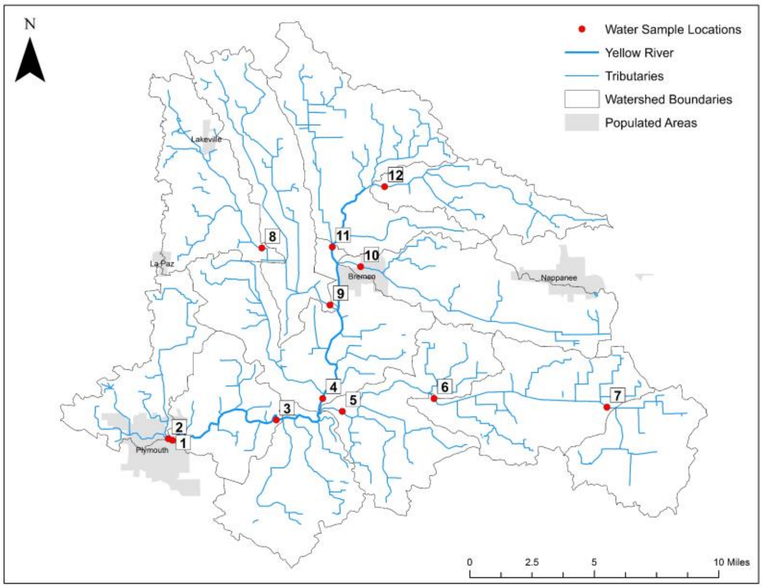

Figure 3-13. Geographic location of each sample site in the Headwaters Yellow River Watershed.

3.1 Nutrients, *E. coli*, and Sediment

3.1.1 Phosphorus

Over the twelve month sampling period approximately 33% of all water samples collected in the watershed exceeded state water quality standards for phosphorus. The highest average total phosphorus concentration in the Headwaters Yellow River watershed was observed at sample site #12, while the lowest average total phosphorus concentration was observed at sample site #7 (Figure 3-14). The Dausman Ditch drainage (sample site #5, #6, and #7) had low average total phosphorus concentrations relative to other portions of the watershed (Figure 3-14). The estimated annual phosphorus load using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) model for the Headwaters Yellow River watershed was 129,538 pounds per year.

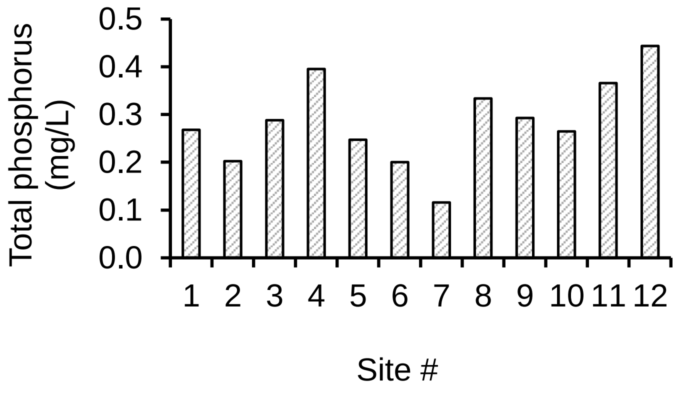

Figure 3-14. Average total phosphorus concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.

3.1.2 Nitrogen

Over the twelve month sampling period approximately 15% of all water samples collected in the watershed exceeded state water quality standards for nitrate-N+nitrite-N. The highest average nitrate-

N+nitrite-N concentration in the Headwaters Yellow River watershed was observed at sample site #12, while the lowest average nitrate-N+nitrite-N concentration was observed at sample site #2 (Figure 3-15). The Dausman Ditch drainage (sample site #5, #6, and #7) had low average total phosphorus concentrations relative to other portions of the watershed, however nitrate-N+nitrite-N concentrations are relatively high (Figure 3-15). The estimated annual nitrogen load using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) model for the Headwaters Yellow River watershed was 652,625 pounds per year.

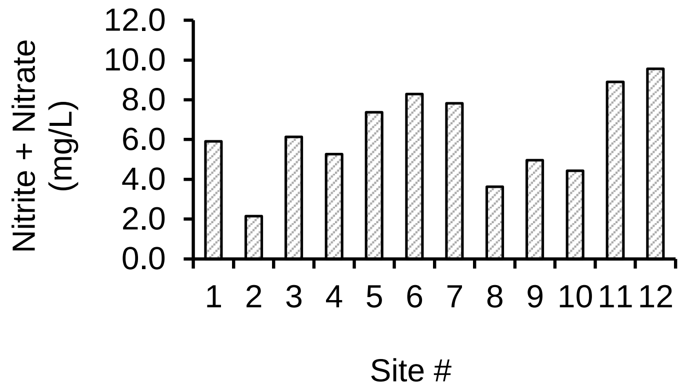

Figure 3-15. Average nitrate-N+nitrite-N concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.

3.1.3 E. coli

The Indiana water quality standard for one grab sample per month of *E. coli* is 235 cfu/100mL. Average *E. coli* concentrations exceed this water quality standard at each sample site in the Headwaters Yellow River watershed (Figure 3-16). Sample site #12 (Lateral Ditch No. 5 subwatershed) had the highest average *E. coli* concentration, while sample site #7 (Fleugel Ditch subwatershed) had the lowest average *E. coli* concentration (Figure 3-16). *E. coli* concentrations regularly exceeded 235 cfu/100mL during both stormflow and baseflow conditions. Approximately, 69% of all of the water samples collected in the watershed exceeded state standards for *E.coli*.

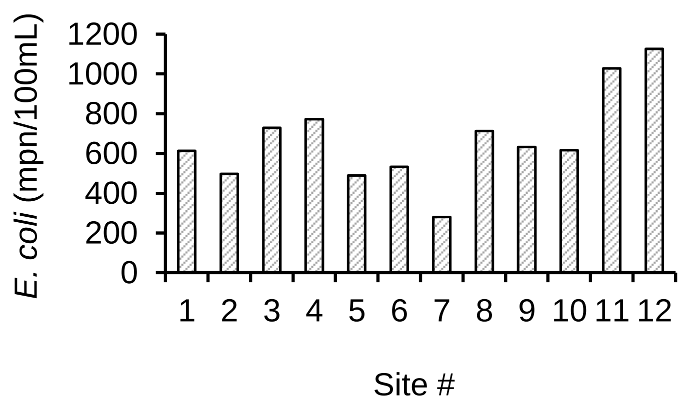

Figure 3-16. Average *E. coli* concentration (mpn/100mL) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.

As a result of the high *E. coli* concentrations that were observed during baseflow conditions additional *E. coli* samples were collected on May 18th, 2016 and submitted for source tracking analysis. Source tracking samples were collected at three samples sites along the Yellow River. Sample sites included site #1 (Centennial Park, Plymouth), site #4 (7th Road, Marshall County), and site #11 (1st Road, Marshall

County). One additional sample was collected from Lateral No. 5 at site #12 (Elm Road, St. Joseph County), which has a history of high *E. coli* concentrations. Samples collected from the Yellow River suggest that the primary source of *E. coli* to the Yellow River is human in origin (Figure 3-17). In fact, 80% of the *E. coli* at site #4 was human in origin (Figure 3-17). The sample collected from Lateral No. 5 suggests that the sources of *E. coli* to the stream are equally distributed between human and animal (Figure 3-17).

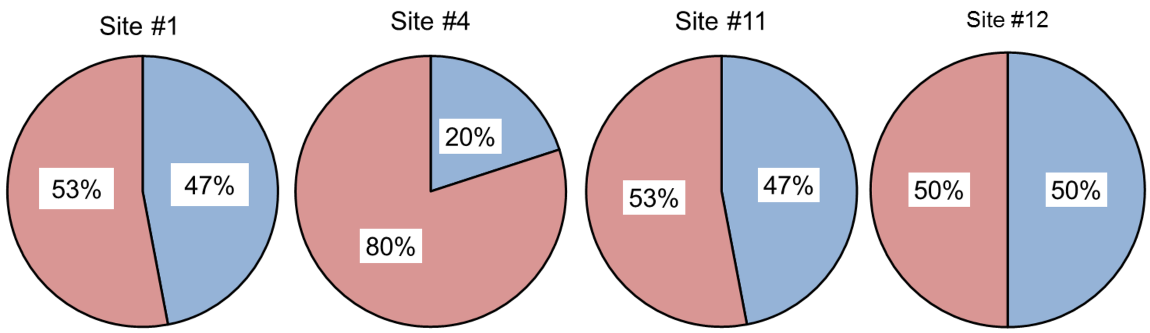

Figure 3-17. Source tracking of *E. coli* samples collected on May 18th, 2016. Red represents the percentage of *E. coli* from human sources and blue represents the percentage of *E. coli* from animal sources.

3.1.4 <u>Sediment</u>

During the twelve month sampling period the average total suspended solids (TSS) concentration leaving the Headwaters Yellow River watershed was 9.4 mg/L (Figure 3-18). The average TSS concentration is generally higher further upstream in the watershed, with higher average TSS concentrations at each of the sample sites (sample sites #3, #4, and #11) along the mainstem of the Yellow River (Figure 3-18). Sample sites #4 and #9 appear to be significant areas of the sediment contribution (Figure 3-18). However, the average TSS concentration for these sites may be skewed to temporary drainage maintenance activities that were taking place during some sampling events. This data also suggests that a high proportion of the sediment being transported from headwater drainages to the Yellow River drops out of the water column before reaching Plymouth. There are a large number of floodplain wetlands between Bremen and Plymouth that likely promote the removal of sediment during storm flow events (Figure 2-4). The estimated annual sediment load using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) model for the Headwaters Yellow River watershed was 24,193 tons per year.

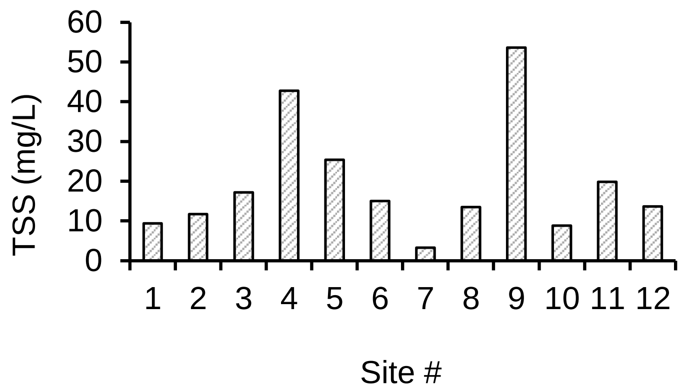

Figure 3-18. Average TSS concentration (mg/L) for each sample location in the Headwater Yellow River watershed from June 2015 through May 2016.

3.2 mIBI and QHEI

3.2.1 mIBI

Figure 3-19 describes the health of the macroinvertebrate community for each sample site using the mIBI. The mIBI is a biotic index that uses macroinvertebrate community structure as an indicator of stream impairment. Sample sites #1, #3, #4, #5, #6, and #9 scored between 4 and 6 on the mIBI indicating that each of these streams is slightly impaired (Figure 3-19). Sample sites #2, #7, #8, #10, #11, and #12 scored between 2 and 4 on the mIBI indicating that each of these streams is “moderately impaired” (Figure 3-19). There were no streams in the watershed that are categorized as “non-impaired” or “severely impaired” on the mIBI.

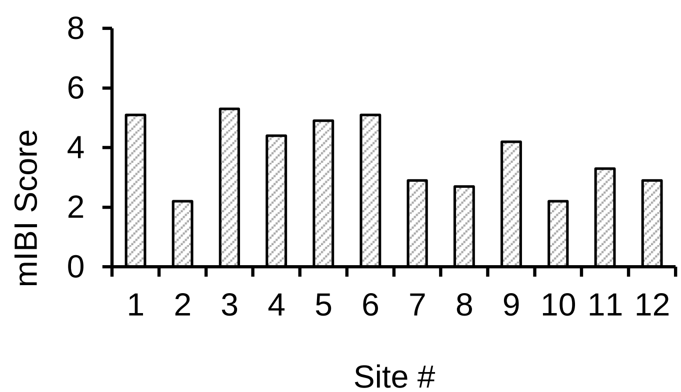

Figure 3-19. Comparison of mIBI scores for each sample site in the Headwaters Yellow River watershed. Based on the IDEM mIBI protocol severely impaired streams have a score between 0 and 2, moderately impaired streams are between 2 and 4, slightly impaired streams are between 4 and 6, and non-impaired streams are between 6 and 8.

3.2.2 QHEI

Figure 3-20 describes the available habitat at each sample site using the Qualitative Habitat Evaluation Index (QHEI). Sample site #2 had the highest QHEI score in the watershed and is categorized as having “good” habitat (Figure 3-20). Sample site #1, #3, #6, and #11 are the remaining samples sites categorized as having “good” habitat (Figure 3-20). Sample site #9 and #12 had QHEI scores between 43 and 54, which categorizes these sites as “fair” habitat (Figure 3-20). Sample site #4, #5, #7, #8, and #10 had QHEI scores between 30 and 42, which categorizes these sites as “poor” habitat (Figure 3-20). There were no streams in the watershed that scored in the "excellent" or "very poor" habitat category. The majority of the headwater streams in the watershed and the upper portion of the Yellow River lack riparian vegetation. Riparian corridors become more common along the lower portion of the Yellow River between Plymouth and 7th Road in Marshall County.

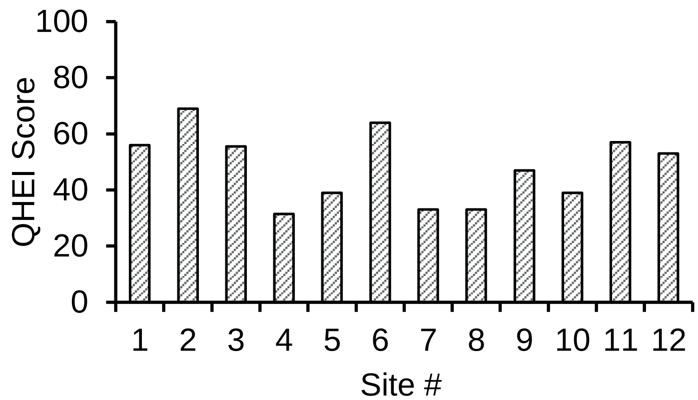

Figure 3-20. Comparison of QHEI scores for each sample site in the Headwaters Yellow River watershed. Based on the QHEI protocol, sites with scores <30 are very poor, 30 to 42 are poor, 43 to 54 are fair, 55 to 69 are good, and >70 are excellent.

3.3 Analysis of Trends

The water quality data collected from June 2015 through May 2016 in the Headwaters Yellow River watershed demonstrates that there are spatial differences in the contribution of nutrients, *E. coli*, and sediment to the Yellow River. The export of nutrients to the Yellow River appears to be influenced partially by the soils of the watershed. Hydric soils are common in Dausman Ditch, Lemler Ditch, and Fleugel Ditch subwatersheds (sample site #5, #6, and #7). Each of these subwatersheds had relatively high nitrate-N+nitrite-N concentrations and relatively low concentrations of total phosphorus. This suggests that the Dausman Ditch, Lemler Ditch, and Fleugel Ditch subwatersheds are exporting greater quantities of nitrogen via subsurface flow. The remainder of the watershed contains less hydric soil, therefore greater quantities of phosphorus are exported to the Yellow River via erosion. This is supported by relatively low TSS concentrations in areas of the watershed dominated by hydric soils and relatively high TSS concentrations in areas of the watershed with little hydric soil.

E. coli concentrations are the primary cause of stream impairment in the watershed and water samples collected from June 2015 through May 2016 suggest that *E. coli* concentrations exceed state water quality standards throughout the watershed. While *E. coli* concentrations regularly exceed state water quality standard at all sample sites, the northeastern portion of the watershed appears to have the highest concentrations. The Lateral Ditch No. 5 subwatershed had the both the highest average concentration of total phosphorus and *E. coli*. This suggests that fecal contamination is a significant source of *E. coli* and phosphorus to the Lateral Ditch No. 5 subwatershed. Source tracking samples collected during the spring of 2016 demonstrate that human and animal fecal waste are sources of *E. coli* and phosphorus to Lateral Ditch No. 5 and the Headwaters Yellow River watershed as a whole. Therefore, the increased implementation of agricultural BMP's and improved human waste treatment practices will need to be addressed to reduce *E. coli* concentrations. Lastly, macroinvertebrate (mIBI) and habitat (QHEI) surveys demonstrate that the biotic communities of many of the streams in the watershed are impacted by pollutants and/or habitat.

4 Institutional Resources

There are several federal, state, local, and non-profit organizations that provide watershed restoration related resources. The recommendations described in Section 5 should be used to obtain funding resources from these organizations and/or build mutually beneficial partnerships. The subsequent sections describe agencies and organizes that could provide valuable resources.

4.1 Indiana Department of Natural Resources (IDNR)

The goal of the Division of Fish and Wildlife's Lake and River Enhancement (LARE) Section is to protect and enhance aquatic habitat for fish and wildlife, to insure the continued viability of Indiana's publicly accessible lakes and streams for multiple uses, including recreational opportunities. This is accomplished through measures that reduce non-point sediment and nutrient pollution of surface waters to a level that meets or surpasses state water quality standards. Each year the LARE program provides fund to assist with aquatic vegetation management, engineer design projects, engineering feasibility studies, lake diagnostic studies, watershed diagnostic studies, and sediment removal plans. The future acquisition of LARE funds and technical assistance will be essential to the implementation of urban and agricultural BMP’s in the watershed.

The use of IDEM funding and technical assistance will be essential to the implementation of urban and agricultural BMP’s in the watershed.

4.2 Indiana Department of Environmental Management (IDEM)

The mission of the Indiana Department of Environmental Management (IDEM) is to implement federal and state regulations to protect human health and the environment while allowing the environmentally sound operations of industrial, agricultural, commercial and governmental activities vital to a prosperous economy. The mission of IDEM’s Office of Water Quality (OWQ), under the oversight of the Assistant Commissioner of OWQ, is to concentrate on fulfilling IDEM’s mission where water quality is concerned. More specifically, OWQ is responsible for protecting public health and the environment by assessing the quality of surface water and groundwater through biological and chemical testing; regulating and monitoring drinking water supplies (including wellhead protection), wastewater treatment facilities and the construction of such facilities; and, protecting wetlands for proper drainage, flood protection and wildlife habitat. OWQ serves the citizens of Indiana through fulfilling responsibilities as set forth in the Clean Water Act. The use of IDEM funding and technical assistance will be essential to the implementation of urban and agricultural BMP’s in the watershed.

4.3 Natural Resource Conservation Service (NRCS)

NRCS offers voluntary programs to eligible landowners and agricultural producers to provide financial and technical assistance to help manage natural resources in a sustainable manner. Through these programs the agency approves contracts to provide financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land. The NRCS also provides technical assistance through its voluntary Conservation Technical Assistance Program (CTA). CTA is available to any group or individual interested in conserving our natural resources and sustaining agricultural production. The use of NRCS financial and technical assistance will be essential to the implementation of agricultural BMP’s in the watershed.

4.4 Hoosier River Watch

Hoosier Riverwatch is a program of the Indiana Department of Environmental Management, Office of Water Quality, Watershed Assessment and Planning Branch. The program began in 1996 to increase public awareness of water quality issues and concerns by training volunteers to monitor stream water quality. This resource should be utilized in the future to monitor potential water quality improvements following conservation efforts.

4.5 Indiana Clean Lakes Program

The Indiana Clean Lakes Program was created in 1989 as a program within the Indiana Department of Environmental Management's (IDEM) Office of Water Management. The program is administered through a grant to Indiana University's School of Public and Environmental Affairs (SPEA) in Bloomington. The Indiana Clean Lakes Program is a comprehensive, statewide public lake management program having five components including public information, technical assistance, volunteer lake monitoring, lake water quality assessment, and coordination with other state and federal lake programs.

4.6 Center for Lakes and Streams

The Center for Lakes & Streams at Grace College conducts research, provides resources, engages and educates residents, and collaborates with local organizations in efforts to make the lakes and streams of Kosciusko County cleaner. The Center for Lakes and Streams has a database of containing water quality data and other resources pertaining to the streams in Kosciusko County. This resource should be utilized in the future to monitor potential water quality improvements following conservation efforts.

4.7 Kankakee River Basin Commission

The Kankakee River Basin Commission was created by the Indiana General Assembly in 1977. The Commission represents eight County Soil and Water Conservation Districts in Northwest Indiana; Jasper, Lake, LaPorte, Marshall, Newton, Porter, Stark and St. Joseph. The Commission is composed of 24 members: a representative from each of the eight Boards of County Commissioners, the eight county surveyors or their designated employee, and a supervisor of the eight Soil and Water Conservation Districts. The KRBC was established to coordinate development in the Basin and has, since established, sought to plan and coordinate the many environmental demands placed upon the Kankakee River, its tributaries, and all the land around it. This includes flood control and drainage, as well as recreation, water quality and supply, hunting and fishing, wetlands preservation and upland soil erosion.

5 Management Recommendations

5.1 Recommended Management Measures

There are several BMP’s and management measure that can be implemented in order to reduce non-point source pollutants in surface waters and address the concerns of watershed stakeholders. The following section will describe the BMP’s and management measures that are recommended in order to improve water quality and habitat in the Headwaters Yellow River watershed. The majority of the land use in the Headwaters Yellow River watershed is agricultural. Therefore, there are many agricultural BMP’s that are recommended to be implemented throughout the watershed. No-till farming practices and cover crop utilization in the watershed is low, which suggests that there are opportunities to promote and increase the future utilization of these practices throughout the watershed. No-till farming practices have been shown to reduce soil erosion and sediment bound phosphorus to surface waters (Uri, Atwood, and Sanabria 1998). The benefits of cover crops vary based on the species that is used, however cover crops generally reduce soil erosion and nitrate leaching from row-crop agricultural land (Snapp et al. 2005). When no-till farming and cover crops are continuously combined together intro a conservation cropping system additional soil benefits are obtained including reduced soil compaction, improved soil structure, increased organic matter, and increased available nitrogen. Due to the numerous benefits and widespread applicability conservation cropping systems are recommend throughout the watershed.

Nutrient Reduction Recommendations

- Increase the implementation of conservation cropping systems through education, outreach, and promotion of financial assistance programs.
- Reduce streambank erosion by addressing stabilizing areas of existing erosion.
- Reduce rill erosion by promoting financial assistance programs for the installation of grassed waterways.
- In areas of the watershed with significant subsurface drainage promote the available financial assistance programs for the installation of blind inlets and saturated buffers.
- Protect, create, enhance, and restore wetlands by promoting financial assistance programs.
- Develop an education campaign to promote the use of phosphorus-free fertilizer in both urban and rural portions of the watershed.

E. coli Reduction Recommendations

- Where applicable apply livestock exclusion practices by promoting financial assistance programs.
- Where applicable install filter strips between pastures and streams by promoting financial assistance programs.
- Partner with applicable county health departments to identify septic system maintenance issues.
- Partner with applicable county health departments and other agencies to develop a financial assistance program to promote septic system maintenance and repair.

Sediment Reduction Recommendations

- Increase the implementation of conservation cropping systems through education, outreach, and promotion of financial assistance programs.
- Reduce streambank erosion by addressing stabilizing existing areas of existing erosion.
- Reduce rill erosion by promoting financial assistance programs for the installation of grassed waterways.
- Install and/or enlarge riparian corridors along streams by promoting financial assistance programs.
- In areas of the watershed with significant subsurface drainage promote the available financial assistance programs for the installation of blind inlets.
- Protect, create, enhance, and restore wetlands by promoting financial assistance programs.

Habitat Improvement Recommendations

- Increase the implementation of conservation cropping systems through education, outreach, and promotion of financial assistance programs.
- Install and/or enlarge riparian corridors along streams by promoting financial assistance programs.

- Protect, create, enhance, and restore wetlands by promoting financial assistance programs.

6 Conclusion

The streams of the Headwaters Yellow River watershed have both degraded habitat and water quality. Excess *E. coli* from both human and animal sources are common in the Headwaters Yellow River watershed during both stormflow and baseflow conditions. The introduction of fecal contamination to the streams in the watershed is also a significant source of nutrients. High phosphorus concentrations are common in the Armey Ditch, Headwaters Stock Ditch, Kline Rouch Ditch, Lake of the Woods, Milner Seltenright Ditch, Stone Ditch, West Bunch Branch Ditch, and Lateral Ditch No. 5 subwatersheds. However, the export of nitrogen into the Yellow River primarily originates from the Dausman Ditch, Lemler Ditch, Fleugel Ditch, and Lateral Ditch No. 5 subwatershed.

Due to the prevalence of agricultural land use in the watershed the implementation of agricultural BMP's will be critical to the restoration of water quality in the watershed. The greatest water quality and habitat improvements can be obtain through the increased implementation of long-term conservation cropping systems. The increase use of conservation cropping systems in the Lateral Ditch No. 5 subwatershed is critical due to the high nutrient concentrations observed during this study. Lastly, local agencies need to develop a financial assistance program to promote septic system maintenance and repair. Addressing the contributions of malfunctioning septic systems will reduce both bacterial and nutrient loading to the Yellow River watershed.

7 Literature Cited

Bright G. 2013. Stormwater and Combined Sewer Overflow Monitoring.

Burkholder J, Libra B, Weyer P, Heathcote S, Kolpin D, Thorne PS, Wichman M. 2007. Impacts of Waste from Concentrated Animal Feeding Operations on Water Quality. Environ. Health Perspect. 115:308–312.

Centner TJ. 2010. Land Use Policy Addressing water contamination from concentrated animal feeding operations. Land use policy 28:706–711.

Commissioners ECB of. 2006. 2006 Comprehensive Plan for Elkhart County, Indiana.

Commonwealth Biomonitoring. 2002. The Yellow River Water Quality Improvement Project.

Corporation Dynamac. 1991. Lake of the Woods Feasibility Study.

DJ Case and Associates. 2005. Lake of the Woods , Marshall County , Indiana Watershed Management Plan.

Ernst CH, Ernst EM. 2003. Snakes of the United States and Canada. Washington and London: Smithsonian Institution.

Ernst CH, Lovich JE. 2009. Turtles of the United States and Canada. 2nd ed. Baltimore: The Johns Hopkins University Press.

Gleason HA, Cronquist A. 1991. Manual of Vascular Plants of the Northeastern United States and Adjacent Canada. 2nd ed. New York: New York Botanical Garden.

Gregory S V, Swanson FJ, Mckee WA, Kenneth W, Swanson J, Cummins KW. 1991. An Ecosystem Perspective of Riparian Zones. Bioscience 41:540–551.

Groom MJ, Meffe GK, Carroll CR. 2006. Principles of Conservation Biology. 3rd ed. Sunderland.

HNTB and the St. Joseph County Area Plan Commission. Comprehensive Plan for South Bend and St. Joseph County, Indiana.

Indiana Department of Natural Resources. 2015. Indiana Natural Heritage Data Center.

Indiana State Department of Agriculture. 2015. Cover Crop and Tillage Transect Data. Soil Conserv.

Iverson G, O'Driscoll M, Humphrey C, Manda AK, Anderson-Evans E. 2015. Wastewater Nitrogen Contributions to Coastal Plain Watersheds, NC, USA. Water Air Soil Pollut. 226:325.

JFNew. 2006a. Pleasant and Riddles Lakes Watershed Diagnostic Study.

JFNew. 2006b. Pleasant and Riddles Lakes Sediment Removal Plan.

Lamba J, Karthikeyan KG, Thompson AM. 2014. Apportionment of suspended sediment sources in an agricultural watershed using sediment fi ngerprinting. Geoderma 239-240:25–33.

Lamba J, Thompson AM, Karthikeyan KG, Fitzpatrick FA. 2015. Geomorphology Sources of fi ne sediment stored in agricultural lowland streams ,. Geomorphology 236:44–53.

Law NL, Band LE, Grove JM. 2004. Nitrogen Input from Residential Lawn Care Practices in Suburban Watersheds in Baltimore County , MD. J. Environ. Plan. Manag. 47:737–755.

Marshall County. 2013. Marshall County, Indiana Comprehensive Plan.

Michiana Area Council of Governments. 2012. Heston-Stock Ditch Headwaters Including Pleasant and Riddles Lakes “ Pleasant and Riddles Lakes ; Preserving Water Resources .”

Price J. 2005. Yellow River 2005 Fish Management Report.

Senft H, Roberts K. 1982. Diagnostic Feasibility Study of Lake of the Woods.

Sibley DA. 2003. The Sibley Field Guide to Birds of Eastern North America. 1st ed. New York: Alfred A. Knopf.

Snapp SS, Swinton SM, Labarta R, Mutch D, Black JR, Leep R, Nyiraneza J, O’Neil K. 2005. Evaluating Cover Crops for Benefits, Costs and Performance within Cropping System Niches. Am. Soc. Agron. 97:322–332.

Sowah R, Zhang H, Radcliffe D, Bauske E, Habteselassie MY. 2014. Evaluating the influence of septic systems and watershed characteristics on stream faecal pollution in suburban watersheds in Georgia , USA. J. Appl. Microbiol. 117:1500–1512.

Sullivan TJ, Moore ÆJA, Thomas ÆDR, Mallery ÆE, Snyder KU, Wustenberg ÆM, Wustenberg ÆJ, Mackey ÆSD, Moore DL. 2007. Efficacy of Vegetated Buffers in Preventing Transport of Fecal Coliform Bacteria from Pasturelands. Environ. Manage. 40:958–965.

Team Kosciusko County Area Plan Study. 1996. Kosciusko County Comprehensive Plan.

Tetra Tech. 2009. Total Maximum Daily Load Report for the Kankakee/Iroquois Watershed.

United States Department of Agriculture. 2007. National Engineering Handbook.

Uri ND, Atwood JD, Sanabria J. 1998. An Evaluation of the Environmental Costs and Benefits of Conservation Tillage. Environ. Impact Asses. Rev. 18:521–550.

USEPA. 2015. A Homeowner’s Guide to Septic Systems. :1–16.

APPENDIX B

RAW DATA

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
1	6/30/2015	13:33	1017.0	18.2	5.95	7.67	539	0.707	9.48	0.069	0.498	0.396	27.30	45	0.76	2419.6
1	7/28/2015	13:45	224.0	23.3	4.75	8.39	674	0.729	5.40	0.059	0.325	0.191	10.70	10	N/A	686.7
1	8/26/2015	14:10	17.0	17.5	6.94	8.96	668	0.349	3.27	0.042	0.256	0.209	3.79	2	0.54	387.3
1	9/15/2015	13:42	18.0	17.6	7.00	8.66	690	0.228	3.48	0.066	0.26	0.213	3.93	2	N/A	248.1
1	10/29/2015	12:55	79.0	9.5	6.47	8.67	679	0.178	3.61	0.015	0.295	0.172	3.28	1	N/A	461.1
1	11/30/2015	12:55	105.0	5.5	10.12	7.84	700	0.966	6.14	0.052	0.232	0.188	4.70	3	N/A	285.1
1	12/14/2015	13:00	50.0	12.2	8.13	7.97	670	0.363	3.32	0.052	0.213	0.146	4.66	1	N/A	344.8
1	2/3/2016	13:00	303.0	5.3	11.44	7.92	655	0.951	6.28	0.178	0.39	0.277	27.70	9	N/A	1732.9
1	3/21/2016	13:10	198.0	7.2	11.37	7.82	504	0.448	7.40	0.050	0.157	0.157	6.92	6	N/A	275.5
1	4/13/2016	13:55	700.0	9.0	10.15	7.67	442	0.844	8.69	0.029	0.209	0.126	17.00	14	0.23	155.3
1	5/18/2016	9:10		12.6	9.24	7.35	482	0.668	8.31	0.040	0.228	0.168	17.90	15	N/A	135.4
1	5/31/2016	13:27		21.4	8.20	7.83	503	0.870	5.57	0.035	0.15	0.186	8.22	5	N/A	225.4

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
2	6/30/2015	13:48	37.0	18.7	6.73	7.66	526	0.619	3.27	0.068	0.337	0.330	12.30	12	0.57	920.8
2	7/28/2015	13:35	16.0	23.2	5.38	8.19	662	0.153	1.86	0.067	0.251	0.154	9.97	19	N/A	488.4
2	8/26/2015	14:30	14.0	16.6	9.50	9.14	787	0.220	1.68	0.031	0.117	0.074	5.64	1	<0.1	231
2	9/15/2015	13:30	15.0	17.6	8.10	8.74	776	0.325	1.64	0.035	0.092	0.035	7.74	5	N/A	365.4
2	10/29/2015	12:45	15.0	8.7	9.73	8.90	745	0.072	1.73	0.023	0.103	0.047	5.62	1	N/A	435.2
2	11/30/2015	12:45	16.0	6.4	11.11	7.89	716	1.010	2.54	0.034	0.076	0.080	4.30	4	N/A	116.2
2	12/14/2015	12:45	18.0	12.0	8.50	7.90	609	0.420	1.29	0.066	0.31	0.112	29.40	26	N/A	2419.6
2	2/3/2016	12:50	20.0	5.8	11.47	7.83	745	0.807	2.71	0.107	0.379	0.277	14.00	43	N/A	344.8
2	3/21/2016	12:55		7.7	11.30	8.03	564	0.560	2.46	0.041	0.302	0.267	4.76	7	N/A	46.4
2	4/13/2016	13:40		10.7	10.05	7.76	479	1.100	2.55	0.019	0.135	0.098	7.17	1	0.353	193.5
2	5/18/2016	8:50		11.0	8.43	7.17	509	0.702	2.35	0.046	0.245	0.137	17.20	19	N/A	151.5
2	5/31/2016	12:12		19.6	11.02	7.97	569	1.040	1.72	0.016	0.079	0.095	5.33	3	N/A	248.9

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
3	6/30/2015	13:03	790.0	18.1	5.85	7.70	550	0.909	9.01	0.063	0.46	0.410	17.40	31	1.47	1732.9
3	7/28/2015	13:00		24.0	4.72	8.13	678	4.750	6.00	0.052	0.307	0.182	20.60	29	N/A	920.8
3	8/26/2015	13:35		16.9	6.74	8.93	678	0.890	3.67	0.026	0.246	0.164	5.98	19	0.54	648.8
3	9/15/2015	12:30		17.4	6.92	8.60	688	0.326	3.70	0.062	0.278	0.179	7.91	2	N/A	866.4
3	10/29/2015	12:15		8.8	7.69	8.77	665	0.223	3.35	0.015	0.322	0.219	5.96	4	N/A	456.9
3	11/30/2015	12:20		5.1	9.01	7.92	702	0.955	6.23	0.054	0.235	0.167	5.52	9	N/A	325.5
3	12/14/2015	12:25		12.3	7.16	7.97	655	0.837	3.52	0.072	0.257	0.160	10.00	8	N/A	517.2
3	2/3/2016	11:55	303.0	5.4	1.44	7.12	642	0.908	7.17	0.215	0.67	0.200	65.70	68	N/A	2419.6
3	3/21/2016	12:25		5.9	11.15	7.98	507	0.493	7.53	0.039	0.153	0.153	7.66	2	N/A	328.2
3	4/13/2016	13:10		8.3	10.33	7.64	449	0.626	8.92	0.030	0.16	0.095	13.80	10	0.444	156.5
3	5/18/2016	9:40		11.9	9.68	7.49	480	0.763	8.62	0.038	0.193	0.187	18.70	16	N/A	191.8
3	5/31/2016	12:42		20.5	8.07	7.75	505	0.987	5.88	0.026	0.172	0.183	9.18	8	N/A	178.5

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
4	6/30/2015	12:35	564.0	18.6	6.02	7.71	520	1.220	8.30	0.066	0.446	0.400	26.10	274	1.72	2419.6
4	7/28/2015	12:15	89.0	24.3	5.16	8.22	678	0.000	5.09	0.053	0.352	0.216	12.00	14	N/A	579.4
4	8/26/2015	13:05		17.7	9.77	9.08	710	0.923	3.49	0.042	0.386	0.297	4.83	1	0.67	186.5
4	9/15/2015	12:00		20.1	7.75	8.66	719	0.840	3.82	0.074	0.483	0.379	6.38	6	N/A	816.4
4	10/29/2015	11:50		8.8	7.96	8.82	724	1.830	3.93	0.079	0.647	0.211	51.90	74	N/A	816.4
4	11/30/2015	11:40	21.0	4.9	11.30	7.76	704	0.778	6.42	0.063	0.295	0.219	5.12	6	N/A	435.2
4	12/14/2015	11:50		12.1	6.73	8.04	663	0.907	3.59	0.090	0.358	0.260	11.60	12	N/A	307.6
4	2/3/2016	11:35	236.0	5.1	11.24	7.80	640	1.430	7.26	0.296	0.976	0.276	90.70	96	N/A	2419.6
4	3/21/2016	12:00	174.0	6.4	11.33	8.02	492	3.000	4.21	0.042	0.153	0.153	6.62	4	N/A	686.7
4	4/13/2016	12:40		8.5	10.75	7.77	435	4.030	4.09	0.033	0.168	0.131	11.00	11	0.294	146.7
4	5/18/2016	10:10		12.0	9.14	7.58	469	0.841	7.81	0.064	0.272	0.192	16.50	12	N/A	307.6
4	5/31/2016	12:18		21.3	7.37	7.91	518	1.160	5.18	0.024	0.203	0.236	5.52	3	N/A	148.3

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
5	6/30/2015	12:15	228.0	17.5	6.37	7.64	645	0.000	12.80	0.079	0.247	0.239	12.60	22	0.43	488.4
5	7/28/2015	12:00	54.0	24.3	5.59	8.38	703	0.000	7.21	0.043	0.182	0.122	26.50	26	N/A	727
5	8/26/2015	12:45	11.0	18.9	6.78	8.99	670	0.624	4.07	0.031	0.124	0.076	5.76	8	<0.1	517.2
5	9/15/2015	11:40	5.0	18.6	7.30	8.63	626	0.524	3.13	0.039	0.067	0.050	5.45	8	N/A	461.1
5	10/29/2015	11:35	9.0	7.5	10.66	8.97	654	0.449	3.08	0.019	0.067	0.032	6.12	1	N/A	770.1
5	11/30/2015	11:55	18.0	5.3	10.18	7.89	722	0.576	6.12	0.044	0.09	0.030	8.18	3	N/A	365.4
5	12/14/2015	12:05	14.0	12.3	6.96	8.01	658	0.840	3.31	0.089	0.128	0.069	10.00	6	N/A	178.2
5	2/3/2016	11:20	94.0	5.3	11.09	7.68	591	2.010	9.37	0.388	1.5	0.242	270.00	201	N/A	1413.6
5	3/21/2016	11:45	54.0	5.7	12.06	7.80	521	0.797	9.83	0.034	0.258	0.215	10.30	11	N/A	307.6
5	4/13/2016	12:20	137.0	8.5	10.93	7.64	485	0.797	11.80	0.018	0.13	0.057	11.70	5	0.21	131.7
5	5/18/2016	10:35		12.0	10.17	7.66	506	0.513	11.00	0.023	0.14	0.084	15.10	12	N/A	235.9
5	5/31/2016	12:02		21.4	11.38	7.82	501	0.489	6.71	0.015	0.03	0.088	4.21	2	N/A	275.5

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
6	6/30/2015	11:00	123.0	17.0	6.20	7.45	672	0.000	14.00	0.044	0.212	0.189	10.20	21	0.1	387.3
6	7/28/2015	11:00	30.0	23.2	6.26	8.27	723	0.895	8.23	0.018	0.096	0.086	13.10	18	N/A	547.5
6	8/26/2015	11:15	1.0	17.7	8.46	8.97	695	0.720	5.36	0.015	0.075	0.041	2.73	4	<0.1	249.5
6	9/15/2015	10:34	1.0	17.1	8.24	8.63	671	0.375	4.45	0.038	0.066	0.036	4.48	2	N/A	686.7
6	10/29/2015	10:40	1.0	6.6	9.93	8.84	679	0.282	3.74	0.024	0.118	0.030	4.70	1	N/A	866.4
6	11/30/2015	10:35	2.0	4.1	12.23	7.80	745	0.442	6.43	0.034	0.071	0.035	5.11	2	N/A	248.1
6	12/14/2015	10:50	1.0	12.2	9.57	7.91	684	0.541	3.87	0.071	0.137	0.072	5.48	3	N/A	816.4
6	2/3/2016	10:25	86.0	5.0	11.42	7.74	603	1.310	10.60	0.239	1.13	0.289	152.00	111	N/A	1732.9
6	3/21/2016	10:40	1.0	4.8	12.38	7.76	536	0.880	10.70	0.026	0.243	0.217	10.10	8	N/A	275.5
6	4/13/2016	11:10	18.0	7.8	11.57	7.55	504	1.190	12.70	0.015	0.099	0.050	9.99	2	0.158	141.4
6	5/18/2016	11:30		13.4	10.55	7.59	515	1.180	12.10	0.016	0.093	0.055	7.40	7	N/A	101.9

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
7	6/30/2015	11:33	14.0	16.4	5.82	7.53	698	0.000	13.60	0.016	0.121	0.114	6.69	2	0.1	344.8
7	7/28/2015	11:30	7.0	21.2	6.45	8.03	725	0.512	6.93	0.015	0.095	0.120	3.70	2	N/A	365.4
7	8/26/2015	11:45	2.0	16.6	9.02	8.87	710	0.482	4.59	0.015	0.084	0.041	2.20	1	<0.1	108.6
7	9/15/2015	11:01	1.0	16.8	8.48	8.67	703	0.342	3.28	0.015	0.063	0.032	2.22	1	N/A	222.4
7	10/29/2015	11:00	1.0	7.4	9.50	8.92	701	0.464	3.08	0.015	0.057	0.030	3.92	1	N/A	387.3
7	11/30/2015	11:00	1.0	4.3	10.71	7.77	733	0.679	5.23	0.015	0.044	0.031	3.87	1	N/A	517.2
7	12/14/2015	11:15	1.0	12.3	8.65	7.98	693	0.404	3.13	0.015	0.117	0.042	2.19	3	N/A	185
7	2/3/2016	10:50	5.0	5.3	10.49	7.66	630	0.920	12.90	0.099	0.488	0.222	49.40	16	N/A	816.4
7	3/21/2016	11:05	1.0	5.3	14.70	7.99	543	1.130	10.10	<0.015	0.195	0.195	3.62	5	N/A	90.6
7	4/13/2016	11:40	8.0	8.5	14.80	7.75	520	0.863	13.10	0.015	0.03	0.030	2.90	1	0.286	44.8
7	5/18/2016	11:05		13.2	10.77	7.58	530	0.661	11.30	0.015	0.045	0.036	3.33	5	N/A	260.3
7	5/31/2016	11:23		20.0	7.71	7.66	541	0.764	6.71	0.015	0.05	0.072	1.50	1	N/A	29.2

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
8	6/30/2015	8:30	92.0	19.1	4.12	6.21	368	0.059	5.48	0.092	0.523	0.402	19.50	16	1.98	2419.6
8	7/28/2015	8:49	15.0	22.6	2.88	8.08	558	1.210	3.56	0.223	0.333	0.199	7.46	3	N/A	365.4
8	8/26/2015	8:45	3.0	17.7	3.79	8.66	624	0.811	2.68	0.105	0.323	0.189	5.84	2	0.56	77.3
8	9/15/2015	8:50	1.0	16.7	4.16	8.49	729	0.355	3.26	0.139	0.329	0.226	18.70	22	N/A	410.6
8	10/29/2015	8:45	3.0	7.2	6.87	8.43	559	0.788	1.87	0.234	0.350	0.155	16.30	21	N/A	2419.6
8	11/30/2015	8:55	4.0	4.4	9.29	6.94	588	0.681	3.57	0.172	0.15	0.130	5.94	3	N/A	178.9
8	12/14/2015	9:15	2.0	12.1	6.14	7.94	713	0.805	2.40	0.224	0.181	0.121	5.69	3	N/A	517.2
8	2/3/2016	8:40	22.0	4.6	10.84	7.49	590	1.500	4.57	0.285	0.86	0.336	90.10	67	N/A	1732.9
8	3/21/2016	8:45	12.0	4.2	10.06	7.62	440	1.140	4.39	0.147	0.299	0.242	6.19	7	N/A	82.3
8	4/13/2016	8:50	33.0	6.8	10.43	8.02	371	1.710	4.22	0.058	0.163	0.072	8.84	5	0.1	38.4
8	5/18/2016	13:25		15.9	9.89	7.80	358	1.250	3.77	0.150	0.258	0.171	13.90	5	N/A	71.2
8	5/31/2016	8:38		19.6	5.67	7.22	502	1.400	3.84	0.184	0.236	0.217	14.20	8	N/A	238.2

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
9	6/30/2015	10:30	123.0	18.5	5.20	7.61	424	0.068	7.36	0.080	0.535	0.472	32.40	435	1.79	1413.6
9	7/28/2015	10:15	31.0	22.6	3.95	8.06	623	0.530	5.36	0.058	0.278	0.218	13.00	14	N/A	613.1
9	8/26/2015	10:35	10.0	16.7	7.53	8.86	634	0.611	3.78	0.036	0.197	0.166	4.65	1	0.46	686.7
9	9/15/2015	10:03	5.0	16.0	7.72	8.55	678	0.354	3.99	0.059	0.159	0.094	4.25	1	N/A	488.4
9	10/29/2015	10:10	14.0	7.3	8.55	8.83	667	0.307	2.59	0.124	0.257	0.123	8.11	1	N/A	816.4
9	11/30/2015	10:15	20.0	4.2	10.62	7.70	643	0.894	4.53	0.103	0.216	0.143	9.81	6	N/A	313
9	12/14/2015	10:30	13.0	12.1	7.94	7.82	645	0.894	2.78	0.112	0.158	0.109	9.96	9	N/A	172.3
9	2/3/2016	10:00	53.0	4.7	13.30	7.62	597	0.928	6.26	0.346	0.865	0.235	98.90	144	N/A	2419.6
9	3/21/2016	10:15	31.0	4.8	10.41	7.80	475	0.961	5.84	0.047	0.305	0.241	7.90	4	N/A	120.1
9	4/13/2016	10:40	72.0	7.3	10.59	7.73	397	0.981	6.33	0.026	0.17	0.101	12.40	14	0.266	178.5
9	5/18/2016	12:00		13.6	9.60	7.72	392	0.767	5.59	0.089	0.237	0.172	13.80	13	N/A	40.8
9	5/31/2016	10:22		20.1	8.00	7.68	488	0.703	5.14	0.031	0.132	0.130	5.76	1	N/A	325.5

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
10	6/30/2015	10:00	70.0	16.8	5.92	7.46	661	0.000	9.59	0.100	0.548	0.320	21.00	25	0.32	2419.6
10	7/28/2015	9:48	30.0	20.1	4.75	8.50	736	0.915	3.29	0.080	0.414	0.223	7.28	4	N/A	1046.2
10	8/26/2015	10:10	6.0	15.3	6.73	8.77	755	0.550	2.17	0.102	0.169	0.089	5.47	1	<0.1	613.1
10	9/15/2015	9:46	1.0	14.9	6.38	8.45	773	0.495	2.27	0.112	0.152	0.059	4.47	4	N/A	292.4
10	10/29/2015	9:45	1.0	8.1	6.74	8.56	756	0.381	2.15	0.076	0.206	0.088	4.85	1	N/A	270
10	11/30/2015	9:50	1.0	5.5	9.40	7.57	799	0.436	4.72	0.079	0.19	0.110	6.27	2	N/A	98.1
10	12/14/2015	10:05	1.0	12.4	6.43	7.82	725	1.070	2.14	0.098	0.171	0.081	17.50	17	N/A	488.4
10	2/3/2016	9:45	22.0	6.0	11.52	7.44	691	0.749	5.24	0.303	0.505	0.321	38.20	36	N/A	1553.1
10	3/21/2016	9:45	14.0	5.9	10.09	7.70	557	1.210	5.24	0.110	0.374	0.247	13.30	6	N/A	208.4
10	4/13/2016	10:10	37.0	7.5	10.31	7.55	490	0.560	7.05	0.034	0.15	0.089	9.09	3	0.1	84.4
10	5/18/2016	12:30		13.9	10.91	7.58	530	0.559	6.18	0.030	0.174	0.086	5.71	5	N/A	101
10	5/31/2016	10:04		18.4	8.13	7.75	568	0.696	3.07	0.089	0.125	0.117	4.20	2	N/A	219.8

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
11	6/30/2015	9:00	143.0	17.1	7.31	6.74	631	0.000	12.80	0.060	0.506	0.401	24.00	26	0.34	1732.9
11	7/28/2015	9:10	29.0	22.1	4.60	8.61	728	0.182	7.78	0.047	0.352	0.237	6.38	3	N/A	1986.3
11	8/26/2015	9:10	8.0	17.0	5.22	8.82	774	0.521	5.88	0.071	0.489	0.386	3.80	1	1.22	980.4
11	9/15/2015	9:06	5.0	16.8	4.43	8.72	864	0.857	6.94	0.061	0.496	0.392	5.21	16	N/A	1413.6
11	10/29/2015	9:05	18.0	7.0	6.24	8.62	828	0.251	6.52	0.041	0.482	0.316	7.28	1	N/A	1046.2
11	11/30/2015	9:15	32.0	4.8	9.08	7.27	767	0.174	9.44	0.085	0.27	0.260	6.66	5	N/A	613.1
11	12/14/2015	9:30	21.0	12.3	6.45	7.90	778	1.020	6.01	0.111	0.297	0.241	4.56	4	N/A	290.9
11	2/3/2016	9:05	137.0	4.0	12.86	7.53	585	1.610	10.10	0.453	0.849	0.483	181.00	153	N/A	2419.6
11	3/21/2016	9:05	44.0	4.0	11.62	7.85	548	0.763	10.20	0.113	0.18	0.180	8.94	9	N/A	727
11	4/13/2016	9:15	116.0	6.0	10.76	7.71	466	1.140	10.40	0.103	0.211	0.132	13.70	11	0.226	164.3
11	5/18/2016	13:10		14.5	11.15	7.67	523	1.010	11.20	0.066	0.155	0.140	9.28	5	N/A	178.2
11	5/31/2016	9:00		19.2	7.22	7.35	581	2.360	9.55	0.043	0.1	0.093	6.71	4	N/A	791.5

Site Locatio	Sample Dat	Time	Discharge (cfs)	Temp (Celcius)	DO (mg/L	pH	Conductivity (us/cm)	TKN (mg/L	NO2+NO3 (mg/L)	NH3 (mg/L	TP (mg/L)	Dissolved TP (mg/L)	Turbidity (NTU)	TSS (mg/L	Atrazine (ug/L)	E. coli (mpn/100mL
12	6/30/2015	9:30	37.0	17.0	6.62	7.20	633	0.000	15.00	0.081	0.612	0.388	48.20	53	0.71	2419.6
12	7/28/2015	9:30	7.0	21.9	5.68	8.60	754	0.000	8.38	0.041	0.271	0.197	5.58	3	N/A	980.4
12	8/26/2015	9:40	1.0	17.7	6.05	8.79	751	0.603	3.36	0.078	0.636	0.586	3.36	1	<0.1	102.6
12	9/15/2015	9:24	1.0	16.9	5.56	8.70	722	0.178	3.01	0.031	0.488	0.391	9.53	6	N/A	2419.6
12	10/29/2015	9:25		6.3	8.58	8.80	768	0.358	3.24	0.107	1.120	0.904	9.43	1	N/A	2419.6
12	11/30/2015	9:35	1.0	4.2	10.33	7.43	787	0.000	9.36	0.056	0.347	0.300	5.85	10	N/A	325.5
12	12/14/2015	9:45	1.0	12.0	5.37	7.83	795	0.501	5.86	0.119	0.433	0.377	11.00	4	N/A	1732.9
12	2/3/2016	9:20	25.0	4.3	12.92	7.32	651	1.040	13.20	0.170	0.754	0.413	50.50	54	N/A	2419.6
12	3/21/2016	9:25	10.0	3.5	12.68	7.61	557	0.000	13.10	0.044	0.175	0.180	10.20	12	N/A	155.3
12	4/13/2016	9:40	26.0	6.2	11.40	7.63	505	0.757	14.20	0.031	0.181	0.111	8.26	12	0.224	82.3
12	5/18/2016	12:45		14.9	12.39	7.72	534	0.862	15.30	0.023	0.178	0.155	5.37	7	N/A	307.6
12	5/31/2016	9:22		18.6	12.87	7.74	569	0.673	10.80	0.018	0.131	0.172	2.13	1	N/A	154.1

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #1
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Slightly Impaired

mIBI Metric		Metric Score
HBI	4.21	6
No. Taxa (family)	9	2
Total Count (# individuals)	61	0
% Dominant Taxa	37.7	4
EPT Index (# families)	6	6
EPT Count (# individuals)	52	4
EPT Count/Total Count	0.85	8
EPT Abun./Chir. Abun.	52.00	8
Chironomid Count	1	8
mIBI Score		5.1

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae			0		0	0.00
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	7		7	4	28	11.48
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Cambaridae	1		0		0	1.64
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	1		1	6	6	1.64
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0		0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0		0	0.00
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae	23	23	23	4	92	37.70
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae	9	9	0		0	14.75
Ephemeroptera	Ameletidae	13	13	0		0	21.31
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0		0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae			0		0	0.00
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Lestidae			0		0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	1	1	1	4	4	1.64
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	3	3	3	4	12	4.92
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae	3	3	3	6	18	4.92
Trichoptera	glossosomatidae						
TOTALS		**61**	**52**	**38**		**160.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #2
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		**Metric Score**
HBI	5.57	2
No. Taxa (family)	8	2
Total Count (# individuals)	29	0
% Dominant Taxa	48.3	2
EPT Index (# families)	3	2
EPT Count (# individuals)	7	0
EPT Count/Total Count	0.24	2
EPT Abun./Chir. Abun.	1.40	2
Chironomid Count	5	8
mIBI Score		2.2

Moderately Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae			0		0	0.00
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae			0	4	0	0.00
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	5		5	6	30	17.24
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	14		14	6	84	48.28
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae	4	4	4	4	16	13.79
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae	1	1	1	4	4	3.45
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Siphlonuridae			0		0	0.00
Ephemeroptera	Tricorythidae			0		0	0.00
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea		1		0		0	3.45
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0		0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	1		1	9	9	3.45
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae	1		1	5	5	3.45
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae			0	4	0	0.00
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	2	2	2	4	8	6.90
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**29**	**7**	**28**		**156.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #3
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Slightly Impaired

mIBI Metric		Metric Score
HBI	4.24	6
No. Taxa (family)	12	4
Total Count (# individuals)	117	2
% Dominant Taxa	44.4	2
EPT Index (# families)	4	4
EPT Count (# individuals)	92	6
EPT Count/Total Count	0.79	8
EPT Abun./Chir. Abun.	92.00	8
Chironomid Count	1	8
mIBI Score		5.3

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae			0		0	0.00
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	2		2	4	8	1.71
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	10		0		0	8.55
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Cambaridae	6		0		0	5.13

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	1		1	6	6	0.85
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	2		2	6	12	1.71
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae	17	17	0		0	14.53
Ephemeroptera	Ameletidae	21	21	0		0	17.95
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea		1		0		0	0.85
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae	1		1	3	3	0.85
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	2		2	9	18	1.71
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	2	2	2	4	8	1.71
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	52	52	52	4	208	44.44
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**117**	**92**	**62**		**263.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #4
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Slightly Impaired

mIBI Metric		Metric Score
HBI	5.00	4
No. Taxa (family)	12	4
Total Count (# individuals)	73	0
% Dominant Taxa	54.8	2
EPT Index (# families)	3	2
EPT Count (# individuals)	51	4
EPT Count/Total Count	0.70	8
EPT Abun./Chir. Abun.	51.00	8
Chironomid Count	1	8
mIBI Score		4.4

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	6		0		0	8.22
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae	6		0		0	8.22
Coleoptera	Elmidae	2		2	4	8	2.74
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	1		1	6	6	1.37
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0	6	0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae	6	6	6	4	24	8.22
Ephemeroptera	Leptohyphidae	40	40	0		0	54.79
Ephemeroptera	Siphlonuridae			0		0	0.00
Ephemeroptera	Ameletidae	5	5	0		0	6.85
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae	1		0		0	1.37
Hemiptera	Corixidae	1		0		0	1.37
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0		0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	2		2	9	18	2.74
Odonata	Corduliidae	2		2	5	10	2.74
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	1		1	4	4	1.37
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae			0	4	0	0.00
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**73**	**51**	**14**		**70.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #5
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		Metric Score
HBI	4.79	4
No. Taxa (family)	10	2
Total Count (# individuals)	92	2
% Dominant Taxa	27.2	6
EPT Index (# families)	4	4
EPT Count (# individuals)	66	4
EPT Count/Total Count	0.72	8
EPT Abun./Chir. Abun.	7.33	6
Chironomid Count	9	8
mIBI Score		4.9

Slightly Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	3		0		0	3.26
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	4		4	4	16	4.35
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	9		9	6	54	9.78
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	5		5	6	30	5.43
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae	7	7	0		0	7.61
Ephemeroptera	Ameletidae	20	20	0		0	21.74
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae	1		0		0	1.09
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0		0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	4		4	9	36	4.35
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	25	25	25	4	100	27.17
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	14	14	14	4	56	15.22
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**92**	**66**	**61**		**292.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #6
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		**Metric Score**
HBI	4.62	4
No. Taxa (family)	9	2
Total Count (# individuals)	143	4
% Dominant Taxa	39.2	4
EPT Index (# families)	3	2
EPT Count (# individuals)	109	6
EPT Count/Total Count	0.76	8
EPT Abun./Chir. Abun.	21.80	8
Chironomid Count	5	8
mIBI Score		5.1

Slightly Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	2		0		0	1.40
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	1		1	4	4	0.70
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	1		0		0	0.70
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	5		5	6	30	3.50
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	21		21	6	126	14.69
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0		0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Siphlonuridae			0		0	0.00
Ephemeroptera	Ameletidae	49	49	0		0	34.27
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Nigronia			0		0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0		0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae			0	9	0	0.00
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae	4		4	5	20	2.80
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	4	4	4	4	16	2.80
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	56	56	56	4	224	39.16
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**143**	**109**	**91**		**420.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #7
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Moderately Impaired

mIBI Metric		Metric Score
HBI	6.55	0
No. Taxa (family)	14	4
Total Count (# individuals)	66	0
% Dominant Taxa	22.7	6
EPT Index (# families)	4	4
EPT Count (# individuals)	15	0
EPT Count/Total Count	0.23	2
EPT Abun./Chir. Abun.	2.14	2
Chironomid Count	7	8
mIBI Score		2.9

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	1		0		0	1.52
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae	1		0		0	1.52
Coleoptera	Elmidae			0	4	0	0.00
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	11		0		0	16.67
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae	1		0		0	1.52
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	7		7	6	42	10.61
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	6		6	6	36	9.09
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae	2	2	2	4	8	3.03
Ephemeroptera	Caenidae	1	1	1	7	7	1.52
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Siphlonuridae			0		0	0.00
Ephemeroptera	Ameletidae	11	11	0		0	16.67
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae	1		0	0	0	1.52
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae	5		5	3	15	7.58
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	15		15	9	135	22.73
Odonata	Corduliidae			0		0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae	3		3	5	15	4.55
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae			0	4	0	0.00
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	1	1	1	4	4	1.52
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**66**	**15**	**40**		**262.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #8
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		Metric Score
HBI	6.27	0
No. Taxa (family)	7	0
Total Count (# individuals)	38	0
% Dominant Taxa	50.0	2
EPT Index (# families)	1	0
EPT Count (# individuals)	19	0
EPT Count/Total Count	0.50	6
EPT Abun./Chir. Abun.	9999.00	8
Chironomid Count	0	8
mIBI Score		2.7

Moderately Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae			0		0	0.00
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	2		2	4	8	5.26
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae	1		0		0	2.63
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae			0	6	0	0.00
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0	6	0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0	7	0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Siphlonuridae			0		0	0.00
Ephemeroptera	Ameletidae	19	19	0		0	50.00
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae	7		0		0	18.42
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae			0	0	0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0	3	0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	4		4	9	36	10.53
Odonata	Corduliidae	1		1	5	5	2.63
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae	4		4	5	20	10.53
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae			0	4	0	0.00
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae			0	4	0	0.00
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**38**	**19**	**11**		**69.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #9
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Slightly Impaired

mIBI Metric		Metric Score
HBI	5.11	2
No. Taxa (family)	9	2
Total Count (# individuals)	105	2
% Dominant Taxa	74.3	0
EPT Index (# families)	4	4
EPT Count (# individuals)	88	4
EPT Count/Total Count	0.84	8
EPT Abun./Chir. Abun.	9999.00	8
Chironomid Count	0	8
mIBI Score		4.2

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	11		0		0	10.48
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae	1		0		0	0.95
Coleoptera	Elmidae			0	4	0	0.00
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae			0		0	0.00
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae	2		0		0	1.90
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Astacidae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae			0	6	0	0.00
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0	6	0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0	7	0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae	2	2	2	4	8	1.90
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae	3	3	0		0	2.86
Ephemeroptera	Ameletidae	78	78	0		0	74.29
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae	1		0		0	0.95
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0		0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae			0	0	0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0	3	0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	2		2	9	18	1.90
Odonata	Corduliidae			0	5	0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	5	5	5	4	20	4.76
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae			0	4	0	0.00
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**105**	**88**	**9**		**46.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #10
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		Metric Score
HBI	6.00	0
No. Taxa (family)	13	4
Total Count (# individuals)	54	0
% Dominant Taxa	44.4	2
EPT Index (# families)	3	2
EPT Count (# individuals)	9	0
EPT Count/Total Count	0.17	2
EPT Abun./Chir. Abun.	1.50	2
Chironomid Count	6	8
mIBI Score		2.2

Moderately Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	24		0		0	44.44
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae			0	4	0	0.00
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	5		0		0	9.26
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae	1		0		0	1.85
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Cambaridae	1		0		0	1.85

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	6		6	6	36	11.11
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0	6	0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0	7	0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae			0		0	0.00
Ephemeroptera	Ameletidae	4	4	0		0	7.41
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae	1		0		0	1.85
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae	1		1	8	8	1.85
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae			0	0	0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae	1		1	3	3	1.85
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	4		4	9	36	7.41
Odonata	Corduliidae			0	5	0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae	1		1	5	5	1.85
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae	2	2	2	4	8	3.70
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	3	3	3	4	12	5.56
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**54**	**9**	**18**		**108.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #11
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

mIBI Metric		Metric Score
HBI	5.22	2
No. Taxa (family)	8	2
Total Count (# individuals)	58	0
% Dominant Taxa	32.8	4
EPT Index (# families)	2	0
EPT Count (# individuals)	28	2
EPT Count/Total Count	0.48	6
EPT Abun./Chir. Abun.	7.00	6
Chironomid Count	4	8
mIBI Score		3.3

Moderately Impaired

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae	12		0		0	20.69
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae			0		0	0.00
Coleoptera	Elmidae	6		6	4	24	10.34
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	1		0		0	1.72
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae	3		0		0	5.17
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Cambaridae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	4		4	6	24	6.90
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae			0	6	0	0.00
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0	7	0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae			0		0	0.00
Ephemeroptera	Ameletidae	19	19	0		0	32.76
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae			0		0	0.00
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0	8	0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae			0	0	0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae			0	3	0	0.00
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	4		4	9	36	6.90
Odonata	Corduliidae			0	5	0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae			0	4	0	0.00
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	9	9	9	4	36	15.52
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**58**	**28**	**23**		**120.0**	100.00

Macroinvertebrates

(Copy this sheet as new worksheet for multiple sites)

Stream Site	HYR Site #12
Analyst	Matthew Linn
Date Collected	8/20/2015
Date Counted	8/25/2016

Moderately Impaired

mIBI Metric		Metric Score
HBI	5.51	2
No. Taxa (family)	9	2
Total Count (# individuals)	49	0
% Dominant Taxa	30.6	6
EPT Index (# families)	2	0
EPT Count (# individuals)	20	2
EPT Count/Total Count	0.41	4
EPT Abun./Chir. Abun.	1.33	2
Chironomid Count	15	8
mIBI Score		2.9

Taxa (Scientific Name)

Order	Family	#	EPT	# w/t	Tolerance (t)	# x t	%
Acarina	Hydrachnidae			0		0	0.00
Amphipoda	Crangonyctidae			0		0	0.00
Amphipoda	Gammaridae			0		0	0.00
Amphipoda	Haustoriidae			0		0	0.00
Amphipoda	Talitridae			0		0	0.00
Araneae	Pisauridae			0		0	0.00
Bivalvia	*Corbicula fluminea*			0		0	0.00
Bivalvia	Sphaeriidae			0		0	0.00
Coleoptera	Amphizoidae			0		0	0.00
Coleoptera	Chrysomelidae			0		0	0.00
Coleoptera	Curculionidae			0		0	0.00
Coleoptera	Cyrinidae			0		0	0.00
Coleoptera	Dytiscidae	1		0		0	2.04
Coleoptera	Elmidae			0	4	0	0.00
Coleoptera	Gyrinidae			0		0	0.00
Coleoptera	Haliplidae	2		0		0	4.08
Coleoptera	Helodidae			0		0	0.00
Coleoptera	Hydrophilidae			0		0	0.00
Coleoptera	Noteridae			0		0	0.00
Coleoptera	Psephenidae			0		0	0.00
Coleoptera	Staphylinidae			0		0	0.00
Decopoda	Cambaridae			0		0	0.00

Decopoda	Palaemonidae			0		0	0.00
Diptera	Brachyera pupae			0		0	0.00
Diptera	Ceratopognidae			0		0	0.00
Diptera	Chironomidae	15		15	6	90	30.61
Diptera	Culicidae			0		0	0.00
Diptera	Dolichopodidae			0		0	0.00
Diptera	Empididae			0		0	0.00
Diptera	Ephydridae			0		0	0.00
Diptera	Nematocera pupae			0		0	0.00
Diptera	Ptychopteridae			0		0	0.00
Diptera	Simuliidae	5		5	6	30	10.20
Diptera	Stratiomyidae			0		0	0.00
Diptera	Syrphidae			0		0	0.00
Diptera	Tabanidae			0		0	0.00
Diptera	Tipulidae			0		0	0.00
Ephemeroptera	Baetidae			0	4	0	0.00
Ephemeroptera	Caenidae			0	7	0	0.00
Ephemeroptera	Ephemerellidae			0		0	0.00
Ephemeroptera	Heptageniidae			0	4	0	0.00
Ephemeroptera	Neoephemeridae			0		0	0.00
Ephemeroptera	Leptohyphidae			0		0	0.00
Ephemeroptera	Ameletidae	6	6	0		0	12.24
Gastropoda	Ancylidae			0		0	0.00
Gastropoda	Lymnaeidae			0		0	0.00
Gastropoda	Physidae			0		0	0.00
Gastropoda	Planorbidae			0		0	0.00
Gastropoda	Pleuroceridae			0		0	0.00
Gastropoda	Viviparidae			0		0	0.00
Hemiptera	Belostomatidae			0		0	0.00
Hemiptera	Corixidae	1		0		0	2.04
Hemiptera	Gerridae			0		0	0.00
Hemiptera	Herbridae			0		0	0.00
Hemiptera	Hydrometridae			0		0	0.00
Hemiptera	Mesoveliidae			0		0	0.00
Hemiptera	Naucoridae			0		0	0.00
Hemiptera	Nepidae			0		0	0.00
Hemiptera	Notonectidae			0		0	0.00

Hemiptera	Pleidae			0		0	0.00
Hemiptera	Veliidae			0		0	0.00
Hirudinea				0		0	0.00
Hirudinea	Glossiphoniidae			0		0	0.00
Isopoda	Asillidae			0	8	0	0.00
Lepidoptera	Langessa			0		0	0.00
Megaloptera	Corydalidae			0	0	0	0.00
Megaloptera	Sialidae			0		0	0.00
Nematomorpha				0		0	0.00
Odonata	Aeshnidae	1		1	3	3	2.04
Odonata	Agrionidae			0		0	0.00
Odonata	Coenagrionidae	4		4	9	36	8.16
Odonata	Corduliidae			0	5	0	0.00
Odonata	Gomphidae			0		0	0.00
Odonata	Calopterygidae			0	5	0	0.00
Odonata	Libellulidae			0		0	0.00
Odonata	Petaluridae			0		0	0.00
Oligochaeta				0		0	0.00
Platyhelminthes	Planaria			0		0	0.00
Plecoptera	Chloroperlidae			0		0	0.00
Plecoptera	Perlidae			0		0	0.00
Plecoptera	Perlodidae			0		0	0.00
Trichoptera	Leptoceridae			0	4	0	0.00
Trichoptera	Brachycentridae			0		0	0.00
Trichoptera	Helicopsychidae			0		0	0.00
Trichoptera	Hydropsychidae	14	14	14	4	56	28.57
Trichoptera	Hydroptilidae			0		0	0.00
Trichoptera	Limnephilidae			0		0	0.00
Trichoptera	Odontoceridae			0		0	0.00
Trichoptera	Polycentropodidae			0	6	0	0.00
Trichoptera	glossosomatidae						
TOTALS		**49**	**20**	**39**		**215.0**	100.00

Fair

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 56

Stream & Location: HYR Site #1 **RM:** ___.__ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno - MLiTE

River Code: __-___-___ **STOREТ #:** ______ **Lat./Long.: (NAD 83 - decimal °)** __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	
☐☐ COBBLE [8]	✓		☐☐ MUCK [2]	✓	
☐☑ GRAVEL [7]	✓		☐☐ SILT [2]		
☐☑ SAND [6]	✓		☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Check ONE (Or 2 & average)

ORIGIN: ☐ LIMESTONE [1] ☑ TILLS [1] ☐ WETLANDS [0] ☐ HARDPAN [0] ☐ SANDSTONE [0] ☐ RIP/RAP [0] ☐ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]

QUALITY:
SILT: ☐ HEAVY [-2] ☑ MODERATE [-1] ☐ NORMAL [0] ☐ FREE [1]
EMBEDDEDNESS: ☐ EXTENSIVE [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ NONE [1]

Comments

Substrate Maximum 20: 13

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.

- 3 UNDERCUT BANKS [1]
- 2 OVERHANGING VEGETATION [1]
- ___ SHALLOWS (IN SLOW WATER) [1]
- 2 ROOTMATS [1]
- ___ POOLS > 70cm [2]
- 2 ROOTWADS [1]
- ___ BOULDERS [1]
- ___ OXBOWS, BACKWATERS [1]
- ___ AQUATIC MACROPHYTES [1]
- 2 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average): ☐ EXTENSIVE >75% [11] ☑ MODERATE 25-75% [7] ☐ SPARSE 5-<25% [3] ☐ NEARLY ABSENT <5% [1]

Comments

Cover Maximum 20: 12

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]	

Comments

Channel Maximum 20: 11

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R): ☐☐ NONE / LITTLE [3] ☑☑ MODERATE [2] ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R): ☑☑ WIDE > 50m [4] ☐☐ MODERATE 10-50m [3] ☐☐ NARROW 5-10m [2] ☐☐ VERY NARROW < 5m [1] ☐☐ NONE [0]

FLOOD PLAIN QUALITY (L R): ☑☑ FOREST, SWAMP [3] ☐☐ SHRUB OR OLD FIELD [2] ☐☐ RESIDENTIAL, PARK, NEW FIELD [1] ☐☐ FENCED PASTURE [1] ☐☐ OPEN PASTURE, ROWCROP [0] ☐☐ CONSERVATION TILLAGE [1] ☐☐ URBAN OR INDUSTRIAL [0] ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian Maximum 10: 9

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!): ☑ > 1m [6] ☐ 0.7-<1m [4] ☐ 0.4-<0.7m [2] ☐ 0.2-<0.4m [1] ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average): ☑ POOL WIDTH > RIFFLE WIDTH [2] ☐ POOL WIDTH = RIFFLE WIDTH [1] ☑ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply: ☐ TORRENTIAL [-1] ☐ VERY FAST [1] ☐ FAST [1] ☐ MODERATE [1] ☑ SLOW [1] ☐ INTERSTITIAL [-1] ☐ INTERMITTENT [-2] ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential: Primary Contact / Secondary Contact (circle one and comment on back)

Comments

Pool / Current Maximum 12: 9

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☑ NO RIFFLE [metric=0]

RIFFLE DEPTH: ☐ BEST AREAS > 10cm [2] ☐ BEST AREAS 5-10cm [1] ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH: ☐ MAXIMUM > 50cm [2] ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE: ☐ STABLE (e.g., Cobble, Boulder) [2] ☐ MOD. STABLE (e.g., Large Gravel) [1] ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS: ☐ NONE [2] ☐ LOW [1] ☐ MODERATE [0] ☐ EXTENSIVE [-1]

Comments

Riffle / Run Maximum 8: 0

6] GRADIENT (0.95 ft/mi)
DRAINAGE AREA (17.25 mi²)

☑ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6]

%POOL: 10 %GLIDE: ___ %RUN: 90 %RIFFLE: ___

Gradient Maximum 10: 2

Good

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 69

Stream & Location: Headwaters YR Site #2 **RM:** ___.__ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno - ML, TE

River Code: ___-___-___ **STORET #:** ______ **Lat./Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]		
☐☑ COBBLE [8]		90	☐☐ MUCK [2]		
☐☐ GRAVEL [7]			☐☐ SILT [2]		
☐☑ SAND [6]	90		☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☐ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
☐ LIMESTONE [1]
☑ TILLS [1]
☐ WETLANDS [0]
☐ HARDPAN [0]
☐ SANDSTONE [0]
☐ RIP/RAP [0]
☐ LACUSTURINE [0]
☐ SHALE [-1]
☐ COAL FINES [-2]

QUALITY
SILT: ☐ HEAVY [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ FREE [1]
EMBEDDEDNESS: ☐ EXTENSIVE [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ NONE [1]

Substrate: 15 (Maximum 20)

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.

2 UNDERCUT BANKS [1]
3 OVERHANGING VEGETATION [1]
3 SHALLOWS (IN SLOW WATER) [1]
2 ROOTMATS [1]
__ POOLS > 70cm [2]
__ ROOTWADS [1]
__ BOULDERS [1]
__ OXBOWS, BACKWATERS [1]
__ AQUATIC MACROPHYTES [1]
3 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average)
☐ EXTENSIVE >75% [11]
☑ MODERATE 25-75% [7]
☐ SPARSE 5-<25% [3]
☐ NEARLY ABSENT <5% [1]

Comments

Cover: 12 (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]	

Comments

Channel: 14 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
☐☐ NONE / LITTLE [3]
☑☐ MODERATE [2]
☐☑ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
☑☐ WIDE > 50m [4]
☐☑ MODERATE 10-50m [3]
☐☐ NARROW 5-10m [2]
☐☐ VERY NARROW < 5m [1]
☐☐ NONE [0]

FLOOD PLAIN QUALITY (L R)
☑☐ FOREST, SWAMP [3]
☐☐ SHRUB OR OLD FIELD [2]
☐☑ RESIDENTIAL, PARK, NEW FIELD [1]
☐☐ FENCED PASTURE [1]
☐☐ OPEN PASTURE, ROWCROP [0]
☐☐ CONSERVATION TILLAGE [1]
☐☐ URBAN OR INDUSTRIAL [0]
☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 7 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
☐ > 1m [6]
☐ 0.7-<1m [4]
☑ 0.4-<0.7m [2]
☐ 0.2-<0.4m [1]
☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
☐ POOL WIDTH > RIFFLE WIDTH [2]
☑ POOL WIDTH = RIFFLE WIDTH [1]
☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
☐ TORRENTIAL [-1]
☐ VERY FAST [1]
☑ FAST [1]
☑ MODERATE [1]
☑ SLOW [1]
☐ INTERSTITIAL [-1]
☐ INTERMITTENT [-2]
☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current: 7 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
☐ BEST AREAS > 10cm [2]
☐ BEST AREAS 5-10cm [1]
☑ BEST AREAS < 5cm [metric=0]

RUN DEPTH
☑ MAXIMUM > 50cm [2]
☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
☐ STABLE (e.g., Cobble, Boulder) [2]
☑ MOD. STABLE (e.g., Large Gravel) [1]
☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
☐ NONE [2]
☑ LOW [1]
☐ MODERATE [0]
☐ EXTENSIVE [-1]

Comments

Riffle / Run: 4 (Maximum 8)

6] GRADIENT (17 ft/mi)
DRAINAGE AREA (18.4 mi²)

☐ VERY LOW - LOW [2-4]
☐ MODERATE [6-10]
☑ HIGH - VERY HIGH [10-6]

%POOL: ____ %GLIDE: ____
%RUN: ____ %RIFFLE: ____

Gradient: 10 (Maximum 10)

Ohio EPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 55.5 Fair

Stream & Location: HYR Site #3 **RM:** ___.___ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno - ML, TE

River Code: ___-___-___ **STORET #:** ______ **Lat./ Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE

Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]		
☐☐ COBBLE [8]			☐☐ MUCK [2]		
☐☑ GRAVEL [7]	✓	✓	☐☑ SILT [2]	✓	✓
☐☑ SAND [6]	✓	✓	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN: ☐ LIMESTONE [1] ☑ TILLS [1] ☐ WETLANDS [0] ☐ HARDPAN [0] ☐ SANDSTONE [0] ☐ RIP/RAP [0] ☐ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]

QUALITY:

SILT: ☐ HEAVY [-2] ☑ MODERATE [-1] ☐ NORMAL [0] ☐ FREE [1]

EMBEDDEDNESS: ☑ EXTENSIVE [-2] ☐ MODERATE [-1] ☐ NORMAL [0] ☐ NONE [1]

Substrate 11 Maximum 20

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.

1	UNDERCUT BANKS [1]	1	POOLS > 70cm [2]		OXBOWS, BACKWATERS [1]
1	OVERHANGING VEGETATION [1]	1	ROOTWADS [1]		AQUATIC MACROPHYTES [1]
	SHALLOWS (IN SLOW WATER) [1]		BOULDERS [1]	2	LOGS OR WOODY DEBRIS [1]
2	ROOTMATS [1]				

AMOUNT Check ONE (Or 2 & average)

☐ EXTENSIVE >75% [11]
☑ MODERATE 25-75% [7]
☐ SPARSE 5-<25% [3]
☐ NEARLY ABSENT <5% [1]

Comments

Cover 14 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]	

Comments

Channel 11 Maximum 20

4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)	RIPARIAN WIDTH (L R)	FLOOD PLAIN QUALITY (L R)	(L R)
☐☐ NONE / LITTLE [3]	☐☑ WIDE > 50m [4]	☑☑ FOREST, SWAMP [3]	☐☐ CONSERVATION TILLAGE [1]
☐☑ MODERATE [2]	☑☐ MODERATE 10-50m [3]	☐☐ SHRUB OR OLD FIELD [2]	☐☐ URBAN OR INDUSTRIAL [0]
☑☑ HEAVY / SEVERE [1]	☐☐ NARROW 5-10m [2]	☐☐ RESIDENTIAL, PARK, NEW FIELD [1]	☐☐ MINING / CONSTRUCTION [0]
	☐☐ VERY NARROW < 5m [1]	☐☐ FENCED PASTURE [1]	
	☐☐ NONE [0]	☐☐ OPEN PASTURE, ROWCROP [0]	

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 7.5 Maximum 10

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)	CHANNEL WIDTH Check ONE (Or 2 & average)	CURRENT VELOCITY Check ALL that apply	
☑ > 1m [6]	☑ POOL WIDTH > RIFFLE WIDTH [2]	☐ TORRENTIAL [-1]	☐ SLOW [1]
☐ 0.7-<1m [4]	☐ POOL WIDTH = RIFFLE WIDTH [1]	☐ VERY FAST [1]	☐ INTERSTITIAL [-1]
☐ 0.4-<0.7m [2]	☐ POOL WIDTH < RIFFLE WIDTH [0]	☐ FAST [1]	☐ INTERMITTENT [-2]
☐ 0.2-<0.4m [1]		☑ MODERATE [1]	☑ EDDIES [1]
☐ < 0.2m [0]			

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 10 Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

☑ NO RIFFLE [metric=0]

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☐ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☐ BEST AREAS 5-10cm [1]	☐ MAXIMUM < 50cm [1]	☐ MOD. STABLE (e.g., Large Gravel) [1]	☐ LOW [1]
☐ BEST AREAS < 5cm [metric=0]		☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	☐ MODERATE [0]
			☐ EXTENSIVE [-1]

Comments

Riffle / Run 0 Maximum 8

6] GRADIENT (0.95 ft/mi)

DRAINAGE AREA (22.2 mi²)

☑ VERY LOW - LOW [2-4]
☐ MODERATE [6-10]
☐ HIGH - VERY HIGH [10-6]

%POOL: 10 %GLIDE: ____
%RUN: 90 %RIFFLE: ____

Gradient 2 Maximum 10

Poor

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 31.5

Stream & Location: HYR Site #4 **RM:** ___ . ___ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno - ML TE

River Code: ___-___-___ **STORET #:** ______ **Lat./Long.:** (NAD 83 - decimal °) __ . ____ /8_ . ____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	
☐☐ COBBLE [8]			☐☑ MUCK [2]		
☐☐ GRAVEL [7]			☐☐ SILT [2]	✓	
☐☑ SAND [6]			☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☑ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate: 6 — Maximum 20

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.

___	UNDERCUT BANKS [1]	___	POOLS > 70cm [2]	___	OXBOWS, BACKWATERS [1]
1	OVERHANGING VEGETATION [1]	___	ROOTWADS [1]	___	AQUATIC MACROPHYTES [1]
1	SHALLOWS (IN SLOW WATER) [1]	___	BOULDERS [1]	1	LOGS OR WOODY DEBRIS [1]
1	ROOTMATS [1]				

AMOUNT Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 7 — 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]	

Comments

Channel: 4 — Maximum 20

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
- ☐☐ NONE / LITTLE [3]
- ☑☑ MODERATE [2]
- ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐☐ WIDE > 50m [4]
- ☐☐ MODERATE 10-50m [3]
- ☐☐ NARROW 5-10m [2]
- ☐☐ VERY NARROW < 5m [1]
- ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☑☐ FOREST, SWAMP [3]
- ☐☐ SHRUB OR OLD FIELD [2]
- ☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐☐ FENCED PASTURE [1]
- ☐☑ OPEN PASTURE, ROWCROP [0]
- ☐☐ CONSERVATION TILLAGE [1]
- ☐☐ URBAN OR INDUSTRIAL [0]
- ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 3.5 — Maximum 10

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
- ☐ >1m [6]
- ☑ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
- ☑ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current: 9 — Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

☑ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 0 — Maximum 8

6] GRADIENT
(0.95 ft/mi)

DRAINAGE AREA (34.0 mi²)

- ☑ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 10 %GLIDE: ___

%RUN: 90 %RIFFLE: ___

Gradient: 2 — Maximum 10

Poor

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 39

Stream & Location: HYR Site #5 **RM:** ___.__ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno - ML TE

River Code: __-___-___ **STORET #:** ______ **Lat./ Long.: (NAD 83 - decimal °)** __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	
☐☐ COBBLE [8]	✓		☐☑ MUCK [2]	✓	
☐☑ GRAVEL [7]	✓		☐☐ SILT [2]		
☐☑ SAND [6]	✓		☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
- ☑ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☑ HEAVY [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☑ MODERATE [-1]
- ☑ NORMAL [0]
- ☐ NONE [1]

Substrate: 8 (Maximum 20)

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.

- 1 UNDERCUT BANKS [1]
- 1 OVERHANGING VEGETATION [1]
- 1 SHALLOWS (IN SLOW WATER) [1]
- 1 ROOTMATS [1]
- ___ POOLS > 70cm [2]
- ___ ROOTWADS [1]
- ___ BOULDERS [1]
- ___ OXBOWS, BACKWATERS [1]
- ___ AQUATIC MACROPHYTES [1]
- 1 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☑ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 7 (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]	

Comments

Channel: 4 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
- ☐ ☑ NONE / LITTLE [3]
- ☑ ☑ MODERATE [2]
- ☐ ☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐ ☐ WIDE > 50m [4]
- ☐ ☑ MODERATE 10-50m [3]
- ☑ ☐ NARROW 5-10m [2]
- ☐ ☑ VERY NARROW < 5m [1]
- ☐ ☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☑ ☑ FOREST, SWAMP [3]
- ☐ ☐ SHRUB OR OLD FIELD [2]
- ☐ ☑ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐ ☑ FENCED PASTURE [1]
- ☐ ☐ OPEN PASTURE, ROWCROP [0]
- ☐ ☐ CONSERVATION TILLAGE [1]
- ☐ ☐ URBAN OR INDUSTRIAL [0]
- ☐ ☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 5 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
- ☐ > 1m [6]
- ☑ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
- ☑ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☑ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☑ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current: 9 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

☑ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 0 (Maximum 8)

6] GRADIENT (3.3 ft/mi)
DRAINAGE AREA (26.0 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☑ HIGH - VERY HIGH [10-6]

%POOL: 10 %GLIDE: ____

%RUN: 90 %RIFFLE: ____

Gradient: 6 (Maximum 10)

Good

Ohio EPA — Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 64

Stream & Location: HYR Site #6 **RM:** ___.__ **Date:** 8/20/15

Scorers Full Name & Affiliation: Cardno – ML, TE

River Code: __-___-___ **STORET #:** ______ **Lat./Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]		✓
☐☐ BOULDER [9]	✓	✓
☐☐ COBBLE [8]	✓	✓
☐☑ GRAVEL [7]	✓	✓
☐☑ SAND [6]	✓	✓
☐☐ BEDROCK [5]		

OTHER TYPES	POOL	RIFFLE
☐☐ HARDPAN [4]		
☐☐ DETRITUS [3]	✓	
☐☐ MUCK [2]		
☐☐ SILT [2]	✓	✓
☐☐ ARTIFICIAL [0]		

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☑ 4 or more [2] ☐ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN: ☐ LIMESTONE [1] ☑ TILLS [1] ☐ WETLANDS [0] ☐ HARDPAN [0] ☐ SANDSTONE [0] ☐ RIP/RAP [0] ☐ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]

QUALITY

SILT: ☐ HEAVY [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ FREE [1]

EMBEDDEDNESS: ☐ EXTENSIVE [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ NONE [1]

Substrate: 16 (Maximum 20)

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.

2 UNDERCUT BANKS [1]
2 OVERHANGING VEGETATION [1]
__ SHALLOWS (IN SLOW WATER) [1]
1 ROOTMATS [1]
1 POOLS > 70cm [2]
__ ROOTWADS [1]
__ BOULDERS [1]
__ OXBOWS, BACKWATERS [1]
2 AQUATIC MACROPHYTES [1]
__ LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average): ☐ EXTENSIVE >75% [11] ☑ MODERATE 25-75% [7] ☐ SPARSE 5-<25% [3] ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 13 (Maximum 20)

3] CHANNEL MORPHOLOGY
Check ONE in each category (Or 2 & average)

SINUOSITY: ☐ HIGH [4] ☐ MODERATE [3] ☑ LOW [2] ☐ NONE [1]

DEVELOPMENT: ☐ EXCELLENT [7] ☑ GOOD [5] ☐ FAIR [3] ☐ POOR [1]

CHANNELIZATION: ☐ NONE [6] ☐ RECOVERED [4] ☐ RECOVERING [3] ☑ RECENT OR NO RECOVERY [1]

STABILITY: ☐ HIGH [3] ☑ MODERATE [2] ☐ LOW [1]

Comments

Channel: 10 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R): ☐☐ NONE / LITTLE [3] ☐☐ MODERATE [2] ☑☑ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R): ☐☐ WIDE > 50m [4] ☐☐ MODERATE 10-50m [3] ☐☐ NARROW 5-10m [2] ☐☐ VERY NARROW < 5m [1] ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R): ☐☐ FOREST, SWAMP [3] ☐☐ SHRUB OR OLD FIELD [2] ☐☐ RESIDENTIAL, PARK, NEW FIELD [1] ☐☐ FENCED PASTURE [1] ☑☑ OPEN PASTURE, ROWCROP [0] ☐☐ CONSERVATION TILLAGE [1] ☐☐ URBAN OR INDUSTRIAL [0] ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 1 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!): ☑ > 1m [6] ☐ 0.7-<1m [4] ☐ 0.4-<0.7m [2] ☐ 0.2-<0.4m [1] ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average): ☐ POOL WIDTH > RIFFLE WIDTH [2] ☑ POOL WIDTH = RIFFLE WIDTH [1] ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply: ☐ TORRENTIAL [-1] ☐ VERY FAST [1] ☑ FAST [1] ☑ MODERATE [1] ☑ SLOW [1] ☐ INTERSTITIAL [-1] ☐ INTERMITTENT [-2] ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential: Primary Contact / Secondary Contact (circle one and comment on back)

Comments

Pool / Current: 11 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH: ☑ BEST AREAS > 10cm [2] ☐ BEST AREAS 5-10cm [1] ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH: ☑ MAXIMUM > 50cm [2] ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE: ☑ STABLE (e.g., Cobble, Boulder) [2] ☐ MOD. STABLE (e.g., Large Gravel) [1] ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS: ☐ NONE [2] ☑ LOW [1] ☐ MODERATE [0] ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 7 (Maximum 8)

6] GRADIENT (5.7 ft/mi) ☐ VERY LOW - LOW [2-4] ☑ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (27.0 mi²)

%POOL: 10 %GLIDE: ___ %RUN: 70 %RIFFLE: 20

Gradient: 6 (Maximum 10)

Poor

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 33

Stream & Location: HYR site #7 *RM:* ___._ *Date:* 8/20/15

Scorers Full Name & Affiliation: Cardno - ML, TE

River Code: __-___-__ *STORET #:* ______ *Lat./Long.:* (NAD 83 - decimal °) __.____ /8_.____ *Office verified location* ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	
☐☐ COBBLE [8]	✓		☐☑ MUCK [2]		
☐☐ GRAVEL [7]			☐☐ SILT [2]	✓	
☐☑ SAND [6]			☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (*Or 2 & average*)

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☑ HEAVY [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☑ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate 5 *Maximum 20*

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.

3 UNDERCUT BANKS [1]	___ POOLS > 70cm [2]	___ OXBOWS, BACKWATERS [1]
3 OVERHANGING VEGETATION [1]	___ ROOTWADS [1]	3 AQUATIC MACROPHYTES [1]
___ SHALLOWS (IN SLOW WATER) [1]	___ BOULDERS [1]	___ LOGS OR WOODY DEBRIS [1]
___ ROOTMATS [1]		

AMOUNT
Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☑ MODERATE 25-75% [7]
- ☐ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 10 *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]	

Comments

Channel 5 *Maximum 20*

4] BANK EROSION AND RIPARIAN ZONE
Check **ONE** in each category for *EACH BANK* (*Or 2 per bank & average*)

River right looking downstream

EROSION (L R)
- ☑☑ NONE / LITTLE [3]
- ☐☐ MODERATE [2]
- ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐☐ WIDE > 50m [4]
- ☐☐ MODERATE 10-50m [3]
- ☐☐ NARROW 5-10m [2]
- ☐☐ VERY NARROW < 5m [1]
- ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☐☐ FOREST, SWAMP [3]
- ☐☐ SHRUB OR OLD FIELD [2]
- ☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐☐ FENCED PASTURE [1]
- ☑☑ OPEN PASTURE, ROWCROP [0]
- ☐☐ CONSERVATION TILLAGE [1]
- ☐☐ URBAN OR INDUSTRIAL [0]
- ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 3 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH
Check ONE (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☑ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH
Check ONE (*Or 2 & average*)
- ☑ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY
Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☐ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 6 *Maximum 12*

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (*Or 2 & average*).

☑ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run 0 *Maximum 8*

6] GRADIENT (2.1 ft/mi)
DRAINAGE AREA (17.9 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: ___ %GLIDE: ___
%RUN: 100 %RIFFLE: ___

Gradient 4 *Maximum 10*

Poor

OhioEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 33

Stream & Location: HY Stp # *RM:* ___.__ *Date:* 8/25/15

Scorers Full Name & Affiliation: Cardno - ML NE

River Code: __-___-___ *STORET #:* ______ *Lat./Long.: (NAD 83 - decimal °)* __.____ /8_.____ Office verified location ☐

1] SUBSTRATE

Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☑ DETRITUS [3]	✓	
☐☐ COBBLE [8]	✓		☐☑ MUCK [2]	✓	
☐☐ GRAVEL [7]	✓		☐☐ SILT [2]		
☐☐ SAND [6]	✓		☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☑ HEAVY [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☑ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate: 2 (Maximum 20)

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.

- 1 UNDERCUT BANKS [1]
- 1 OVERHANGING VEGETATION [1]
- __ SHALLOWS (IN SLOW WATER) [1]
- __ ROOTMATS [1]
- __ POOLS > 70cm [2]
- __ ROOTWADS [1]
- __ BOULDERS [1]
- __ OXBOWS, BACKWATERS [1]
- 1 AQUATIC MACROPHYTES [1]
- 1 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 7 (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]	

Comments

Channel: 6 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
- ☑☑ NONE / LITTLE [3]
- ☐☐ MODERATE [2]
- ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐☐ WIDE > 50m [4]
- ☐☐ MODERATE 10-50m [3]
- ☐☐ NARROW 5-10m [2]
- ☐☐ VERY NARROW < 5m [1]
- ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☐☐ FOREST, SWAMP [3]
- ☐☐ SHRUB OR OLD FIELD [2]
- ☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐☑ FENCED PASTURE [1]
- ☑☑ OPEN PASTURE, ROWCROP [0]
- ☐☐ CONSERVATION TILLAGE [1]
- ☐☐ URBAN OR INDUSTRIAL [0]
- ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 3 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
- ☑ > 1m [6]
- ☐ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
- ☑ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☐ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current: 11 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

☑ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 0 (Maximum 8)

6] GRADIENT (2.8 ft/mi)

DRAINAGE AREA (22.7 mi²)

- ☑ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: ____ %GLIDE: ____

%RUN: 100 %RIFFLE: ____

Gradient: 4 (Maximum 10)

Fair

Ohio EPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 47

Stream & Location: YR Site #9 **RM:** __._ **Date:** 8/25/15

Scorers Full Name & Affiliation: Cardno - ML, NE

River Code: __-__-__ **STORET #:** ____ **Lat./ Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		✓
☐☐ BOULDER [9]		✓	☐☐ DETRITUS [3]	✓	✓
☐☑ COBBLE [8]		✓	☐☐ MUCK [2]	✓	✓
☐☐ GRAVEL [7]	✓	✓	☐☐ SILT [2]	✓	✓
☐☑ SAND [6]	✓	✓	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☐ MODERATE [-1]
- ☑ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate Maximum 20: 14

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.

- 2 UNDERCUT BANKS [1]
- 2 OVERHANGING VEGETATION [1]
- 1 SHALLOWS (IN SLOW WATER) [1]
- __ ROOTMATS [1]
- __ POOLS > 70cm [2]
- __ ROOTWADS [1]
- __ BOULDERS [1]
- __ OXBOWS, BACKWATERS [1]
- 1 AQUATIC MACROPHYTES [1]
- 1 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover Maximum 20: 8

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]	

Comments

Channel Maximum 20: 5

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)	RIPARIAN WIDTH (L R)	FLOOD PLAIN QUALITY (L R)	(L R)
☑☑ NONE / LITTLE [3]	☐☐ WIDE > 50m [4]	☐☐ FOREST, SWAMP [3]	☐☐ CONSERVATION TILLAGE [1]
☐☐ MODERATE [2]	☐☐ MODERATE 10-50m [3]	☐☐ SHRUB OR OLD FIELD [2]	☐☐ URBAN OR INDUSTRIAL [0]
☐☐ HEAVY / SEVERE [1]	☐☐ NARROW 5-10m [2]	☐☐ RESIDENTIAL, PARK, NEW FIELD [1]	☐☐ MINING / CONSTRUCTION [0]
	☐☐ VERY NARROW < 5m [1]	☐☐ FENCED PASTURE [1]	
	☑☑ NONE [0]	☑☑ OPEN PASTURE, ROWCROP [0]	

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian Maximum 10: 3

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
- ☐ ≥ 1m [6]
- ☑ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☑ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☑ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current Maximum 12: 8

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☑ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☑ MAXIMUM > 50cm [2]
- ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☑ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☑ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run Maximum 8: 5

6] GRADIENT (2.59 ft/mi)
DRAINAGE AREA (26.2 mi²)

- ☑ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: 5 %GLIDE: __ %RUN: 85 %RIFFLE: 10

Gradient Maximum 10: 4

Poor

OhioEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 39

Stream & Location: HYR Site #10 **RM:** ___.___ **Date:** 8/25/15

Scorers Full Name & Affiliation: Cardno - ML, NE

River Code: ___-___-___ **STORET #:** ______ **Lat./ Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE

Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	✓
☐☐ COBBLE [8]	✓	✓	☐☑ MUCK [2]	✓	✓
☐☐ GRAVEL [7]			☐☐ SILT [2]		
☐☑ SAND [6]	✓	✓	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☑ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate 7 Maximum 20

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.

- 1 UNDERCUT BANKS [1]
- 1 OVERHANGING VEGETATION [1]
- 1 SHALLOWS (IN SLOW WATER) [1]
- ___ ROOTMATS [1]
- ___ POOLS > 70cm [2]
- ___ ROOTWADS [1]
- ___ BOULDERS [1]
- ___ OXBOWS, BACKWATERS [1]
- 1 AQUATIC MACROPHYTES [1]
- 2 LOGS OR WOODY DEBRIS [1]

AMOUNT

Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☐ MODERATE 25-75% [7]
- ☑ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover 8 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]	

Comments

Channel 7 Maximum 20

4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
- ☑☑ NONE / LITTLE [3]
- ☐☐ MODERATE [2]
- ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐☐ WIDE > 50m [4]
- ☐☐ MODERATE 10-50m [3]
- ☐☐ NARROW 5-10m [2]
- ☐☐ VERY NARROW < 5m [1]
- ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☐☐ FOREST, SWAMP [3]
- ☐☐ SHRUB OR OLD FIELD [2]
- ☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐☐ FENCED PASTURE [1]
- ☑☑ OPEN PASTURE, ROWCROP [0]
- ☐☐ CONSERVATION TILLAGE [1]
- ☐☐ URBAN OR INDUSTRIAL [0]
- ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian 3 Maximum 10

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH

Check ONE (ONLY!)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☑ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH

Check ONE (Or 2 & average)
- ☑ POOL WIDTH > RIFFLE WIDTH [2]
- ☐ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☑ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current 8 Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☑ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☑ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☐ MOD. STABLE (e.g., Large Gravel) [1]
- ☑ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☑ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run 2 Maximum 8

6] GRADIENT (2.9 ft/mi)

- ☑ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (27.0 mi²)

%POOL: 15 %GLIDE: ____

%RUN: 75 %RIFFLE: 10

Gradient 4 Maximum 10

Fair

Ohio EPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 57

Stream & Location: HYR site #11 **RM:** ___._ **Date:** 8/25/15

Scorers Full Name & Affiliation: Cardno - ML, NE

River Code: ___-___-___ **STORET #:** ______ **Lat./Long.:** (NAD 83 - decimal °) __.____ /8_.____ Office verified location ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]	✓	✓	☐☐ DETRITUS [3]	✓	✓
☐☐ COBBLE [8]	✓	✓	☐☐ MUCK [2]		
☐☑ GRAVEL [7]	✓	✓	☐☐ SILT [2]	✓	
☐☑ SAND [6]	✓	✓	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

Check ONE (Or 2 & average)

ORIGIN: ☐ LIMESTONE [1] ☑ TILLS [1] ☐ WETLANDS [0] ☐ HARDPAN [0] ☐ SANDSTONE [0] ☐ RIP/RAP [0] ☐ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]

QUALITY:
SILT: ☐ HEAVY [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ FREE [1]
EMBEDDEDNESS: ☐ EXTENSIVE [-2] ☐ MODERATE [-1] ☑ NORMAL [0] ☐ NONE [1]

Substrate: 14 (Maximum 20)

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.

2 UNDERCUT BANKS [1]
2 OVERHANGING VEGETATION [1]
1 SHALLOWS (IN SLOW WATER) [1]
__ ROOTMATS [1]
1 POOLS > 70cm [2]
__ ROOTWADS [1]
__ BOULDERS [1]
__ OXBOWS, BACKWATERS [1]
1 AQUATIC MACROPHYTES [1]
1 LOGS OR WOODY DEBRIS [1]

AMOUNT — Check ONE (Or 2 & average): ☐ EXTENSIVE >75% [11] ☑ MODERATE 25-75% [7] ☐ SPARSE 5-<25% [3] ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 14 (Maximum 20)

3] CHANNEL MORPHOLOGY
Check ONE in each category (Or 2 & average)

SINUOSITY: ☐ HIGH [4] ☐ MODERATE [3] ☐ LOW [2] ☑ NONE [1]

DEVELOPMENT: ☐ EXCELLENT [7] ☐ GOOD [5] ☑ FAIR [3] ☐ POOR [1]

CHANNELIZATION: ☐ NONE [6] ☐ RECOVERED [4] ☐ RECOVERING [3] ☑ RECENT OR NO RECOVERY [1]

STABILITY: ☐ HIGH [3] ☑ MODERATE [2] ☐ LOW [1]

Comments

Channel: 7 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R): ☑☑ NONE / LITTLE [3] ☐☐ MODERATE [2] ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R): ☐☐ WIDE > 50m [4] ☐☐ MODERATE 10-50m [3] ☐☐ NARROW 5-10m [2] ☐☐ VERY NARROW < 5m [1] ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R): ☐☐ FOREST, SWAMP [3] ☐☐ SHRUB OR OLD FIELD [2] ☐☐ RESIDENTIAL, PARK, NEW FIELD [1] ☐☐ FENCED PASTURE [1] ☑☑ OPEN PASTURE, ROWCROP [0] ☐☐ CONSERVATION TILLAGE [1] ☐☐ URBAN OR INDUSTRIAL [0] ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 3 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH — Check ONE (ONLY!): ☑ > 1m [6] ☐ 0.7-<1m [4] ☐ 0.4-<0.7m [2] ☐ 0.2-<0.4m [1] ☐ < 0.2m [0]

CHANNEL WIDTH — Check ONE (Or 2 & average): ☐ POOL WIDTH > RIFFLE WIDTH [2] ☐ POOL WIDTH = RIFFLE WIDTH [1] ☑ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY — Check ALL that apply: ☐ TORRENTIAL [-1] ☐ VERY FAST [1] ☑ FAST [1] ☑ MODERATE [1] ☑ SLOW [1] ☐ INTERSTITIAL [-1] ☐ INTERMITTENT [-2] ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential: Primary Contact / Secondary Contact (circle one and comment on back)

Comments

Pool / Current: 10 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH: ☐ BEST AREAS > 10cm [2] ☐ BEST AREAS 5-10cm [1] ☑ BEST AREAS < 5cm [metric=0]

RUN DEPTH: ☑ MAXIMUM > 50cm [2] ☐ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE: ☐ STABLE (e.g., Cobble, Boulder) [2] ☐ MOD. STABLE (e.g., Large Gravel) [1] ☑ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS: ☐ NONE [2] ☑ LOW [1] ☐ MODERATE [0] ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 3 (Maximum 8)

6] GRADIENT (4.11 ft/mi)
DRAINAGE AREA (37.3 mi²)

☐ VERY LOW - LOW [2-4] ☑ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6]

%POOL: 5 %GLIDE: __ %RUN: 90 %RIFFLE: 5

Gradient: 6 (Maximum 10)

Fair

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

OhioEPA

QHEI Score: 53

Stream & Location: HYR site #12 *RM:* ___.__ *Date:* 8/25/15

Scorers Full Name & Affiliation: Cardno - ML, NE

River Code: __-___-___ *STORET #:* ______ *Lat./Long.: (NAD 83 - decimal °)* __.____ /8_.____ *Office verified location* ☐

1] SUBSTRATE
Check ONLY Two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average)

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR /SLABS [10]			☐☐ HARDPAN [4]		
☐☐ BOULDER [9]			☐☐ DETRITUS [3]	✓	✓
☐☐ COBBLE [8]	✓	✓	☐☐ MUCK [2]		
☐☑ GRAVEL [7]	✓	✓	☐☐ SILT [2]	✓	✓
☐☑ SAND [6]	✓	✓	☐☐ ARTIFICIAL [0]		
☐☐ BEDROCK [5]					

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☑ 3 or less [0]

Comments

ORIGIN
- ☐ LIMESTONE [1]
- ☑ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☐ MODERATE [-1]
- ☑ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☑ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☐ NORMAL [0]
- ☐ NONE [1]

Substrate: 12 (Maximum 20)

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.

- 2 UNDERCUT BANKS [1]
- 3 OVERHANGING VEGETATION [1]
- 2 SHALLOWS (IN SLOW WATER) [1]
- ___ ROOTMATS [1]
- ___ POOLS > 70cm [2]
- ___ ROOTWADS [1]
- ___ BOULDERS [1]
- ___ OXBOWS, BACKWATERS [1]
- 1 AQUATIC MACROPHYTES [1]
- 1 LOGS OR WOODY DEBRIS [1]

AMOUNT Check ONE (Or 2 & average)
- ☐ EXTENSIVE >75% [11]
- ☑ MODERATE 25-75% [7]
- ☐ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

Cover: 12 (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]	

Comments

Channel: 8 (Maximum 20)

4] BANK EROSION AND RIPARIAN ZONE
Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

EROSION (L R)
- ☑☑ NONE / LITTLE [3]
- ☐☐ MODERATE [2]
- ☐☐ HEAVY / SEVERE [1]

RIPARIAN WIDTH (L R)
- ☐☐ WIDE > 50m [4]
- ☐☐ MODERATE 10-50m [3]
- ☐☐ NARROW 5-10m [2]
- ☐☐ VERY NARROW < 5m [1]
- ☑☑ NONE [0]

FLOOD PLAIN QUALITY (L R)
- ☐☐ FOREST, SWAMP [3]
- ☐☐ SHRUB OR OLD FIELD [2]
- ☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
- ☐☐ FENCED PASTURE [1]
- ☑☑ OPEN PASTURE, ROWCROP [0]
- ☐☐ CONSERVATION TILLAGE [1]
- ☐☐ URBAN OR INDUSTRIAL [0]
- ☐☐ MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

Riparian: 3 (Maximum 10)

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)
- ☐ > 1m [6]
- ☑ 0.7-<1m [4]
- ☐ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (Or 2 & average)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☑ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☑ FAST [1]
- ☑ MODERATE [1]
- ☑ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☑ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

Pool / Current: 9 (Maximum 12)

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☑ BEST AREAS 5-10cm [1]
- ☐ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☑ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☑ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☐ LOW [1]
- ☑ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run: 3 (Maximum 8)

6] GRADIENT (3.8 ft/mi) DRAINAGE AREA (16.8 mi²)
- ☐ VERY LOW - LOW [2-4]
- ☑ MODERATE [6-10]
- ☐ HIGH - VERY HIGH [10-6]

%POOL: ___ %GLIDE: ___
%RUN: 75 %RIFFLE: 25

Gradient: 6 (Maximum 10)

Scientific Methods

Laboratory Report

Client: Cardno
Matthew Linn
708 Roosevelt Road
Walkerton, IN 46574

Report No. 17267

Sampling location: Yellow River
Sample collection date: May 18, 2016

Serotyping

SMI Lab#	Site#	# of Isolates	DNA phage	I	I/II	II	III	IV	%Human	%Animal
17267	1	10	0	1	7	1	1	0	53	47
17268	4	10	0	0	2	8	0	0	80	20
17269	11	10	0	0	9	1	0	0	53	47
17270	12	10	0	0	10	0	0	0	50	50

SMI appreciates the opportunity to provide you with this analysis. Please feel free to contact us (574-277-4078) if you have any questions regarding this report.

Note: This report may not be reproduced, except in full, without a written approval from Scientific Methods Inc. (SMI).

Reviewed by: ______________________ Date: June 3, 2016

Finalized by: Matt Hayes Date: June 3, 2016

Scientific Methods

References and definitions

References:

Easyphage SPL, based on:
EPA Method 1602: Male-specific (F^+) and Somatic Coliphage in Water by Single Agar Layer Procedure (821-R-01-029)
Genotyping Male-specific RNA Coliphages by Hybridization with Oligonucleotide Probes. HSU, F.-C., Y.-S. CAROL SHIEH, J. VAN DUIN, M. J. BEEKWILDER, and M. D. SOBSEY.*Appl. Environ. Microbiol*. 61:3960-3966.
Applying meta-analysis of male-specific RNA coliphages to determine the probable sources of fecal contamination during poultry processing. F.-C. Hsu , Y. C. Shieh, J. Larkin, and M. D. Sobsey. ·2004. The Annual Meeting of the American Society for Microbiology, New Orleans, LA.

Definitions:

MRL: Minimum reporting limit

< = ñless than.ò It indicates the lowest reportable value by the procedure used for analysis.

pfu/100mL: plaque forming units per 100 mL

Coliphages belong to the group of bacterial viruses that infect and replicate exclusively within the coliform bacteria group.

Coliphages can be further classified as belonging to the ñmale-specificò or ñsomaticò groups depending upon their method of attachment to host cells.

Male-specific coliphages, also known as F^+coliphages, specifically infect the coliform bacteria that express physical appendages called sex pili. They are classified into F+DNA and F+RNA coliphages. Only F+RNA coliphages can be serotyped or genotyped.

Meta-analysis is based on a database, compiled of all data available on the published literature.