Curwensville Lake
Master Plan

July 2022

Curwensville Lake
Master Plan
Clearfield County, Pennsylvania

For:
Curwensville Lake
12903 Curwensville Tyrone Hwy
Curwensville, PA 16833

Prepared by:
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CURWENSVILLE LAKE MASTER PLAN

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FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment for the Curwensville Lake 2022 Master Plan

Clearfield County, Pennsylvania

In accordance with the National Environmental Policy Act of 1969 (NEPA), including guidelines in 33 Code of Federal Regulations (CFR), Part 230 (Procedures for Implementing NEPA), the Baltimore District of the U.S. Army Corps of Engineers (USACE), has assessed the potential impacts of the 2022 Curwensville Lake Master Plan (2022 Master Plan). The Curwensville Lake Project was authorized and constructed for the primary purposes of flood risk management on the West Branch Susquehanna River. Secondary uses of the project lands and waters are water supply, water quality, recreation, and environmental stewardship of natural and cultural resources. Implementation of the 2022 Master Plan and proposed land changes must recognize and be compatible with the primary project mission of flood risk management, and the secondary purposes of water supply, water quality, recreation, and environmental stewardship of natural and cultural resources.

The 2022 Master Plan will provide guidance for stewardship of natural resources and management for long-term public access to, and use of, the natural resources at Curwensville Lake, including the land classification of the USACE-managed lands. USACE manages project lands in accordance with land classifications that have been determined in the 2022 Master Plan for the project lands. Thus, land classifications are fundamental to project lands management. Land classifications (see Table S-1) provide for development and resource management consistent with authorized purposes and other federal laws. The 2022 Master Plan provides a comprehensive description of Curwensville Lake (the Project), a discussion of factors influencing resource management and development, new resource management objectives, a synopsis of public involvement and input into the planning process, descriptions of existing development, and considerations of future development activities.

Under the No Action Alternative, USACE would take no action, which means no new resource analysis or land reclassifications would occur. The operation and management of the Project would continue as outlined in the 1968 Master Plan.

The Proposed Action includes adopting the 2022 Master Plan to reflect changes in land management and land uses, USACE regulations and guidance that have occurred since the release of the 1968 Master Plan, and coordination with the public. The 2022 Master Plan refines land classifications to meet authorized project purposes and current resource objectives. This includes a mix of natural resource and recreation management objectives that are compatible with regional goals established by stakeholders and USACE during the master planning process, recognize outdoor recreation trends, and are responsive to public comment. The purpose of the Proposed Action is to update the Curwensville Lake Master Plan. The action is needed as required by Engineer Regulation (ER) 1130-2-550 "Recreation Operations and Maintenance Policies," and Engineering Pamphlet (EP) 1130-2-550 "Recreation Operations and Maintenance Guidance and Procedures." The 2022 Master Plan

is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years and is needed to update the Curwensville Lake Master Plan in accordance with January 2013 updates to the ER and EP 1130-2-550.

Table S-1 identifies the required land and water surface classification changes associated with the Proposed Action.

Table S-1. Proposed Changes to Land Classifications at Curwensville Lake

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
Project Operations	273.8	217.2	Lands are associated with the dam and spillway structures that are operated and maintained for the flood risk management mission of the Project. The project operations area has changed slightly along Curwensville Tyrone Highway. The change in acres of the Project Operations area is converted to Vegetative Management in the 2022 Master Plan to more accurately reflect the activities on this land.
High Density Recreation	314.6	300.7	Lands are currently developed for intensive recreational activities and include boat launches, day use areas, and campgrounds. The new criteria for this land classification includes areas developed specifically to support intensive recreational activities. This land classification has been developed to support concentrated visitation and use of the recreational facilities they host. Dependent on available space, funding, and public demand, these areas may support additional outdoor recreation development in the future.
Multiple Resource Management Land			
Low Density Recreation	0	213.5	Management of this land classification calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics, while also supporting low impact recreational opportunities such as bank fishing, hiking, wildlife viewing, and access to the shoreline. Hunting may also be allowed in select areas that are a reasonable and safe distance from high density recreational areas, dam operations, and adjacent residential properties. The new land classification criteria exclude vegetation and wildlife management areas, leaving only areas with minimal development to support passive recreation use (i.e., primitive camping, hunting, trails, wildlife viewing, etc.).

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
Wildlife Management	1,290.6	(2,195.3)	This land classification was considered in the 1968 Master Plan and will continue in the 2022 Master Plan. However, because the wildlife management acres all overlap with other land classifications, the wildlife management acres are excluded from the total acres of the project. Wildlife management activities will continue to occur throughout the Curwensville Lake Project area. See Figure 2-1 in the Curwensville Lake 2022 Master Plan to see where wildlife management activities occur.
Vegetative Management	0	1,146.8	This land classification was not considered in the 1968 Master Plan. This classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. These lands may or may not be protected from development. In general, vegetative resources on USACE lands are managed for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber management.
Water Surface			
Designated No-Wake	0	142.3	Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps, mooring areas, swimming areas, and shallow areas. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Restricted	0	1.4	Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The restricted area is marked year-round by a cable across the intake channel with hanging restricted area signs. This change reflects new classification criteria and no actual change in water use. This

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
			designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Open Recreation Area	772.8	629.1	Open Recreation area includes all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use. This area includes all remaining water surface area outside of the Restricted and No-Wake Zones.
Total	4,063.7*	4,016.1*	

* *Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.*

USACE chose the Proposed Action because it would meet regional goals associated with good stewardship of land and water resources, meet regional recreation goals, and allow for continued use and development of project lands without violating national policies or public laws.

USACE used the Environmental Assessment (EA) and comments received from other agencies to determine whether the Proposed Action requires the preparation of an Environmental Impact Statement (EIS). This included an assessment of environmental, social, and economic factors that are relevant to the recommended alternative considered in this assessment. The EA determined none/negligible impact would occur to the following resources: air quality, greenhouse gasses and climate, noise, geology, cultural resources, groundwater, utilities, hazardous materials and waste, socioeconomics and environmental justice, and traffic and transportation (see Section 3.1 of the EA). Minor impacts could occur to water resources, soils, and biological resources, primarily during construction of future master planning projects (See Sections 3.2 through 3.5 of the EA). Efforts would be made to reduce adverse impacts by using standard construction best management practices (BMPs) to reduce disturbance, soil erosion, and sedimentation into adjacent surface waters and wetlands. Construction and operations of future master planning projects would use BMPs associated with prevention of impacts to sensitive species. These recommendations would occur during the time future projects are proposed and would include environmental reviews of each project.

Beneficial impacts would occur to water resources, soils, biological resources, and land use and recreation due to land reclassification. Beneficial impacts to water, soil, biological resources, and land use and recreation would occur through the establishment of separating

the land classification between high and low density recreation areas, the vegetative management land classification, and no wake zone classification. Additional beneficial impacts to the land use and recreation would also occur with the separation of the water surface classifications in no wake zone, restricted, and open recreation area.

Conclusion

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other federal, state and local agencies, Tribes, input of the public, and the review of my staff, it is my determination that the Proposed Action alternative would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

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Date

ESTHER S. PINCHASIN
Colonel, U.S. Army
Commander and District Engineer

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1 INTRODUCTION

1.1 PROJECT AUTHORIZATION

The Curwensville Dam and Reservoir Project (hereafter "Curwensville Lake Project" or "Project") was authorized by the Flood Control Act of 3 September 1954 in accordance with House Document 29, 84th Congress, 1st session, as a unit of the comprehensive flood control plan for the protection of communities in the West Branch Susquehanna River basin.

The Curwensville Lake Project was designed and constructed under the direction of the U.S. Army Corps of Engineers (USACE), Baltimore District. Construction for the necessary relocation of railroads and highways was initiated in May 1962. The construction of the dam and appurtenant works was started in April 1963 and was operationally complete in November 1965.

1.2 PROJECT PURPOSE

Curwensville Lake Project is a unit in the comprehensive flood control plan for the West Branch Susquehanna River. This reservoir has the primary objective of flood risk reduction for the West Branch Susquehanna River from the dam to the Main Stem Susquehanna River at Sunbury. Secondary uses of the Project lands and waters are water supply, water quality, recreation, and environmental stewardship of natural and cultural resources. In 1994, municipal and industrial water supply for downstream users was added as an authorized project purpose. Curwensville Lake Project lands not used for operation and maintenance of the Dam are leased to Clearfield County. Clearfield County leases 362 acres that they operate and maintain for recreation at the Curwensville Lake Project. The Pennsylvania Game Commission has a license to manage wildlife populations and habitat areas upstream of and around Curwensville Lake for the purpose of environmental stewardship. The recreational area, managed by Clearfield County, on Curwensville Lake Project lands are used for a variety of activities, such as swimming, camping, boating, hunting, fishing, hiking, picnicking, and wildlife viewing.

1.3 PURPOSE AND SCOPE OF MASTER PLAN

The purpose of this document is to update the Curwensville Lake Master Plan (MP), written in 1968. The Curwensville Lake Master Plan is the strategic land use management document that guides the comprehensive management and development of recreational, natural, and cultural resources throughout the life of the project. It is the basic document guiding USACE responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources.

This update to the Master Plan is required per Engineer Regulation (ER) 1130-2-550 "Recreation Operations and Maintenance Policies," and Engineering Pamphlet (EP) 1130-2-550 "Recreation Operations and Maintenance Guidance and Procedures." USACE is also required to prepare the appropriate National Environmental Policy Act (NEPA) documentation to support the Master Plan.

Since the construction of the Curwensville Lake Project, the original objective of flood risk management continues to be achieved, allowing the increased opportunity for numerous

recreation activities on and around the lake. This Master Plan provides an analysis and guidance for future recreation enhancement and development activities at Curwensville Lake in response to the increased demand for improvements to existing recreation resources, as well as additional new recreation resources on the project site. Since the recreational area is an outgrant to Clearfield County, they manage current and future recreation opportunities and ensure USACE missions are protected while providing quality and safe recreational opportunities for the public.

This document presents an evaluation of the assets, needs, and potential of the Curwensville Lake Master Plan. This Master Plan reflects changes that have occurred to the project site, in the region, in recreation trends, and in USACE policy in the 53 years since the last master plan was published. It provides a management framework that balances the stewardship of natural resources and provision of high-quality recreation activities (managed by the Clearfield County) with the primary project purpose of flood risk management. This Master Plan addresses expressed public interest in the overall stewardship and management of project resources and shows the most desirable and feasible enhancements to existing facilities, as well as locations and types of new facilities needed to meet the identified needs. Any recreational improvements will be reviewed by USACE (including NEPA) but will be funded by Clearfield County and its partners.

Implementation of the Curwensville Lake Master Plan must recognize and be compatible with the primary project mission of flood risk management and secondary project missions of water supply, water quality, recreation, and environmental stewardship of natural and cultural resources.

The Master Plan update is a working document that will guide the use and development of the natural and constructed resources on USACE fee-owned lands for an estimated 15–25-year period (2022-2047). The Master Plan articulates USACE responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. It is a dynamic and flexible tool designed to address changing conditions. The Master Plan focuses on carefully crafted, resource-specific goals and objectives.

It is important to note what the Master Plan does not address. Details of design, management and administration, and program implementation are not intended to be addressed within the scope of a master plan. Additionally, Master Plans are not intended to address the specifics of regional water quality, shoreline management, or water level management.

The master planning process encompassed a series of interrelated and overlapping tasks involving the examination and analysis of past, present, and future environmental, recreational, and socioeconomic conditions, and trends. Utilizing a generalized conceptual framework, the process, as intended, focused on four primary components as follows:

- Regional and ecosystem needs,
- Project resource capabilities and suitability,
- Expressed public interests that are compatible with Curwensville Dam and Curwensville Lake authorized purposes, and
- Environmental sustainability elements.

The MP includes an environmental assessment (EA) and Finding of No Significant Impact (FONSI), which has been prepared in accordance with NEPA; regulations of the Council on Environmental Quality; and USACE regulations, including Engineer Regulation 200-2-2: Procedures for Implementing NEPA. The EA and FONSI are separate documents that provide an analysis of possible impacts associated with the Master Plan and can be found in Appendix E. The FONSI is also included at the front of this Master Plan.

1.4 DESCRIPTION OF PROJECT AND WATERSHED

The Curwensville Lake Project is located on the West Branch of the Susquehanna River in Clearfield County, Pennsylvania. It is 13 miles southwest of Clearfield, Pennsylvania (as shown in Figure 1-1) and 30 miles southeast of DuBois, Pennsylvania. The Project occupies approximately 4,063 acres of land. The Curwensville Dam formed Curwensville Lake, which has a drainage area of 365 square miles. The dam manages 98 percent of the flow on the West Branch of the Susquehanna River at Curwensville (about 2 miles from the Curwensville Dam at borough center) and 75 percent of the flow at the borough of Clearfield (about 8 miles from Curwensville Dam at borough center). The Project reduces the flood risk along the West Branch of the Susquehanna River below the dam, supplies water downstream in support of the Susquehanna River Basin Commission's (SRBC) basin wide low flow management policies, and provides a lake for recreation, fish, and wildlife. Figure 1-2 is a site map of Curwensville Lake. Although Curwensville Dam was operationally complete in November 1965, recreational facilities did not become available until the spring of 1966. The total federal cost of the project was $20.3 million in 1965.

The Curwensville Lake Project is located along a narrow valley with steep slopes in the downstream portion that become gentler in the upstream reaches. The surrounding ridges and slopes are wooded, and the valley floor above the limits of the recreation lake is well covered with light timber and brush. In the upper reaches of the reservoir, the valley floor was used for farming. Clay mining has been an important industry in this area and remains so to this day. Considerable strip mining was carried out in the reservoir area immediately upstream of the dam and on the adjacent hillsides. Most of the pits and spoil piles in the lake area resulting from this strip mining have been leveled, filled, and landscaped or are inundated by lake water. All spoil piles within the lake area were graded to elevation 1,150 ft so as not to present a boating hazard to recreational users.

1.5 DESCRIPTION OF LAKE

At the conservation pool level of 1,162 feet Project Construction Datum (PCD), the Curwensville Lake is 3,410 feet wide (at widest point), 6.5 miles long, has a 19.2-mile-long

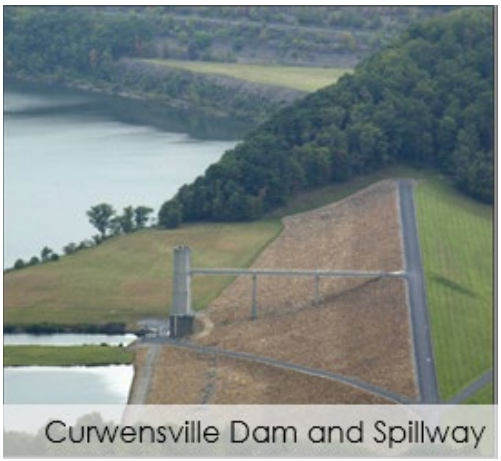

Curwensville Dam and Reservoir

shoreline, and a surface area of 770 acres. At this level, the lake contains 7,483 acre-feet of water. If the reservoir reaches the spillway crest (top of the flood control pool) at 1,228 feet PCD, the reservoir surface area covers 2,877 acres and stores 119,467 acre-feet of water. Data on surface area and storage are based on a 2010 hydrographic survey. Since 1997, the pool is maintained year-round at 1,162 feet PCD to allow for multiple project purposes. Previously, a seasonal pool level was held at a lower elevation (1,155 feet PCD) between December and April.

The Curwensville Lake Project is operated for the following purposes according to the Reservoir Regulation Manual (2020) for the Susquehanna River Basin: (1) reducing flood risk downstream on the West Branch Susquehanna River; (2) maintaining year round elevation of 1,162 feet PCD for purposes of municipal and industrial water supply; (3) neutralizing water quality due to acid mine discharges entering the West Branch Susquehanna River downstream of the dam, especially from Anderson and Clearfield Creeks, (4) allowing "pass through" of acid mine drainage treatment output from the Lancashire 15 Acid Mine Drainage (AMD) Treatment plant 45 miles upstream of the dam; and (4) recreation (USACE 2020a).

1.5.1 Embankment/Dam

The Curwensville Dam consists of a rolled earthfill embankment 2,850 feet long having a width at its top of 25 feet and a maximum height of 131 feet above the streambed. The top of the dam elevation is 1,257 feet PCD (USACE 2020a).



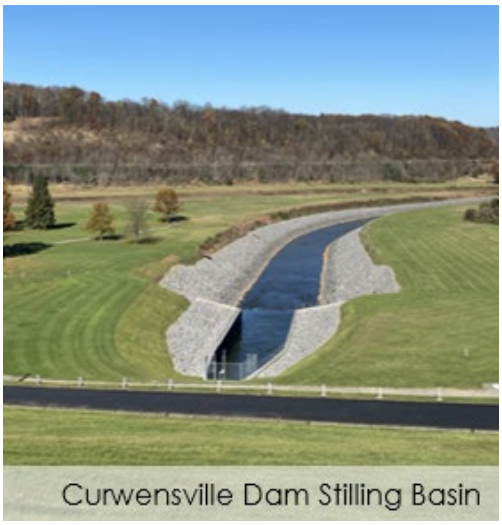
Curwensville Dam and Spillway

1.5.2 Spillway

The uncontrolled spillway is constructed in rock in a saddle adjacent to the left abutment. It is 480 feet long and has a crest elevation of 1,228 feet PCD. The spillway consists of a concrete sill excavated in a natural rock saddle. At design surcharge (elevation of 1,251 PCD), the spillway capacity is 203,126-acre feet under a total surcharge of 23 feet. To date, spillway flow has not occurred (USACE 2020a).

1.5.3 Flood Control Outlet Works

The outlet works are located on bedrock at the left end of the dam and consist of three hydraulic slide (flood) gates (5.5-ft by 12-ft each) located in the intake control tower, a 594-foot-long, 15-foot-diameter conduit that is under the main embankment, and a stilling basin. In addition, two 30-inch diameter bypass outlet gates are located on either side of the gated outlet system. The total length of the outlet works (tower, tunnel and stilling basin) is about 918 feet. The maximum discharge through these outlet works with the lake at spillway crest and all gates completely opened is 9,800 cfs (USACE 2020a).



Curwensville Dam Stilling Basin

1.6 HYDROPOWER FACILITIES

There are currently no hydropower facilities on project lands. Hydropower is not currently an authorized purpose at the Curwensville Dam. However, in 1984, the Nuclear Energy Group applied for a preliminary permit to study the feasibility of hydropower at the Curwensville Dam. The permit expired and the project did not move forward to construction. In 2019, Lock Hydro Friends Fund XXIXX, LLC. filed for and received an application for a preliminary permit, pursuant to section 4(f) of the Federal Power Act, to study the feasibility of the Curwensville Dam Hydropower Project No. 14981. The permit to study the feasibility of electric generation at the Project was approved in January 2020 and will expire in December 2023. The potential for hydropower to come to the Curwensville Dam in the future continues to be studied by others.

1.7 PROJECT ACCESS

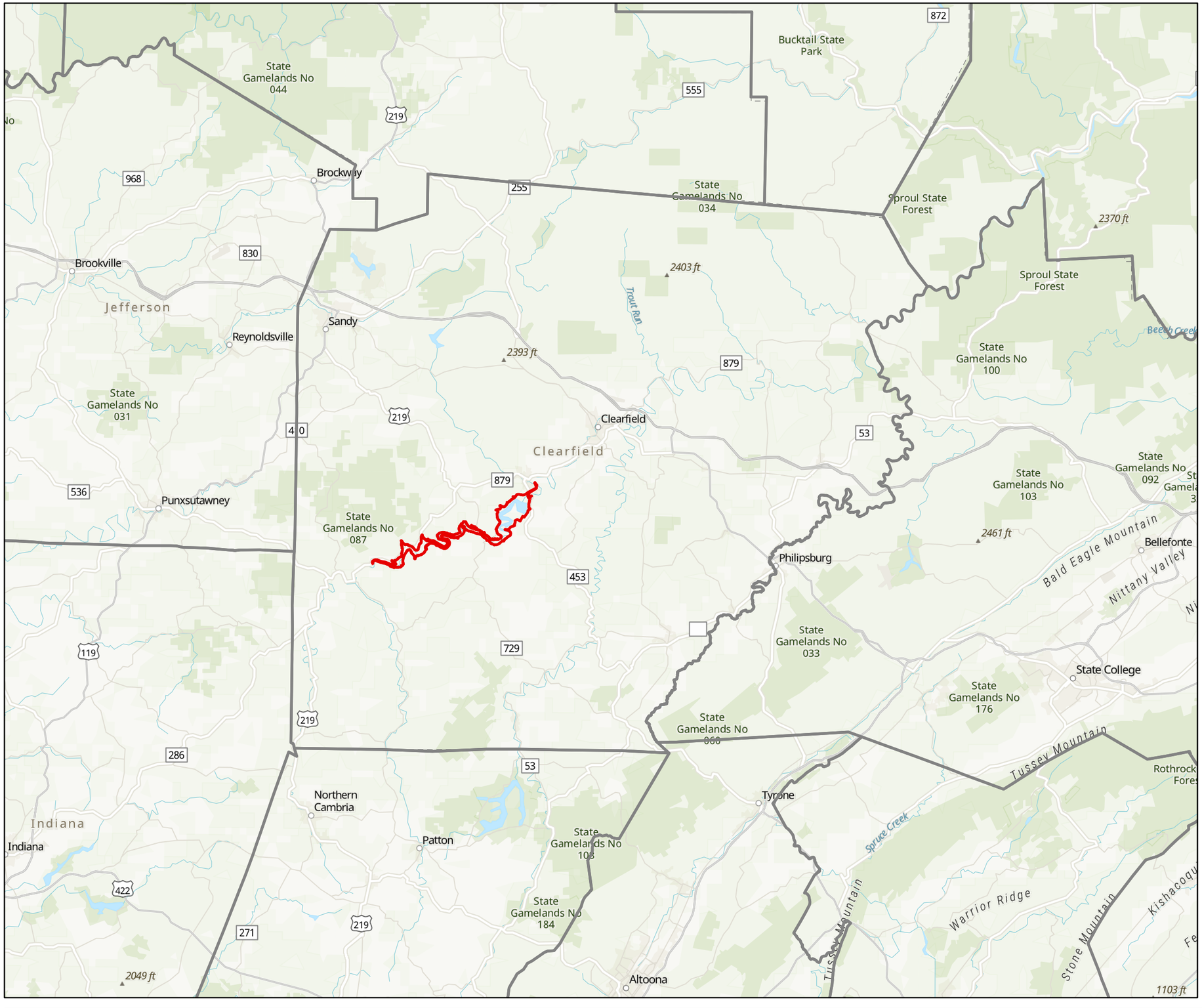
The Curwensville Lake Project can be accessed from Pennsylvania Route 453 that runs about 44 miles from Curwensville to Alexandria in Pennsylvania. Pennsylvania Route 453 connects directly to the Curwensville Dam access roads and within a mile of the Curwensville Lake recreation area road (Lake Drive). The Curwensville Lake recreation area can also be accessed by Pennsylvania Route 729 that runs 22 miles between Grampian and Smithmill. From Pennsylvania Route 729, River Road and then Lake Drive can be used to access the Curwensville Lake recreation area (managed by Clearfield County). Additionally, Pennsylvania Route 969 can be used to get to the dam or recreation sites. Pennsylvania Route 969 spans 10 miles between Grampian and Curwensville. From Pennsylvania Route 969, either Pennsylvania Route 729 or Pennsylvania Route 453 can be used to arrive at the dam or recreation sites.

1.8 PERTINENT PRIOR REPORTS AND RELATED STUDIES

Documents and studies related to the Master Plan update are listed in this section with the dates of publication. The Bibliography section contains the full annotation for each report or study.

- Curwensville Lake Master Plan, 1968
- Curwensville Lake Operation and Maintenance Manual, 1969, 1987
- Curwensville Lake Major Reservoir Study, 1979
- Curwensville Lake Reallocation Study, Feasibility Report and EIS, 1992
- Curwensville Lake Cultural Resource Investigation, 2002
- Curwensville Lake Water Storage Study 2010
- Curwensville Lake Park Master Plan 2011
- Curwensville Lake Regulation Manual, updated 2020

Figure 1-1 Regional Vicinity



Curwensville Lake Master Plan

Regional Vicinity

Legend

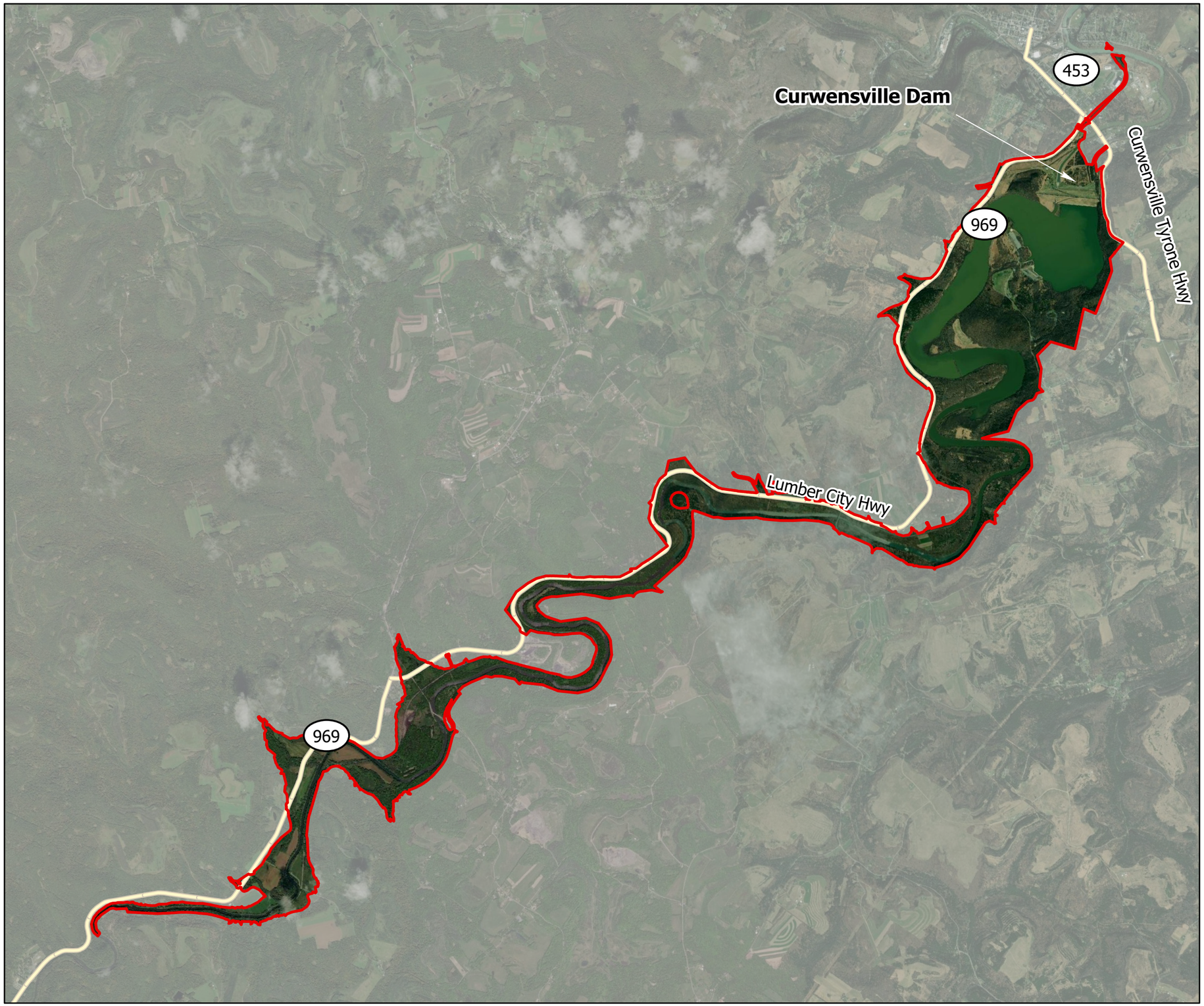
- Curwensville Study Area
- PA Counties

Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

0 5 10 Miles

N

Figure 1-2 Site Vicinity



Curwensville Lake Master Plan

Site Vicinity

Legend

Curwensville Study Area

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

0 4,500 9,000 Feet

N

1.9 PERTINENT PROJECT INFORMATION

Table 1-1 below provides pertinent information regarding existing storage capacity at Curwensville Lake. Based on a collection of geographic information system (GIS) data for this Master Plan, the water surface acreage at lake elevation 1,162 feet PCD was established to be 772.8 acres, which is higher than the current acreage of 770 acres that was established through a hydrographic survey completed in 2010. Until a detailed land survey is completed to determine the impact (i.e., increase of acres) to the surrounding recreational land classifications, this Master Plan update will maintain the acres determined from the GIS data collected. Table 1-1 reflects the most up to date storages and acreages based on the 2010 hydrographic survey, while Table 1-2 is based on collected GIS data for the land classifications.

Table 1-1. Water Storage Capacity and Related Pertinent Data at Curwensville Lake.

	Elevation (Feet PCD)	Storage (Acre-feet)	Acres
Top of Dam	1,257.0	224,016	4,088
Maximum Pool (Design Surcharge)	1,251.9	203,126	3,885
Full Flood Control (Spillway Crest)	1,228.0	119,467	2,877
Conservation Pool (all year)	1,162.0	7,483	770
Dead Storage	1,135	70	16

Source: 2020 Curwensville Lake Regulation Manual. Data based on 2010 hydrographic survey

All elevations cited in this plan unless otherwise noted, are referenced to the original project construction datum (PCD). In previous versions of the Curwensville Dam Water Control Manual, elevations were incorrectly referenced as NGVD29. In 2009, the Corps of Engineers began a Comprehensive Evaluation of Project Datums (CEPD). The CEPD effort was specifically intended to ensure that project elevations and datums are properly and accurately referenced to nationwide spatial reference systems used by other Corps Districts as well as federal, state, and local agencies. To that end, a new project benchmark was established and linked to the 1988 North American Vertical Datum (NAVD88). To convert PCD elevation for Curwensville Lake and its physical components to NAVD88, subtract 0.53 feet from the PCD elevation (USACE 2020a).

Table 1-2 provides pertinent information regarding acreages by proposed land classifications at the Curwensville Lake Project. See Table 4-1 for the prior land classifications. Acreages were calculated by Geographical Information Systems (GIS) data.

Table 1-2. Proposed Land Classifications at Curwensville Lake Project

Proposed Land Classifications	Acres
Project Operations[1]	217.2
High Density Recreation	300.7
Multiple Resource Management	1,360.7
Low Density Recreation	213.5
Wildlife Management[3]	(2,195.3)
Vegetation Management	1,146.8
Flowage Easements	838.2
Highway and Railroad Relocations[5]	345.6
Water Surface[1]	772.8
No-Wake[2]	142.3
Restricted	1.4
Open Recreation	629.1
Unmodified River Area[1]	180.9
Total[1,3,4,5]	**4,016.1**

[1]Includes old Susquehanna Riverbed acreages before the Curwensville Dam was built, which created the Recreation Pool. Fee Simple and Easement Lands total to 3,700.9 acres (does not include old riverbed acreage). GIS calculated total for Land of Curwensville Lake Project lands is 3,714.4 acres (does not include old riverbed acreage). There is 0.5 additional acres in Multiple Resource Management Lands due to riverbed acreages.

[2] No-Wake Zone includes area by beach for swimmers, boat ramp, and boat mooring area (17.5 acres); area near old railroad crossing (21.7 acres); and along narrow, shallow riverbed and wetland areas (103.1 acres).

[3]Wildlife Management overlaps with the other land classifications. The Wildlife Management acres in the Proposed Land Classification column reflects the number of acres currently maintained by the Pennsylvania Game Commission for wildlife populations and their habitat areas upstream of and around Curwensville Lake. Since there is overlap the acres listed for Wildlife Management is not added to the total acres.

[4] Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.

[5]The Highway and Railroad Relocation land classification with 345.6 acres includes 231 acres of divested land by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966. The divested acreage is not owned or managed by USACE.

2 EXISTING CONDITIONS & ANALYSIS

2.1 PHYSIOGRAPHIC SETTING

2.1.1 Ecological Setting

The Curwensville Lake Project at West Branch Susquehanna River is located within the Uplands and Valleys of Mixed Land Use level IV ecoregion within the Central Appalachian level III ecoregion covering a portion of Central Pennsylvania (Woods, Omernik, and Brown 2003). The Uplands and Valleys of Mixed Land Use ecoregion contains a mix of woodland and agriculture with rounded hills and low ridges ranging in elevation of 1,375 to 2,800 feet. The higher elevation tends to produce shorter growing seasons of approximately 135-165 days. Bituminous mines are abundant throughout the region (Woods, Omernik, and Brown 1999).

2.1.2 Climate

The Curwensville Lake Project is geographically located within the National Oceanic and Atmospheric Administration (NOAA) Climate Division 36-07 – Pennsylvania Central Mountains (NOAA 2020.). This area is characterized by a temperate climate, with the average annual temperature being between 38- and 58-degrees Fahrenheit and an average annual precipitation of 41.6 inches. The greatest monthly precipitation occurs from June through September. Most snowfall in the area occurs between December and February, with the area receiving on average of 45 inches of snowfall a year (U.S. Climate Data 2020).

2.1.3 Topography, Geology, and Soils

The Curwensville Lake Project is located within the Pittsburgh Low Plateau Section of the Appalachian Plateaus Province, which is characterized by smooth to irregular, undulating surface; narrow, relatively shallow valleys; strip mines and reclaimed land. The underlying rock type consists of shale, siltstone, sandstone, limestone, and coal. The origin of the landforms come from fluvial erosion, periglacial mass wasting, and strip mining (Sevan 2000).

The Curwensville Lake Project is located in a narrow valley with steep slopes at the downstream portion while becoming gentler sloping in the upstream reaches. The surrounding ridges and slopes are wooded, and the valley floor containing some agriculture and low density residential housing. Clay strip mining occurred previously but these areas have since been inundated by the reservoir (USACE 1968).

Soil complexes within the Curwensville Lake Project area range from occasionally flooded soils to extremely stony. Some of the soils commonly seen in floodplains that are occurring within the Curwensville study area are Atkins silt loam (At), Philo silt loam (Ph), and Pope loam (Po). Although, most of the soils found within the study area are located on gradual slopes such as Allegheny silt loam (AlB), Cavode silt loam (CaB), Monongahela silt loam (MoB), and Tyler silt loam (TyB) to name a few. There are some instances where moderately to very steep slopes and soils occur such as the Cedarcreek extremely channery loam (95D), Ernest silt loam (ErD), and Rayne-Gilpin complex (RcD) (USDA-NRCS, 2020).

Table 2-1. Soil survey at Curwensville Dam

Soil Name	Soil Description	Hydric Rating	K-Factor Rating	Farmland Classification
95C	Cedarcreek extremely channery loam, strongly sloping	0	0.05	Not prime farmland
95D	Cedarcreek extremely channery loam, moderately steep	0	0.05	Not prime farmland
AlB	Allegheny silt loam, 3 to 8 percent slopes	0	0.32	All areas are prime farmland
At	Atkins silt loam, 3 to 8 percent slopes, frequently flooded	85	N/A	All areas are prime farmland
BvB	Buchanan silt loam, 8 to 25 percent slopes, extremely stony	3	N/A	Not prime farmland
BvD	Buchanan silt loam, 0 to 8 percent slopes, extremely stony	3	N/A	Not prime farmland
CaB	Cavode silt loam, 3 to 8 percent slopes	5	0.37	Farmland of statewide importance
CaC	Cavode silt loam, 8 to 15 percent slopes	5	N/A	Farmland of statewide importance
ErB	Ernest silt loam, 3 to 8 percent slopes	5	N/A	Farmland of statewide importance
ErC	Ernest silt loam, 8 to 15 percent slopes	5	N/A	Farmland of statewide importance
ErD	Ernest silt loam, 15 to 25 percent slopes	3	N/A	Not prime farmland
GlB	Gilpin channery silt loam, 3 to 8 percent slopes	0	N/A	All areas are prime farmland
GlC	Gilpin channery silt loam, 8 to 15 percent slopes	0	N/A	Farmland of statewide importance
MoB	Monongahela silt loam 3 to 8 percent slopes	0	0.37	Farmland of statewide importance
Ph	Philo silt loam, 0 to 3 percent slopes, occasionally flooded	10	0.32	All areas are prime farmland
Po	Pope loam, 0 to 3 percent slopes, occasionally flooded	6	N/A	All areas are prime farmland
Pu	Purdy silt loam	75	0.37	Not prime farmland
RaC	Rayne silt loam, 8 to 15 percent slopes	0	0.32	Farmland of statewide importance
RbF	Rayne channery silt loam, 25 to 65 percent slopes	0	0.17	Not prime farmland
RcD	Rayne-Gilpin complex, 15 to 25 percent slopes	0	0.17	Not prime farmland
TyA	Tyler silt loam, 0 to 3 percent slopes	5	0.43	Farmland of statewide importance
TyB	Tyler silt loam, 3 to 6 percent slopes	10	0.31	Farmland of statewide importance
Ud	Udifluvents, sandy	10	0.10	Not Prime Farmland
Up	Udorthents, smoothed	5	0.10	Not prime farmland

Soil Name	Soil Description	Hydric Rating	K-Factor Rating	Farmland Classification
WhB	Wharton silt loam, 3 to 8 percent slopes	5	N/A	All areas are prime farmland
WhC	Wharton silt loam, 8 to 15 percent slopes	2	N/A	Farmland of statewide importance
WhD	Wharton silt loam, 15 to 25 percent slopes	0	N/A	Not Prime Farmland

Source:(USDA-NRCS, 2020)

2.1.4 Hydrology and Groundwater

The Curwensville Lake Project is located on the West Branch Susquehanna River approximately 0.5 mile downstream of Pennsylvania Route 453, which is on the outskirts of Curwensville. The dam is located within the Upper West Branch Susquehanna Watershed (HUC # 02050201). Curwensville Dam manages approximately 365 square miles or 98 percent of the flow on the West Branch of the Susquehanna River at Curwensville (about 2 miles from the Curwensville Dam at borough center) and 75 percent of the flow at the borough of Clearfield (about 8 miles from Curwensville Dam at borough center). The project reduces flood risk along the West Branch of the Susquehanna River below the dam, supplies water downstream in support of SRBC's basin wide low flow management policies, and provides a lake for recreation, fish, and wildlife. Some immediate tributaries contributing to the reservoir include Anderson Creek and Montgomery Creek. The Stevenson Dam, Alvin R. Bush Dam, and Foster Joseph Sayers Dam are located on tributaries to the West Branch of the Susquehanna River that discharge downstream of the Curwensville project.

2.1.5 Borrow Areas

The Curwensville Lake Project site does not have any borrow areas.

2.2 ECOREGION AND NATURAL RESOURCES ANALYSIS

2.2.1 Vegetation

The Curwensville Lake Project supports numerous types of vegetation and habitats, including wetlands, open water features, grassy areas, fields, and forests. According to the U.S. Forest Service (USFS), North Central Pennsylvania is characterized by more forest than any other cover type (USFS 2017). The primary forest types are deciduous forests, with significant amounts of mixed and evergreen forests. Other major cover types include pasture/hay and cultivated crops. Nearly 50 percent of the forests in North Central Pennsylvania belong to the maple/beech/birch group. The primary species within this group include red maple, sugar maple, and black cherry. Other forest groups present in North Central Pennsylvania are the oak/hickory, white pine/red pine/hemlock, and aspen/birch groups.

Between 2009 and 2014, North Central Pennsylvania gained approximately 40,000 acres of forest, but lost approximately 70,000 acres, primarily due to development and conversion to agriculture, for a net decrease in forest acres of 0.6 percent. While most Pennsylvania forests are privately owned, North Central Pennsylvania has more federal and state-owned forests than any other Pennsylvania Region as well as a high degree of forest connectivity. This is primarily due to the presence of the Allegheny National Forest, which covers approximately 513,000 acres of land (USFWS 2017).

Several types of wetlands and open water features are present throughout the Project and include riverine, lacustrine, palustrine, and emergent systems (USFWS, 2020b). Each wetland classification creates a unique ecosystem for specific types of wetland plants and wildlife. In addition, wetland vegetation provides several beneficial uses which include enhancing water quality, filtering runoff, preventing localized erosion, and providing habitat and food sources for wildlife.

2.2.2 Wetlands

Natural wetlands are more uncommon around the dam due to the open recreation areas and fields. The United States Fish and Wildlife Service (USFWS) mapper captures 118.8 acres of wetland systems, not including lake or riverine systems (Table 2-2). The most dominant of the wetland types are freshwater forested/shrub wetland totaling 38.5 acres, with individual systems exceeding four to five acres each. The freshwater emergent wetlands and ponds are smaller in size with a few of the systems reaching one to two acres; however, most of the emergent and pond systems are less than an acre.

Table 2-2. Wetland areas within Curwensville Project Area

Wetland Type	Acres	Percent of Project Lands
Freshwater Emergent Wetland	12.3	0.3%
Freshwater Forested/Shrub Wetland	38.5	0.9%
Freshwater Pond	8.0	0.2%
Total Wetland	**118.8**	**3.0%**

Source: USFWS 2020b

2.2.3 Wildlife

The Curwensville Lake Project supports many habitat types including wetlands, grassy areas, fields, and forests, and therefore attracts several species of wildlife. Mammalian wildlife found on Project lands include white-tailed deer (Odocoileus virginianus), bobcat (Lynx rufus), river otter (Lontra canadensis), Eastern cotton tailed rabbit (Sylvilagus floridanus), fisher (Pekania pennanti), grey squirrel (Sciurus carolinensis), and groundhogs (Marmota monax). Common avian species include a variety of waterfowl and wading birds, woodpeckers and songbirds, as well as common game species including Wild Turkey (Meleagris gallopavo) and Ruffed Grouse (Bonasa umbellus) (DCNR, 2018).

The Pennsylvania Game Commission (PGC) has a license to perform wildlife management activities on approximately 2,195.3 acres over the Curwensville Project Area, shown in Figure 2-1. The PGC manages wildlife populations through maintaining fields (e.g., mowing), gates, fruit trees, signage, food plots, nesting structures, removal of fallen trees, and turkey tagging.

The PGC also manages the wild turkey population through trapping and leg tagging of wild turkeys occasionally around the Curwensville Lake Project. Tagging activities normally occur in late January through March.

Hunting and trapping is permitted on PGC licensed lands during any open season in accordance with the appropriate state and federal laws and regulations. All Pennsylvania

hunting and fishing laws apply throughout the entire project area. Common game species include elk (Cervus canadensis), white-tailed deer, ruffed grouse, eastern grey squirrel, black bear (Ursus americanus), and wild turkey (DCNR 2018).

Curwensville Lake and its tributaries support healthy populations of many native and stocked fish species. Species that are present within the reservoir include small and largemouth bass (Micropterus dolomieu and Micropterus salmoides), panfish (Centrarchidae spp.), tiger muskellunge (Esox masquinongy X Esox lucius), northern pike (Esox lucius), walleye (Sander vitreus), black crappie (Pomoxis nigromaculatus), brown bullheads (Ameiurus nebulosus), and channel catfish (Ictalurus punctatus) among others. Access to the lake for fishing is available throughout the year. The Pennsylvania Fish and Boat Commission (PFBC) manages the lake's fishery and stocks tiger muskellunge fingerlings in alternate years. Artificial fish habitat structures have been placed in the lake to improve its fishery and angling opportunities. Curwensville Lake supports recreational fisheries for bass, panfish, and tiger muskellunge. PFBC biologists sample the lake's fish populations periodically to guide management of the reservoir's fishery resources (DCNR 2020).

Figure 2-1. Pennsylvania Game Commission Management Areas

2.2.4 Threatened and Endangered Species

2.2.4.1 *Federally listed species*

As of 2020, two federally listed threatened or endangered species are known to exist within the project impact area, the Indiana bat (*Myotis sodalis*) and the Northern Long-eared bat (*Myotis septentrionalis*).

The Indiana bat is a small bat weighing only one-quarter of one ounce that was listed in 1967 and remains listed as federally endangered. In winter, Indiana Bats hibernate in caves and mines. In summer, their habitat includes small to medium river and stream corridors with well-developed riparian woods, woodlots within 1 to 3 miles of small to medium rivers and streams, and upland forests. Major threats to their populations include winter disturbance of hibernacula, commercialization of caves, pesticides and other contaminants, summer habitat destruction and mortality due to the white-nose syndrome fungus (USFWS 2019).

Myotis sodalist, Indiana Bat

Myotis septentironalis, Northern long-eared bat

Northern long-eared bats are medium sized bats (about 3-4 inches in length) associated with mature, interior forest environments. Unlike most other bats, the northern long-eared bat forages along wooded hillsides and ridgelines – not above valley-bottom streams and along the edges of riparian forests. The species is listed as threatened throughout its range, primarily due to impacts of white-nose syndrome. Populations at northern long-eared bat hibernation sites have declined by 99 percent since the discovery of white-nose syndrome. Forest fragmentation and conversion are also major threats to the species due to its' association with large blocks of mature forest (USFWS 2020a).

2.2.4.2 *Pennsylvania State Threatened & Endangered Species*

According to the Pennsylvania Natural Heritage Program screening tool, the state threatened Allegheny woodrat (*Neotoma magister*) is known to occur in the project area (PNDI, 2020). The Allegheny woodrat is listed as threatened in Pennsylvania and vulnerable nationally. They are related to packrats found in the Western United States and can be distinguished from common Norway rats based on their furred tail, larger ears and eyes, heavier head, and longer whiskers. Their preferred habitat includes extensive expanses of abundant, closely spaced surface rock surrounded by unfragmented forest. While they may be found in deciduous, coniferous, or mixed forests, mast-producing trees are important as a food source. Rocky areas are important habitat for Allegheny woodrats, as they nest deep within rock outcrops, use rock crevices and protected ledges for storing food, and establish latrines on flat rock surfaces protected by an overhang. Several factors are thought to have

contributed to the population's decline, including the decline of the mast producing trees, such as the American chestnut (*Castanea dentata*) (reduced from chestnut blight) and oak trees (reduced from gypsy moth infestations); infection by the racoon roundworm parasite; predation pressure from increasing great horned owl populations; competition with growing porcupine populations for habitat; and forest fragmentation. Populations in some of the Allegheny woodrat's range, including North Central Pennsylvania, are thought to be relatively healthy (Butchkowski 2014).

2.2.5 Other Protected Species

Bald Eagles (*Haliaeetus leucocephalus),* a previously federally and state-listed endangered species, were removed from the federal list in August 2007 and Pennsylvania's list in 2013. Although this species is not listed as an endangered or threatened species, it is protected under the Bald and Golden Eagle Protection Act, as noted by the USFWS Information for Planning and Consultation (IPaC) system (USFWS 2020a). According to Cornell Lab of Ornithology's (2020) and Curwensville State Park staff, both immature and adult Bald Eagles were sighted at Curwensville Reservoir during the 2020 breeding season.

The timber rattlesnake (*Crotalus horridus*) is a state protected species in Pennsylvania. Killing timber rattlesnakes is prohibited by Pennsylvania Fish and Boat Commission (PFBC). Timber rattlesnakes are large snakes of the pit viper family that can be identified by their "V"-shaped dark bands on a grey, yellow, black, or brown body. In Pennsylvania, timber rattlesnakes are typically found at elevations greater than 1,800 feet. They prefer southern-facing upland forested areas with talus slopes, rocky ledges and outcrops, and boulder fields, which are used for basking (thermoregulation), and dens. Threats to timber rattlesnake populations include human activities related to habitat alteration, overhunting and poaching (Urban 2004).

2.2.6 Invasive and Nuisance Species

Invasive species are non-native species whose introduction into an ecosystem is likely to cause environmental, human, or economic harm. Non-native species may not be affected by existing predators, disease, or other limiting factors in their introduced range and therefore may thrive and outcompete native species. Non-native invasive species are therefore often difficult and expensive to manage. The Curwensville Lake and associated lands are experiencing several terrestrial invasive species. No aquatic invasive species are documented within the lake. Some of the invasive and nuisance species found at the project area are described in the paragraphs below.

2.2.6.1 *Plants*

Several non-native invasive plant species can be found on Project lands, including Japanese stiltgrass (*Microstegium vimineum*), reed canary grass (*Phalaris arundinacea*), multiflora rose (*Rosa multiflora*), garlic mustard (*Alliaria petiolata*), and Japanese barberry (*Berberis thunbergii*). Some of the Curwensville Lake recreation area is open field and wooded areas with minimal understory and herbaceous layers due to presence of campgrounds. No invasive species management mechanisms are currently in place at the Curwensville Lake Project.

2.2.6.2 *Insects*


Agrilus planipennis, Emerald Ash Borer Beetle

Currently, the Project area has few problems with nonnative invasive insect pests; however, invasive insects have been damaging in the past and are likely to cause damage in the future. The emerald ash borer *(Agrilus planipennis Fairmarie*), for example, was destructive for many years at the Project area before the host species' (*Fraxinus spp*.) populations became too low to support emerald ash borer populations. Spotted Lanternfly (*Lycorma delicatula*) is another invasive insect native to China, Bangladesh, and Vietnam. The species was found in Pennsylvania in 2014 and has since spread to 34 counties, all of which are under a state-imposed quarantine. Clearfield County is not one of the counties that are affected yet; however, neighboring counties to the south and southeast are showing large numbers of the invasive pest (USDA Penn. 2020).

2.2.6.3 *Birds*

Both invasive and native nuisance bird species are present in the project area. The European starling (*Sturnis vulgaris*) was introduced to Central Park, New York City in 1890 and is now a common resident of both urban and rural areas in the United States. European starlings outcompete native cavity nesting species by evicting birds occupying a cavity and using it for their own nests (USDA APHIS 2017). Starlings are present in the Project but are not actively managed.

Canada geese (*Branta canadensis*) are common along both North American coastlines and throughout the central and lower United States and may exist in resident or migratory populations. Large populations of resident Canada geese can become a nuisance for many reasons, including causing damage to lawns, marshes, and cropland through overgrazing (USDA APHIS 2011). Canada geese have been historically problematic at the Project area and there are concerns of the geese causing elevated Escherichia coli (*E. coli*) levels in the lake. Curwensville recreation area are proposing nonlethal population control including harassment and egg addling, but these methods have yet to be implemented.

2.2.6.4 *Mussels*

Zebra Mussels (*Dreissena polymorpha*) were initially discovered at Curwensville Lake in March 2013, attached to the trash racks at the intake tower. The density and abundance of the Zebra Mussel population were characterized as low and sparse. Project staff has monitored the lake since the initial discovery and noted a decline in the population. No Zebra Mussels were seen from 2018 to 2020.


Zebra Mussels

In April 2021, Zebra Mussels were spotted on woody debris that had been recently removed from the base of the intake tower. Coordination with PFBC's Aquatic Invasive Species Coordinator has been initiated and the sighting of the Zebra Mussels at the lake has been documented on both the State of Pennsylvania's Invasive Species website (https://www.paimapinvasives.org/) and the U.S. Geological Service Nonindigenous Aquatic Species website (https://www.nas.er.usgs.gov/). The USACE and Curwensville Lake park staff will continue to monitor the lake for the presence, density, and abundance of the species and continue to coordinate with PFBC.

2.2.7 Water Quality

The water quality in Curwensville Lake is generally good, with pH values ranging between 6.5 and 7.0. The water quality is denoted by the U.S. Environmental Protection Agency (EPA) waterway impairment mapper (US EPA 2020b) as a good waterway, and water quality is not impaired with no impairments regarding aquatic life, including fish and shellfish consumption (US EPA 2020b).

Land use in the watershed is devoted mainly to woodland, mining, and agriculture. Several small communities and activities from farming in the watershed contribute to some nutrient loading. There are sporadic algae blooms in the lake following minor nutrient loading. No harmful algal blooms have been reported at Curwensville Lake to current date. Historically, when there are high nutrient levels and depletion of oxygen in the hypolimnion or the bottom layer of water, Curwensville Lake becomes a eutrophic lake. Yet, submerged aquatic vegetation (SAV) typically establishes in shallower areas during the summer. Some sources of acid mine drainage still exist upstream of the lake. Presently, these have only a minimal effect on the lake's water quality.

2.2.7.1 *Acid Mine Drainage*

The main water quality concerns in regulating Curwensville Lake are the potential for large releases to cause an acid slug on the West Branch Susquehanna River downstream from the dam, and the need to dilute increases in acidic water entering the West Branch Susquehanna River from some downstream tributaries. While conditions have improved in the past decade,

acidic conditions remain a concern. From its confluence with Clearfield Creek at Clearfield downstream to its confluence with Sinnemahoning Creek, the West Branch Susquehanna River has historically been adversely affected by acid mine drainage (AMD) and provides only a marginal environment for aquatic life. Downstream from Sinnemahoning Creek, the water quality in the West Branch Susquehanna River improves somewhat as the effects of acid mine drainage are diluted by better quality tributary inflows. Downstream from Lock Haven, the effects of acid mine drainage are not a significant concern due to the neutralizing effects of the highly alkaline Bald Eagle Creek and management practices of the F.J. Sayers Reservoir. Curwensville Lake is regulated in conjunction with Stevenson, Bush, and Sayers Dams to prevent or lessen the impacts of acid mine drainage.

There is a former mining operation located upstream of Curwensville Lake along the drainage divide between the Ohio and Susquehanna River Basins. Acid mine drainage from this site was previously treated and discharged into Blacklick Creek within the Ohio River Basin. The Pennsylvania Department of Environmental Protection (PADEP), acting through its Bureau of Abandoned Mine Reclamation (BAMR), constructed a new treatment plant, The Lancashire 15 AMD Treatment Plant, to replace the previous system that was near the end of its useful life. The new treatment system was completed in the summer of 2012. The Lancashire 15 AMD Treatment Plant has previously been referred to as the Barnes and Tucker AMD treatment facility. The treated AMD water is now discharged into the West Branch Susquehanna River about 45 stream miles upstream of Curwensville Dam, and represents an interbasin transfer of water from the Ohio River Basin to the West Branch Susquehanna River Basin.

SRBC requested that the transferred water be allowed to "passthrough" Curwensville Lake, undiminished in quantity except for transit losses, so that it might be available to mitigate for downstream consumptive water uses during low flow periods. Minor modifications to reservoir regulation procedures at Curwensville Lake were necessary to accommodate this request, but they have a negligible impact on the project.

Additionally, Curwensville Lake releases are occasionally still used to help neutralize acid discharges entering the West Branch Susquehanna River downstream of the dam, especially from Anderson and Clearfield Creeks. Although water quality conditions have improved, maintaining a stable lake level for recreation and concurrently providing sufficient outflow for downstream water quality control during low flow periods can be challenging. (USACE 2020a).

2.2.7.2 Local nutrient input

Historically, high water events of three feet or more inundate a Curwensville Lake recreation area bathroom facility located near the beach, which leads to its septic tank leaking contents back up through the bathroom facility. During these events, nutrient loads increase due to inputs from the septic tank in addition to increased inputs from agricultural fields within the watershed. However, there is a plan in place for this tank to be pumped out leading up to highwater events to prevent septic leaks. The Curwensville Lake staff take weekly E. coli tests to ensure the water quality is safe for swimming in the lake. It is very rare that the beach will close for E.coli levels (only closed once, but sampling error was the likely explanation). However, park staff are concerned that goose feces on the beach, which is cleaned daily

during summer months, could lead to future problems and park staff are interested in employing management techniques.

2.3 CULTURAL RESOURCES

2.3.1 Prehistoric

General consensus places the first settlement of the Pennsylvania region during the Paleo-Indian Period (16,500 – 10,000 years Before Present (BP)), although the date of the first inhabitants is debated. Various studies have dated it to anywhere between 12,500 BP to as early as 16,500 BP (Carr and Moeller 2015). The prehistory of the Curwensville Lake Project area generally conforms to that of the Mid-Atlantic region and is divided into three main time periods: Paleo-Indian (16,500 – 10,000 BP), Archaic (10,000 BP – 3,000 BP), and Woodland (3,000 BP – 400 BP) (USACE 2011). The periods are normally characterized in the archaeological record as changes in material culture, such as variations in stone tool assemblages or pottery.

The Paleoindian Period is typically characterized by the presence of fluted spear points. Population groups during this time generally practiced less sedentary subsistence patterns by moving around to areas with predictable food resources. Some evidence also points to Paleoindians preferring high quality stone to make their tools. Archaeologists tracing sources of this stone have documented a range of over 200 miles per year in movement (PHMC 2015).

The Archaic Period is divided into the Early (10,000 BP – 8500 BP), Middle (8500 BP – 5000 BP), and Late (5000 BP – 3800 BP) Periods, with a Transitional Period (3800 BP – 2800 BP) immediately preceding the Woodland Period. Population groups during this time practiced increased sedentary hunting and gathering routines, ultimately establishing base camps with special purpose camps located around them (GAI 2002:65). Base camps were typically located on broad terraces along major streams, with smaller satellite sites situated along tributaries. As population increased through time, so did the utilization of locally available resources such as hickory, walnut, hazelnut, and acorn.

The Transitional Period represents the change from the Late Archaic to the Early Woodland, and is characterized by an increase in sedentism, intensification of food procurement and processing, and distinctive technological changes, such as rhyolite importation and the change to broad spear point types (USACE 1998:4). An increased use in steatite bowls is also noted during this period, indicating a desire to collect and store seasonally available foods (USACE 2011).

The Woodland Period is marked by the presence of pottery and can be divided into the Early (3000 BP – 2300 BP), Middle (2300 BP – 1000 BP), and Late (1000 BP – 400 BP) Periods. The frequency of upland sites increases during this time, as groups became increasingly more sedentary. Settlement continued to rely on more permanent base camps, with specialized camps for hunting or lithic collection and reduction. By the Late Woodland, there is an increased use and development of agricultural resources such as maize, squash, and beans (USACE 2011).

2.3.2 Historic

The south and southeastern portions of Clearfield County were first acquired by Pennsylvania via the1768 Boundary Line Treaty of Fort Stanwix (Aldrich 1887). Moravian missionaries

including Christian Frederick Post, David Zeisberger, and John Ettwein explored the region, but it was not until 1785 that Pennsylvania acquired the remainder of Clearfield County via the 1784 Treaty of Fort Stanwix (ratified by the United States in 1785). The first European settlers arrived in the county shortly thereafter. Present-day Clearfield County was formed in 1804 from parts of Lycoming and Huntingdon Counties and included in its entirety Chincleclamousche Township. Chincleclamousche Township was divided into other townships beginning in 1807 and would continue to do so over the next century. The first permanent settlement took place within 25 years of the count's founding, principally along the West Branch of the Susquehanna River. The town of Curwensville was established in 1812 by John Curwen who immigrated to the region from Montgomery County (Aldrich 1887). Most of the land in the county was surveyed and divided into large tracts of 250 to 1,100 acres, of which a large part was given to soldiers for their service during the Revolutionary War. The early settlers came from the eastern part of the state. In later years many immigrants came directly from Europe (Hallowich 1988).

Practically all of the early settlers of Clearfield County were farmers. Later, the abundance of timber caused the development of extensive lumbering and greatly increased the immigration of people into the area. Following the development of mineral resource extraction (chiefly coal), large numbers of laborers came into the area and settled (Hallowich 1981). The economy of the newly populated region was based on agriculture and the rich mineral resources available in the county. Coal, iron, and timber resources promoted the early bituminous mining, charcoal iron, and lumbering industries. Coal was first mined in the county in 1804. Clearfield County became the largest producer of bituminous coal in the state and was also a leading producer of fire clay.

2.3.3 Previous Investigations at Lake

Thirteen cultural resources investigations have occurred at the Curwensville Lake Project. Seven of these were part of National Historic Preservation Act (NHPA) and Historic Sites Act cultural resources compliance actions, three were part of informant or amateur surveys, one was associated with institutional-based research, one was connected with a Pennsylvania Historical and Museum Commission (PHMC) grant, and one has an unknown name and survey type, but it resulted in the documentation of Site 36CD116. Table 2-3 lists known cultural resources investigations and their findings retrieved from the PHMC's Cultural Resource GIS. To date, a majority of the federal property above the flood pool has not been archaeologically investigated.

Table 2-3. Previous Cultural Resource Investigations.

Date	Name	Surveyor(s)	Type	Results
1963	An Archaeological Survey of the Valley of the West Branch of the Susquehanna River between Mahaffey and Curwensville, Pennsylvania	Temple University	Historic Sites Act compliance	No sites documented
1975	N/A	N/A	Informant/Amateur survey	Documentation of sites 36CD18, 36CD19, 36CD20, 36CD21, 36CD22, and 36CD37
1985	N/A	N/A	State or Federal compliance	Documentation of site 36CD35
1986	N/A	N/A	Informant/Amateur survey	Documentation of sites 36CD54, 36CD62, and 36CD68
1986	N/A	N/A	Institutional-based research	Documentation of sites 36CD66, 36CD69, and 36CD70
1987	N/A	N/A	Informant/Amateur survey	Documentation of sites 36CD45 and 36CD67
1987	N/A	N/A	PHMC grant	Documentation of sites 36CD65, 36CD76, and 36CD80
1989	Cultural Assessment of the Proposed Camping Areas at Curwensville Lake and Foster Joseph Sayers Lake, Clearfield and Centre Counties, Pennsylvania	U.S. Army Corps of Engineers, Baltimore District	Phase I NHPA compliance	No sites documented
1989	Phase I Archaeological Investigations of Proposed Recreational and Campground Sites at Curwensville Lake, Clearfield County, Pennsylvania	R. Christopher Goodwin and Associates	Phase I NHPA compliance	Documentation of sites 36CD48 and 36CD49

Date	Name	Surveyor(s)	Type	Results
1990	Phase I Archaeological Investigations, Curwensville Lake Reallocation Study, Curwensville Lake, Clearfield County, Pennsylvania	Louis Berger	Phase I NHPA compliance	No sites documented
1998	N/A	N/A	Federal compliance	Documentation of site 36CD100
2003	Cultural Resource Investigation of Tract 119, Curwensville Lake, Clearfield County, Pennsylvania	U.S. Army Corps of Engineers, Baltimore District	Phase I NHPA compliance	No sites documented
Unknown	Unknown	Unknown	Unknown	Documentation of site 36CD116

2.3.4 Recorded Cultural Resources

There are 22 known archaeological sites within the Curwensville Lake Project area. Eleven sites were documented through informant or amateur archaeological survey and feature unidentified prehistoric components. Three sites are associated with work completed as part of a PHMC research grant and are associated with unidentified prehistoric components. Three sites were documented through institutional-affiliated research and are associated with unidentified prehistoric components. Four sites were documented as part of Section 106 compliance excavations; two of these are nineteenth and early twentieth century, while the other two feature unidentified prehistoric components. One site originates from an unknown project but featured an unidentified historic component. None of these archaeological sites have been determined eligible for listing in the National Register of Historic Places (NRHP).

Known architectural or above-ground resources are associated with the Curwensville Dam such as the assistant dam tender's residence, the main office and maintenance building, the intake tower, spillway, and earthen embankment. Other above-ground resources include those associated with the Curwensville Recreation Area such as the main office, comfort stations, campgrounds, boat launches, and a beach. The Curwensville Dam and associated structures are currently being evaluated to determine its eligibility for inclusion in the NRHP.

2.3.5 Long-Term Objectives for Cultural Resources

- Identify and inventory any historic properties within the project area as funds permit.
- Create and maintain a Cultural Resources Management Plan as needed and as funds permit.
- Maintain compliance with federal cultural resources laws, including but not limited to, Sections 106 and 110 of the NHPA and the Archaeological Resources Protection Act (ARPA) within project area lands.
- Prevent unauthorized or illegal excavation and removal of cultural resources within project area lands.
- Increase public awareness and education of regional history.

2.4 DEMOGRAPHIC AND ECONOMIC RESOURCES

2.4.1 Current Demographics, Economics, Trends and Analysis

The zone of interest (ZOI) for the socio-economic analysis of the Curwensville Lake Project consists of eight Pennsylvania counties. The lake lies within Clearfield County and the surrounding counties include Centre, Cambria, Indiana, Jefferson, Elk, Cameron, and Clinton.

2.4.2 Population

According to the 2019 American Community Survey (ACS) 5-year Population estimate, the total population for the ZOI is 572,319, down from 589,660 in 2010 as shown in Table 2-4. The population in the ZOI is approximately 4.4 percent of the total Pennsylvania population (12,800,922 people). From 2019 through 2030, the population in the ZOI is expected to increase by 63,222, an annual growth rate of 0.39 percent per year. Of the ZOI counties, only Cameron and Elk, have a negative growth rate (-0.65 percent per year and -0.29 percent per year, respectively). Centre and Clinton Counties have the highest annual growth rates at 0.85 percent and 0.73 percent, respectively.

The distribution of the population among gender, according to the 2019 ACS, is approximately 49 percent female and 51 percent male within the ZOI, and approximately 51 percent female and 49 percent male for Pennsylvania as a whole. Most counties (6 out of 8) within the ZOI have nearly equal male and female populations (+/- 1 percent); however, Centre and Clearfield County have a relatively large difference in gender populations with an approximately 47 percent female to 53 percent male population as shown in Table 2-5 (USCB, 2019).

The median ages in Clearfield County and Pennsylvania are 46.3 years and 40.8 years, respectively, with ZOI median ages ranging from 31.7 years in Centre County to 52.2 years in Cameron County, as shown in Figure 2-2 (USCB, 2019).

The overwhelming majority of the ZOI population is white, with minority races making up 8.5 percent of the total population. Approximately 1.9 percent of the ZOI population identified as Hispanic or Latino (of any race), and 0.1 percent identified as American Indian of the Cherokee, Chippewa, Navajo, or Sioux tribal groupings, as shown in Figure 2-3 (USCB, 2019).

2.4.3 Education and Employment

In the ZOI, approximately 42.3 percent of the population aged 25 and older has obtained a high school diploma or equivalent. Approximately 13.7 percent have some college education but no degree, 9.2 percent have an Associate's degree, 15.1 percent have a Bachelor's degree, 10.8 percent have a Graduate degree or professional certification, 6.0 percent have a 9th to 12th grade education, and 2.8 percent have less than a 9th grade education (USCB, 2019).

The largest employment industry in the ZOI is educational services, and health care and social assistance at approximately 20.5 percent, followed by 11.8 percent in manufacturing, 8.1 percent in retail, and 5.8 percent in arts, entertainment, recreation, and accommodation and food services. All other industries make up 32.2 percent of employment. The civilian labor force unemployment rate within the ZOI is 5.2 percent, similar to the 5.8 percent unemployment rate for all of Pennsylvania (USCB, 2019).

2.4.4 Households and Income

There are approximately 275,097 households in the ZOI and 5,025,132 in Pennsylvania. The median household income in the ZOI ($49,816) is lower than Pennsylvania overall ($59,445). Of the ZOI counties, Cameron County has the lowest household income at $41,165, and Centre County has the highest household income at $60,403 (USCB, 2019).

Approximately 15 percent of persons living within the ZOI are below the poverty level, compared to 12.8 percent in all of Pennsylvania. Centre and Clinton Counties have the highest percentage of persons below the poverty level at 18.4 and 17.4 percent, respectively (USCB, 2019).

Table 2-4. Population Estimates and 2030 Projections

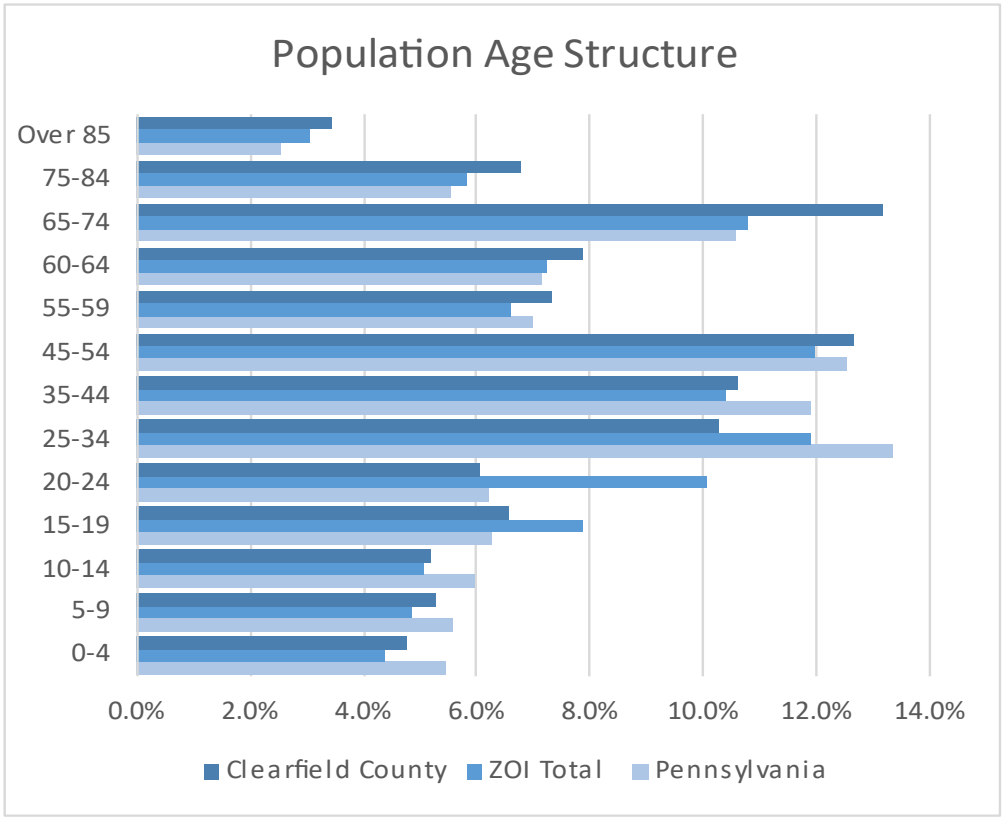
County	2010 Estimate		2019 Estimate		2030 Estimate		Growth
	Number	% of ZOI	Number	% of ZOI	Number	% of ZOI	rate
Pennsylvania	12,702,379	-	12,800,922	-	14,132,588	-	0.41%
Cambria County, PA	143,679	24.3%	130,192	22.7%	147,518	23.2%	0.13%
Cameron County, PA	5,085	0.9%	4,447	0.8%	4,422	0.7%	-0.65%
Centre County, PA	153,990	26.2%	162,385	28.4%	180,148	28.3%	0.85%
Clearfield County, PA	81,642	13.8%	79,255	13.8%	83423	13.1%	0.11%
Clinton County, PA	39,238	6.7%	38,632	6.8%	44,973	7.1%	0.73%
Elk County, PA	31,946	5.4%	29,910	5.2%	30,081	4.7%	-0.29%
Indiana County, PA	88,880	15.1%	84,073	14.7%	99,756	15.7%	0.61%
Jefferson County, PA	45,200	7.7%	43,425	7.6%	45,220	7.1%	0.00%
ZOI Total	**589,660**		**572,319**		**635,541**		**0.39%**

Source: (USCB, 2019 & Behney, 2014)

Table 2-5. Population Estimates by Gender

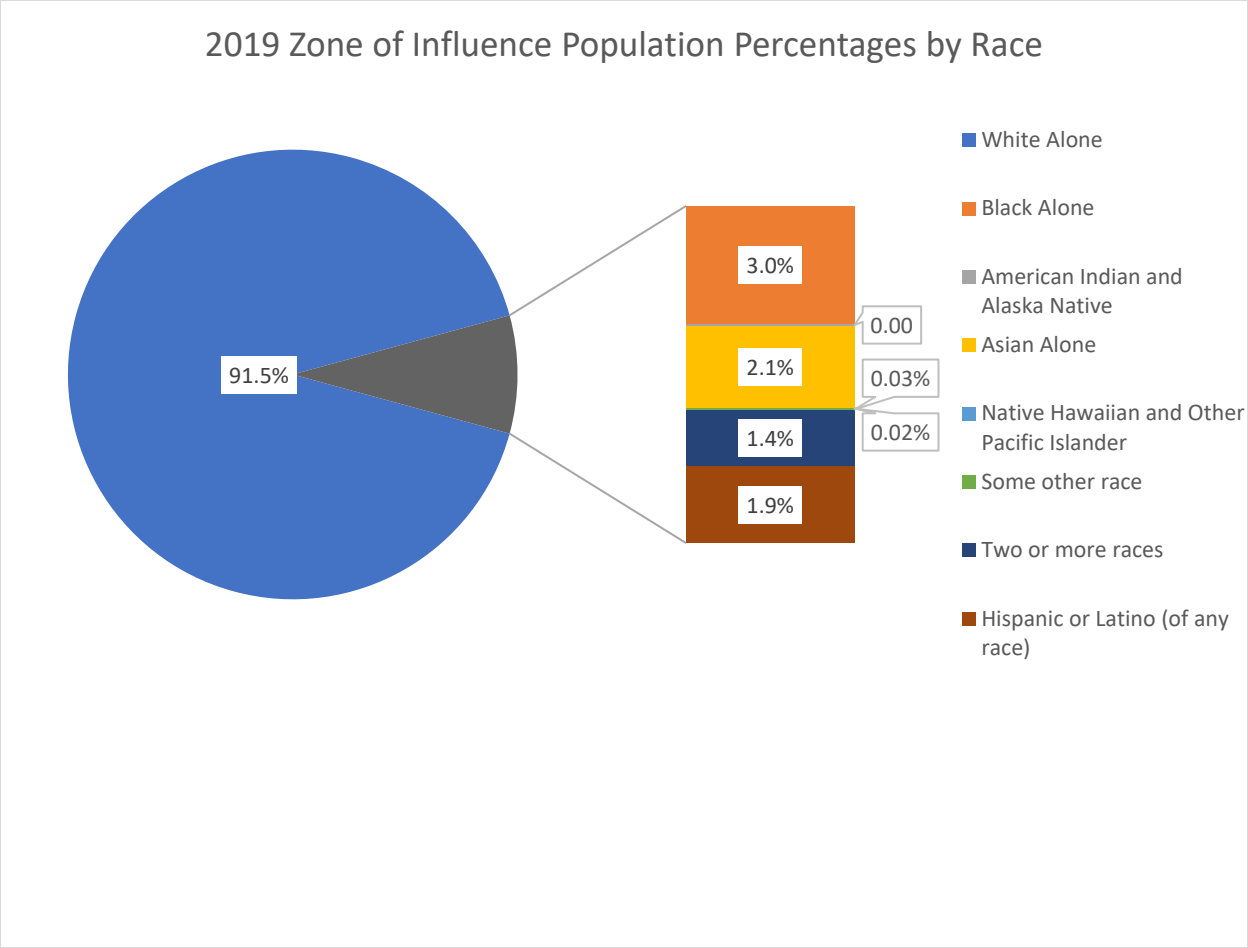
County	Population (K)	
	Female	Male
Pennsylvania	6,535.4	6,271.6
Cambria County, Pennsylvania	66.3	68.8
Cameron County, Pennsylvania	2.2	2.2
Centre County, Pennsylvania	77.0	85.4
Clearfield County, Pennsylvania	37.0	42.2
Clinton County, Pennsylvania	19.5	18.8
Elk County, Pennsylvania	15.0	15.3
Indiana County, Pennsylvania	42.0	42.0
Jefferson County, Pennsylvania	22.0	22.0
ZOI Total	**280.9**	**297.0**

Source: USCB 2019



Source: USCB 2019

Figure 2-2. Age Distribution



Source: USCB 2019

Figure 2-3. Population Estimates By Race

2.5 RECREATION FACILITIES, ACTIVITIES, AND NEEDS

2.5.1 Zone of Influence

The zone of influence for the Curwensville Lake Project area consists of eight Pennsylvania counties. Curwensville Lake lies within Clearfield County and the surrounding counties include Centre, Cambria, Indiana, Jefferson, Elk, Cameron, and Clinton County.

2.5.2 Visitation Profile

During the period October 2017 to September 2020, over 500,000 people visited the Curwensville Lake recreation area, with its heaviest visitation during summer and fall months. Even during the COVID-19 pandemic, Curwensville Lake recreation area saw a substantial increase in visitors and are expected to see a similar trend in 2021. The day users were the primary use type, but the Curwensville Lake recreation area does have high seasonal use of overnight camping areas. See Section 2.5.4 for activity breakdown at Curwensville Lake recreation area.

2.5.3 Recreation Facilities

The Curwensville Lake recreation area features various camping options with over 40 campsites, cabins, group camping, and primitive camping. Additionally, the recreation area has over 16 miles of hiking trails, 600-feet of beach, athletic fields, playgrounds, pavilions, parking areas, a disc golf course, over 60 shoreline boat mooring rental spaces, boat launches, fishing area, a dog park, a designated dog swimming area, and rentals for kayaks, paddleboards, and canoes. Most recreational types are seasonal from April through October. However, the boating, fishing, playgrounds, trails, and disc golf are open year-round.

2.5.3.1 *Parking Areas*

Various parking areas are offered throughout the recreational areas. The parking lots are located near each of the 5 pavilion locations, the boat launch, and the beach area.

Curwensville Lake Boat Launch and Mooring Area

2.5.3.2 *Boat Launch and Mooring*

The boat launch area is located near Pavilion 3. The area currently consists of a boat launch parking lot, 2 boat launch ramps with docks for loading and unloading, and mooring spaces for more than 60 vessels.

Curwensville Lake Beach

2.5.3.3 *Swimming Area (Beach and Bath House)*

A 600-foot beach area and a bath house are available to patrons along the northern peninsula of the recreation area. There is also a concessions area for the purchase of food and drinks.

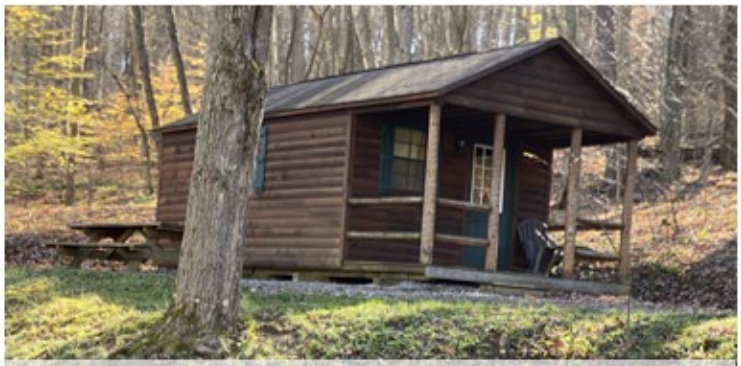
2.5.3.4 *Picnic and Other Day Use Areas*

A total of 5 picnic/pavilion areas are located throughout the recreation area with playground and bathroom facilities near each pavilion. The pavilion/picnic areas include picnic tables and charcoal grills. Additionally, a volleyball court is located near the beach and swimming areas, horseshoe pits, and cornhole boards. Other large, open fields are located throughout the recreation area for various activities and sports. A disc golf course runs through some of the open field and wooded areas of the park as well. The park also offers rentals for kayaks, paddleboards, and canoes. The park is pet-friendly with a gated dog park area in a grass field and a designated dog swimming area.

2.5.3.5 *Camping Area*

Curwensville staff manage over 40 campsites, ranging from sites with electric and charcoal grills to sites that provide a more primitive camping experience. There are camping opportunities for recreational vehicle (RV) campers with electric ranging from 30 to 50 amp. The park has an RV dump site for their RV campers. There are also 3 cabins available for rent. Most camp sites are located in the Campground Road loop; however, camp sites are spread throughout the park for camping in wooded areas, grassy areas, or with a lake view. Camping options are also available near the boat mooring areas for boaters to stay near their watercraft.

Pavilion 5 and Playground

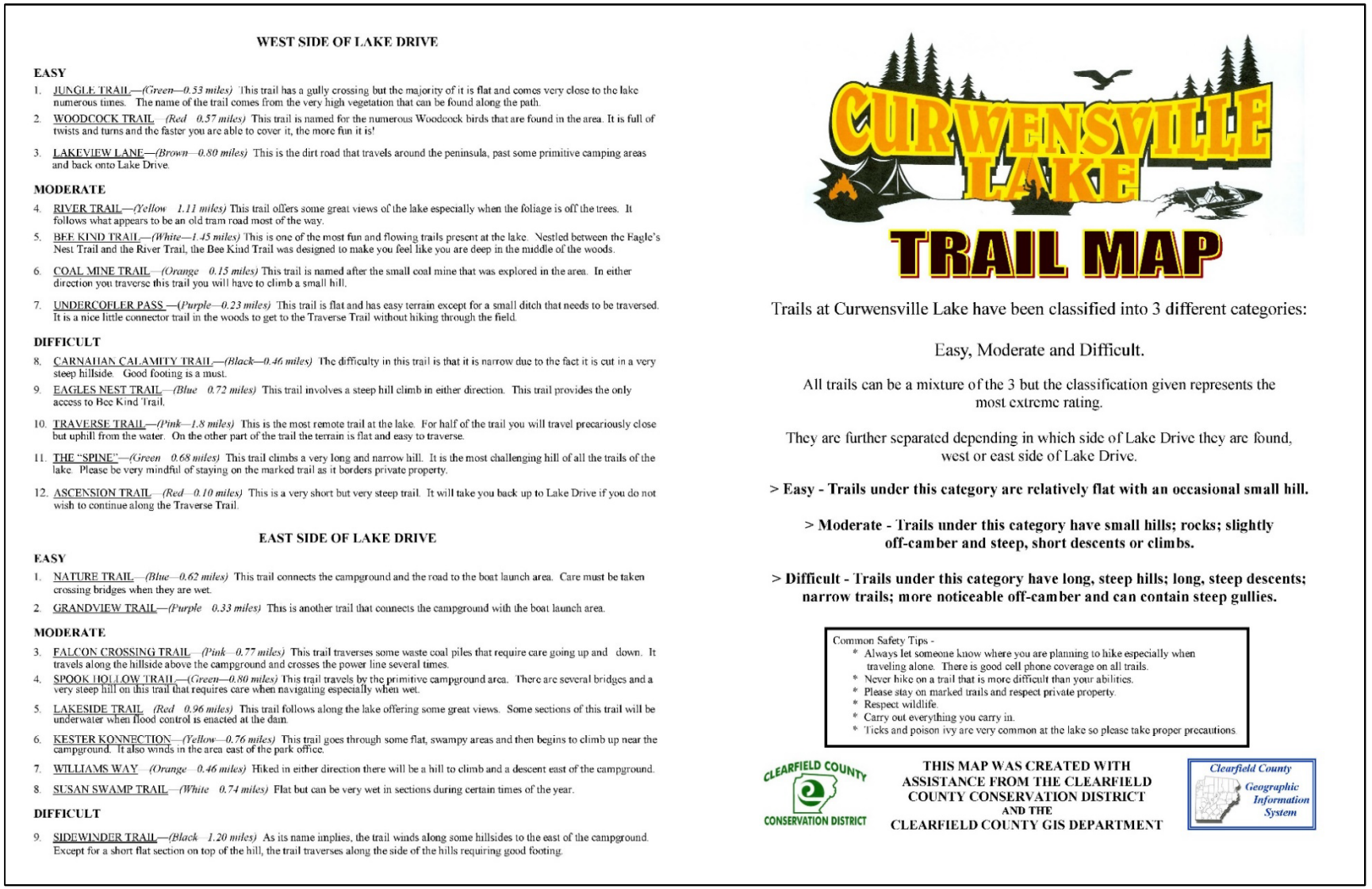


Cabin 1

Eagles Nest Hiking Trail

2.5.3.6 *Hiking*

Curwensville Lake Recreation area has approximately 16 miles of hiking trails, including 21 different trails classified into three different categories: easy, moderate, and difficult. The trails are further separated depending on which side of Lake Drive they are found. The easy trails are relatively flat with an occasional small hill. The moderate trails have small hills, rocks, slightly off-camber with steep descents or climbs. The difficult trails have long steep hills, long steep descents, narrow trails, more noticeable off-camber, and can contain steep gullies. See Figures 2-4 and 2-5 for description and map of trails at Curwensville Lake.



WEST SIDE OF LAKE DRIVE

EASY

1. JUNGLE TRAIL—*(Green—0.53 miles)* This trail has a gully crossing but the majority of it is flat and comes very close to the lake numerous times. The name of the trail comes from the very high vegetation that can be found along the path.
2. WOODCOCK TRAIL—*(Red 0.57 miles)* This trail is named for the numerous Woodcock birds that are found in the area. It is full of twists and turns and the faster you are able to cover it, the more fun it is!
3. LAKEVIEW LANE—*(Brown—0.80 miles)* This is the dirt road that travels around the peninsula, past some primitive camping areas and back onto Lake Drive.

MODERATE

4. RIVER TRAIL—*(Yellow 1.11 miles)* This trail offers some great views of the lake especially when the foliage is off the trees. It follows what appears to be an old tram road most of the way.
5. BEE KIND TRAIL—*(White—1.45 miles)* This is one of the most fun and flowing trails present at the lake. Nestled between the Eagle's Nest Trail and the River Trail, the Bee Kind Trail was designed to make you feel like you are deep in the middle of the woods.
6. COAL MINE TRAIL—*(Orange 0.15 miles)* This trail is named after the small coal mine that was explored in the area. In either direction you traverse this trail you will have to climb a small hill.
7. UNDERCOFLER PASS —*(Purple—0.23 miles)* This trail is flat and has easy terrain except for a small ditch that needs to be traversed. It is a nice little connector trail in the woods to get to the Traverse Trail without hiking through the field.

DIFFICULT

8. CARNAHAN CALAMITY TRAIL—*(Black—0.46 miles)* The difficulty in this trail is that it is narrow due to the fact it is cut in a very steep hillside. Good footing is a must.
9. EAGLES NEST TRAIL—*(Blue 0.72 miles)* This trail involves a steep hill climb in either direction. This trail provides the only access to Bee Kind Trail.
10. TRAVERSE TRAIL—*(Pink—1.8 miles)* This is the most remote trail at the lake. For half of the trail you will travel precariously close but uphill from the water. On the other part of the trail the terrain is flat and easy to traverse.
11. THE "SPINE"—*(Green 0.68 miles)* This trail climbs a very long and narrow hill. It is the most challenging hill of all the trails of the lake. Please be very mindful of staying on the marked trail as it borders private property.
12. ASCENSION TRAIL—*(Red—0.10 miles)* This is a very short but very steep trail. It will take you back up to Lake Drive if you do not wish to continue along the Traverse Trail.

EAST SIDE OF LAKE DRIVE

EASY

1. NATURE TRAIL—*(Blue—0.62 miles)* This trail connects the campground and the road to the boat launch area. Care must be taken crossing bridges when they are wet.
2. GRANDVIEW TRAIL—*(Purple 0.33 miles)* This is another trail that connects the campground with the boat launch area.

MODERATE

3. FALCON CROSSING TRAIL—*(Pink—0.77 miles)* This trail traverses some waste coal piles that require care going up and down. It travels along the hillside above the campground and crosses the power line several times.
4. SPOOK HOLLOW TRAIL—*(Green—0.80 miles)* This trail travels by the primitive campground area. There are several bridges and a very steep hill on this trail that requires care when navigating especially when wet.
5. LAKESIDE TRAIL—*(Red 0.96 miles)* This trail follows along the lake offering some great views. Some sections of this trail will be underwater when flood control is enacted at the dam.
6. KESTER KONNECTION—*(Yellow—0.76 miles)* This trail goes through some flat, swampy areas and then begins to climb up near the campground. It also winds in the area east of the park office.
7. WILLIAMS WAY—*(Orange—0.46 miles)* Hiked in either direction there will be a hill to climb and a descent east of the campground.
8. SUSAN SWAMP TRAIL—*(White 0.74 miles)* Flat but can be very wet in sections during certain times of the year.

DIFFICULT

9. SIDEWINDER TRAIL—*(Black—1.20 miles)* As its name implies, the trail winds along some hillsides to the east of the campground. Except for a short flat section on top of the hill, the trail traverses along the side of the hills requiring good footing.

CURWENSVILLE LAKE

TRAIL MAP

Trails at Curwensville Lake have been classified into 3 different categories:

Easy, Moderate and Difficult.

All trails can be a mixture of the 3 but the classification given represents the most extreme rating.

They are further separated depending in which side of Lake Drive they are found, west or east side of Lake Drive.

> Easy - Trails under this category are relatively flat with an occasional small hill.

> Moderate - Trails under this category have small hills; rocks; slightly off-camber and steep, short descents or climbs.

> Difficult - Trails under this category have long, steep hills; long, steep descents; narrow trails; more noticeable off-camber and can contain steep gullies.

Common Safety Tips -
* Always let someone know where you are planning to hike especially when traveling alone. There is good cell phone coverage on all trails.
* Never hike on a trail that is more difficult than your abilities.
* Please stay on marked trails and respect private property.
* Respect wildlife.
* Carry out everything you carry in.
* Ticks and poison ivy are very common at the lake so please take proper precautions.

CLEARFIELD COUNTY CONSERVATION DISTRICT

THIS MAP WAS CREATED WITH ASSISTANCE FROM THE CLEARFIELD COUNTY CONSERVATION DISTRICT AND THE CLEARFIELD COUNTY GIS DEPARTMENT

Clearfield County Geographic Information System

Figure 2-4. Curwensville Lake Trail Descriptions

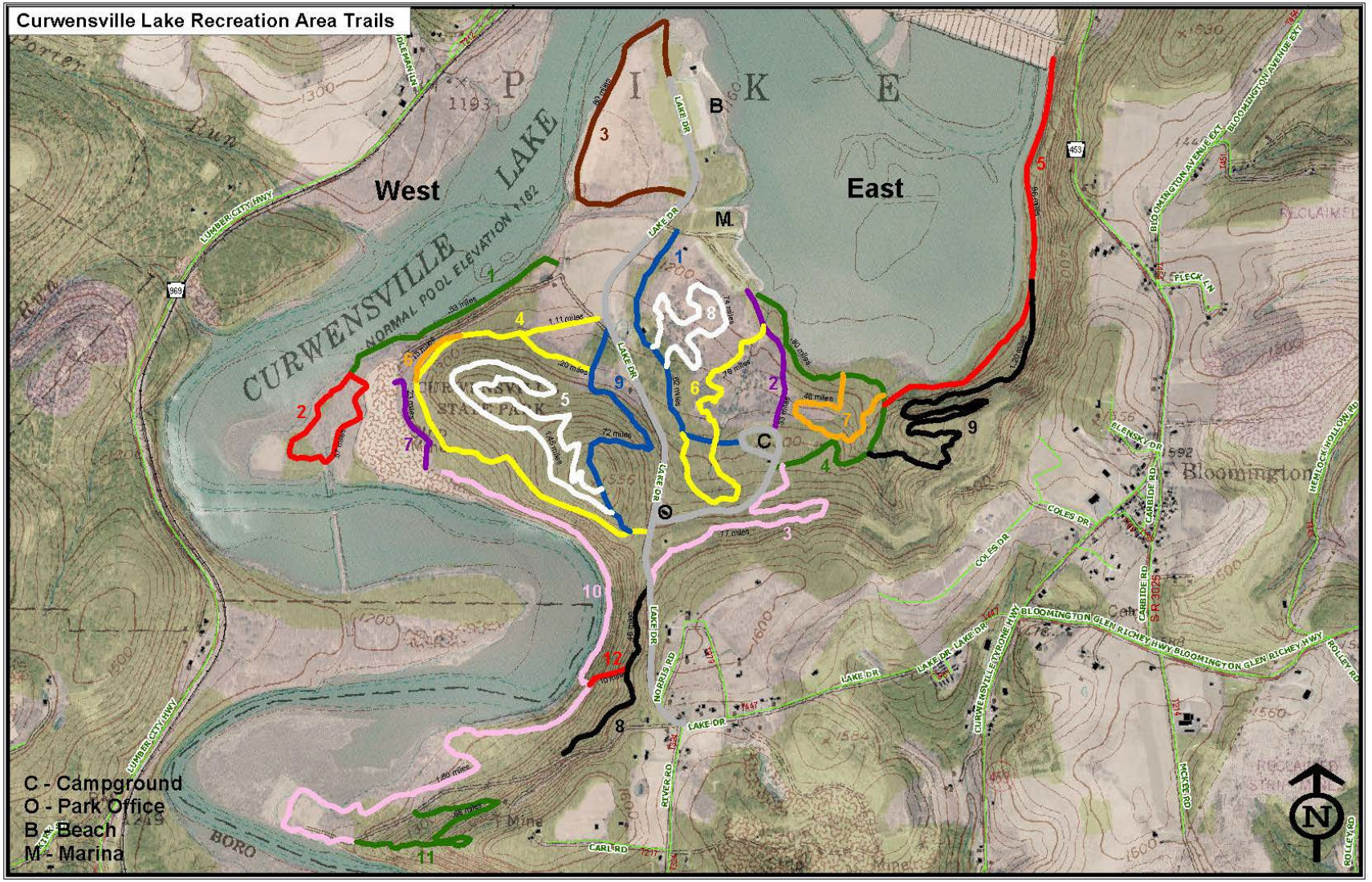
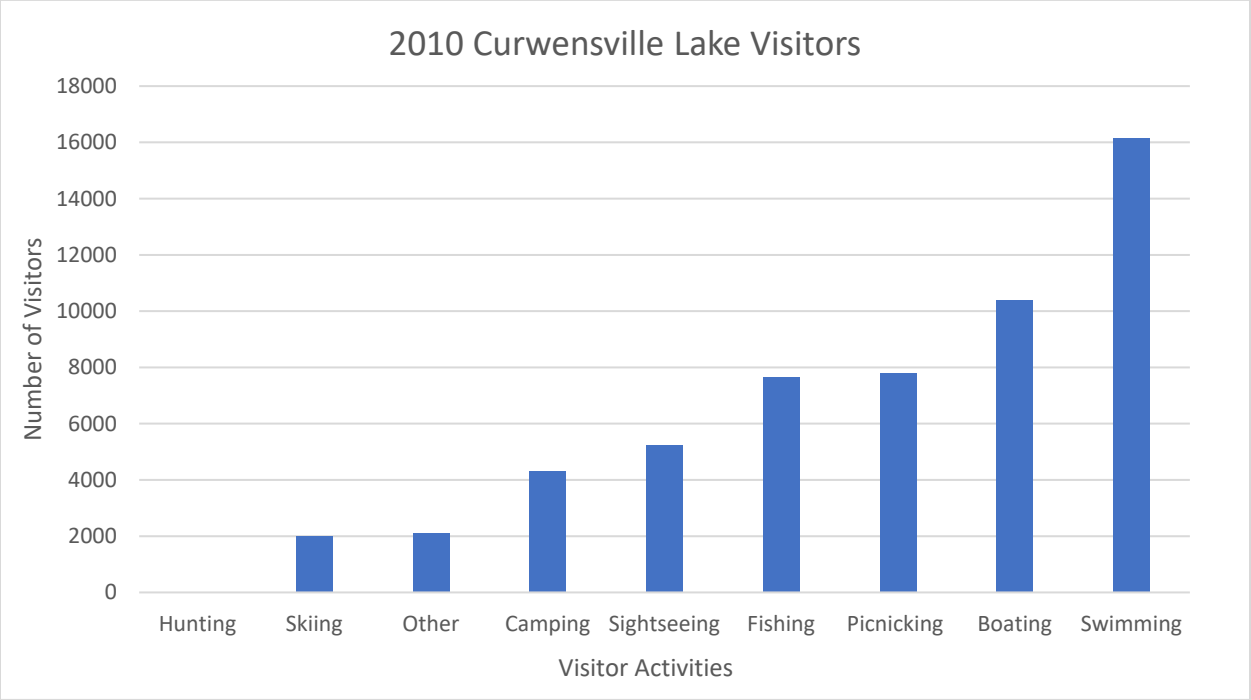


Figure 2-5. Curwensville Lake Trail Map For Trail Identification Refer To Figure 2-4, Which Uses Lake Drive To Subdivide The Trails

2.5.4 Recreation Analysis

The Curwensville Lake Project is beneficial to the local economy through indirect job creation and local spending by visitors. In 2010, data was collected highlighting the social and economic benefits of the Curwensville Lake Project (USACE 2010). By providing opportunities for active recreation, the Corps-owned lake (recreation areas primarily leased to Clearfield County and licensed to PGC) helps promote physical activity, provides recreational programs, and offers opportunities for children to develop personal skills, social values, and increase water safety. See Figure 2-6 for a breakdown of how visitors spent their time at the Curwensville Lake Project area in 2010 (USACE, 2010). According to recreation use estimates for 2020 collected through USACE's Visitor Estimation and Reporting System, the most popular recreational activities still include camping, boating, swimming, fishing, sightseeing, picnicking, and hiking.



Source: USACE 2010

Figure 2-6. 2010 Visitation Data

The money spent by visitors to USACE projects on trip expenses adds to the local and national economies by supporting jobs and generating income. Visitor spending represents a sizable component of the economy in many communities around the project. In 2010, for the area within 30 miles of the project, visitations resulted in $1,014,283 in visitor spending. The economic benefits have increased with additional park attendance observed over recent years. However, exact economic benefits attributable to the project have not be calculated since 2010.

2.5.5 Recreation Carrying Capacity

Recreational carrying capacity generally refers to the maximum level of use of a recreation resource that does not exceed either the resource capacity or social capacity of that resource. Resource capacity refers to the level of use beyond which deterioration and degradation of natural resources and/or the physical environment occurs, while social capacity refers to overcrowding to the level of visitor dissatisfaction (URDC 1980).

Recreational carrying capacity was not studied in-depth for this master plan, since recreation on USACE lands is managed by Clearfield County. However, use of the Curwensville Lake Project and surrounding lands is limited by the recreational area's resource capacity. For example, overnight use is limited by the number of campsites available, including overflow campsite areas. Day use is limited by the number of parking facilities and does not require permits or reservations except for the use of the pavilions. The use of Curwensville Lake by boaters is limited by parking facilities (day users), and/or the number of mooring facilities and campsites (overnight users). At this time there are no plans of actively limiting uses, and there is no evidence of facilities or natural resources being negatively impacted by overuse or overcrowding.

2.6 REAL ESTATE

According to the Real Property Survey Report completed in 1987, the land interests were acquired between 1963 and 1969 through purchase and condemnation from individual landowners. The real estate interest for Curwensville Lake totaled 3,697 acres. The acreage includes approximately 2,647.74 acres owned in fee and 817.79 acres in flowage easement acres. Additionally, 231.41 acres (a total of 229.12 acres in fee and 2.29 acres in easements) were acquired and conveyed to Beech Creek Railroad Company and New York Central Railroad Company in 1966 for relocation of the railroad. Highway relocations accounted for 159.90 acres within the project extent all lands which were acquired in fee and retained by the government for the management of the project. A summary of land acreage for the Curwensville Lake Project is summarized in Table 2-6.

Table 2-6. Summary of Original Project Acreages

Project Lands	Ownership Type	Acreage
Dam and downstream area for Operations	Fee Simple	254.27
Area below the conservation pool at El. 1162	Fee Simple	770.86
Area between El. 1162 and the spillway elevation of 1228	Fee Simple	1,090.25
Area between El. 1228 and 1233	Fee Simple	372.46
Highway Relocation	Fee Simple	159.90
Railroad Relocations (New York Central Railroad)	Fee Simple (Divested*)	229.12
Railroad Relocations (New York Central Railroad)	Easements (Divested*)	2.29
Flowage Easements	Easements	817.79
Riverbed	Not acquired	340.76
Total Acreage	All	4,037.7

Source: USACE, 1987b

*Lands acquired for railroad relocations were divested by the government by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966.

Real estate acquisition for the Project occurred in three parts. Before actual construction of the dam started, lands were acquired to relocate transportation systems within the extent of the flood control pool. Approximately sixteen miles of the former New York Central Railroad (now serving Norfolk Southern), right-of-way and portions of Pennsylvania State Route Nos. 969 and 857 were relocated as part of the implementation of the project. The second phase of real estate acquisition included land acquisition for the construction area, work area, and borrow area. The third and final phase was the acquisition of land required for the reservoir and the public access areas.

There are a total of the 32 outgrants in the project consisting of easements/consents, easements, licenses, and leases for various purposes throughout the project. Two notable outgrants include the 362-acre lease to Clearfield County utilized for the operation of Curwensville Lake recreation area and a license to the PGC to perform wildlife management activities on approximately 2,195.3 acres over the Curwensville Project Area.

2.7 PERTINENT PUBLIC LAWS

2.7.1 Federal Laws

Public Law 59-209, Antiquities Act, 1906. The first federal law established to protect what are now known as "cultural resources" on public lands. It provides a permit procedure for investigating "antiquities" and consists of two parts: An act for the Preservation of American Antiquities and Uniform Rules and Regulations.

Public Law 74-292, Historic Sites Act, 1935. Declares it to be a national policy to preserve for (in contrast to protecting from) the public, historic (including prehistoric) sites, buildings, and objects of national significance. This act provides both authorization and a directive for the Secretary of the Interior, through the National Park Service, to assume a position of national leadership in the area of protecting, recovering, and interpreting national archeological historic resources. It also establishes an "Advisory Board on National Parks; Historic Sites, Buildings, and Monuments, a committee of eleven experts appointed by the Secretary to recommend policies to the Department of the Interior".

Public Law 78-534, Flood Control Act, 1944. Section 4 of the act as last amended in 1962 by Section 207 of Public Law 87-874 authorizes USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to federal, state or local governmental agencies.

Public Law 85-624, Fish and Wildlife Coordination Act, 1958. This act as amended in 1965 sets down the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources and adverse effects on these resources shall be examined along with other purposes which might be served by water resources development.

Public Law 86-717, Forest Conservation, 1960. This act provides for the protection of forest and other vegetative cover for reservoir areas under this jurisdiction of the Secretary of the Army and the Chief of Engineers.

Public Law 87-874, Rivers and Harbors Act, 1962. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.

Public Law 88-578, Land and Water Conservation Fund Act, 1965. This act established a fund from which Congress can make appropriations for outdoor recreation. Section 2(2) makes entrance and user fees at reservoirs possible by deleting the words "without charge" from Section 4 of the 1944 Flood Control Act as amended.

Public Law 89-272, Solid Waste Disposal Act, as amended by PL 94-580, dated October 1976. This act authorized a research and development program with respect to solid waste disposal.

Public Law 89-665, Historic Preservation Act of 1966. This act provides for: (1) an expanded National Register of significant sites and objects: (2) matching grants to states undertaking historic and archeological resource inventories; and (3) a program of grants-in aid to the National Trust for Historic Preservation; and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places.

Public Law 89-90, Water Resources Planning Act, 1965. This act established the Water Resources Council and gives it the responsibility to encourage the development,

conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis. Title II of this act established the River Basin Commissions and stipulated their duties and authorities. The President of the United States signed the Susquehanna River Basin Compact into law on December 24, 1970, subsequent to its approval by Congress and the prior approval of the involved states. The Compact provided for the creation of a single administrative agency to coordinate water resources efforts and programs of federal, state, local and private interests in the basin.

Public Law 90-480, Architectural Barriers Act of 1969. This act ensures that certain buildings financed or leased by Federal agencies are constructed (or renovated) so that they will be accessible to the physically disabled.

Public Law 90-483, River and Harbor and Flood Control Act, Mitigation of Shore Damages, 1968. Section 210 restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.

Public Law 91-190, National Environmental Policy Act (NEPA), 1969. NEPA declared it a national policy to encourage productive and enjoyable harmony between man and his environment, and for other purposes. Specifically, it declared a "continuing policy of the Federal Government... to use all practicable means and measures...to foster and promote the general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be interpreted and administered in accordance with the policies of the Act.

Public Law 91-611, River and Harbor and Flood Control Act, 1970. Section 234 provides that persons designated by the Chief of Engineers shall have authority to issue a citation for violations of regulations and rules of the Secretary of the Army, published in the Code of Federal Regulations.

Public Law 92-347, Golden Eagle Passbook and Special Recreation User Fees. This act revises Public Law 88-578, the Public Land and Water Conservation Act of 1965, to require federal agencies to collect special recreation user fees from the use of specialized sites developed at federal expense and to prohibit the Corps of Engineers from collecting entrance fees to projects.

Public Law 92-463, Federal Advisory Committee Act. The Federal Advisory Committee Act became law in 1972 and is the legal foundation defining how federal advisory committees operate. The law has special emphasis on open meetings, chartering, public involvement, and reporting.

Public Law 92-500, Federal Water Pollution Control Act Amendments, 1972. The Federal Water Pollution Control Act of 1948 (PL 845, 80th Congress), as amended in 1956, 1961, 1965 and 1970 (PL 91- 224), established the basic tenet of uniform State standards for water quality. Public Law 92-500 strongly affirms the federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."

Public Law 92-516, Federal Environmental Pesticide Control Act, 1972. This act completely revises the Federal Insecticide, Fungicide and Rodenticide Act. It provides for complete regulation of pesticides to include regulation, restrictions on use, actions within a single State, and strengthened enforcement.

Public Law 93-81, Collection of Fees for Use of Certain Outdoor Recreation Facilities, 1978. This act amends Section 4 of the Land and Water Conservation Act of 1965, as amended to require each federal agency to collect special recreation use fees for the use of sites, facilities, equipment, or services furnished at federal expense.

Public Law 93-112, Rehabilitation Act of 1973, as amended. – The USACE responsibility to provide access to programs and activities for persons with disabilities is identified in the Rehabilitation Act of 1973 and its subsequent amendments, entitled the "Rehabilitation, Comprehensive Services and Development Disabilities Amendment of 1978."

Public Law 93-291, Archeological Conservation Act, 1974. The Secretary of the Interior shall coordinate all federal survey and recovery activities authorized under this expansion of the 1960 act. The federal construction agency may transfer up to one percent of project funds to the Secretary with such transferred funds considered non-reimbursable project costs.

Public Law 93-303, Recreation Use Fees, 1974. This act amends Section 4 of the Land and Water Conservation Act of 1965, as amended, to establish less restricted criteria under which federal agencies may charge fees for the use of campgrounds developed and operated at federal areas under their control.

Public Law 93-523, Safe Drinking Water Act, 1974. The act assures that water supply systems serving the public meet minimum national standards for protection of public health. The act (1) authorizes the Environmental Protection Agency to establish federal standards for protection from all harmful contaminants, which standards would be applicable to all public water systems, and (2) establishes a joint federal-state system for assuring compliance with these standards and for protecting underground sources of drinking water.

Public Law 94-422, Amendment of the Land and Water Conservation Fund Act, 1965. Expands the role of the Advisory Council on Historic Preservation. Title 2 - Section 102a amends Section 106 of the Historical Preservation Act of 1966 to say that the Council can comment on activities which will have an adverse effect on sites either included in or eligible for inclusion in the NRHP.

Public Law 99-662, The Water Resources Development Act, 1986. Provides the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

Public Law 101-336, Americans With Disabilities Act of 1990 (42 U.S. C 12, 101- 12, 213). The purpose of the Act was to extend the rights, privileges, and protection that had been made available to the disabled on federal projects for many years prior to the ADA, to the private sector.

Public Law 103-66, Section 500. Omnibus Budget Reconciliation Act of 1993. This act authorizes USACE to expand its recreation user fee program.

2.7.2 Executive Orders

EO 11514, Protection and Enhancement of Environmental Quality – EO 11514 requires federal agencies to provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life.

EO 11593, Protection and Enhancement of Cultural Environment – EO 11593 requires federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations.

EO 11990, Protection of Wetlands – EO 11990 requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in executing federal projects.

EO 11988, Floodplain Management – This EO directs federal agencies to evaluate the potential impacts of proposed actions in floodplains. The operation and management of the existing project complies with EO 11988.

EO 12898, Environmental Justice – This EO directs federal agencies to achieve environmental justice to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review. Agencies are required to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

EO 13045, Protection of Children from Health Risks & Safety Risks – This EO directs federal agencies to evaluate environmental health or safety risks that may disproportionately affect children.

EO 13112, Invasive Species – This EO directs federal agencies to evaluate the occurrence of invasive species, the prevention for the introduction of invasive species, and measures of their control to minimize the economic, ecological, and human health impacts.

EO 13175, Consultation and Coordination with Indian Tribal Governments – This EO reaffirms the federal government's commitment to tribal sovereignty, self-determination, and self-government by ensuring agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities.

EO 13186, Migratory Bird Habitat Protection – Sections 3a and 3e of EO 13186 direct federal agencies to evaluate the impacts of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative impacts on migratory birds.

EO 13508, Chesapeake Bay Protection and Restoration – This EO directs federal agencies to implement best management practices to restore and maintain the health of the Chesapeake Bay.

2.7.3 State Laws

Commonwealth of Pennsylvania, Act 170 Wild Resource Conservation Act, 1982. This law was passed to protect endangered plants and animals.

Commonwealth of Pennsylvania, Environmental Stewardship and Watershed Protection Act, 1999. This law provides money to protect open space and critical habitat, conserve river resources, create greenways, build community parks, and enhance tourism.

Commonwealth of Pennsylvania, Clean Streams Law, 1937. This law provided Pennsylvania with the authority to protect streams from pollution. It prohibits littering or dumping that effects the waters and can fine up to $10,000 for offenses.

Commonwealth of Pennsylvania, Article 1 Section 27 Environmental Rights Amendment, 1969. This article provides two rights to a clean environment for Pennsylvania's citizens: a right to clean air, pure water, and the preservation of the natural, scenic, historic, and aesthetic values of the environment; and a right to have public natural resources conserved and maintained by the Commonwealth for the benefit of present and future generations.

2.7.4 State Management Plans

Pennsylvania statewide Comprehensive Outdoor Recreation Plan (SCORP), 2020-2024. The 2020 – 2024 outdoor recreation plan is Pennsylvania's strategic plan for how outdoor recreation should meet the needs of the state's residents and visitors. A State's outdoor recreation plans must be updated every five years for states to remain eligible for Federal Land and Water Conservation Fund. The 2020 – 2024 plan includes several goals, all of which center around a framework of five priorities, including health and wellness, recreation for all, sustainable systems, funding and economic development, and technology.

3 RESOURCE OBJECTIVES

3.1 INTRODUCTION

The purpose of the plan is to establish the guideline for sustainable stewardship of natural and recreational resources managed directly and indirectly on USACE owned lands. The resource objectives and goals are consistent with the authorized project purposes, federal laws and directives, regional needs, resource capabilities, and take public input into consideration. The goals presented in the plan express the overall desired end state of the cumulative land and recreation management programs at Curwensville Lake Project. The resource objectives specify task-oriented actions necessary to achieve the plan goals.

Overarching USACE management goals and environmental operating principles are presented in the following sections. Specific project-wide and Curwensville Lake recreation area resource objectives are presented in Section 3.3.

3.2 MANAGEMENT GOALS

The following goals are the priorities for consideration when determining management objectives and development activities. Implementation of these goals are based upon time, manpower, and budget. The objectives provide high levels of stewardship to USACE-owned lands and resources while still providing a high level of public service. These goals will be pursued using a variety of mechanisms such as: leases of land to Clearfield County and license to PGC for management, assistance from volunteer efforts, hired labor, contract labor, permit conditions, remediation, and special lease conditions. It is the intention of USACE Curwensville Lake Project staff to provide a realistic approach to the management of the resources present.

- **Goal A** – Provide the best management practices to respond to regional needs, resource capabilities and capacities, and expressed public interests consistent with authorized project purposes.

- **Goal B** – Protect and manage project natural and cultural resources through sustainable environmental stewardship programs.

- **Goal C** – Provide public outdoor recreation opportunities that support project purposes and public interests while sustaining project natural resources.

- **Goal D** – Recognize the unique qualities, characteristics, and potentials of the Project.

- **Goal E** – Provide consistency and compatibility with national objectives and other state and regional goals and programs.

In addition to the above goals, USACE management activities are guided by USACE-wide Environmental Operating Principles (EOPs) as follows:

- Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
- Proactively consider environmental consequences of USACE programs and act accordingly in all appropriate circumstances.
- Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
- Continue to meet corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
- Seek ways and means to assess and mitigate impacts to the environment; consider the environment in employing a risk management and systems approach to the full life cycle of our projects and processes.
- Build and share an integrated scientific, economic and social knowledge base that supports a greater understanding of the environment and impacts of our work in a collaborative manner.
- Employ an open, transparent process that respects the views of individuals and groups interested in USACE activities; listen to them actively and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

3.3 RESOURCE OBJECTIVES

Resource objectives are defined as clearly written statements that respond to identified issues and that specify measurable and attainable activities for resource development and/or management of the lands and waters under USACE jurisdiction. The objectives stated below support the Master Plan's goals, USACE EOPs, and applicable national performance measures. They are consistent with authorized project purposes, federal laws and directives, regional needs, resource capabilities, and they take public input into consideration.

The objectives in this Master Plan are intended to provide project benefits, meet public needs, and foster environmental sustainability for the Curwensville Lake Project to the greatest extent possible. Clearfield County leases and manages the primary recreation area for the Curwensville Lake Project. Thus, the supporting objectives were identified by the Curwensville Lake park managers for future objectives on the recreational area leased by Clearfield County. Any recreational improvements will be reviewed by USACE, but will be funded by Clearfield County and its partners.

- **Resource Objective 1** Improve infrastructure and utilities.
  - Supporting Objectives:
    1. Improve reliability of electrical infrastructure
    2. Address key safety concerns

- **Resource Objective 2** Enhance existing recreation sites and amenities.
  - Supporting Objectives:
    1. Expand hiking trails
    2. Repair and add new roads
    3. Improve and add new lighting
    4. Improve and add new campsites
    5. Improve and add new sports courts or fields
    6. Improve bathroom facilities
    7. Improve or replace playground facilities
    8. Improve pavilion facilities
    9. Remove tree stumps

- **Resource Objective 3** Expand recreational opportunities in key areas.
  - Supporting Objectives:
    1. Expand hiking trails
    2. Improve and add new campsites
    3. Add new roads to new campsites
    4. Improve or replace playground facilities
    5. Improve and add new sports courts or fields

- **Resource Objective 4** Invest in key operational and support facilities.
  - Supporting Objectives:
    1. Maintain dam works and administrative/maintenance facilities.

4 LAND CLASSIFICATIONS

4.1 LAND ALLOCATION

All project lands for USACE water resource development projects are allocated by USACE into one of four categories, in accordance with the congressionally authorized purpose for which the project lands were acquired. There are four possible categories of allocation identified in the USACE regulations (EP 1130-2-550) including Operations, Recreation, Fish and Wildlife, and Mitigation. The Curwensville Lake Project was established for flood risk management in downstream communities located along the West Branch of the Susquehanna River. The Curwensville Master Plan was completed as Design Memorandum Number 13 in 1968. The 1968 Master Plan included lands for operations, recreation, fish and wildlife management, mineral rights, and other uses including outleases for agricultural purposes. A large portion of the total land area of the Project lies above the recreation pool elevation for Curwensville Lake. These lands support recreation, fish and wildlife management, and other uses.

4.2 LAND CLASSIFICATION

The objective of classifying Project lands is to identify how a given parcel of land in the project shall be used now and in the foreseeable future. Land classification is a central component of this Master Plan, and once a particular classification is established any significant change to that classification would require a formal process including public review and comment.

Land classifications were designated for any project parcel owned in fee by USACE. Lands held in easements are described in Section 4.3. Ongoing and planned management practices for each classification are outlined in Chapter 5 – Resource Plan.

4.2.1 Prior Land Classification

Land classification was completed following the construction of the Project. The classification process refines the land allocations to fully utilize project lands and must consider public desires, legislative authority, regional and project specific resource requirements, and suitability.

The 1968 Master Plan for the Curwensville Lake Project included a simplified land classification identified in USACE regulations. Since then, the surrounding land use, recreational opportunities, and regional recreation trends have changed, thus revisions of land classification are necessary to accommodate multiple use needs of surrounding communities. A summary of prior land classification and proposed land classifications are provided in Table 4-1 below.

Table 4-1. Land Classification Summary

Prior Land Classifications (1968)	Acres
Project Operations[1]	273.8
Intensive Recreation[1]	314.6
Wildlife Management[1,3]	1,290.6
Flowage Easements	838.2
Highway and Railroad Relocations[5]	345.6
Unutilized/Unmerchantable Property[6]	47.1
Conservation Pool[1]	772.8
Unmodified River Area[1]	180.9
Total[1,3,4,5,6]	**4,063.7**

Proposed Land Classifications	Acres
Project Operations[1]	217.2
High Density Recreation	300.7
Multiple Resource Management	1,360.8
Low Density Recreation	213.5
Wildlife Management[3]	(2,195.3)
Vegetation Management	1,146.8
Flowage Easements	838.2
Highway and Railroad Relocations[5]	345.6
Water Surface[1]	772.8
No-Wake[#]	142.3
Restricted	1.4
Open Recreation	629.1
Unmodified River Area[1]	180.9
Total[1,3,4,5,6]	**4,016.1**

[1]Includes old Susquehanna Riverbed acreages before the Curwensville Dam was built, which created the Recreation Pool. Fee Simple and Easement Lands total to 3,700.9 acres (does not include old riverbed acreage). GIS calculated total for Land of Curwensville Lake Project lands is 3,714.4 acres (does not include old riverbed acreage). There is 0.5 additional acres in Multiple Resource Management Lands due to riverbed acreages.

[2] No-Wake Zone includes area by beach for swimmers, boat ramp, and boat mooring area (17.5 acres); area near old railroad crossing (21.7 acres); and along narrow, shallow riverbed and wetland areas (103.1 acres).

[3]Wildlife Management overlaps with the other land classifications. The Wildlife Management acres in the Proposed Land Classification column reflects the number of acres currently maintained by the Pennsylvania Game Commission for wildlife populations and their habitat areas upstream of and around Curwensville Lake. Since there is overlap the acres listed for Wildlife Management is not added to the total acres.

[4] Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.

[5]The Highway and Railroad Relocation land classification with 345.6 acres includes 231 acres of divested land by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966. The divested acreage is not owned or managed by USACE.

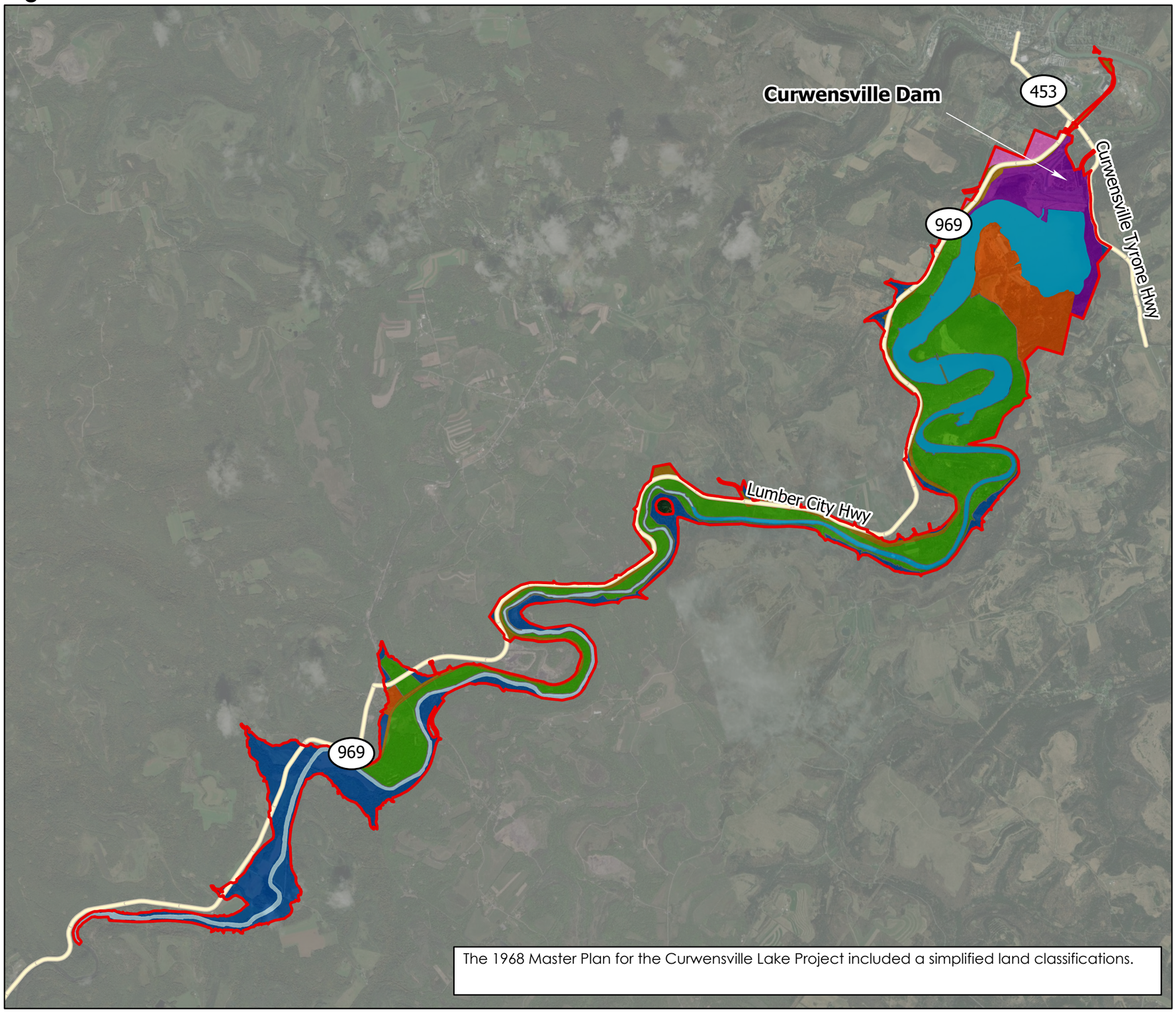
[6]The Unutilized/Unmerchantable Lands (47.1 acres) were sold in 2006 and 2007, so these lands are not included in the 2022 project land totals but are included in the1964 project land totals.

4.2.2 Proposed Land Classifications

Land Classification indicates the primary use for which project lands are managed. There are 4 categories of classification identified in USACE regulation EP 1130-2-550, Chapter 3, including: Project Operations, High Density Recreation, Multiple Resource Management Lands, and Water Surface. Figure 4-1 shows the prior break-down of land classifications at the Curwensville Lake Project. Figure 4-2 shows the proposed breakdown of total land acreages and Figure 4-3 shows the real estate map, in fee or under easement, for the site. Project Easements are also explained in Section 4.3.

Proposed land classifications were determined by identifying the prior land classifications in the 1964 Master Plan, evaluating the primary use the lands are managed for, and identifying the land classification that would apply to those areas.

Figure 4-1 Prior Land Classifications



The 1968 Master Plan for the Curwensville Lake Project included a simplified land classifications.

Curwensville Lake Master Plan

Prior Land Classifications

Legend

- Curwensville Study Area

Land Classifications

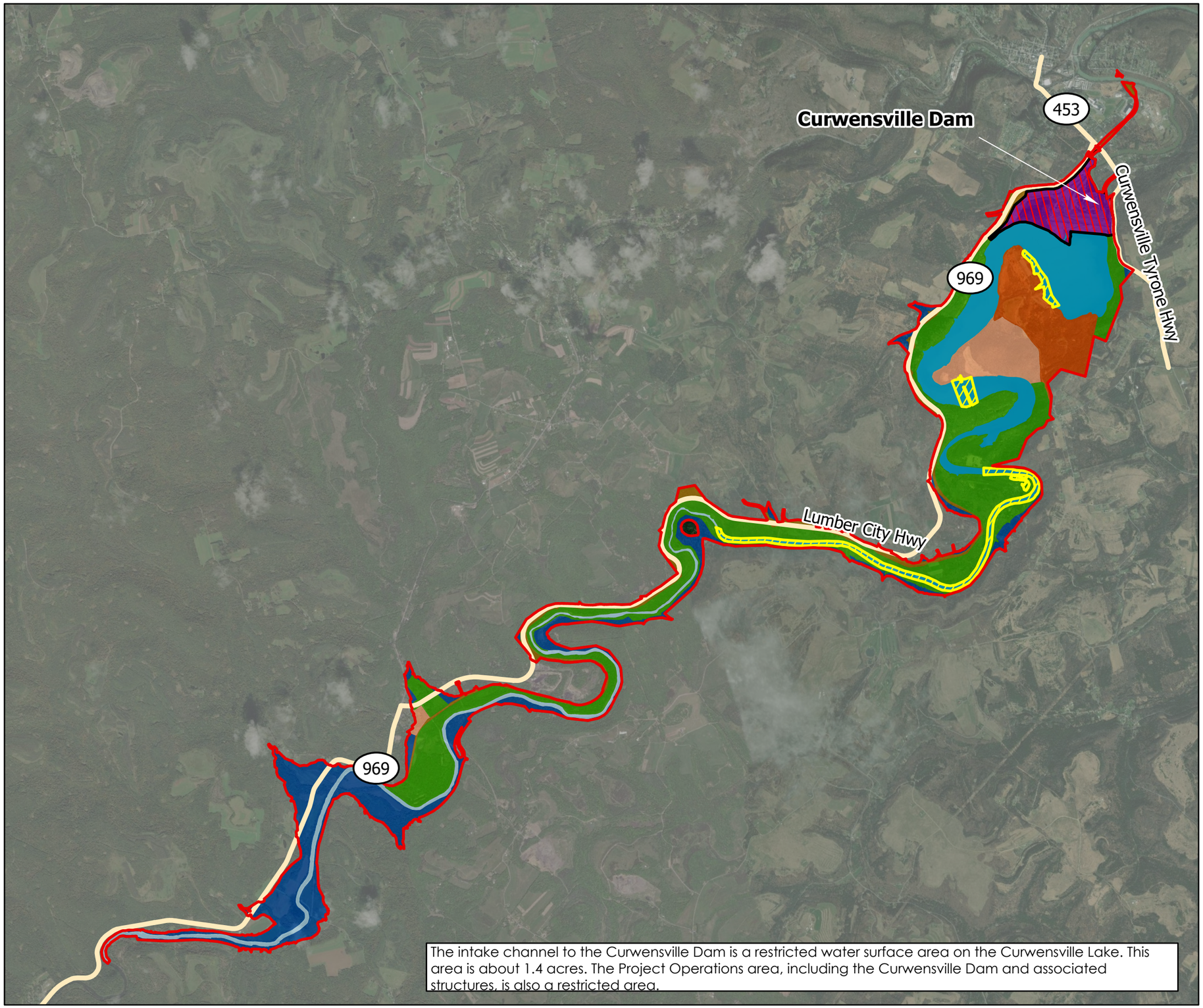
- Operations
- Intensive Recreation
- Riverbed
- Conservation Pool
- Flowage Easement
- Wildlife Management
- Highway and Railroad Relocations
- Unutilized/Unmerchantable Land

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

0 4,500 9,000 Feet

N

Figure 4-2 Proposed Land Classifications



The intake channel to the Curwensville Dam is a restricted water surface area on the Curwensville Lake. This area is about 1.4 acres. The Project Operations area, including the Curwensville Dam and associated structures, is also a restricted area.

Curwensville Lake Master Plan

Proposed Land Classifications

Legend

- Curwensville Study Area

Proposed Land Use Classifications

- Project Operations
- High Density Recreation
- Highway and Railroad Relocations
- Restricted

Multiple Resource Management Lands

- Low Density Recreation
- Vegetative Management

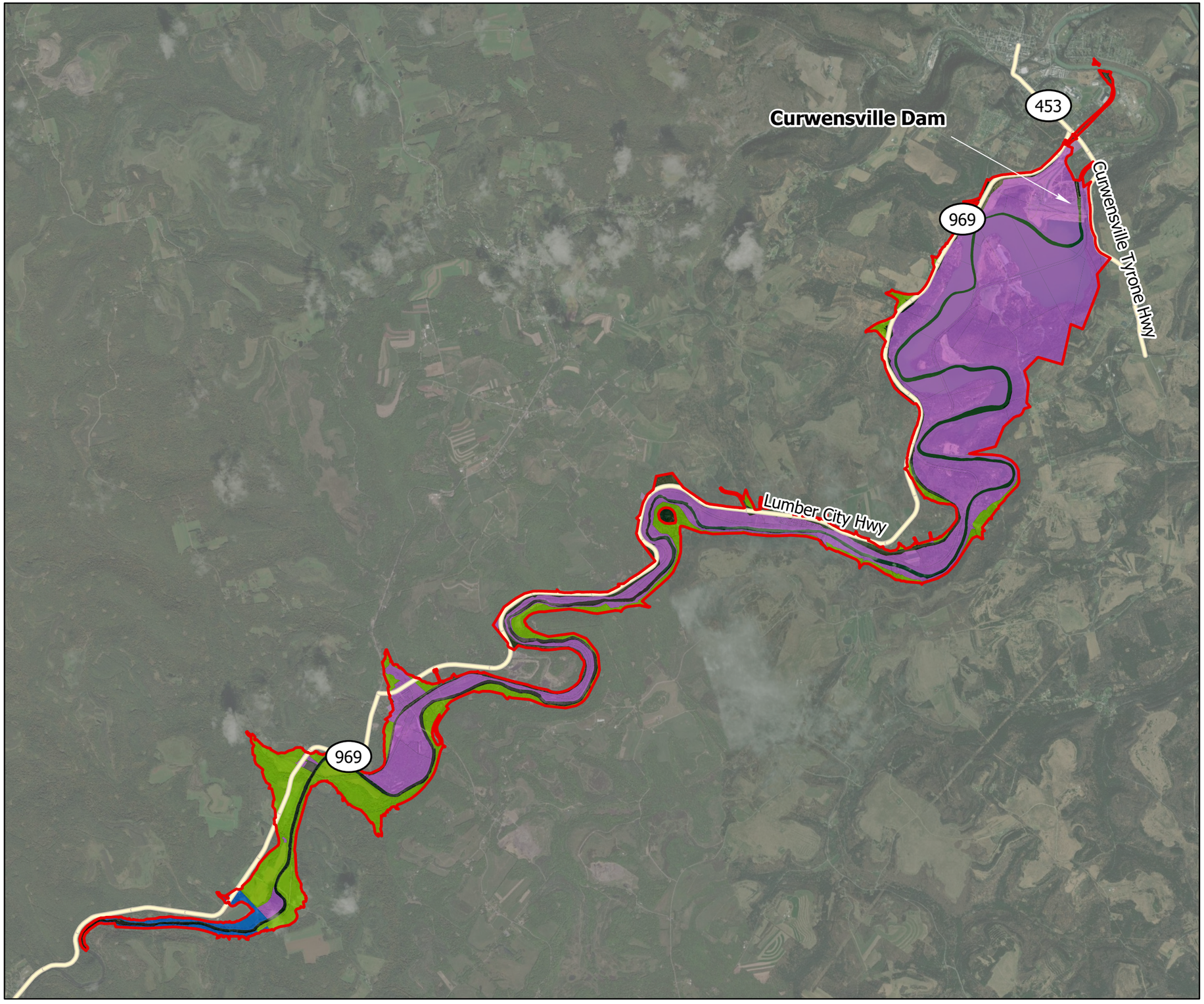
Water Surface

- Open Recreation
- Flowage Easement
- River
- Designated No Wake Zone

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Feet
0
4,500
9,000
N

Figure 4-3 Real Estate



Curwensville Lake Master Plan

Real Estate

Legend

- Curwensville Study Area

Tract Areas

- Fee
- Permanent Easement
- Permanent Flowage Easement
- Unknown

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Feet
0
4,500
9,000
N

4.2.2.1 *Project Operations*

This classification category includes the project land required for the structure, operation, administration, or maintenance of the project and must be maintained to carry out the authorized purpose of flood risk management. There are 217.2 acres at the Curwensville Lake Project allocated to project operations, including the dam, control tower, operations offices, and maintenance facilities. Other operational units include the spillway, restricted access roads, and utility rights of way.

4.2.2.2 *High Density Recreation*

The High Density Recreation category includes lands developed for intensive recreational activities for the visiting public including the campgrounds, visitor center, day use/picnic area, boat launch and mooring areas. This category includes 300.7 acres of land at the Curwensville Lake Project.

4.2.2.3 *Multiple Resource Management*

This classification category identifies the predominant use of an area with the understanding that the other compatible uses can occur within the area. This classification is divided into four sub-classifications identified as: Low Density Recreation, Vegetative Management, Wildlife Management, and Future Recreation. A given tract of land may be classified using one or more of these sub-classifications. There are 1,360.8 acres of land that are under this classification. The proposed land classification map (Figure 4-2) reflects the predominant sub-classification. The following identifies the amount contained in each sub-classification of Multiple Resource Management Lands.

4.2.2.3.1 Low Density Recreation

These are lands with minimal development or infrastructure that support passive public recreation use, like fishing, hunting, wildlife viewing, or hiking. There are 213.5 acres of low density recreation areas on Project lands, which include hiking trails East of Lake Drive that range from easy to difficult.

4.2.2.3.2 Vegetation Management

These are lands designated for stewardship of forest, prairie, and other native vegetative cover. There may be overlap in low density recreation areas and vegetation management areas, especially in some of the hiking trail areas. There are 1,146.8 acres under the vegetation management land classification.

4.2.2.3.3 Wildlife Management

Wildlife management areas overlap with multiple land classifications throughout the Project site. The PGC has a license to perform wildlife management activities on approximately 2,195.3 acres over the Curwensville Project Area. For more information on wildlife management activities, see Section 2.2.3.

4.2.2.3.4 Future Recreation

These are lands with site characteristics compatible with potential future recreation development. Some of these areas may have never been developed or were developed and subsequently closed or remain open but are no longer maintained. These areas will be managed as Multiple Resource Management Lands – Vegetative Management until there is

a need or opportunity to develop or reopen these areas. There are no acres under this classification at the Curwensville Lake Project.

4.2.2.4 *Water Surface*

In accordance with national USACE guidance set forth in EP 1130-2-550, the water surface of the lake at the recreation pool elevation may be classified using the following four classifications: Restricted, Designated No-Wake, Fish and Wildlife Sanctuary, and Open Recreation. In the Curwensville project area, only three of the water surface classifications are present: Restricted, Designated No-Wake, and Open Recreation. Based on a collection of GIS data for this Master Plan, the water surface acreage at lake elevation 1,162 feet PCD was established to be 772.8 acres, which is higher than the current acreage of 770 acres that was established through a hydrographic survey completed in 2010. Until a detailed land survey is completed to determine the impact (i.e., increase of acres) to the surrounding recreational land classifications, this Master Plan update will maintain the acres determined from the GIS data collected. Table 4-1 is based on collected GIS data for the land classifications.

4.2.2.4.1 Restricted

Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The total acreage of Restricted water surface is 1.4 acres. The restricted area is marked year-round by a cable across the intake channel with hanging restricted area signs. The acreage is captured under the previous 1968 Conservation Pool classification. The 2022 Master Plan now separates this designation as a stand-alone class within the overall Water Surface classification.

4.2.2.4.2 Designated No-Wake

No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps. No-Wake areas at Curwensville Lake include beach areas, boat launch, mooring area, area near the old railroad crossing, and the shallow narrow riverbed area. No-Wake areas encompass 142.3 water surface acres. These areas are marked with standard United States Coast Guard regulatory buoys. No-Wake area acreage was captured under the previous 1968 Conservation Pool classification. The 2022 Master Plan now separates this designation as a stand-alone class within the overall Water Surface classification.

4.2.2.4.3 Open Recreation

Open Recreation includes all water surface areas available for year-round or seasonal water-based recreational use. Apart from the Restricted and No-Wake areas described in the above paragraphs, the remaining water surface of 629.1 acres at Curwensville Lake is designated as Open Recreation.

4.3 PROJECT EASEMENTS

Easement lands include all lands for which USACE holds an easement interest but not fee title. These could describe a situation in which USACE agreed to easement rights on fee title property, or pursued easement rights on land outside the original fee simple purchase.

Flowage easements are easements purchased by USACE giving the right to temporarily flood private land during flood risk management operations. Flowage easement lands are generally located between elevations 1,190 and 1,233 feet PCD, which represents five feet above the spillway crest height at Curwensville Dam. There are 838 acres of flowage easement lands located at the Curwensville Lake Project. See Figures 4-2 and 4-3 to reference the locations of the flowage easement at the Curwensville Lake Project.

4.4 OTHER LAND CLASSIFICATIONS

4.4.1 Unmerchantable or Unutilized Land

The Curwensville Lake Project has additional land classifications to reflect the land use of the Project area. There is unutilized/unmerchantable property near the project operations area on the other side of Pennsylvania Route 969 that was sold off in 2006 and 2007. This area is 47.1 acres and is primarily steep sloped with dense tree cover. This land is not included in the 2022 project lands, but are shown in Figure 4-1 for prior land classifications.

4.4.2 Highway and Railroad Relocations

In preparation of the construction of the Curwensville Dam, some surface transportations (highways and railroads) were relocated within the Project area in the 1960's. No further relocations are planned. The highway and railroad areas in the Project area total 345.6 acres (including the 230 acres divested from railroad relocations). See Section 2.6 for additional details on highway and railroad relocations with the Curwensville project area. There are no plans to modify this land.

4.4.3 Unmodified River Area

Upstream of the Curwensville Lake recreation pool, there are 180.9 acres of unmodified river area within the Curwensville Lake Project area. There are no plans to modify this area.

5 RESOURCE PLAN

5.1 RESOURCE PLAN OVERVIEW

This chapter sets forth a resource plan describing, in broad terms, how each land classification within the Master Plan will be managed. The management goals are included below and described in Section 3.2.

Project management goals:

- **Goal A** – Provide the best management practices to respond to regional needs, resource capabilities and capacities, and expressed public interests consistent with authorized project purposes.

- **Goal B** – Protect and manage project natural and cultural resources through sustainable environmental stewardship programs.

- **Goal C** – Provide public outdoor recreation opportunities that support project purposes and public interests while sustaining project natural resources.

- **Goal D** – Recognize the unique qualities, characteristics, and potentials of the Project.

- **Goal E** – Provide consistency and compatibility with national objectives and other state and regional goals and programs.

Management of lands, recreation facilities, and related infrastructure must take into consideration the effects of pool fluctuations associated with the authorized flood risk management mission. Management actions are dependent on congressional appropriations, the financial capability of lessees and other key stakeholders, and the contributions of labor and other resources by volunteers. The land classifications and applicable goals for each classification for the Curwensville Lake Project include the following in Table 5-1:

Table 5-1. Land Classification & Applicable Management Goals

Land Classification	Goals
Project Operations	A, E
High Density Recreation	A, B, C, D, E
Multiple Resource Management Lands For:	
• Low Density Recreation	A, B, C, E
• Vegetative Management	B, E
• Wildlife Management	B, D, E
Water Surface:	
• Restricted Area	A, E
• Designated No-Wake	A, C, E
• Open Recreation	A, C, E

5.2 PROJECT OPERATIONS AND MAINTENANCE

This land is associated with the dam and spillway structures that are operated and maintained for the purpose of the flood risk management mission of Curwensville Lake Dam. There are 217.2 acres of lands under this classification, all of which are managed by USACE.

There are currently several planned improvements in Project Operation lands that are part of routine operation and maintenance of a flood risk management dam. These improvements include replacing safety railing at some locations and resealing of paving on top of the dam and parking areas.

5.3 HIGH DENSITY RECREATION

Lands classified for High Density Recreation are currently developed for intensive recreational activities. The Curwensville Lake Project has one distinct area included in this classification. Depending on available space, funding, and public demand, lands classified for High Density Recreation may support additional outdoor recreation development in the future. These areas include boat launches, day use areas, multi-use trails, and recreational fields. These areas have been developed to support concentrated visitation and use of the recreational facilities.

There are 301 acres of High Density Recreation within project lands, all of which are leased and managed by Clearfield County at the Curwensville Lake park recreation area. Previously, these lands were leased and managed by the Pennsylvania Department of Forests and Waters, now known as the Pennsylvania Department of Conservation and Natural Resources, until termination of that lease in the 1980s.

USACE does not provide direct maintenance within these areas but does review requests and ensure compliance with applicable laws and regulations for proposed activities. USACE works with Clearfield County to ensure that the recreation areas are managed and operated in accordance with the goals and objectives prescribed in Chapter 3. A description of the amenities is provided as follows, along with a description of future plans within these areas identified by the Curwensville Lake park managers.

5.3.1 Camping Areas

The Curwensville Lake recreation area includes more than forty-three campsites for group camping, RV camping, cabins, and primitive camping areas. Electricity hookup is available at the group/RV campsites in the campground. Additional amenities include restrooms, boat camping, parking, charcoal grills, playgrounds, a dump site for RVs, and access to multiple trailheads. Campsites are open seasonally from April through October.

The park staff plan to expand and upgrade camping areas due to the large influx of interest over the summer of 2020. Campsite expansion is proposed near the southeastern portion of the recreation area along Lake View Bend. Additionally, park staff plan to expand camping opportunities near the boat launch area and Pavilion 2, including improved and expanded road access. Any recreational improvements will be reviewed by USACE, but will be funded by Clearfield County and its partners.

5.3.2 Day Use Area

The Day Use area encompasses a large recreational area that includes parking, restrooms, picnic shelters, playgrounds, pavilions, a volleyball court, a dog park, a disc golf course, hiking trails, a swimming beach, a dog beach, and the boat launch and mooring area. Recent improvements completed by the Clearfield County and local interest groups, include restroom repairs, and completion of the disc golf course. Several planned improvements include:

- Repave roads
- Upgrade from gravel to paved road near marina camping/trailer storage area.
- Expand road near Pavilion 2
- Upgrade bathroom facilities
- Expand lighting in park
- Upgrade playgrounds
- Replace pavilion roofs
- Replace Park Office roof
- Remove undesirable trees, including remaining stumps
- Improve volleyball court
- Add tennis court and cornhole area
- Add a trail with workout stations

Figure 5-1 illustrates all existing recreational interests, including the high density recreation amenities stated above and the low density recreation amenities discussed in the next section.

5.4 MULTIPLE RESOURCE MANAGEMENT LANDS

Multiple Resource Management Lands (MRML) are, as the name implies, lands that serve multiple purposes, but that are sub-classified and managed for a predominant use. There are 1,360.8 acres of land under this classification. The following paragraphs describe the various sub-classifications of these lands at the Curwensville Lake Project, the number of acres in each sub-classification, and the management plan for these lands.

5.4.1 Low Density Recreation

Future management of low density lands calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics while also supporting low impact recreational opportunities. The public may use these lands for bank fishing, hiking, wildlife viewing, and for access to the shoreline. Hunting is allowed in select areas that are a reasonable and safe distance from high density recreational areas, dam operations, and adjacent residential properties. There are currently 213.5 acres of Low Density Recreation at Curwensville Lake. Primarily the areas with hiking trails near Curwensville Lake have this classification.

5.4.2 Vegetation Management

These are lands designated for stewardship of forest, prairie, and other native vegetative cover. There is overlap in low density recreation areas and vegetation management areas, especially in some of the hiking trail areas.

In general, vegetative resources on USACE lands are managed for multiple purposes including wildlife habitat, recreational activities, landscape aesthetics, and timber. Management of forest on USACE lands nationwide is guided, in part, by policy set forth in Public Law 86-717, the Forest Cover Act, which states that "…project lands shall be developed and maintained to assure a future supply of timber through sustained yield programs to the extent that such management is practicable and compatible with other uses of the project." Additional forest management guidance is set forth in USACE regulations ER & EP 1130-2-540, which specifies that stewardship of project land shall be ecosystem based.

Current recreational use of these lands includes, but is not limited to hunting, bank fishing, canoe/kayak launches, and hiking. Future uses include all existing uses with the possibility of creating expanded trails. There are 1,146.8 acres of Vegetative Management at Curwensville Lake.

5.4.3 Wildlife Management

Wildlife management areas overlap with multiple land classifications throughout the Curwensville Lake Project. The PGC manages about 2,195 acres of land for wildlife populations. For more information on wildlife management activities, see Section 2.2.3.

5.5 WATER SURFACE

Per USACE policy set forth in EP 1130-2-550, the water surface of the lake at the recreation pool elevation may be classified as Restricted, No-Wake, or Open Recreation. Based on a collection of GIS data for this Master Plan, the water surface acreage at lake elevation 1,162 feet PCD was established to be 772.8 acres, which is higher than the current acreage of 770 acres that was established through a hydrographic survey completed in 2010. Until a detailed land survey is completed to determine the impact (i.e., increase of acres) to the surrounding recreational land classifications, this Master Plan update will maintain the acres determined from the GIS data collected. The following water surface classifications are designated at Curwensville Lake.

5.5.1 Restricted

Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The total acreage of Restricted water surface is 1.4 acres.

5.5.2 No-Wake Zones

No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps. No-Wake areas at Curwensville Lake include areas near the beach, boat launch, mooring area, the old railroad crossing, and the shallow narrow riverbed area. No-Wake areas encompass 143.2 water surface acres.

5.5.3 Open Recreation

Open Recreation includes all water surface areas available for year-round or seasonal water-based recreational use. Except for the Restricted areas described in the above paragraphs,

the remaining water surface of 629.1 acres at Curwensville Lake is designated as Open Recreation.

5.6 PROJECT EASEMENT LANDS

Future management of the 838.2 acres of flowage easement lands at the Curwensville Lake Project includes routine inspection of these areas to ensure that the Government's rights specified in the easement deeds are protected. Placement of any structure that may interfere with the USACE flood risk management mission may be prohibited.

5.7 PROJECT IMPLEMENTATION PLAN

The proposed improvement projects in Section 5 occur on lands leased to and managed primarily by Clearfield County. Clearfield County manages future project development. The implementation timeframe for projects discussed in this 2022 Curwensville Lake Master Plan are subject to funding and execution decisions made primarily by grant programs through Pennsylvania Department of Conservation and Natural Resources-Bureau of Recreation and Conservation, although USACE and Clearfield County coordinate to ensure compliance with applicable regulations and authorities.

As part of the Curwensville Lake Master Plan, future projects are categorized as short- and midrange opportunities based on status, funding, and urgency, as understood today. Short-range projects are planned for execution within the next 5 years and mid-range projects are planned for execution within the next 6 to 10 years. Projects may shift between short- and mid-range as priorities shift or funding becomes available.

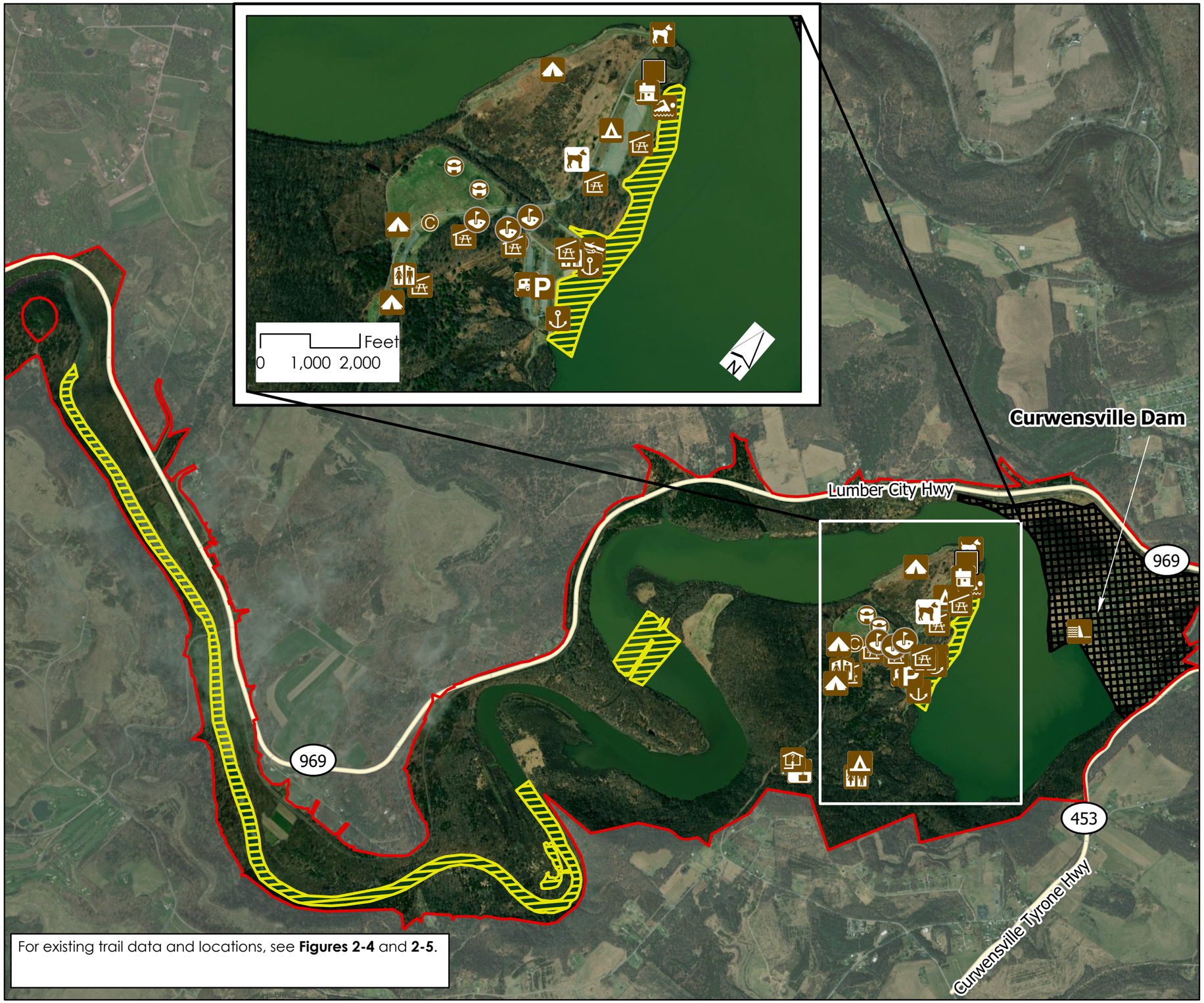
5.7.1 Short-Range Implementation Strategy

The Short-Range Implementation Strategy includes projects that enhance the existing recreational amenities and facilities. The projects within this time frame include improving recreational fields and courts and improving/expanding campsites near southeastern portion of recreation area (Lakeview Bend).

5.7.2 Mid-Range Implementation Strategy

The Mid-Range Implementation Strategy includes a continuation of projects within the Short-Range time frame, including enhancing and adding to the existing recreational amenities and facilities. The main projects within this time frame are to expand camp sites near the boat launch and Pavilion 2 with new or upgraded roads to complement them; upgrade bathroom facilities; upgrade lighting in the park; upgrade pavilion and park office roofs; upgrade playgrounds, add trails with workout stations, and repave roadways in the park.

Figure 5-1 Existing Features



Curwensville Lake Master Plan

Existing Features

Legend

- Curwensville Study Area

Existing Landmarks

- Boat Ramp
- Camping
- Mooring Area
- Park Office
- Picnic Shelter
- Picnic Shelter/Picnic Area
- Playground
- Swimming Area
- Trailer Sanitation
- Curwensville Dam
- Trailer Parking
- Parking
- Restroom
- Overflow Camping
- Group Camping
- Disc Golf
- Soccer Field
- Dog Swim
- Beach House
- Volleyball Court
- Hiking Trail
- Cabin
- Dog Park
- No Wake Zone
- Restricted Area

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

0 2,000 4,000 Feet

Figure 5-2 Proposed Future Development

Curwensville Lake Master Plan

Proposed Future Development

Legend

- Curwensville Study Area

Proposed Development

- Improve New Campsites
- Improve/Add Courts
- Improve/New Playground
- New Roof on Park Office
- New Roofs on all Pavilions

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

0 2,000 4,000 Feet

N

6 SPECIAL TOPICS, ISSUES, CONSIDERATIONS

6.1 COMPETING INTERESTS ON NATURAL RESOURCES

The Curwensville Lake Project is a large multi-purpose project with numerous authorized purposes. The authorized purposes accommodate the needs of federal, state, and municipal users that have developed over time and have contractual rights that must be honored. The benefits provided are critical to the local and regional economies and are of great interest to the public. Aside from operating the lake to meet the needs of those entities with contractual rights, there are many competing interests for the utilization of federal lands including recreational users, adjacent landowners, utility providers, and all entities that provide and maintain public roads. A major challenge is balancing the interests of each of these groups to ensure that valid needs are met while simultaneously protecting natural and cultural resources. The purpose of this Master Plan is to guide management into the foreseeable future to ensure the responsible stewardship and sustainability of the project's resources for the benefit of present and future generations.

6.2 HYDROPOWER

There are currently no hydropower facilities on project lands. Hydropower is not currently an authorized purpose at the Curwensville Dam. However, in 1984, the Nuclear Energy Group applied for a preliminary permit to study the feasibility of hydropower at the Curwensville Dam. The permit expired and the project did not move forward to construction. In 2019, Lock Hydro Friends Fund XXIXX, LLC. filed for and received an application for a preliminary permit, pursuant to section 4(f) of the Federal Power Act, to study the feasibility of the Curwensville Dam Hydropower Project No. 14981. The permit to study the feasibility of electric generation at the Project was approved in January 2020 and will expire in December 2023. The potential for hydropower to come to the Curwensville Dam in the future continues to be studied by others.

6.3 LOCAL EMERGENCY PERSONNEL TRAINING

In 2019, the local fire companies used the Curwensville Lake dam control tower for emergency entrapment extrication training. The local fire companies included Curwensville Volunteer Fire Department, Clearfield Volunteer Fire Department, Curwensville Emergency Medical Services, and Clearfield Emergency Medical Services. The local fire companies would like to make this training an annual event.

6.4 RECREATIONAL EVENTS

The Curwensville Lake park managers host a wide variety of events at the Curwensville Lake recreation area from March to October each year. Some of the event themes include (but are not limited to): pirates, dinosaurs, princesses, carnival fun, meteor showers, painting, bingo, Halloween, bonfires, s'mores, Easter egg hunts, Christmas in July, wildlife viewing, fishing, and local musical events. One the bigger events of the summer is the annual fireworks show.

7 PUBLIC AND AGENCY COORDINATION

USACE policy guidance in ER 1130-2-550, Change 7, January 30, 2013 and EP 1130-2-550, Change 5, January 30, 2013 requires thorough public involvement and agency coordination throughout the Master Plan revision process including any associated environmental assessment process. Public involvement is especially important at the Curwensville Lake Project to ensure that future management actions are both environmentally sustainable and responsive to public outdoor recreation needs within the region. The following milestones provide a brief look at the overall process of revising the Curwensville Lake Master Plan.

- June 7, 2019, USACE published a Public Notice of Intent to Prepare an Environmental Assessment (EA) on to the USACE web site and was distributed to project stakeholders, agencies, and the public.

- June 24, 2019 and July 12, 2019, Local news website GANT News published an article detailing the upcoming EA and master plan.

- July 15, 2019 and November 04, 2020, the planning team visited Curwensville Lake where initial introductions, site orientation, a site tour, and discussions took place; both during scoping and before drafting.

- April 4, 2022, Draft Master Plan & EA Submittal (Public Review).

- April 4, 2022, Local news website "wearecentralpa.com" published an article detailing the draft EA and master plan.

- April 5, 2022, Local news website GANT News published an article detailing the draft EA and master plan.

- July 6, 2022, Final Master Plan and EA Submittal (FONSI signed).

Agency coordination was conducted by USACE with the United States Fish and Wildlife Service (USFWS) through the Information, Planning, and Consultation (IPaC) online system to ensure compliance with Section 7 of the Endangered Species Act (ESA). Review was also performed by the Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Department of Topographic and Geologic Survey (PDTGS), and USFWS through the Pennsylvania Natural Diversity Index website (PNDI). Coordination results can be found in Appendix A of the EA.

8 SUMMARY OF RECOMMENDATIONS

8.1 SUMMARY OVERVIEW

The preparation of the Curwensville Lake Master Plan follows the USACE master planning guidance in ER 1130-2-550 and EP 1130-2-550, both dated 13 January 2013. Three major requirements set forth in the current guidance include (1) the preparation of contemporary Resource Objectives, (2) Classification of the project lands using the newly approved classification standards, and (3) the preparation of a Resource Plan describing in broad terms how the land in each of the land classifications will be managed into the foreseeable future. Additional important requirements include public involvement throughout the process, and consideration of regional recreation and natural resource management priorities identified by other federal, state, and municipal authorities. The study team followed this guidance to prepare a master plan that will meet the project's primary purpose of flood risk management and support the secondary purposes of water supply, water quality, recreation, and environmental stewardship of natural and cultural resources. Clearfield County manages the recreation area at the Curwensville Lake Project. Factors considered in the plan were identified through discussions with project representatives, USACE, Clearfield County, PGC, PFBC, other project stakeholders, and the public. This Master Plan will ensure the long-term sustainability of natural resources associated with Curwensville Lake Project.

8.2 LAND RECLASSIFICATION PROPOSALS

While proposed changes in land classification at the Project, as presented in Section 4, are indicative of future development initiatives at the Curwensville Lake Project, it should be noted that the majority of land classification changes at the Project reflect classification criteria change more than any planned development. A summary of land classification changes is provided in Table 8-1.

Table 8-1. Land Classification Summary

Prior Land Classifications (1968)	Acres
Project Operations[1]	273.8
Intensive Recreation[1]	314.6
Wildlife Management[1,3]	1,290.6
Flowage Easements	838.2
Highway and Railroad Relocations[5]	345.6
Unutilized/Unmerchantable Property[6]	47.1
Conservation Pool[1]	772.8
Unmodified River Area[1]	180.9
Total[1,3,4,5,6]	**4,063.7**

Proposed Land Classifications	Acres
Project Operations[1]	217.2
High Density Recreation	300.7
Multiple Resource Management	1,360.8
Low Density Recreation	213.5
Wildlife Management[3]	(2,195.3)
Vegetation Management	1,146.8
Flowage Easements	838.2
Highway and Railroad Relocations[5]	345.6
Water Surface[1]	772.8
No-Wake[#]	142.3
Restricted	1.4
Open Recreation	629.1
Unmodified River Area[1]	180.9
Total[1,3,4,5,6]	**4,016.1**

[1]Includes old Susquehanna Riverbed acreages before the Curwensville Dam was built, which created the Recreation Pool. Fee Simple and Easement Lands total to 3,700.9 acres (does not include old riverbed acreage). GIS calculated total for Land of Curwensville Lake Project lands is 3,714.4 acres (does not include old riverbed acreage). There is 0.5 additional acres in Multiple Resource Management Lands due to riverbed acreages.

[2] No-Wake Zone includes area by beach for swimmers, boat ramp, and boat mooring area (17.5 acres); area near old railroad crossing (21.7 acres); and along narrow, shallow riverbed and wetland areas (103.1 acres).

[3]Wildlife Management overlaps with the other land classifications. The Wildlife Management acres in the Proposed Land Classification column reflects the number of acres currently maintained by the Pennsylvania Game Commission for wildlife populations and their habitat areas upstream of and around Curwensville Lake. Since there is overlap the acres listed for Wildlife Management is not added to the total acres.

[4] Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.

[5]The Highway and Railroad Relocation land classification with 345.6 acres includes 231 acres of divested land by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966. The divested acreage is not owned or managed by USACE.

[6] *The Unutilized/Unmerchantable Lands (47.1 acres) were sold in 2006 and 2007 so they are no longer included in the project land totals.*

Land classification criteria is now more specific and conservative than previous versions of Master Planning guidance. The new land classifications represent changes to descriptive language, rather than modification of land use at the site. For example, Table 8-1 suggests a reduction in total Project Operations land from 273.8 to 217.2 acres. In reality, the new land allocation guidance introduces vegetative management within the Multiple Resource Management category and retains low density recreation as areas with minimal development supporting passive recreation activities. The land was always maintained for vegetation instead of being directly needed for Project Operation purposes. This nuance allows for the reclassification of undeveloped open space in the vegetative management category while identifying key areas to support low density recreation activities.

The key substantive change in land classification from the 1968 Master Plan to the 2022 Master Plan is the identification of the Multiple Resource Management Land category. This classification allows for the designation of a predominant use with the understanding that other compatible uses may also occur on these lands, such as low density recreation, wildlife management, future/inactive recreation areas, and vegetation management. Wildlife management, for example, overlaps with multiple land classifications.

A summary of land classification changes and justification is provided in Table 8-2.

Table 8-2. Proposed Changes to Land Classifications at Curwensville Lake Project

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description
Project Operations[1]	273.8	217.2	Lands are associated with the dam and spillway structures that are operated and maintained for the flood risk management mission of the Project. The project operations area has changed slightly along Curwensville Tyrone Highway. The change in acres of the Project Operations area is converted to Vegetative Management in the 2022 Master Plan to more accurately reflect the activities on this land.
High Density Recreation	314.6	300.7	Lands are currently developed for intensive recreational activities and include boat launches, day use areas, and campgrounds. The new criteria for this land classification includes areas developed specifically to support intensive recreational activities. This land classification has been developed to support concentrated visitation and use of the recreational facilities they host. Dependent on available space, funding, and public demand, these areas may support additional outdoor recreation development in the future.
Multiple Resource Management Land			
Low Density Recreation	0	213.5	Management of this land classification calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics, while also supporting low impact recreational opportunities such as bank fishing, hiking, wildlife viewing, and access to the shoreline. Hunting may also be allowed in select areas that are a reasonable and safe distance from high density recreational areas, dam operations, and adjacent residential properties. The new land classification criteria exclude vegetation and wildlife management areas, leaving only areas with minimal development to support passive recreation use (i.e., primitive camping, hunting, trails, wildlife viewing, etc.).
Wildlife Management[3]	1,290.6	(2,195.3)	This land classification was considered in the 1968 Master Plan and will continue in the 2022 Master Plan. However, because the wildlife management acres all overlap with other land classifications, the wildlife management acres are excluded from the total acres of the project. Wildlife management activities will continue to occur throughout the Curwensville Lake Project area. See

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description
			Figure 2-1 to see where wildlife management activities occur.
Vegetative Management	0	1,146.8	This land classification was not considered in the 1968 Master Plan. This classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. These lands may or may not be protected from development. In general, vegetative resources on USACE lands are managed for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber management.
Water Surface[1]			
Designated No-Wake[2]	0	142.3	Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps, mooring areas, swimming areas, and shallow areas. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Restricted	0	1.4	Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The restricted area is marked year-round by a cable across the intake channel with hanging restricted area signs. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Open Recreation Area	772.8	629.1	Open Recreation area includes all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description
			criteria and no actual change in water use. This area includes all remaining water surface area outside of the restricted and No-Wake Zones.
Total[1,3,4,5,6,7]	4,063.7	4,016.1	

[1]Includes old Susquehanna Riverbed acreages before the Curwensville Dam was built, which created the Recreation Pool. Fee Simple and Easement Lands total to 3,700.9 acres (does not include old riverbed acreage). GIS calculated total for Land of Curwensville Lake Project lands is 3,714.4 acres (does not include old riverbed acreage). There is 0.5 additional acres in Multiple Resource Management Lands due to riverbed acreages.

[2] No-Wake Zone includes area by beach for swimmers, boat ramp, and boat mooring area (17.5 acres); area near old railroad crossing (21.7 acres); and along narrow, shallow riverbed and wetland areas (103.1 acres).

[3]Wildlife Management overlaps with the other land classifications. The Wildlife Management acres in the Proposed Land Classification column reflects the number of acres currently maintained by the Pennsylvania Game Commission for wildlife populations and their habitat areas upstream of and around Curwensville Lake. Since there is overlap the acres listed for Wildlife Management is not added to the total acres.

[4] Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.

[5]The Highway and Railroad Relocation land classification with 345.6 acres includes 231 acres of divested land by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966. The divested acreage is not owned or managed by USACE.

[6] The Unutilized/Unmerchantable Lands (47.1 acres) were sold in 2006 and 2007 so they are no longer included in the project land totals, but are included in the1964 project land totals. .

[7] Other land classifications exist at Curwensville Lake Project, such as flowage easements, highway and railroad relocations, and unmodified river area. Thus, total project acres are not reflected in the above table, only the areas impacted by the update in land reclassification. For more information on the other project areas, see the Curwensville Lake 2022 Master Plan.

9 APPENDIX

APPENDIX A: ACRONYMS AND ABBREVIATIONS

ac	Acres
ACS	American Community Survey
ADA	Americans with Disabilities Act
AMD	Acid Mine Drainage
ARPA	Archaeological Resources Protection Act
BAMR	Bureau of Abandoned Mine Reclamation
BP	Before Present
cfs	Cubic Feet Per Second
CEPD	Comprehensive Evaluation of Project Datums
CRMP	Cultural Resources Management Plan
DCNR	Pennsylvania Department of Conservation and Natural Resources
EA	Environmental Assessment
ECL	Environmental Conservation Law
EOPs	Environmental Operating Principles
EP	Engineering Pamphlet
ER	Engineering Regulation
EIS	Environmental Impact Statement
FERC	Federal Energy Regulatory Commission
ft	Feet
FY	Fiscal Year

GIS	Geographic Information Systems
HDC	Hydroelectric Design Center
IPaC	Information for Planning and Consultation
MRML	Multiple Resource Management Lands
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
OMP	Operations Management Plan
PADEP	Pennsylvania Department of Environmental Protection
PCD	Project Construction Datum
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Index
PHMC	Pennsylvania Historical and Museum Commission
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SRBC	Susquehanna River Basin Commission
SOP	Standard Operating Procedure

UFC	Unified Facilities Criteria
USACE	United States Army Corps of Engineers
USCB	United States Census Bureau
USDA APHIS	United States Department of Agriculture, Animal & Plant Health Inspection Service
USDA NRCS	United States Department of Agriculture, Natural Resources Conservation Service
USDA USFS	United States Department of Agriculture, United States Forest Service
USFWS	United States Fish and Wildlife Service
ZOI	Zone of Interest

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APPENDIX C: KICK-OFF MEETING MINUTES

Curwensville

~~KETTLE CREEK~~ STATE PARK MP SITE VISIT- NOTES

DATE: 7/15/19

Attendees: Andy Hofmann- Operations FRM NRMS, Tim Smay- Head Dam Operator, and Raymond Jordan- Park Manager

Facilities:

- Fill station and dump site dumpe
- 51 Campsitese
- A lot of primitive overflow sites. Some created on the fly to accommodate during highe use times.e
- Hunting is allowed on the left side of the road. NOTE: Park gates close for the seasone Oct. 31. Any hunting after that is walk in only.e
- Have RV Group Camping Site accommodates 6 RVs, and you must have 6 RVs to rent thee area.e
- Have a dry dock area that floods during some high water events. Renters are requirede to remove boats or move them to higher during flooding events.e
- Trail system on the park (does not connect to anything outside the park.e
- Invasive Species-
  - Have a number of invasive plants.
  - At one point had Zebra Mussels, but have not been observed no more.e
- Concession Building/Beach House/Kayak Rental Building- run by Curwensville Park.e They have kayaks, ice cream, and changing area.e
- Have a spot for food trailer vendors by the Concession Building to sell burgers and othere food.e
- Have a dog park for both large and small dogs (see photos).e
- No dogs permitted at the Beach use area, and Cabin 3. Park does have Leash laws.e

Ideas the Park is considering:

- Recently received grant funding for construction of another cabin (Visit Clearfielde County Grant).e
- Currently developing a FLAP Grant funding proposal for a paving project to resurface thee beach parking area, and access road past the beach house concession.e
- Want to designate a dog swim area.e

Data needs from Park if available:

- To obtain visitor use datae
- Park management plane
- Invasive species management info.e
- Resource Management Plane
- Electronic version of map- (check out park MP)e

Dam/Reservoir Site Visit (With Tim Smay):

Meeting with Curwensville Dam Operators and Curwensville Lake Park Managers
November 4th, 2020

Objectives

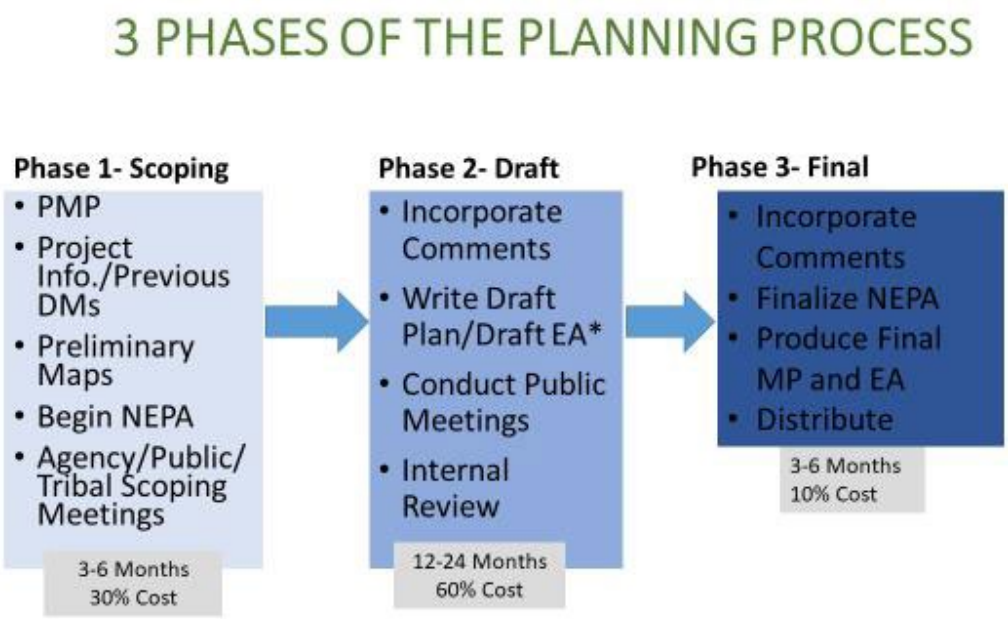
1) Dam
    a. Introductions with Dam Tenders
    b. Get a tour of the dam
    c. Ask questions on dam operations for that portion of the plan
    d. Photos
2) Park
    a. Meet with Park Managers
    b. Tour the recreational areas and familiarize ourselves with recreation portion of the sites,
    c. Future needs for recreation
    d. Photos

Questions for Curwensville Site Visit

1. **USACE-Baltimore District Intro**
    a. Introduce group
    b. Discuss purpose of the updates
        i. Revise Land Classifications-change wording not what each land is used for, new terminology.
        ii. Curwensville Lake and Dam's current Master Plan originates from 1968 and uses outdated terminology for its Land Classifications

Current Classification	Proposed Classification	Description of Proposed Classification
Project Operations	Project Operations	Lands required for the dam, spillway, offices, and other areas used solely for the operation of the reservoir.
Recreation-Intensive acreage	Recreation-High Density	Lands acquired and designed for the use as parks or other areas for intensive recreational activities by the visiting public.
Recreation-Medium Density, Recreation-Low Density and Wildlife Management	Multiple Resource Management Lands-Low Density Recreation and Multiple Resource Management Lands-Wildlife Management	Multiple Resource Management Lands: This classification allows for the designation of a predominant use with the understanding that other compatible uses may also occur on these lands; these additional uses may include: a. Low Density Recreation: lands classified for use for activities such as hiking trails, primitive camping, limited lake access points, and other similar activities by the visiting public. b. Wildlife Management: lands allocated as habitat for fish and wildlife, and are generally open for hunting and fishing. c. Future/Inactive Recreation Areas: lands intended for recreation, but which were never developed or have been closed. d. Vegetative Management: lands designated for stewardship of forest, prairie, and other native vegetative cover.
Historic Preservation	Environmentally Sensitive Areas	Lands designated for areas were scientific, ecological, cultural, and aesthetic features have been identified. These areas are managed to protect environmental resources.
Summer Pool Acreage—Restricted	Water Surface—Restricted	These are water areas restricted for project operations, safety, and security purposes. This would include the waters directly adjacent to the dam.
Summer Pool Acreage—Unrestricted	Water Surface—No Wake Zone	Water areas designated to protect environmentally sensitive shoreline areas, recreational water access areas from disturbance and public safety. Typically, these areas are located around marinas, ports, boat ramps, and some narrow overpasses.
	Water Surface—Open Recreation	All water surface that is not included in the categories above are, by default, considered “Open Recreation”.

c. Master Plan Guidelines:
    i. Primary goals of the Master Plan are to prescribe an overall land use management plan, resource objectives, and associated design and management concepts
    ii. Also preparing an Environmental Assessment
    iii. Not include changes to operation and maintenance of project operation facilities, flood risk management, navigation, or water supply functions
    iv. No proposed actions at this time just new land classification terminology
    v. Does not consider specific future development.
    vi. Any action proposed for consideration must be consistent with the mission of the Corps and the purposes for which the project was established
d. Process/Schedule
    i. Picking up from Scoping in Spring 2019,
    ii. Draft when ready be available likely Summer 2021 for comment/review Public Notice will be posted on the project's website, in local newspapers, on social media, and sent out via individual mailings, (30 days),
    iii. Final Winter 2021



2. **<u>Meeting with Curwensville Dam Operators and USACE Baltimore District Planning and Operations Divisions</u>**
    a. November 04, 2020 @1200-1400
    b. Design of Dam
        i. Explain design of dam
            1. 15 ft. discharge pipes
            2. 3 gates, each 5 feet by 12 feet with 2 bypass gates
            3. Earth dam

4. Relief wells are downstream of dam,
5. Bypass is 30" pipe- used at summer low flows because easier to regulate

ii. Stats
1. Spillway flow is 1228ft
2. Highest height (1972) 1214 ft.
3. Normal 1162 feet.

iii. Hydropower
1. Permit to conduct feasibility study

iv. Only USACE dam on the West Branch Susquehanna River
1. Sayers and Bush Dams are on tributaries to the Susquehanna.

v. Area
1. No trespassing 300 yards(estimated) downstream of dam.

c. Current Purposes
i. Flood control (Flood Risk Management)
ii. Improve downstream water quality by minimizing acid mine pollution effects
1. Minimum flow at 65 cfs to minimize acid mine drainage effects
2. Min flow used to be 50 cfs, but was bumped up to 65 cfs
3. (Look up: Company name of acid mine drainage treatment)
a. Treatment occurs upstream of the Dam site.
b. Adds 10 to 11 cfs of input at plant location upstream lake inflow
c. Discharged into river not directly into the pool

iii. Water Supply (in partnership with Susquehanna River Basin Commission [SRBC}) request releases at periods of low flow to meet needs of SRBC.
iv. Other purposes?
1. Recreation
a. No releases for downstream recreation purposes (rafting, etc.).

v. Release ranges
1. At time of site visit, 80 to 100cfs
2. At normal lake level, max cfs is 4800.

d. When do you do releases?
i. No release schedule, keep the pond level the same
ii. Weather
1. More/less rain/no rain
2. Release extra 1 to 2x per year
3. 2012 closed gates when flow was high in Harrisburg but at the dam it was at dam conditions for rain events.
4. Downstream sensitive to flooding below Clearfield. Clearfield has other flooding problems (not just from W. Susquehanna R.)

iii. Emergency
1. Hurricane or other flood release all for structural purposes
a. 2018 Hurricane- Florence?
i. 35 extra feet in the lake
ii. 3rd highest pool on record
b. Highest pool of record was 1972 Agnes

i. Never reached spillway flow

2. Drought? Lake really low? Water supply shortage?

iv. Seasonal height differences?

1. *No summer vs. winter pool. Try to keep the same pool level*
2. *No plans to make summer and winter pools different levels.*
3. *Dam Operator would like to have winter level lower for snow melt management.*

v. Dam Regulation Manual 2020- Dam Operator sent to Baltimore Office after site visit

e. Water Quality

i. Problems with any water quality parameters?

ii. pH 6.5 to 7 usually

iii. maintain warmwater fishery- release top water that's warmer

iv. minimize impact of the acid mine drainage

v. Septic Tank in Recreation area leaks

vi. Algae blooms occur, not usual problem, not toxic

vii. Normal vegetation ←SAV?

viii. Water Management from NAB does quarterly tests, but @ dam staff only deals with water quantity.

ix. Recreation test beach regularly for swimming purposes to make sure they stay below the acceptable swimming level.

1. *This (2020) summer 1 bad bacteria test, likely human error*
2. *Sources of bacteria: farm input, warm dry summer*

f. Species in Area

i. Bald Eagle, not listed, they are a least-concern species. (A least-concern species is a species that has been categorized by the International Union for Conservation of Nature as evaluated as not being a focus of species conservation. They do not qualify as threatened, near threatened, or conservation dependent.)

g. Current Issues?

i. Erosion-No erosion problems, minor amounts here and there.

ii. Sedimentation- some occurs, not problematic currently

iii. Debris- Occasional get logs in intake channel. If large amount, get a contractor to come clean it.

iv. Public Concerns- When acid mine drainage treatment began, there was concern the lake level would be lowered bc it was listed as a potential impact bc of the increase in minimum discharge. However, lake level remains the same.

h. Inspections- Baltimore USACE geotechnical engineers and civil sections inspect dam

i. Any planned maintenance projects to Operations lands?

i. Planned projects –

1. Adding additional rip rap to portion of backside of dam that is hard to mow.
2. Replace safety railing because it was crushed

3. Reseal asphalt on top of dam and the parking area.

ii. No sediment blockages

j. Special Topics

i. Any special topics? Special considerations? Big events?

ii. Emergency exercise performed in dam control tour with the fire company

3. <u>Meeting with Curwensville Park Managers</u> <u>and USACE Baltimore District Planning and Operations Divisions</u>

a. November 04, 2020 @1400-1630

b. History of site development

i. The Curwensville Lake site was a state park in the 80's then USACE took over, county manages (leases) it now.

c. Inventory of current facilities at the site-> Note: USACE Brochure Map OUTDATED. Curwensville Lake gave us new hard copies.

i. Camping - >40 sites

1. Sites, cabins, group camping, primitive
2. Most sites are primitive, group camping has electric.
3. 3 Stationary restrooms near group camping, 1 restroom in camp area. 1 shower near camping
4. 1 dump station for RV's
5. RV camping
6. Marina camping available, so people can see their boats.
    a. Trailer right, boat camping on left

ii. 600' beach

1. Swimming

iii. Dog park

iv. Volleyball court

v. Athletic fields

vi. Hiking Trails- >16 miles

vii. Picnic shelters

1. Pavillions-5

viii. Restrooms- 5

1. By Pavilion composting toilet
2. Pit toilets

ix. 70 shoreline mooring rental spaces

x. Courtesy dock

xi. Playground

1. All Playgrounds need replacement bc they are all old
2. Playground improvements require 50% match, so still really expensive.

xii. Disk Golf Course- by Friends of the Lake

xiii. Fishing Areas

1. Allowed most areas except near swimming beach, dog beach, and near boat launch area.

xiv. Trailer with food concessions

1. Did not open stationary food concession area but used trailer in 2020 season.

d. Recent improvements
    i. Exhaust fans added to restrooms-> dried floor out, was always damp
    ii. Friends of the Lake
        1. Recent Projects by them
            a. New Disk Golf Course
            b. Bathroom floor redone
            c. New toilets
        2. Friends of the Lake help supplement funds
        3. Do events and put the money back into the Lake Recreation areas.
    iii. Paintings from Curwensville High School
    iv. Have wagon for hayrides and to move people for parking @events.
    v. Levelled off new camp sites (Lake view near dog park),
    vi. Trails
        1. Adopt a trail
        2. Did a great job maintaining
        3. Notify if need major tree removal
e. Distribution-> USACE Brochure Map OUTDATED.
f. Which things are Seasonal vs. Open year round
    i. Seasonal
        1. Swimming
        2. Camping- April 1st to October 31st
        3. Kayak/Canoe-rentals
        4. Volley ball court
        5. Left fork road that accesses swimming, dog beach, beach camping, lake camping is closed October-April/May, open April/May to October.
    ii. Yearly
        1. Boating
        2. Fishing
        3. Playgrounds
        4. Disk Golf←NEW
g. How is site managed? Who? How many?
    i. Curwensville Lake Recreation Staff of 4-5 people.
        1. Willie- Interim Park Manager
        2. Susan
        3. Cody
        4. Randy
    ii. 1 main maintenance guy year round, depending on weather.
    iii. Park Manager position will be advertised.
        1. Deals with campers, day visitors, on call, manage store.
    iv. Had 36 people on payroll (2020 summer), not at same time.
h. Park Users
    i. Numbers/Popularity of the various recreational activities at the site

ii. Do you keep visitation records or do visitation surveys? Peak numbers when? Certain days? Certain times of year?
iii. Visitation near capacity for certain facilities? Certain things always full? Etc.
iv. 2020 Booked Solid all summer for campsites, found unofficial primitive camp sites to set people up on during Labor Day weekend.
v. Dog park-heavily used but never full
vi. Park entrance fee $3 day/car and $5 day/car with watercraft.
vii. Comment cards given to all campers, day users did not fill them out usually.
1. Air compressor is a top request.

i. Species of Concern
i. Threatened or endangered
ii. None on T&E
iii. Bald Eagle, not listed, they are a least-concern species. (A least-concern species is a species that has been categorized by the International Union for Conservation of Nature as evaluated as not being a focus of species conservation. They do not qualify as threatened, near threatened, or conservation dependent.)
iv. Bank Swallows eat bugs.

j. Cultural features (Environmentally sensitive areas)?
i. None known on site

k. Current Issues
i. Water Quality
1. Water quality ever an issue for any type of recreational activity on site?
2. Test e. coli weekly at beach
3. Closed once due to high e. coli reading-however upon further investigation it was likely a bad reading.
4. Goose poop is a problem, especially for beach. Needs to be picked up each day at peak of season.

ii. Erosion problems?
1. A little erosion near beach

iii. Road degraded- needs improvements
iv. Bathroom facilities degraded.
v. Need new pavilion roofs

l. Future Opportunities/Development Ideas←Note Curwensville Lake Staff new, not familiar with the 2011 plan, so not a talking point comparison during site visit.
i. Current Needs/ Opportunities for improvement
1. Road repaving
2. Bathroom facilities improvements
3. New pavilion roofs
4. Tree Stumps need to be ground out, 2 trees to be taken down
5. Need more storage space for equipment
6. New Roof on Park Office
7. More Lighting
8. Add road by Pavilion 2

9. Add Camping near Pavilion 2
10. Potential workout stations on a trail with a circuit
11. Camping online reservation system could decrease budget
12. Add tennis Court, volleyball court (improve), cornhole
13. Levelled off new camp sites (Lake view near dog park), to be finished summer 2021?, primitive
    a. Plant trees between sites in this field
14. Like to have goose management via trapping or hunting, could game commission help?

m. Special Topics
    i. Any special topics? Special considerations? Big events?
    ii. Summer 2020- Theme Nights with Food Trucks (advertised on Facebook).
    iii. July 4th Fireworks show

APPENDIX D: PUBLIC NOTICES AND PERTINENT NEWSPAPER ARTICLES

US Army Corps of Engineers
Baltimore District

Operations Division

Public Notice

Curwensville Lake Project Master Plan Revision and Environmental Assessment

All Interested Parties: The U.S. Army Corps of Engineers, Baltimore District (USACE-Baltimore) is in the process of updating the Master Plan (MP), and preparing an Environmental Assessment (EA) for the Curwensville Lake (CL) located on the West Branch of the Susquehanna River in Clearfield County, Pennsylvania. The update of the plan will be in accordance with the National Environmental Policy Act of 1969, as amended, the January 2013 updates to the Engineer Regulation (ER) and Engineering Pamphlet (EP), and the November 2015 policy memorandum Revision to ER and EP 1130-2-550 Master Plans.

Photo: U.S Army Corps of Engineers

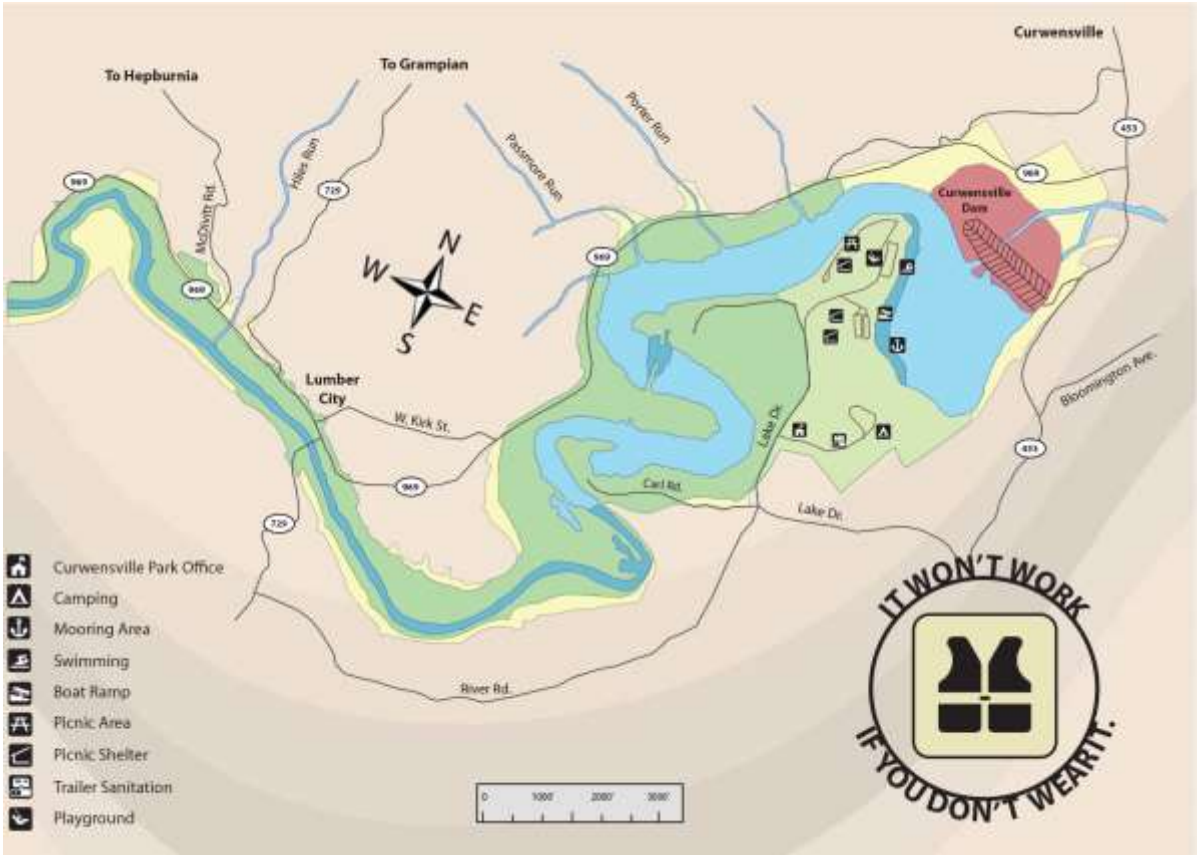
CL was authorized by the Flood Control Act of 1954, and was constructed, and is managed, by USACE for the purposes of flood risk management, water supply, recreation, and environmental stewardship. This Master Plan considers all USACE-managed and maintained portions of land at CL. It does not consider specific future development opportunities for leased areas, including Clearfield County recreation area, and lake and land areas managed by the Pennsylvania's Fish and Boat Commission and Game Commission.

The draft MP supplement and EA are anticipated to be publicly released in spring 2020. The purpose of this notice is to inform the public of the initiation of the preparation of an EA for the CL Project Master Plan. We request that federal and state agencies provide information concerning interests within your organization's area of responsibility or expertise, and the public provide information that may be pertinent to this assessment. The agencies and public can provide comments or information that may be pertinent to this assessment to the address listed below until July 7, 2019. A timely review of the enclosed map and a written response will be greatly appreciated and will assist us with preparation of the EA.

A public review meeting will be held after the initial public submittal to allow opportunity for the public to submit ideas, comments, and feedback on the Draft Master Plan and Draft EA. This public review meeting will be scheduled when the draft master plan and EA have been completed. An invite will be distributed in advance of the meeting indicating the location and time of the event. All updates regarding the Master Plan Update and public meetings may be found on the following site: https://www.nab.usace.army.mil/CL-Master-Plan-Revision/.

If you would like to request a public scoping meeting to discuss the scope and intent of this project OR if you have any questions, please contact Natural Resource Management Specialist, Andy Hofmann at (410) 962-4370 or at Andrew.d.Hofmann@usace.army.mil by July 7, 2019. Additionally, questions can be mailed to U.S. Army Corps of Engineers, Operations Division, Subject: Curwensville Lake Project, 2 Hopkins Plaza, Baltimore, MD 21201.

Link: Lake Master Plans.



U.S. Army Corps of Engineers

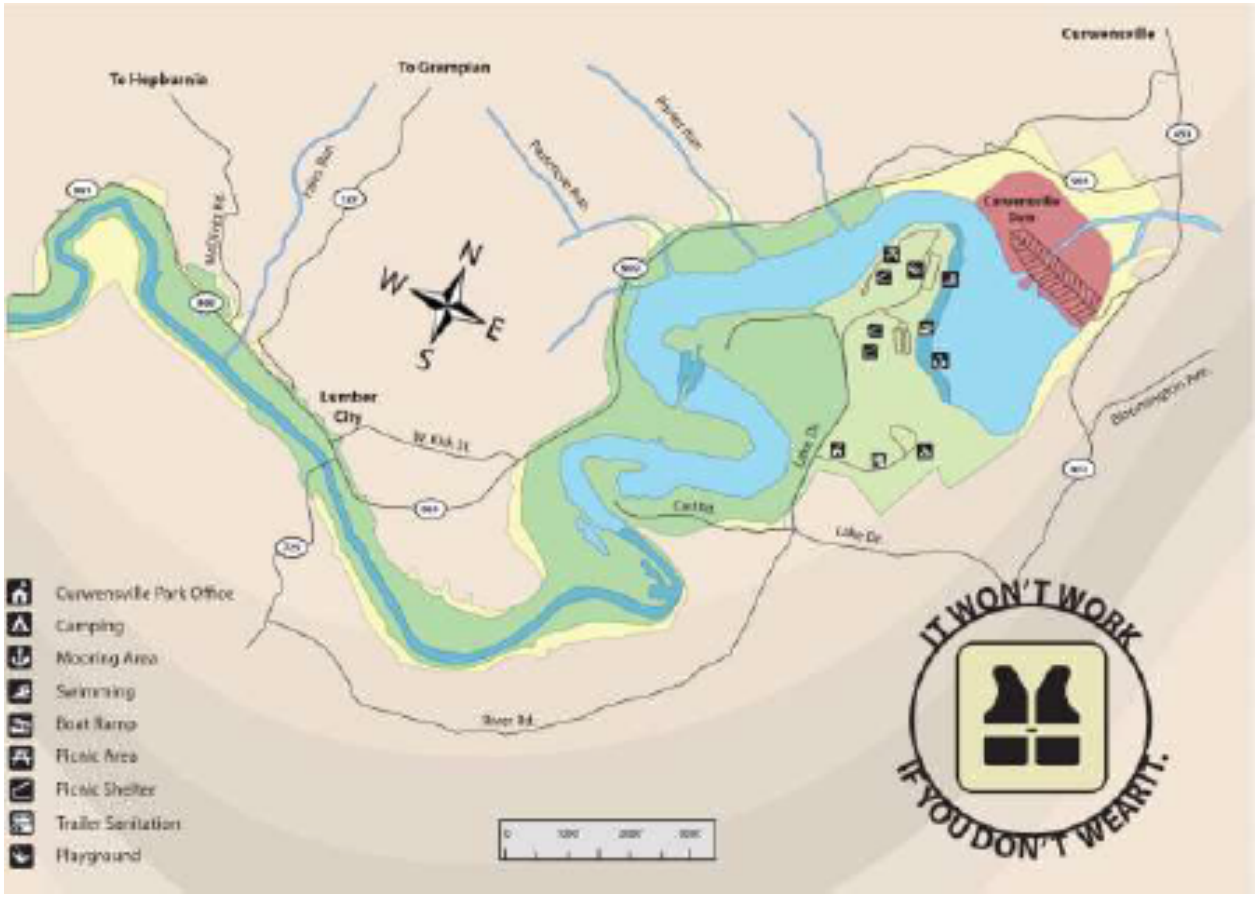
DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Baltimore
Operations Division
2 Hopkins Plaza
Baltimore, Maryland 21201

Official Business

GANTNews

Army Corps Begins Curwensville Lake Project Master Plan Revision and Environmental Assessment Process

by Gant Team — Monday, June 24, 2019 in Local News, Top Stories



CURWENSVILLE – The U.S. Army Corps of Engineers, Baltimore District (USACE Baltimore), is in the process of updating the master plan, and preparing an environmental assessment for the Curwensville Lake, located on the West Branch of the Susquehanna River in Clearfield County.

The update of the plan will be in accordance with the National Environmental Policy Act of 1969, as amended; the January of 2013 updates to the Engineer Regulation and Engineering Pamphlet; and the November of 2015 policy memorandum Revision to ER and EP 1130-2-550 Master Plans.

The draft master plan supplement and environmental assessment are anticipated to be publicly released in spring of 2020. The purpose of this notice is to inform the public of the initiation of the preparation of an environmental assessment for the Curwensville Lake Project Master Plan.

USACE requests that federal and state agencies provide information concerning interests within your organization's area of responsibility or expertise, and the public provide information that may be pertinent to this assessment.

The agencies and public can provide comments or information that may be pertinent to this assessment to the address listed below until July 7. A timely review of the enclosed map and a written response will be greatly appreciated and will assist us with preparation of the environmental assessment.

A public review meeting will be held after the initial public submittal to allow opportunity for the public to submit ideas, comments and feedback on the draft master plan and draft environmental assessment.

This public review meeting will be scheduled when the draft master plan and environmental assessment have been completed. An invite will be distributed in advance of the meeting indicating the location and time of the event.

All updates regarding the master plan and public meetings may be found **online**.

Members of the public can request a public scoping meeting to discuss the scope and intent of this project or if there are any questions, they can contact Natural Resource Management Specialist Andy Hofmann at 410-962-4370 or at **Andrew.d.Hofmann@usace.army.mil** by July 7.

Additionally, questions can be mailed to U.S. Army Corps of Engineers, Operations Division, Subject: Curwensville Lake Project, 2 Hopkins Plaza, Baltimore, MD 21201.

Curwensville Lake was authorized by the Flood Control Act of 1954, and was constructed, and is managed, by USACE for the purposes of flood risk management, water supply, recreation and environmental stewardship.

This master plan considers all USACE-managed and maintained portions of land at Curwensville Lake. It does not consider specific future development opportunities for leased areas, including

Clearfield County recreation area, and lake and land areas managed by the Pennsylvania's Fish and Boat Commission and Game Commission.

Click **here** to read the full public notice.

GANTNews

Army Corps to Begin Curwensville Lake Master Plan Revision Process

by Gant Team — Friday, July 12, 2019 in Local News, Top Stories

CURWENSVILLE LAKE – The U.S. Army Corps of Engineers has begun the process of updating the Master Plan and preparing an Environmental Assessment for the Curwensville Lake project in Clearfield County.

All Army Corps dam projects have a master plan that serves as the project's guiding document for responsible decision making for a lifespan of 15 to 25 years.

Master plans include land use classifications that govern the way land is managed and used at the project to provide good stewardship and outdoor recreation.

The Curwensville Lake Master Plan revision will consider all Army Corps managed and maintained portions of land at Curwensville Lake.

The revision will not consider specific future development opportunities for leased areas, including Clearfield County recreation area, and lake and land areas managed by the Pennsylvania's Fish and Boat Commission and Game Commission.

The Master Plan revision will also not change the technical operations of the lake as related to its primary mission of flood risk management. Curwensville Lake's last master plan revision was in 1968.

The revision is part of an Army Corps-wide effort to bring master plans up to date across the country. An Environmental Assessment (EA) is being prepared in accordance with National Environmental Policy Act guidelines.

The Army Corps is requesting that federal and state agencies provide expert information that may be pertinent to this assessment.
The public can request a public scoping meeting to discuss the scope and intent of this project with the Army Corps. Questions, feedback and requests for a scoping meeting can be sent to Andy Hofmann at Andrew.d.Hofmann@usace.army.mil or 410-962-4370 by July 13, 2019.

Additionally, questions can be mailed to U.S. Army Corps of Engineers, Operations Division, Subject: Curwensville Lake Project, 2 Hopkins Plaza, Baltimore, MD 21201.

All updates regarding the Master Plan revision, future public meeting information, the current master plan and ways to submit comments or questions may be found on the following site: https://www.nab.usace.army.mil/CL-Master-Plan-Revision/.

The draft Master Plan and EA are anticipated to be publicly released in spring 2020. A public review meeting will be held during this time for the public to submit ideas, comments and feedback on the draft Master Plan and draft EA.

Details will be announced in advance of the meeting indicating the location and time.

About the Curwensville Lake Project

The Curwensville Lake project has prevented an estimated $229 million in flood damages for the local community. Curwensville Lake is located on the West Branch of the Susquehanna River in Clearfield County, Pa.

Curwensville Dam is an earth-fill structure with a spillway and a gate-controlled outlet. The project controls a drainage area of 365 square miles or 98 percent of the West Branch at Curwensville and 75 percent at Clearfield.

The project reduces the flood heights along the West branch below the dam, and provides a lake for recreation. The project is a unit of the comprehensive flood control plan for the protection of communities in the West Branch Susquehanna River Basin and was authorized by the Flood Control Act approved Sept. 3, 1954.

Clearfield County operates and maintains the recreation area, which includes a beach, boat launch, picnic areas, athletic fields, playgrounds, picnic pavilions and a 43-site campground. Recreation is offered from Memorial Day to Labor Day.

US Army Corps of Engineers
Baltimore District

Planning Division

Notice of Availability

Curwensville Lake 2022 Master Plan and Environmental Assessment 04 April 2022

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the U.S. Army Corps of Engineers, Baltimore District (USACE) has prepared a draft environmental assessment (EA) to assess the impact of the implementation of the Curwensville Lake 2022 Master Plan ("2022 Master Plan"). The Curwensville Lake project is located on the West Branch of the Susquehanna River in Clearfield County, Pennsylvania.

The Proposed Action includes implementation of the 2022 Master Plan to reflect changes in land management classifications, land uses, and USACE regulations and guidance that have occurred since the 1968 Master Plan was drafted. In compliance with NEPA, USACE has prepared a draft Master Plan and EA and evaluated potential effects of the 2022 Master Plan on the natural, cultural, and human environment. The EA determined negligible impacts would occur to the following resources: air quality, greenhouse gases and climate, noise, geology, cultural resources, groundwater, utilities, socioeconomics and environmental justice, and traffic and transportation. No impacts are anticipated on water, soil, and biological resources from implementation of the 2022 Master Plan. Implementation of the 2022 Master Plan would result in beneficial impacts to land use and recreation. The new land classifications maintain high density and low density recreation areas and identify recreation as the primary land use in these areas. These land classifications allow for future high- and low- density recreational development as appropriate in these areas. Based on the preliminary findings in the draft EA, USACE anticipates issuing a Finding of No Significant Impact (FONSI).

Projects that may be proposed at the Curwensville Lake project in the future will be evaluated in compliance with this master plan; NEPA; USACE regulations, and other federal, state, and local policies and regulations.

USACE requests comments regarding the draft Master Plan and EA within thirty (30) days of the date of this notice. USACE will consider all comments received within the 30-day comment period in the preparation of the Final Master Plan and EA. A copy of the draft Master Plan and EA is available at the Clearfield County Public Library (Curwensville, Pennsylvania) and the Joseph & Elizabeth Shaw Public Library (Clearfield, PA). Additionally, the Draft Master Plan and EA can be found on the USACE Curwensville Lake website at: https://nab.usace.army.mil/Missions/Dams-Recreation/Curwensville-Lake/CL-Master-Plan-Revision/.

If you would like to request a public meeting to discuss the 2022 Master Plan and the associated environmental assessment or if you have any questions, please contact Melanie Mathesz at (410) 962-6093 or at Melanie.K.Mathesz@usace.army.mil.

Individuals wishing to provide comments or request additional information may contact Mrs. Mathesz at the email address above. Additionally, questions and/or comments can be submitted at the USACE Curwensville Lake website above or mailed to U.S. Army Corps of Engineers, Planning Division, Subject: Curwensville Lake, 2 Hopkins Plaza, Baltimore, MD 21201.

Daniel M. Bierly, P.E.
Chief, Civil Project Development Branch

DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Baltimore
Planning Division
2 Hopkins Plaza
Baltimore, Maryland 21201

Official Business

LOCAL NEWS

Army Corps releases draft Curwensville Lake Master Plan

by: Alexis Loya
Posted: Apr 4, 2022 / 05:35 PM EDT
Updated: Apr 4, 2022 / 05:35 PM EDT

CLEARFIELD COUNTY, Pa. (WTAJ) — The U.S. Army Corps of Engineers (USACE), Baltimore District, released the draft of the Curwensville Lake Master Plan and Environmental Assessment (EA) for public comment.

Until May 3, USACE wants to hear public feedback regarding the "2022 Master Plan" of the Curwensville Lake Project in Clearfield County. Overall, it's reported the Proposed Action includes the implementation of the 2022 Master Plan to reflect changes in land management classifications to align with current USACE regulations and guidance that have occurred since the 1968 Master Plan was drafted.

The 2022 Master Plan refines land classifications to be consistent with authorized project purposes and current resource objectives. Officials said this includes a mix of natural resource and recreation management objectives that are compatible with regional goals established by stakeholders and USACE during the master planning process, recognize outdoor recreation trends, and are responsive to public comment.

"The 2022 Draft Plan is the result of a tremendous amount of hard work by the USACE team, our partners, stakeholders and members of the public," Baltimore District Commander Col. Estee Pinchasin said. "We look forward to continued public feedback and remain committed to ensuring the final revised Master Plan provides a framework for consistent, responsible decision-making at Curwensville Lake Project for the next 15 to 25 years."

The District said the potential impacts of the 2022 Master Plan on the natural, cultural and human environment were assessed. The EA determined that negligible impacts would occur to the following resources:

- Air quality

- Greenhouse gases and climate
- Noise
- Geology
- Cultural resources
- Groundwater
- Utilities
- Socioeconomics and environmental justice
- Traffic and transportation

Officials said no impacts are anticipated on water, soil and biological resources from implementation of the 2022 Master Plan.

Implementation of the 2022 Master Plan would result in beneficial impacts to land use and recreation, the District said. The new land classifications maintain high-density and low-density recreation areas and identify recreation as the primary land use in these areas. These land classifications allow for future high- and low-density recreational development as appropriate in these areas. Based on the preliminary findings in the draft EA, USACE anticipates issuing a Finding of No Significant Impact.

USACE will consider all comments received within the 30-day comment period in the preparation of the Final Master Plan and EA. The Draft 2022 Master Plan, accompanying EA, previous master plan and additional information can be found on the USACE Curwensville Lake Master Plan Revision website at go.usa.gov/xzeB2.

A printed copy of the Draft Plan can also be reviewed at the following locations:

- Clearfield County Public Library – 601 Beech Street, Curwensville, PA 16833
- Joseph and Elizabeth Shaw Public Library – 1 S. Front Street, Clearfield, PA 16830

https://www.wearecentralpa.com/news/local-news/army-corps-releases-draft-curwensville-lake-master-plan/

GANTNews

Army Corps Releases Draft Curwensville Lake Master Plan and Environmental Assessment for Public Comment

by Gant Team — Tuesday, April 5, 2022 in Local News

CURWENSVILLE – The U.S. Army Corps of Engineers (USACE), Baltimore District, has released the Draft 2022 Curwensville Lake Master Plan ("2022 Master Plan") and Environmental Assessment (EA) for the Curwensville Lake Project, and is seeking comments and feedback from the public until May 3, 2022.

"The 2022 Draft Plan is the result of a tremendous amount of hard work by the USACE team, our partners, stakeholders and members of the public," said Baltimore District Commander Col. Estee Pinchasin.

"We look forward to continued public feedback and remain committed to ensuring the final revised Master Plan provides a framework for consistent, responsible decision-making at Curwensville Lake Project for the next 15 to 25 years."

Overall, the Proposed Action includes implementation of the 2022 Master Plan to reflect changes in land management classifications to align with current USACE regulations and guidance that have occurred since the 1968 Master Plan was drafted, and coordinate this process with the public.

The 2022 Master Plan refines land classifications to be consistent with authorized project purposes and current resource objectives.

This includes a mix of natural resource and recreation management objectives that are compatible with regional goals established by stakeholders and USACE during the master planning process, recognize outdoor recreation trends, and are responsive to public comment.

Additionally, and in accordance with the National Environmental Policy Act of 1969 (NEPA), the District has assessed the potential impacts of the 2022 Master Plan on the natural, cultural and human environment. The EA determined negligible impacts would occur to the following resources: air quality, greenhouse gases and climate, noise, geology, cultural resources, groundwater, utilities, socioeconomics and environmental justice and traffic and transportation.

No impacts are anticipated on water, soil and biological resources from implementation of the 2022 Master Plan.

Implementation of the 2022 Master Plan would result in beneficial impacts to land use and recreation. The new land classifications maintain high-density and low-density recreation areas and identify recreation as the primary land use in these areas.

These land classifications allow for future high- and low- density recreational development as appropriate in these areas. Based on the preliminary findings in the draft EA, USACE anticipates issuing a Finding of No Significant Impact (FONSI).

USACE will consider all comments received within the 30-day comment period in the preparation of the Final Master Plan and EA. The Draft 2022 Master Plan, accompanying EA, previous master plan and additional information can be found on the USACE Curwensville Lake Master Plan Revision Web site at https://go.usa.gov/xzeB2.

A printed copy of the Draft Plan can also be reviewed at the following locations:

- Clearfield County Public Library – 601 Beech St., Curwensville, PA 16833
- Joseph and Elizabeth Shaw Public Library – 1 S. Front St., Clearfield, PA 16830

If you would like to request a public meeting to discuss the 2022 Master Plan and the associated EA or if you have any questions, please contact Melanie Mathesz at (410) 962-6093 or at Melanie.K.Mathesz@usace.army.mil.

Individuals wishing to provide comments or request additional information may contact Mrs. Mathesz at the email address above. Additionally, questions and/or comments can be submitted at the USACE Curwensville Lake website or mailed to U.S. Army Corps of Engineers, Planning Division, Subject: Curwensville Lake, 2 Hopkins Plaza, Baltimore, MD 21201.

For more information, please visit https://go.usa.gov/xzeB2.

APPENDIX E: PUBLIC COMMENTS AND USACE RESPONSE

1. **Public Comment**: Will the spillway and so on ever be not posted for army property and no trespassing? I think it would benefit and draw more people to fish the area if it was opened up. lake Howard has the same spillway setup and there's is public just wondering.

   USACE Response: At this time, the US Army Corps of Engineers has no plans to withdraw restricted area boundaries around the flood risk management dam due to security and safety considerations. We will continue to engage with our recreation partners to maintain and expand outdoor recreation opportunities on federal lands where feasible.

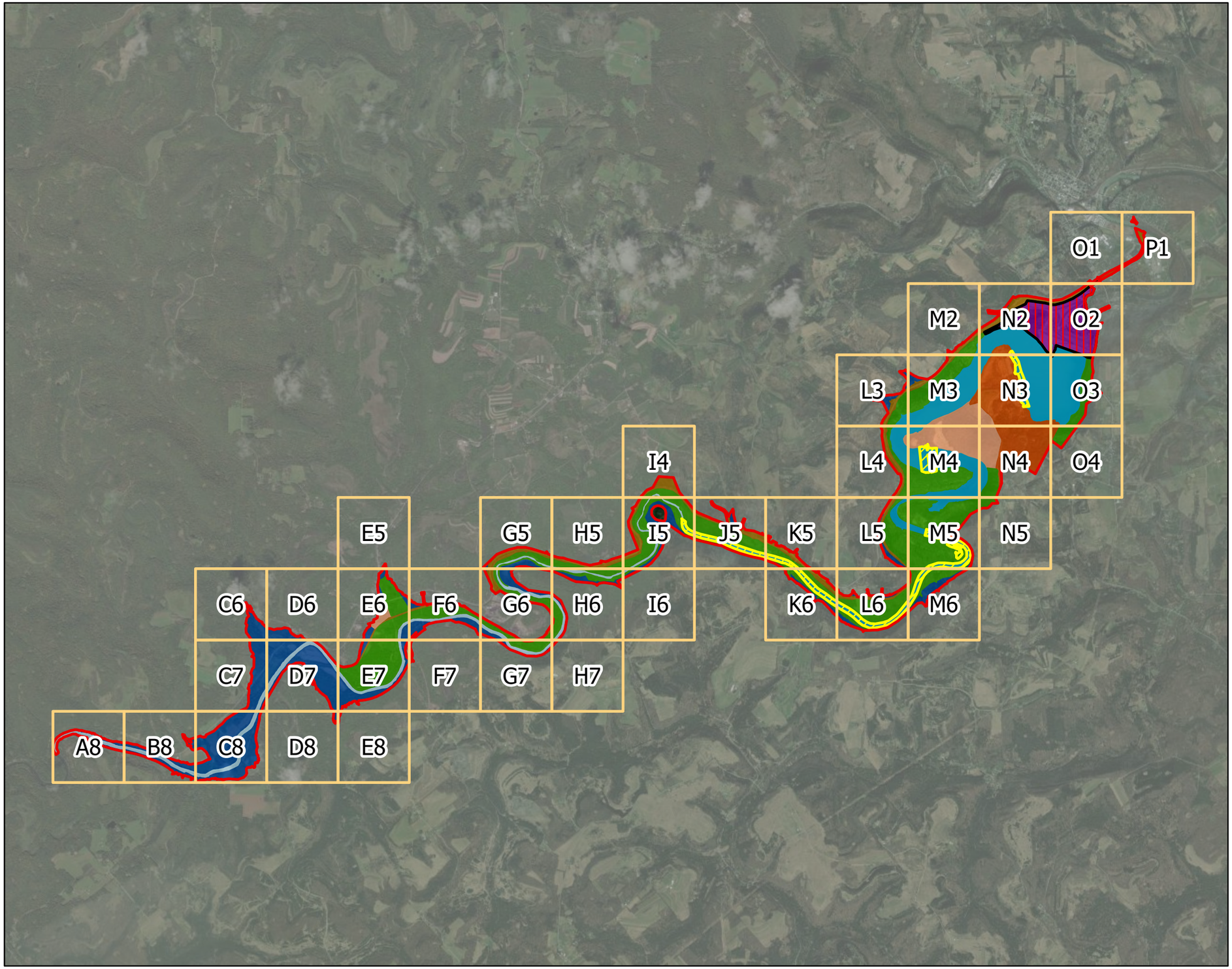
2. **Public Comment**: Can you fish the spillway there? I see people walking their dogs out across the hardball of the dam but have often wanted to fish up against the rocks of the dam body.

   USACE Response: The dam, intake channel, and outlet channel are restricted to US Army Corps of Engineers employees and Contractors due to security and safety considerations. Fishing from a boat is allowed at any time up to the dam in the lake, though no boating or fishing is allowed in the intake channel. Fishing in the outlet channel is allowed downstream of the Restricted signs about 1000' downstream of the dam. Also the public is welcome to view the dam and informational boards at the visitor's parking area during business hours, 7:00AM to 3:30 PM Monday through Friday. At this time, the US Army Corps of Engineers has no plans to withdraw restricted area boundaries around the flood risk management dam. We will continue to engage with our recreation partners to maintain and expand outdoor recreation opportunities on federal lands where feasible.

APPENDIX F: LAND CLASSIFICATION AND RECREATIONAL ASSET MAPS

Curwensville Lake Master Plan Update

Land Classification | Grid View



Legend

- Curwensville Study Area

Land Classification

- Project Operations
- High Density Recreation
- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement
- River

Other Land use

- No Wake Zone
- Restricted

** Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved technologies, minor discrepancies exist when comparing prior and proposed land classifications.*

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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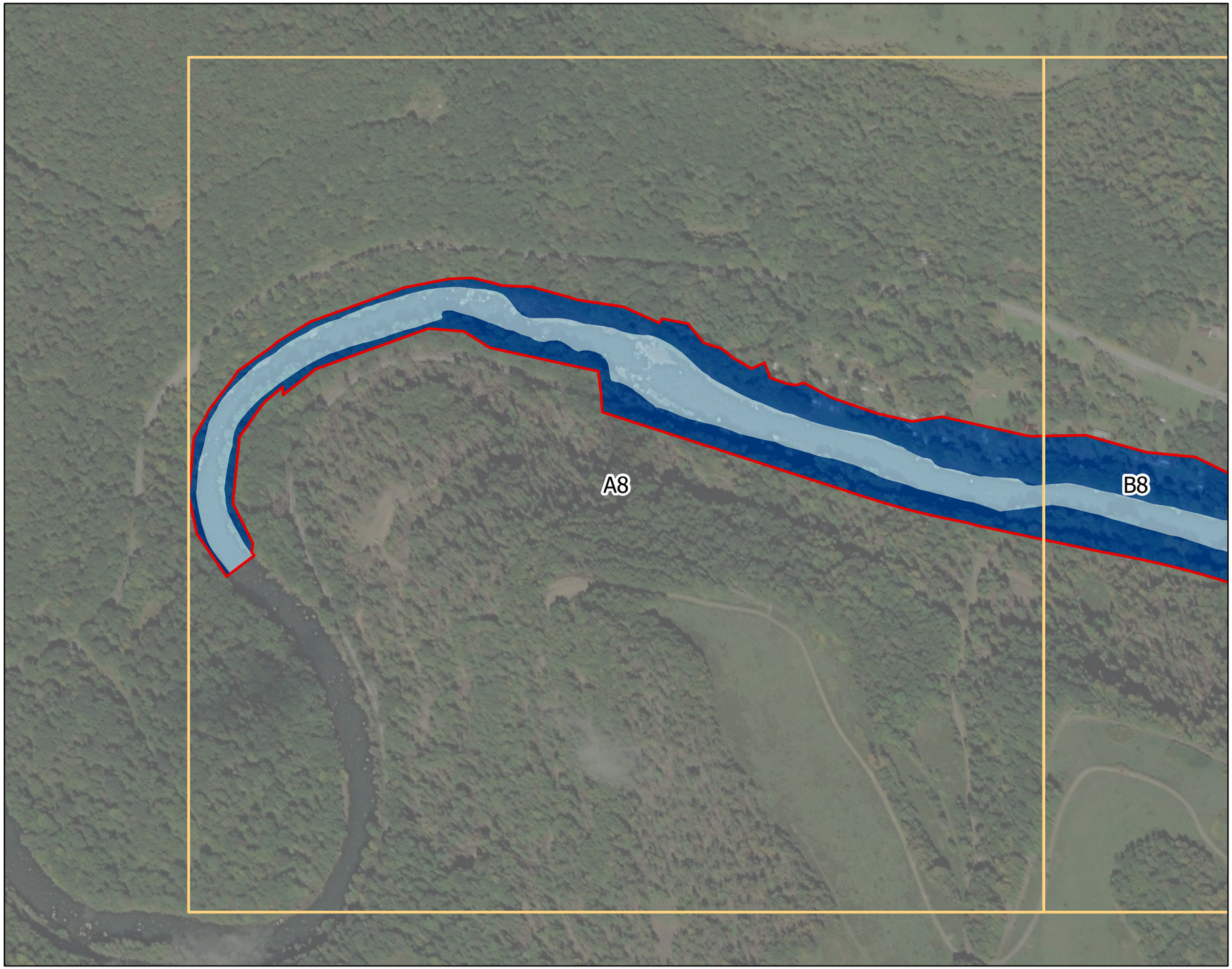
Curwensville Lake
Master Plan Update

Land Classification | Grid View



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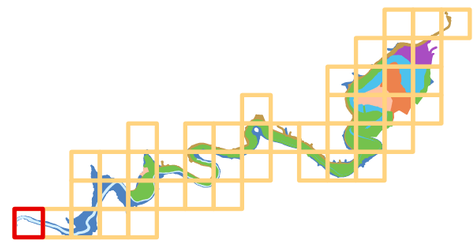
Curwensville Study Area

Land Classification

Flowage Easement

River



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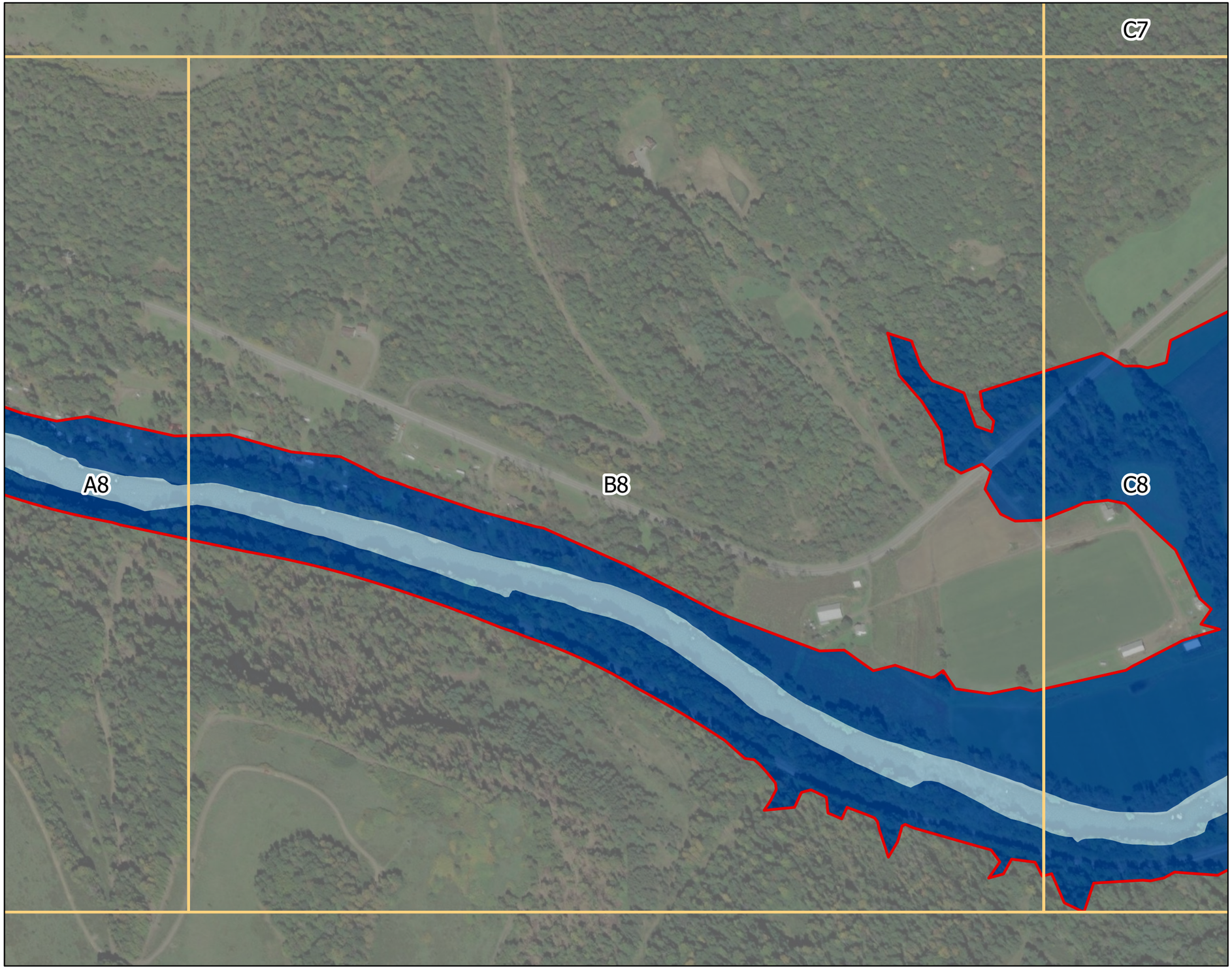


Curwensville Lake
Master Plan Update

Land Classification | Grid View

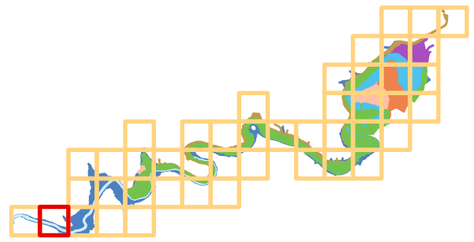
Legend

Curwensville Study Area

Land Classification

Flowage Easement

River



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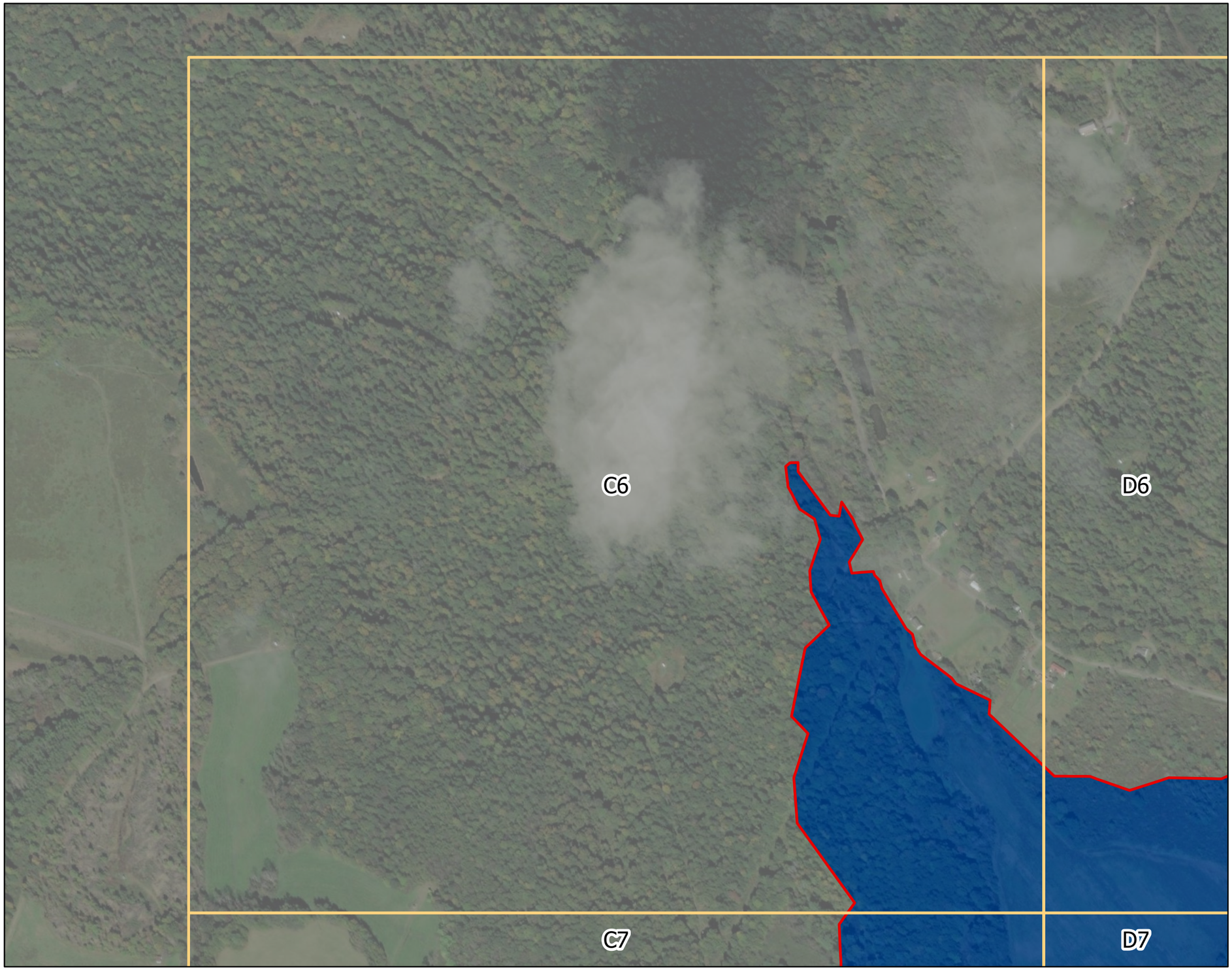

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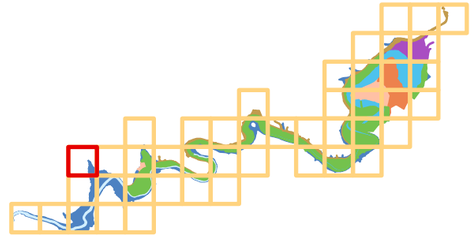
Curwensville Study Area

Land Classification

Flowage Easement



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Master Plan Update

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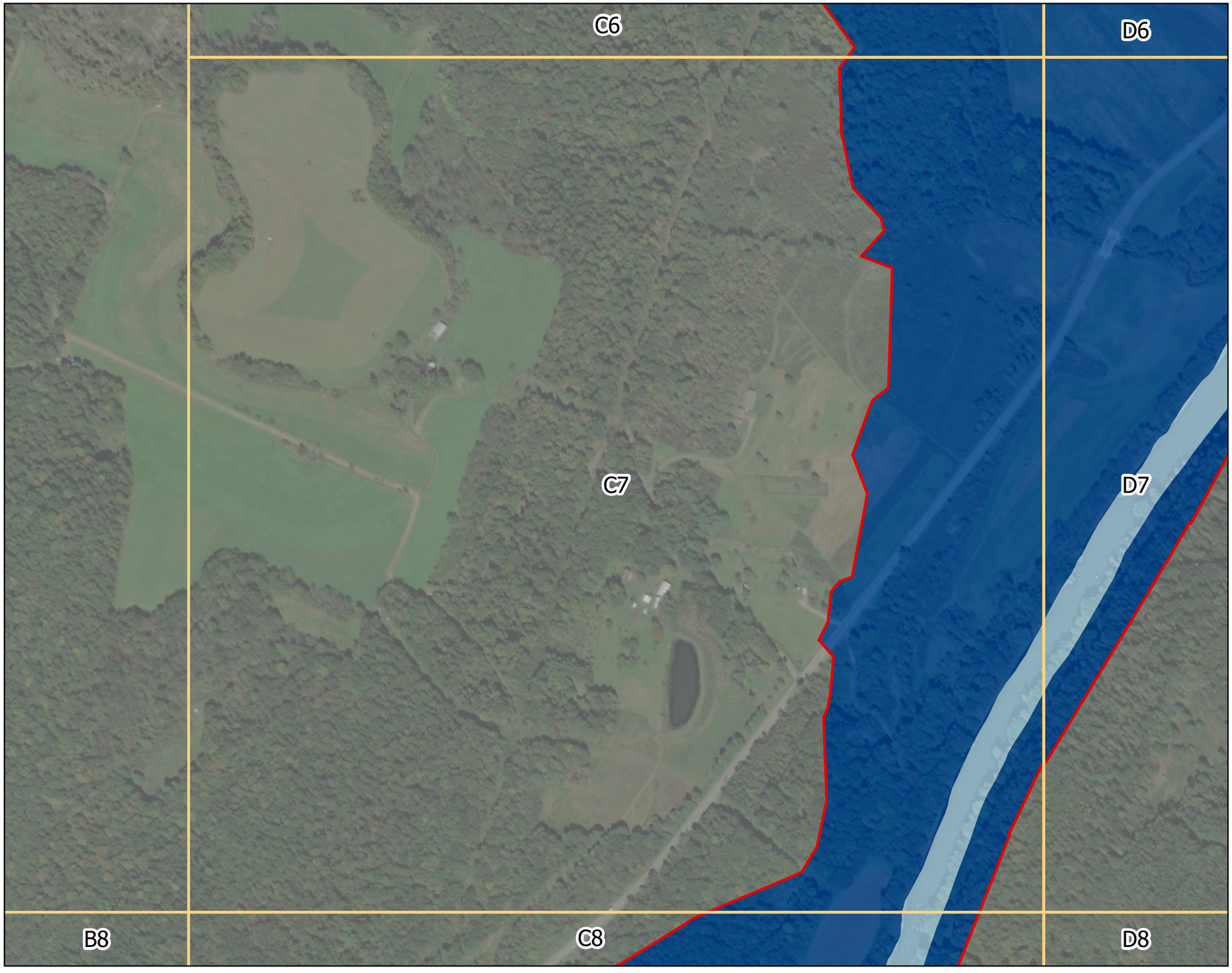

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Curwensville Study Area

Land Classification

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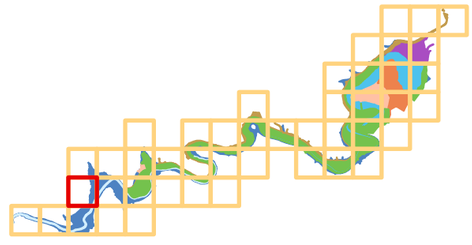

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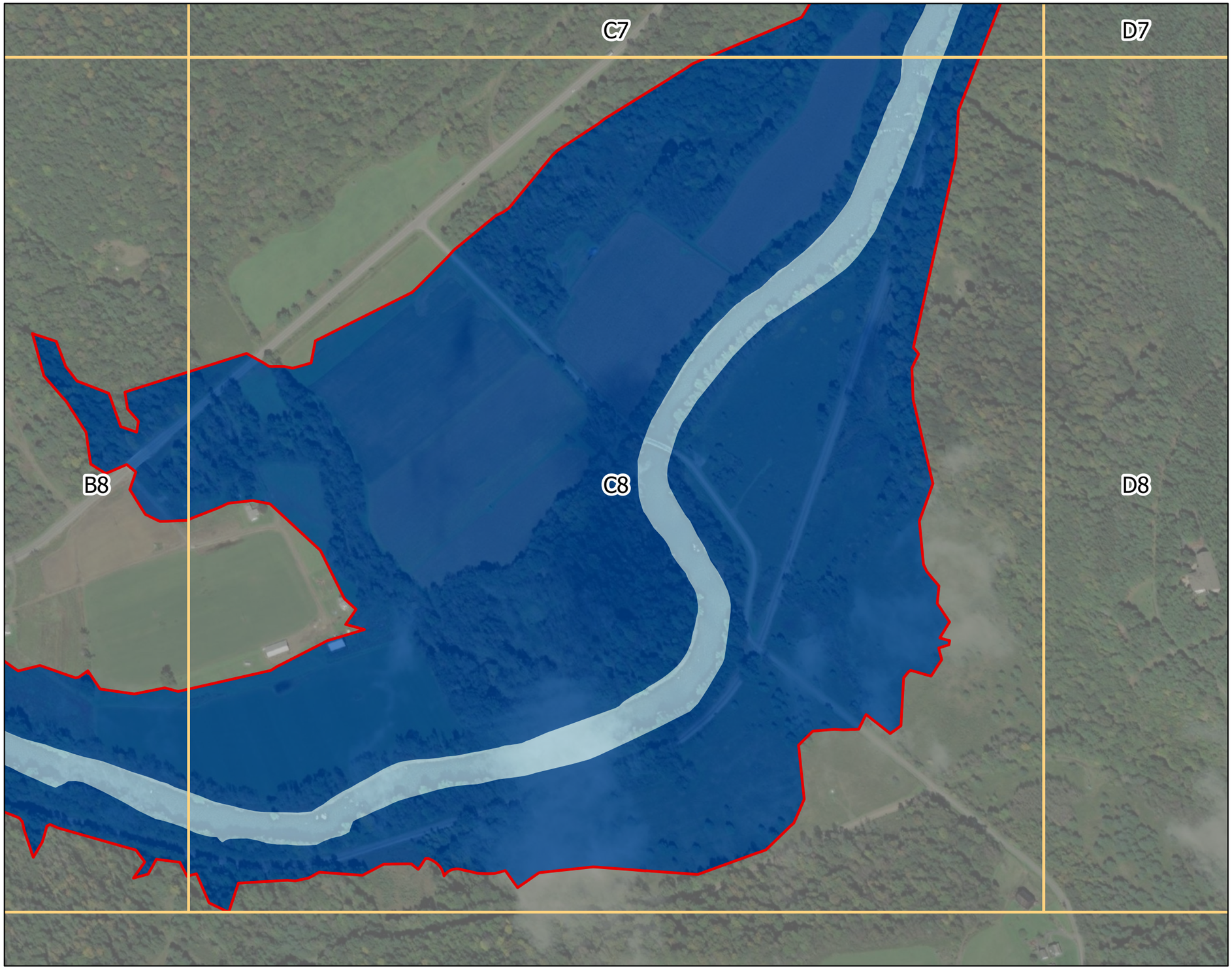

Curwensville Lake
Master Plan Update

Land Classification | Grid View

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Curwensville Study Area

Land Classification

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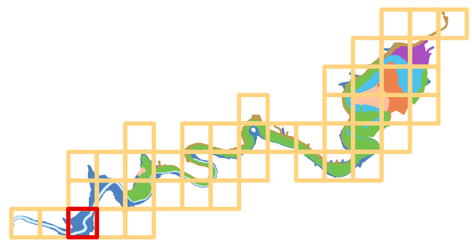
River



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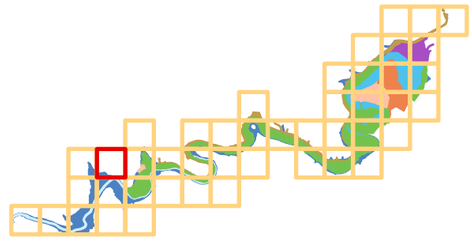

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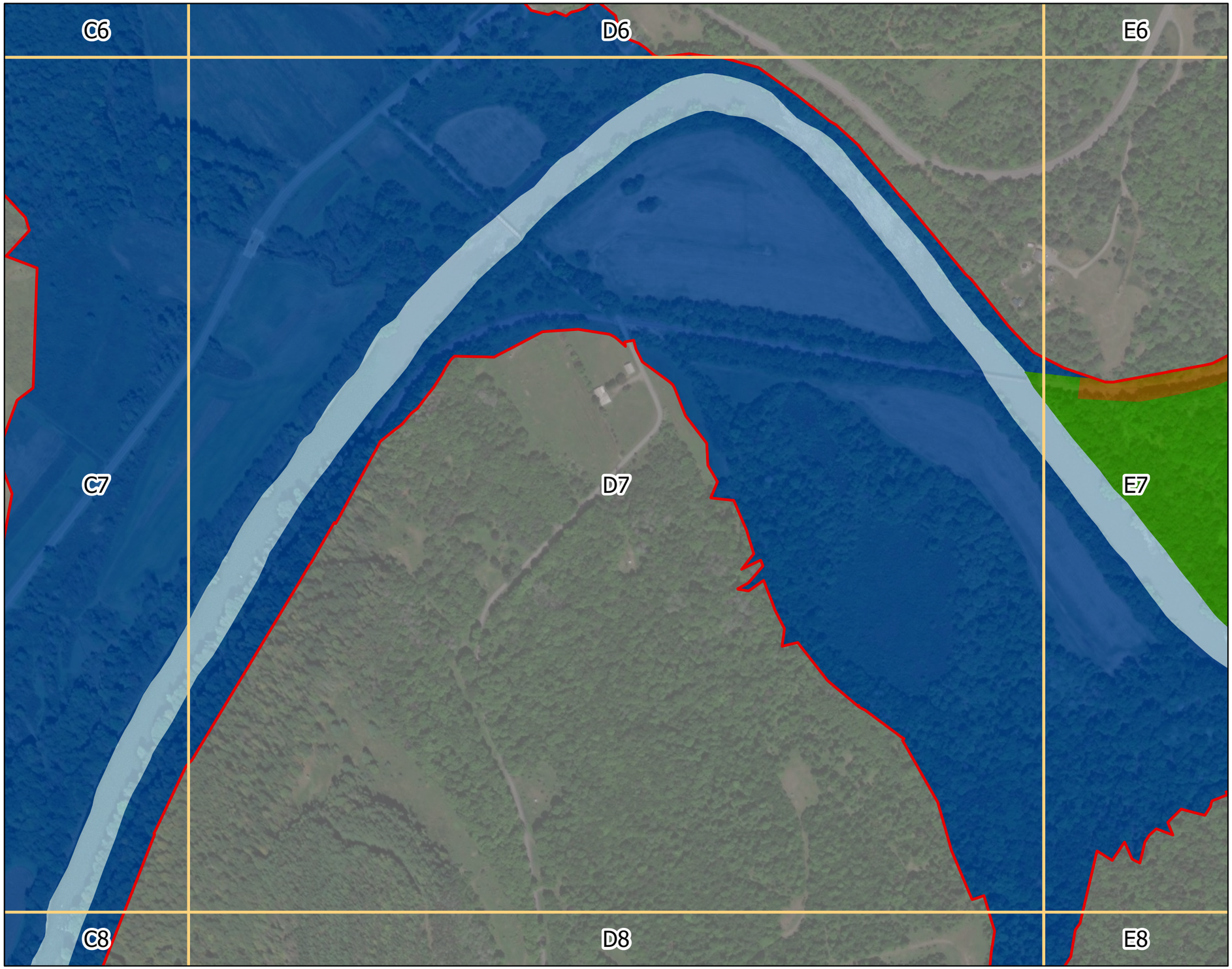


Curwensville Lake
Master Plan Update

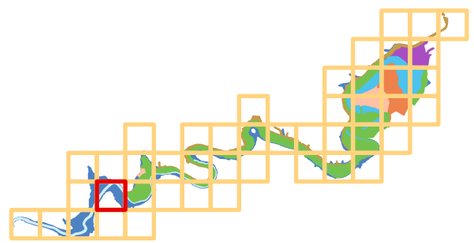
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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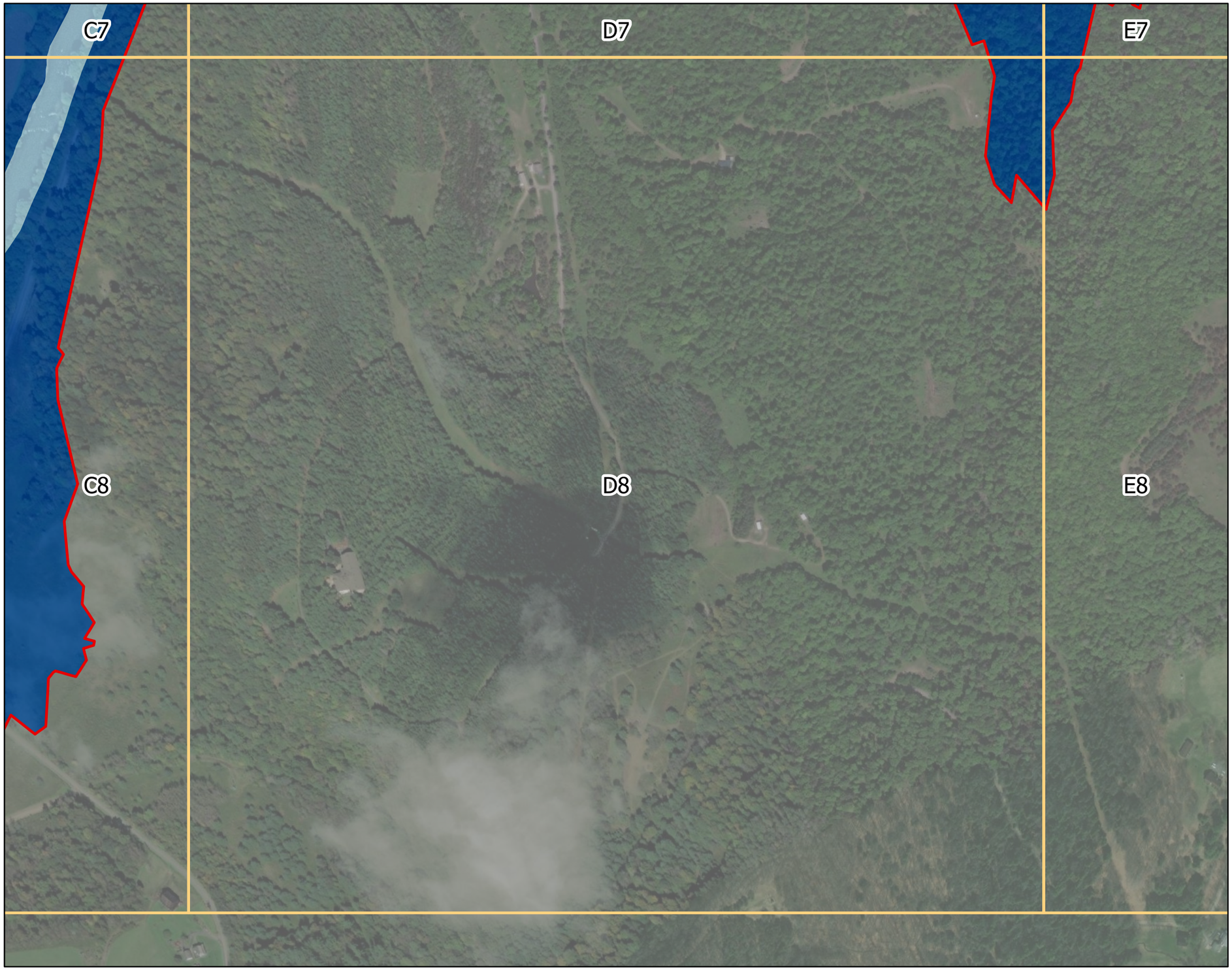

Curwensville Lake
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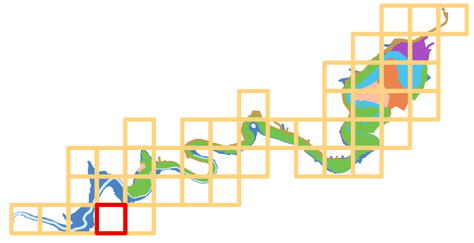

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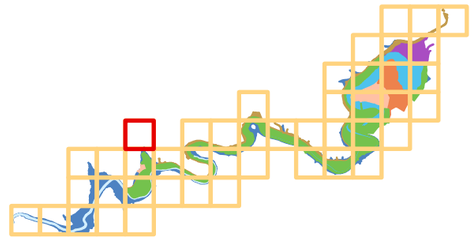

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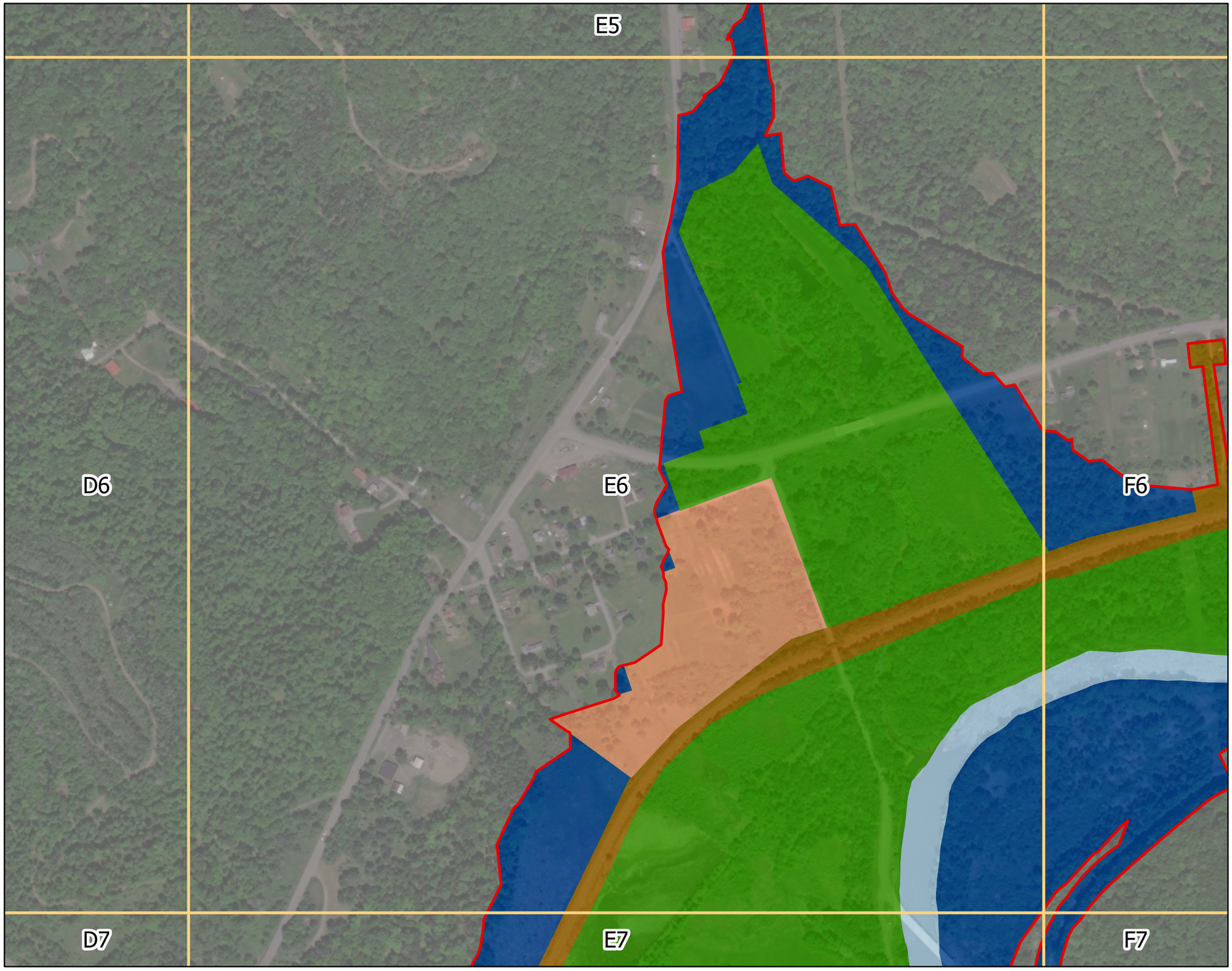


Curwensville Lake
Master Plan Update

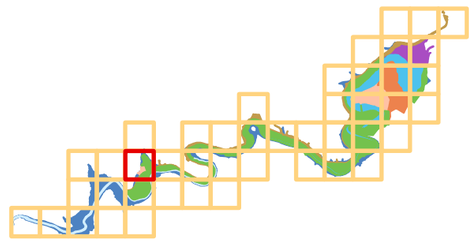
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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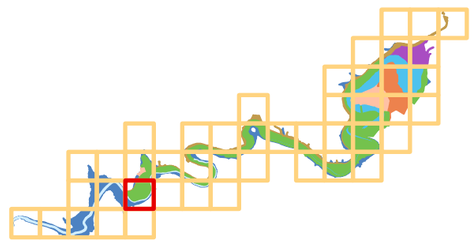

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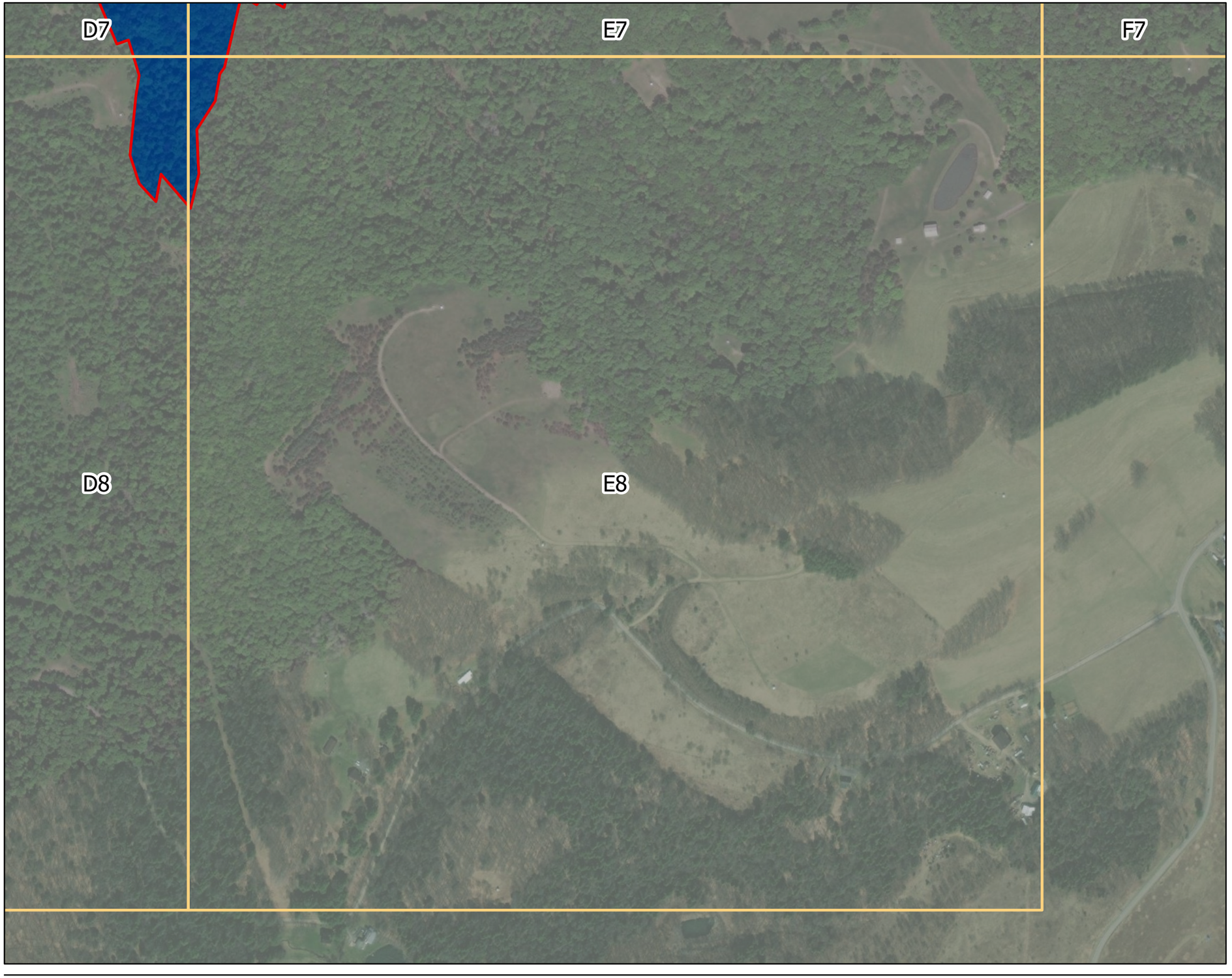

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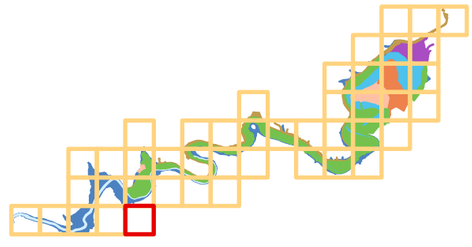

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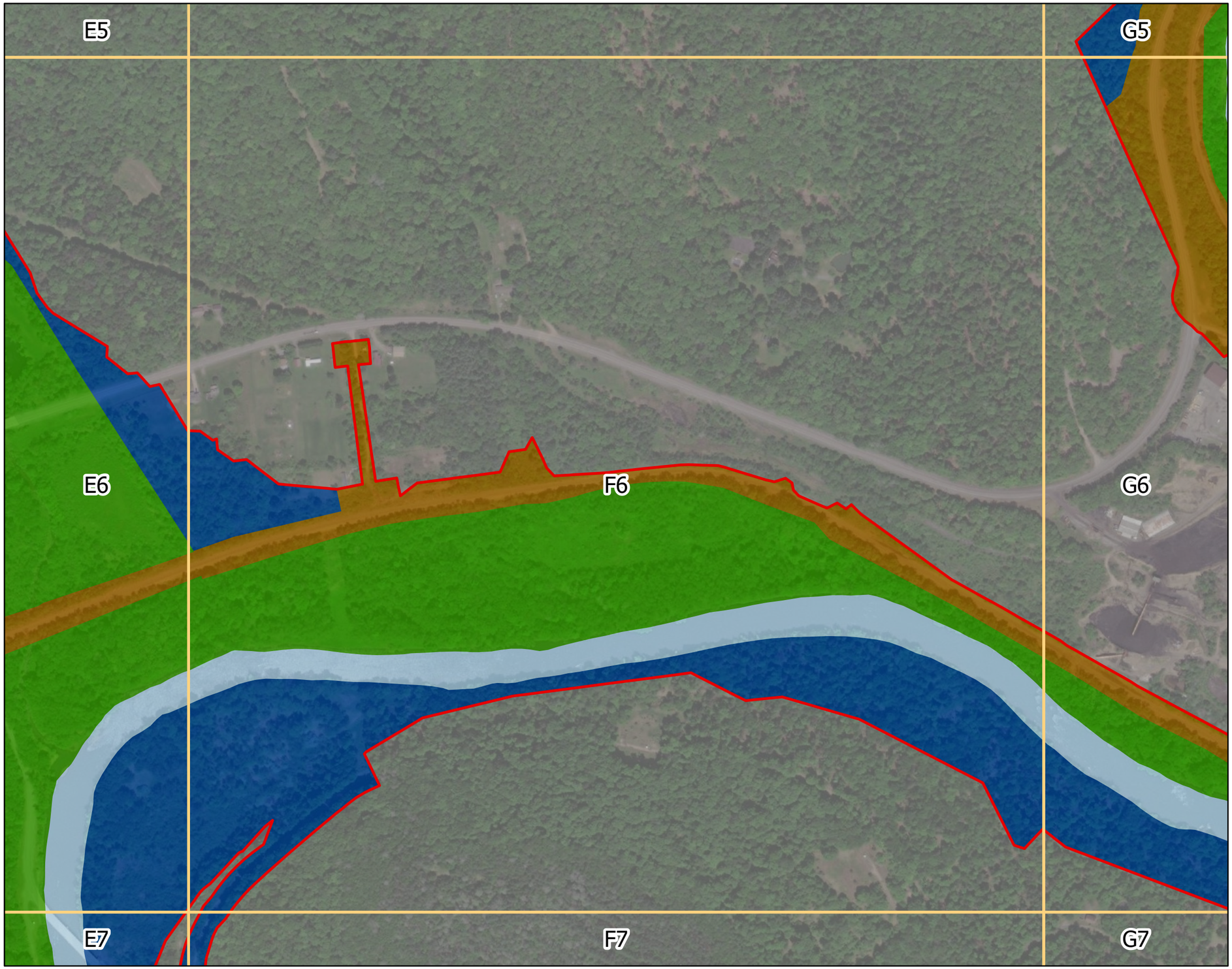

Curwensville Lake
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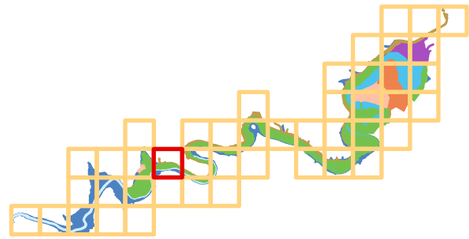

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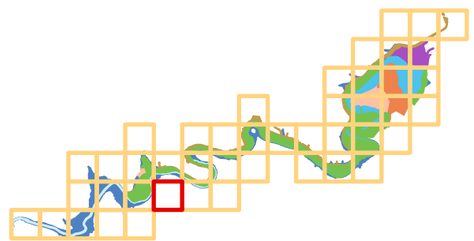

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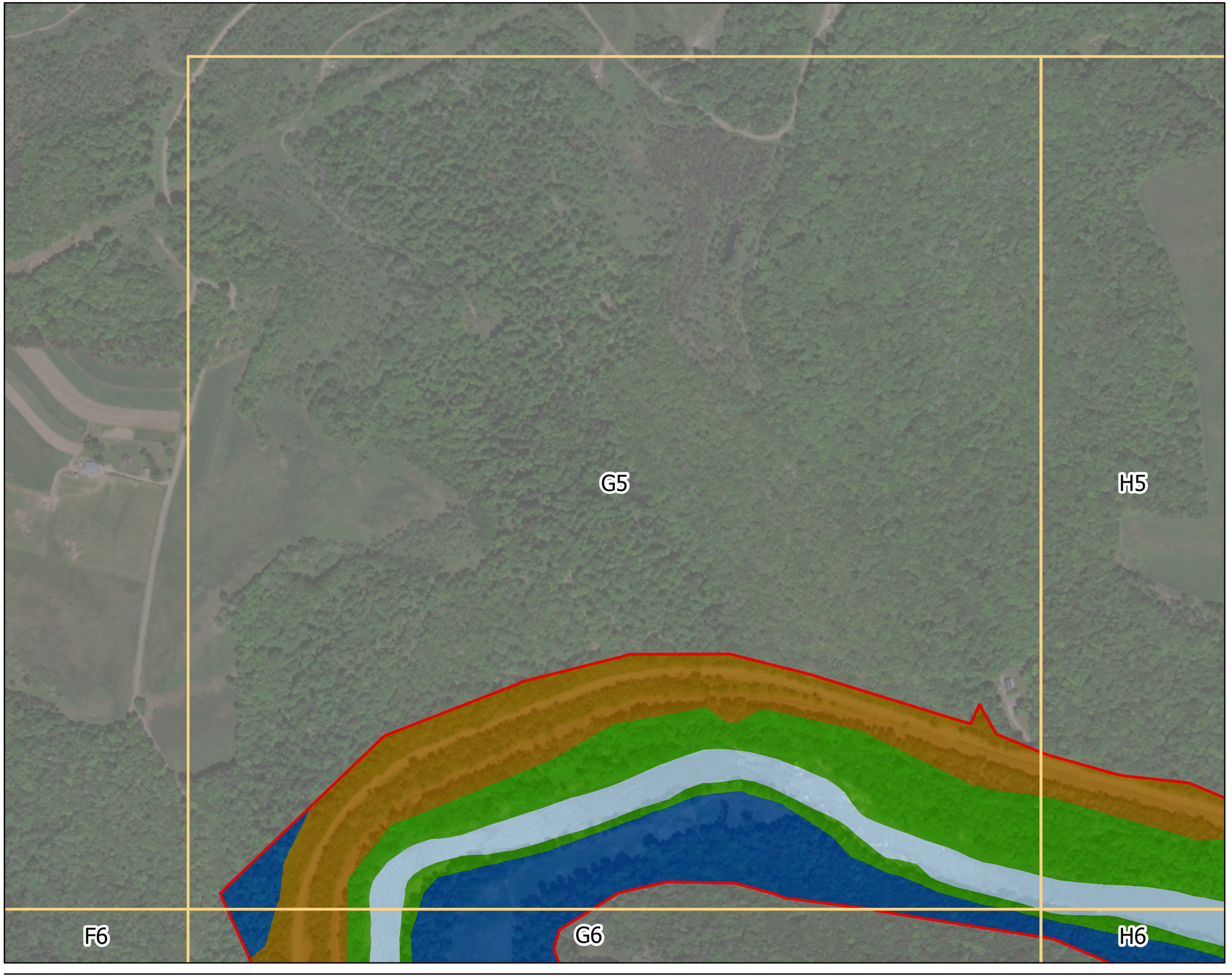

Legend

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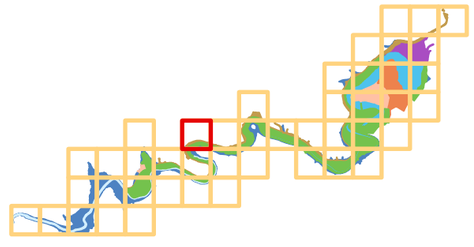

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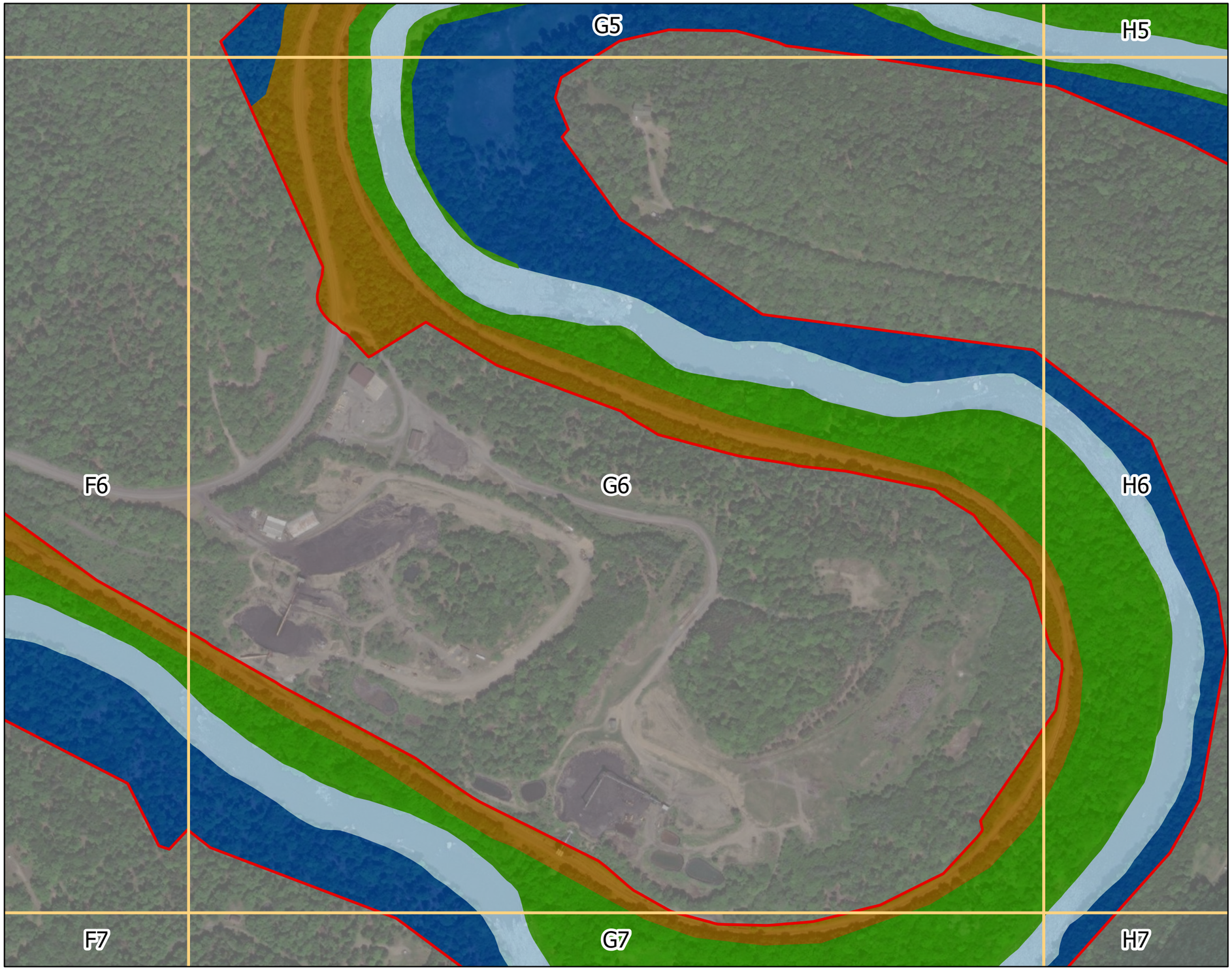

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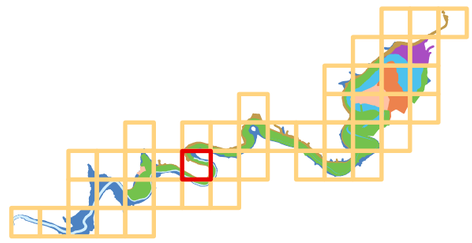
- River



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

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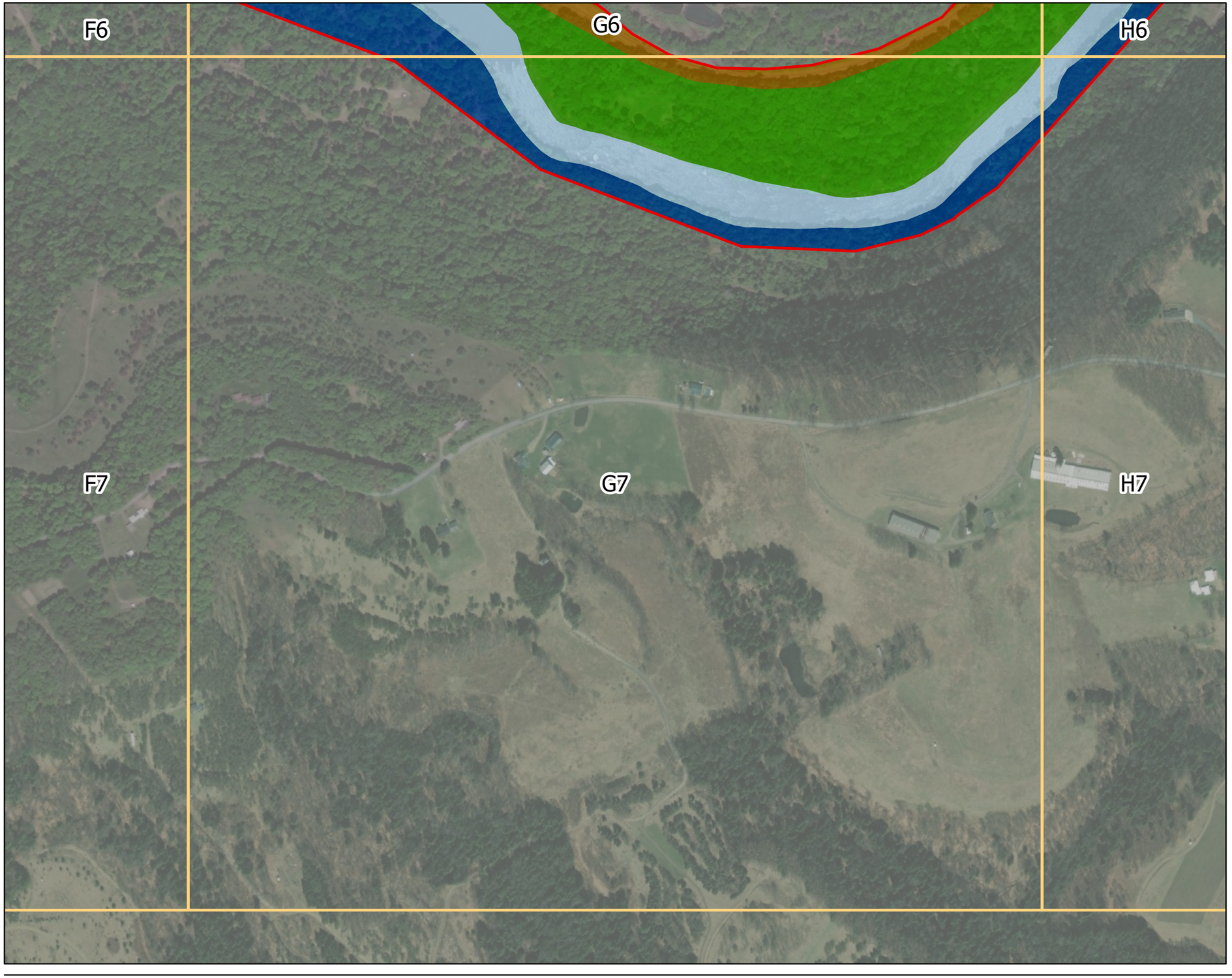


Curwensville Lake Master Plan Update

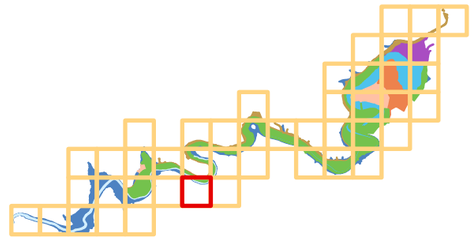
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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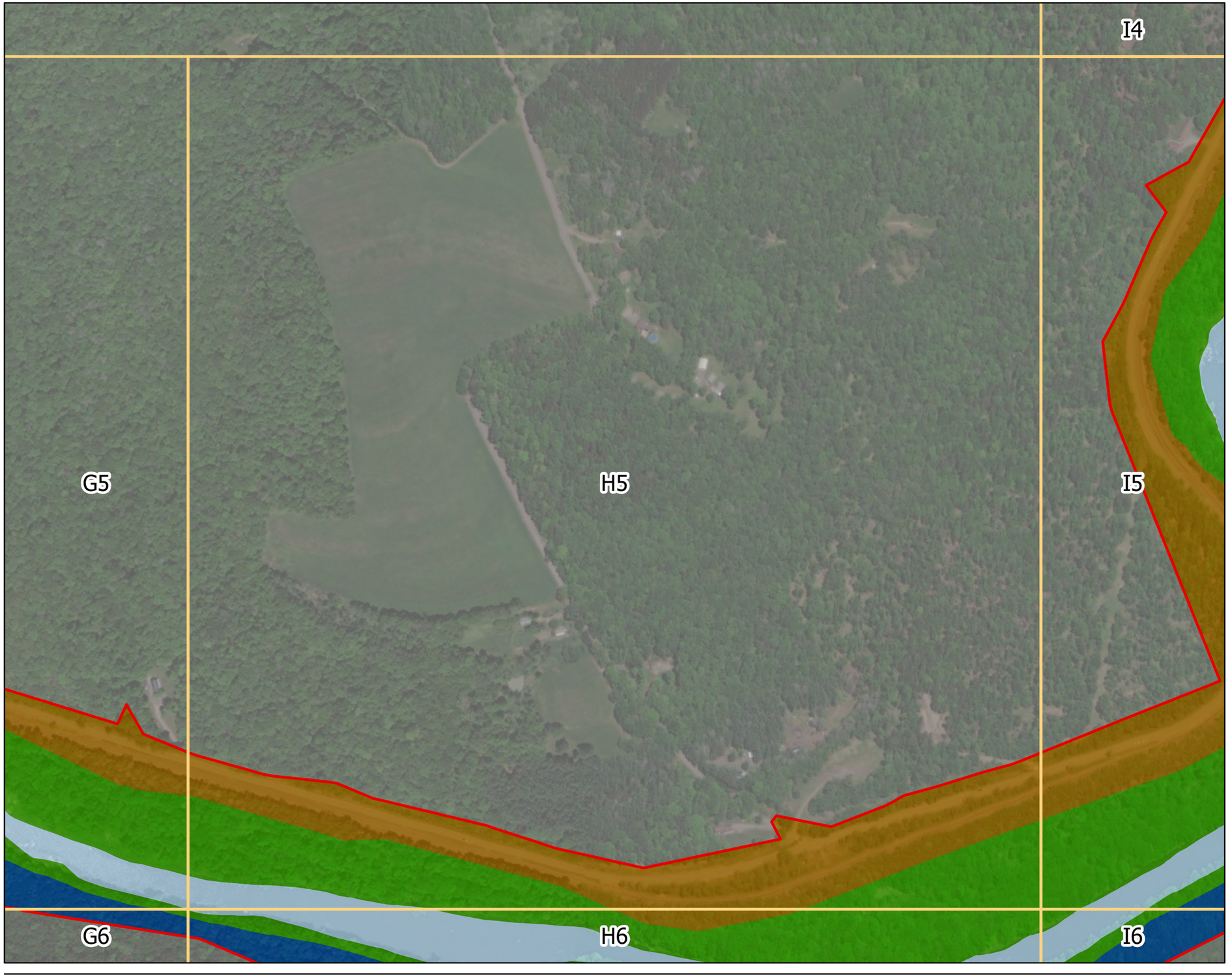


Curwensville Lake Master Plan Update

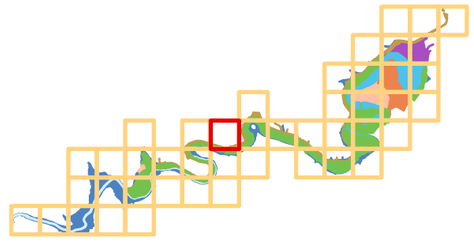
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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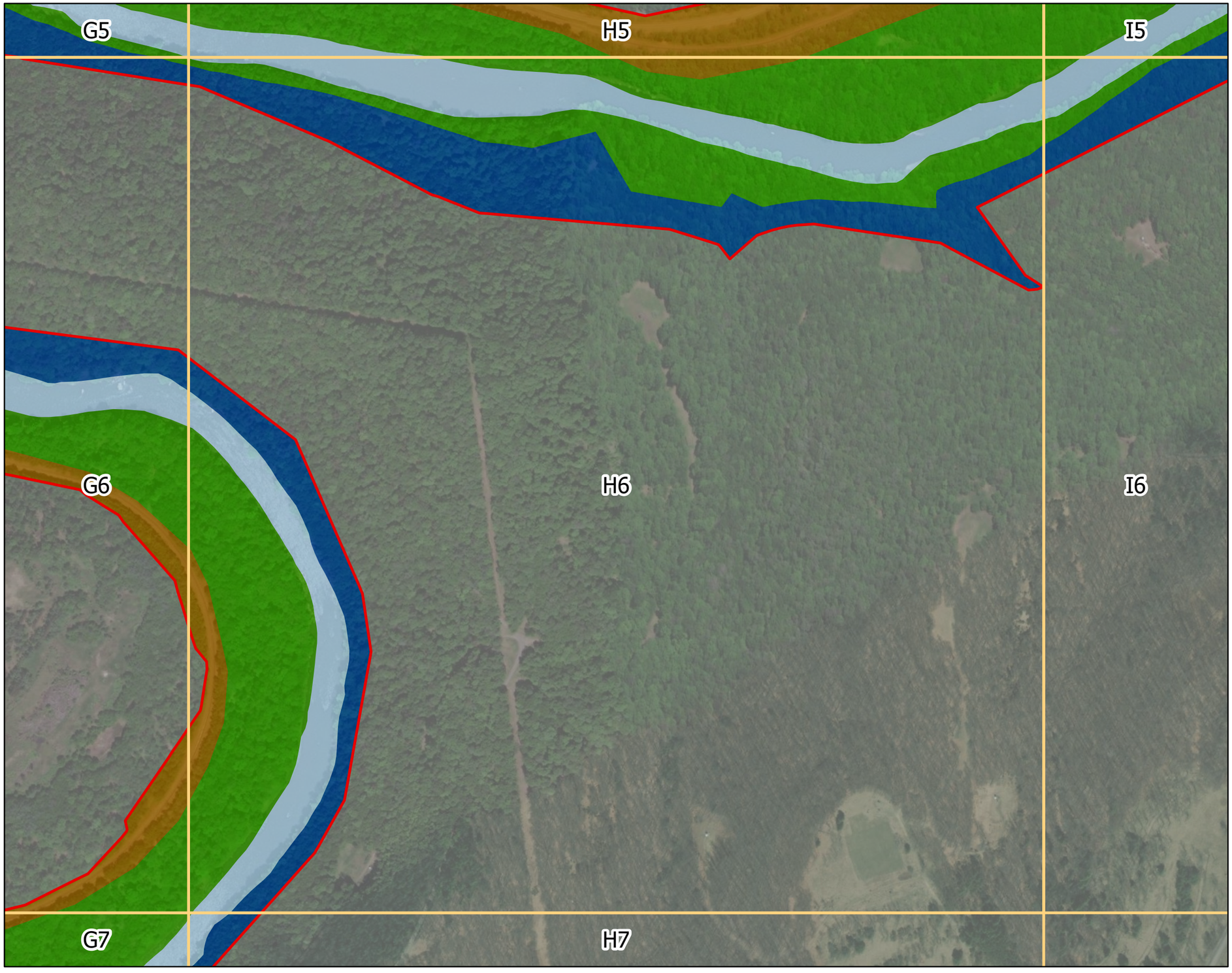


Curwensville Lake
Master Plan Update

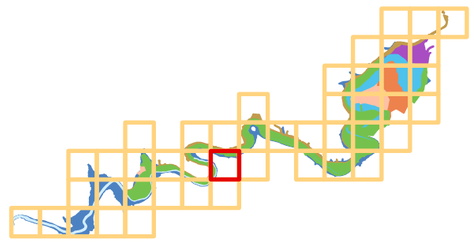
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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Curwensville Lake Master Plan Update

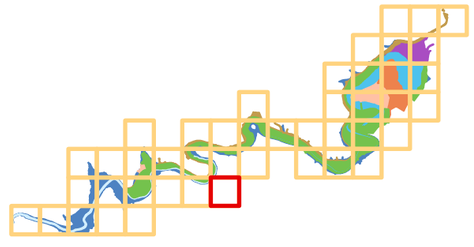
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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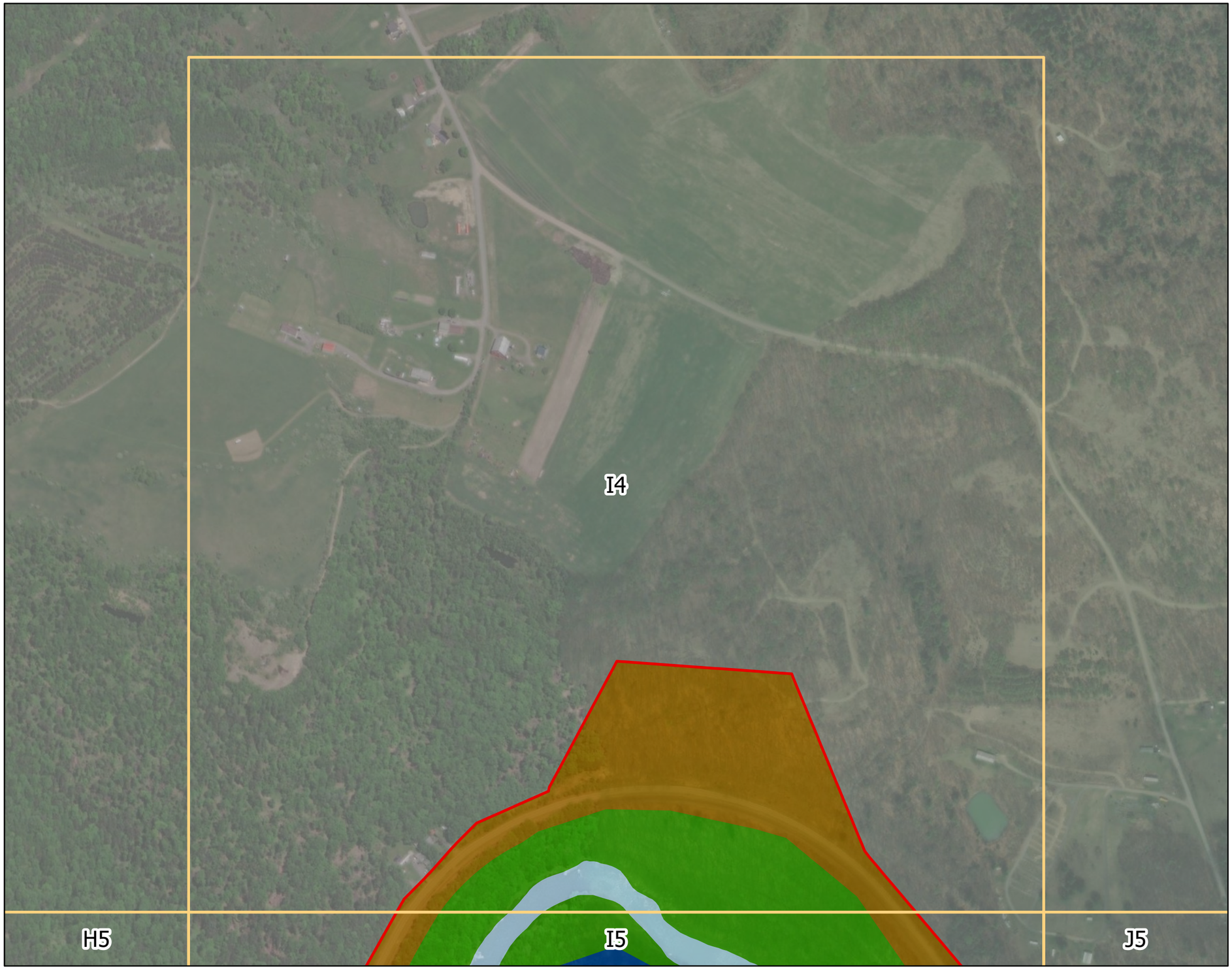


Curwensville Lake
Master Plan Update

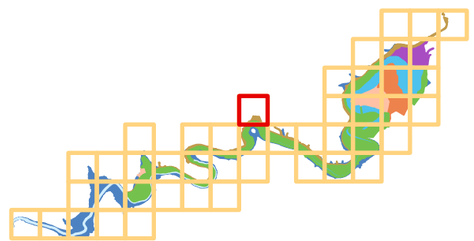
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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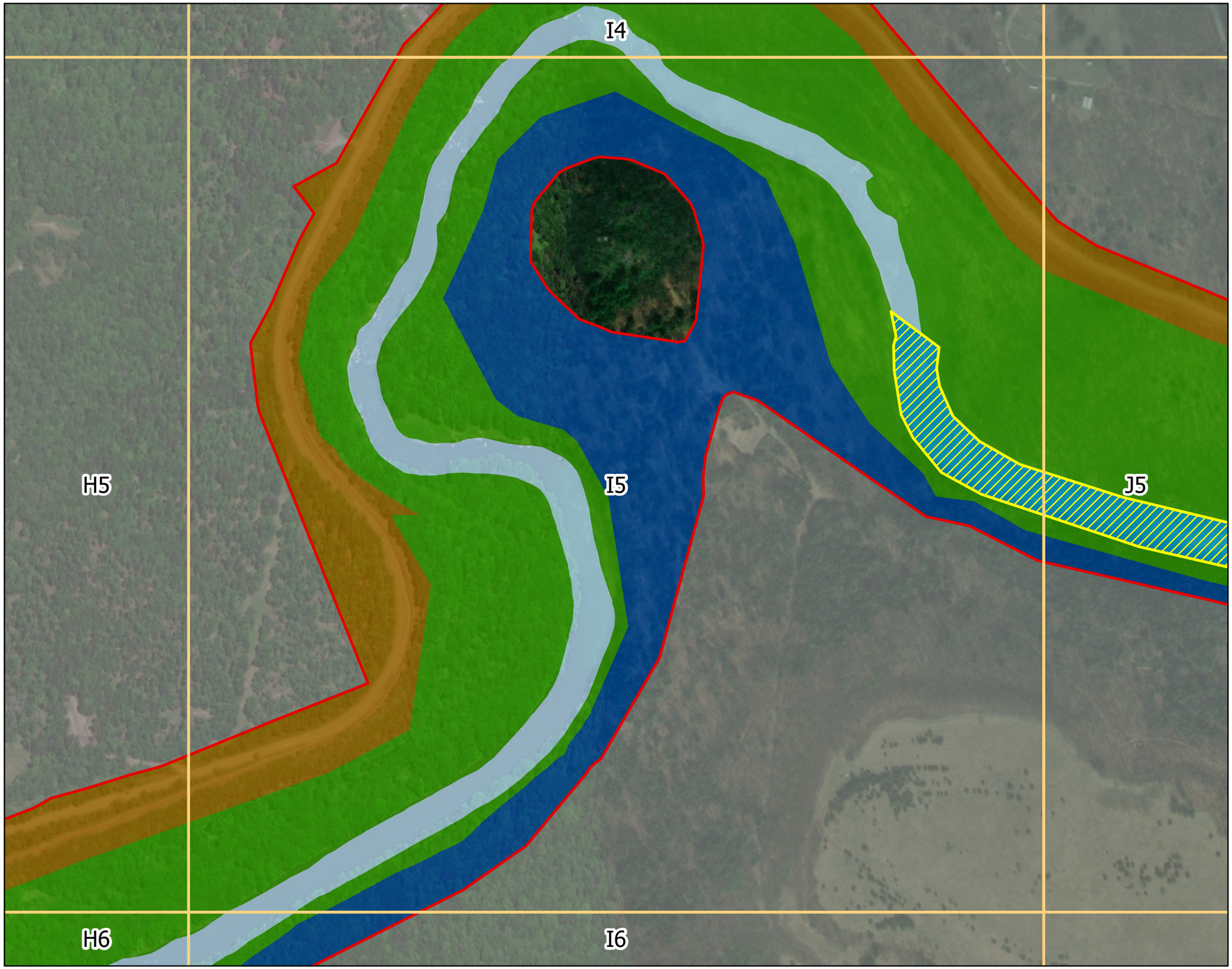
Curwensville Lake
Master Plan Update

Land Classification | Grid View



Legend

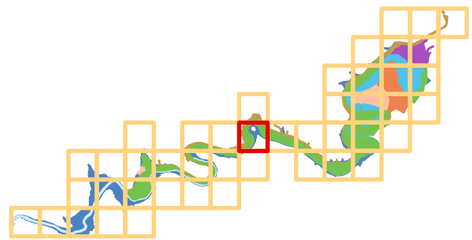
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement
- River

Other Land use

- No Wake Zone



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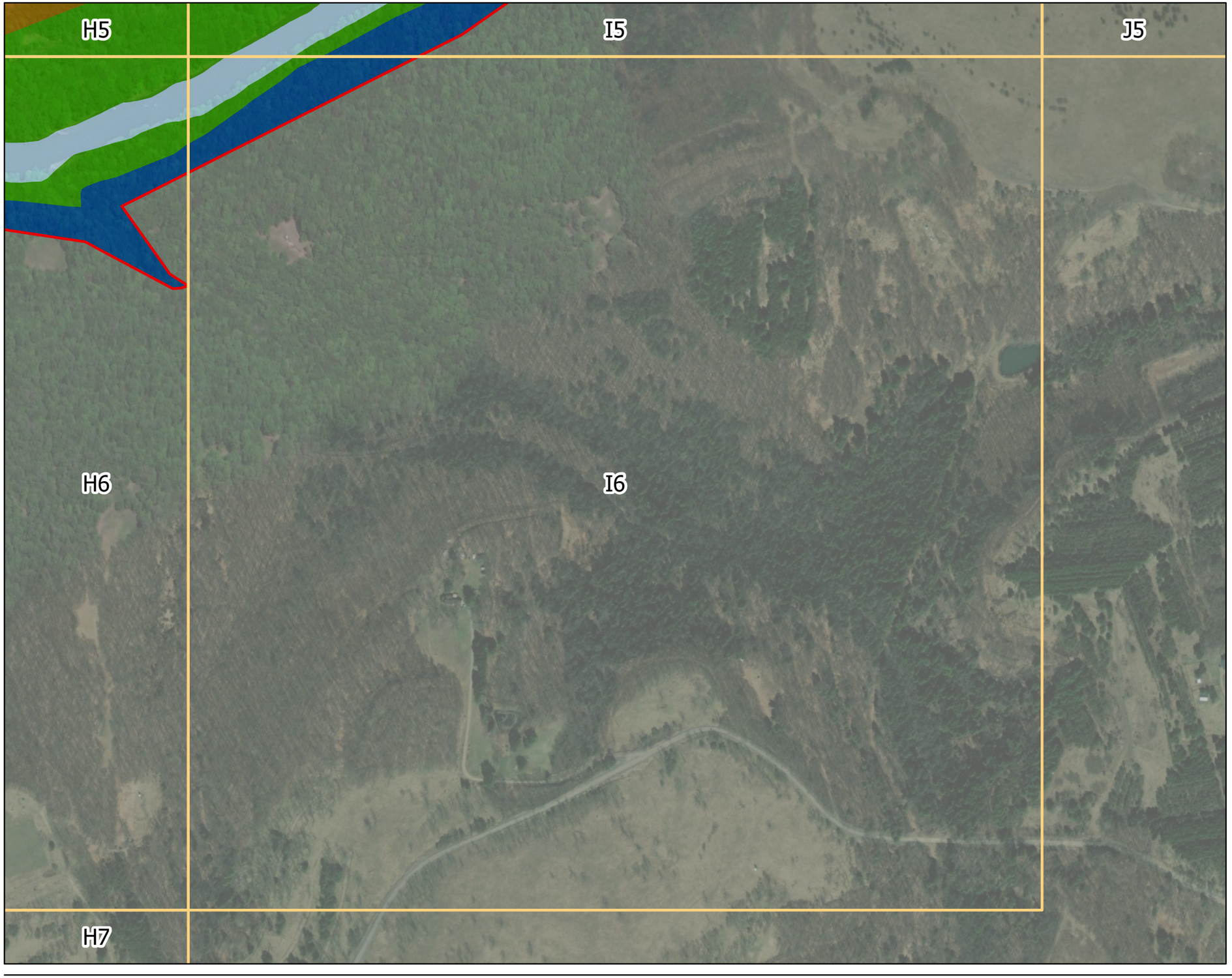


Curwensville Lake Master Plan Update

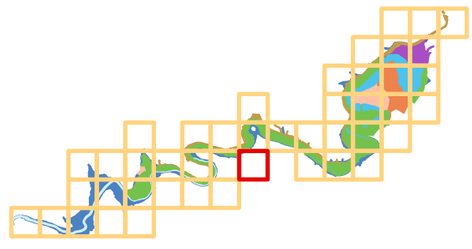
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Flowage Easement
- River



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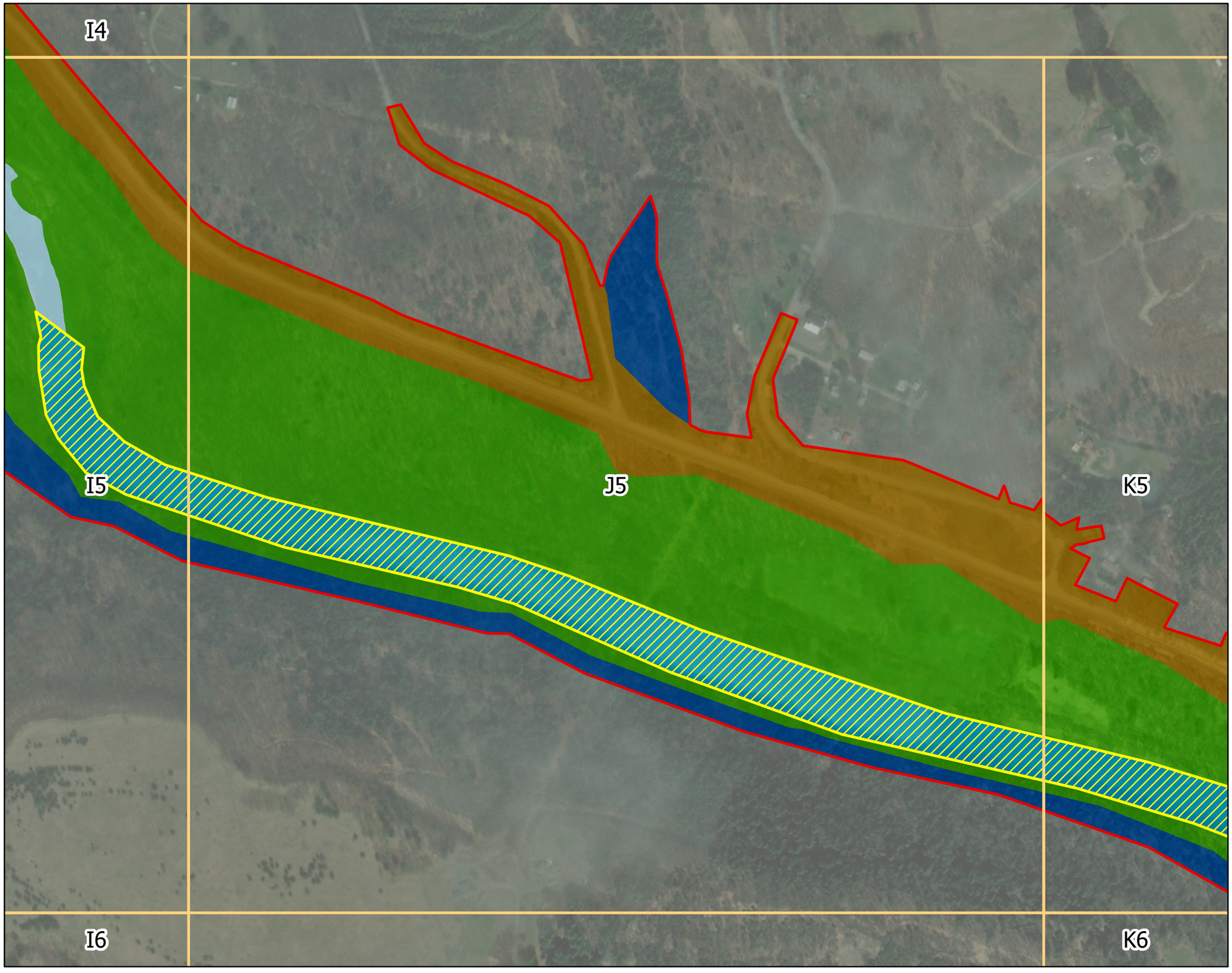
Curwensville Lake Master Plan Update

Land Classification | Grid View



Legend

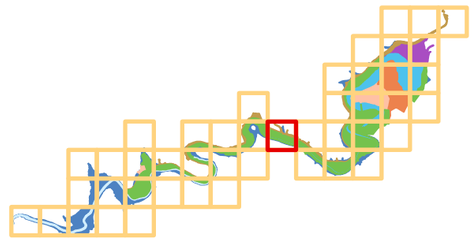
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement
- River

Other Land use

- No Wake Zone



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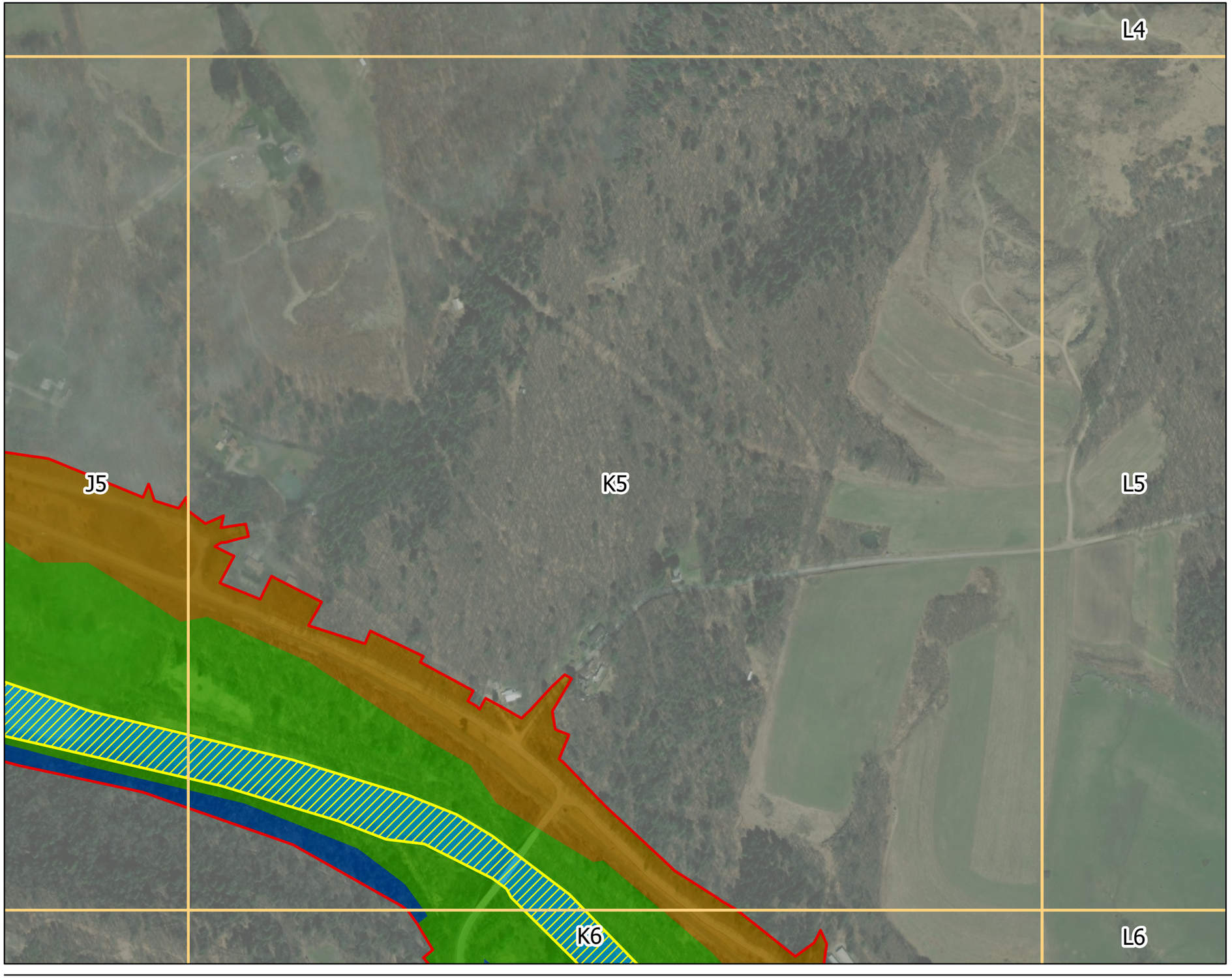


Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

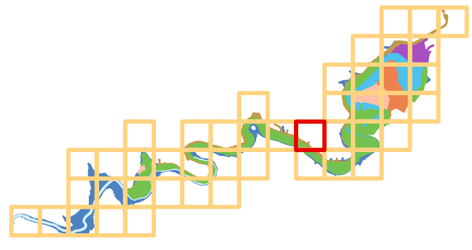
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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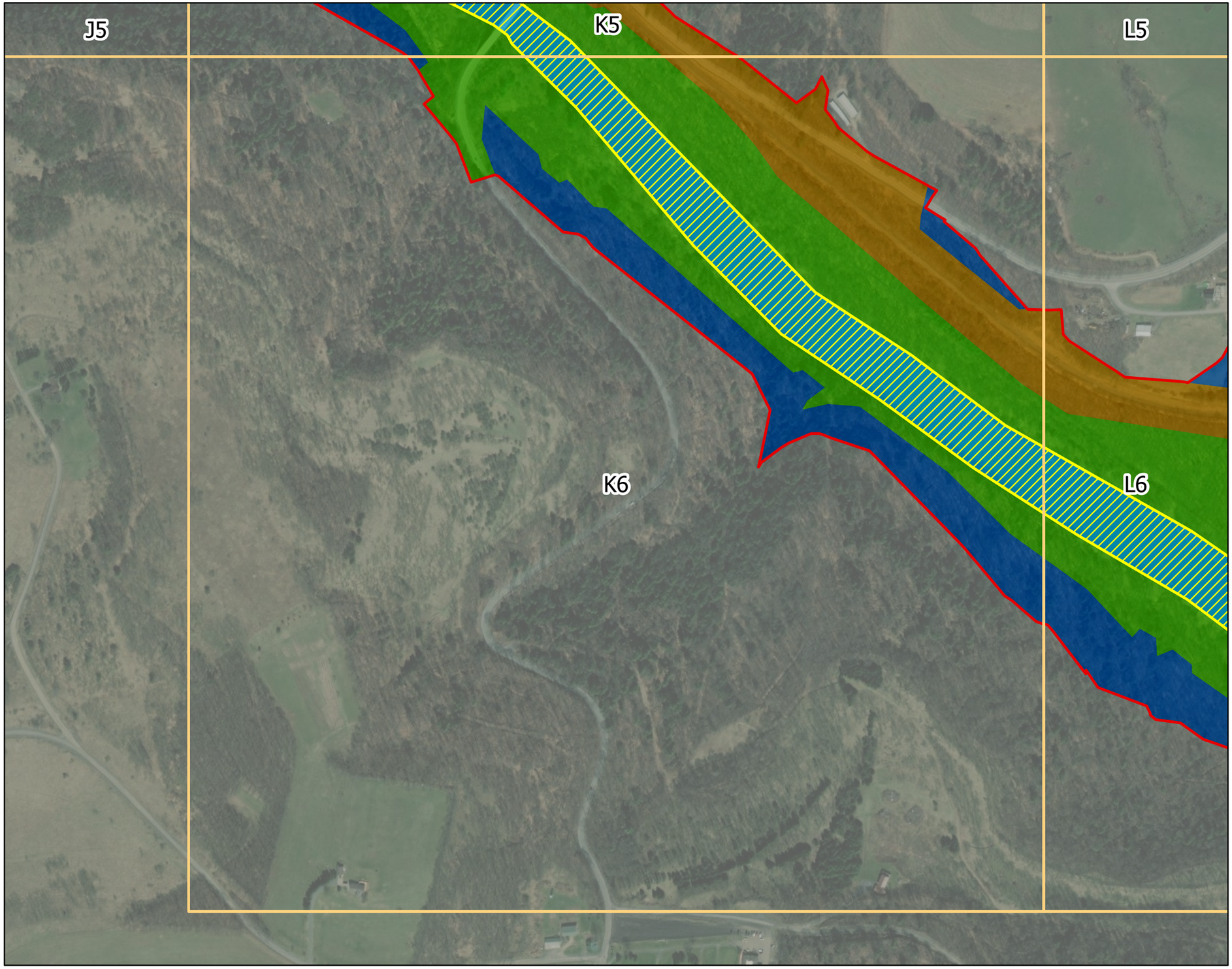


Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

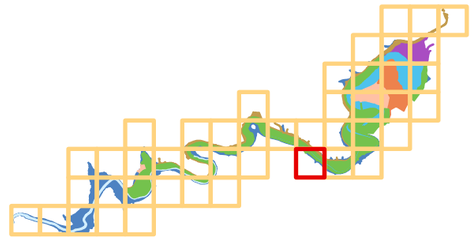
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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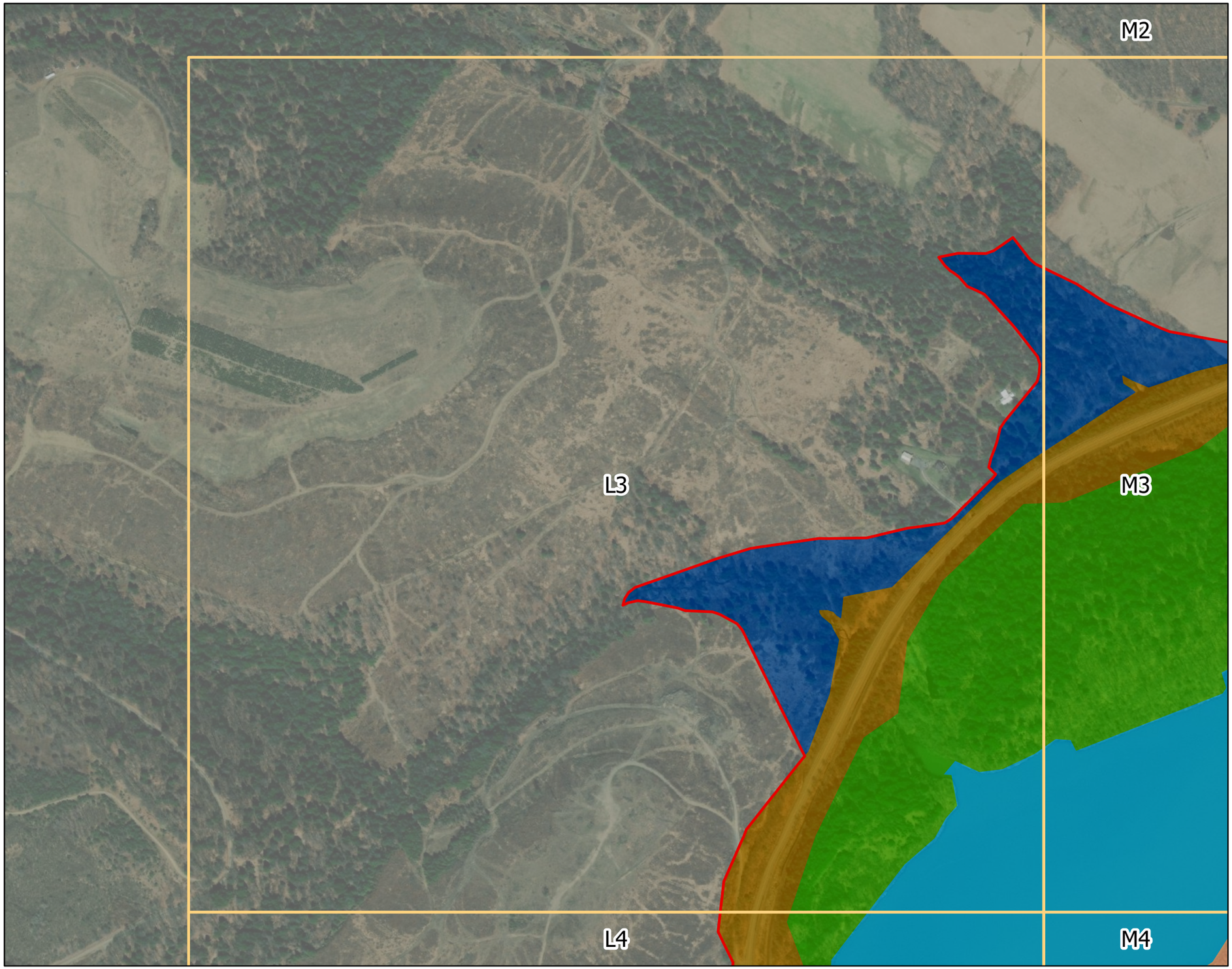


Curwensville Lake
Master Plan Update

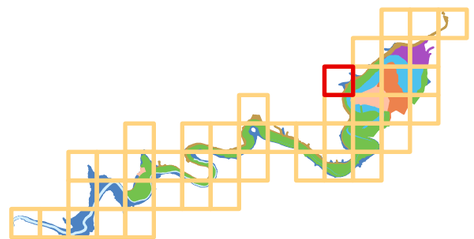
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement



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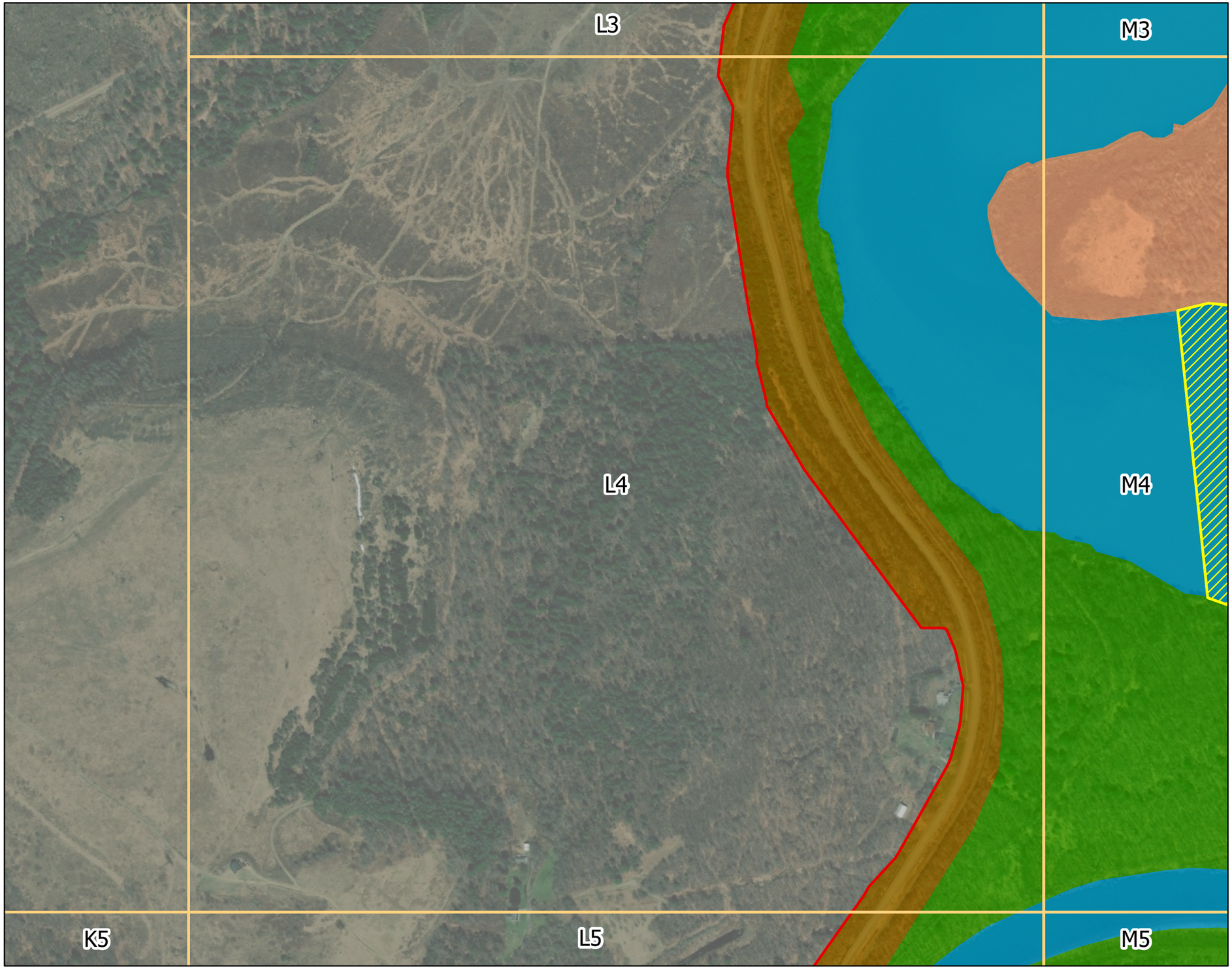


Curwensville Lake
Master Plan Update

Land Classification | Grid View

Legend

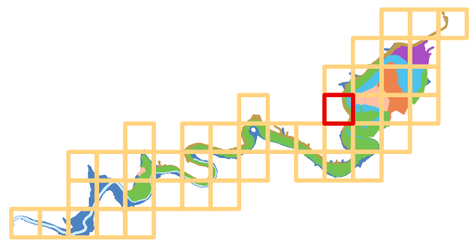
- Curwensville Study Area

Land Classification

- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation

Other Land use

- No Wake Zone



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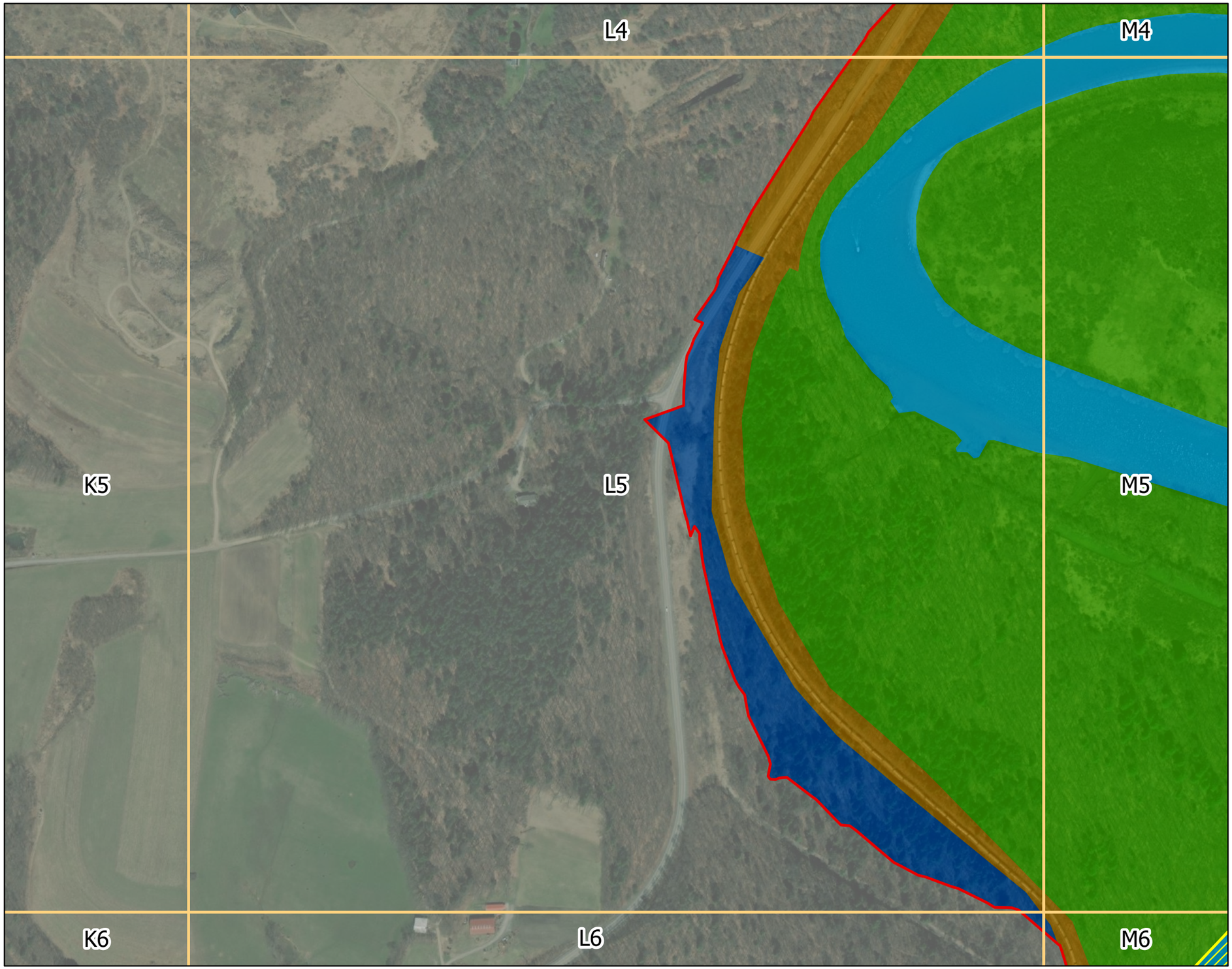


Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

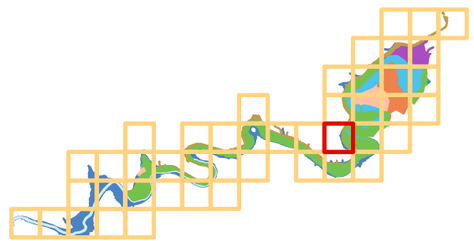
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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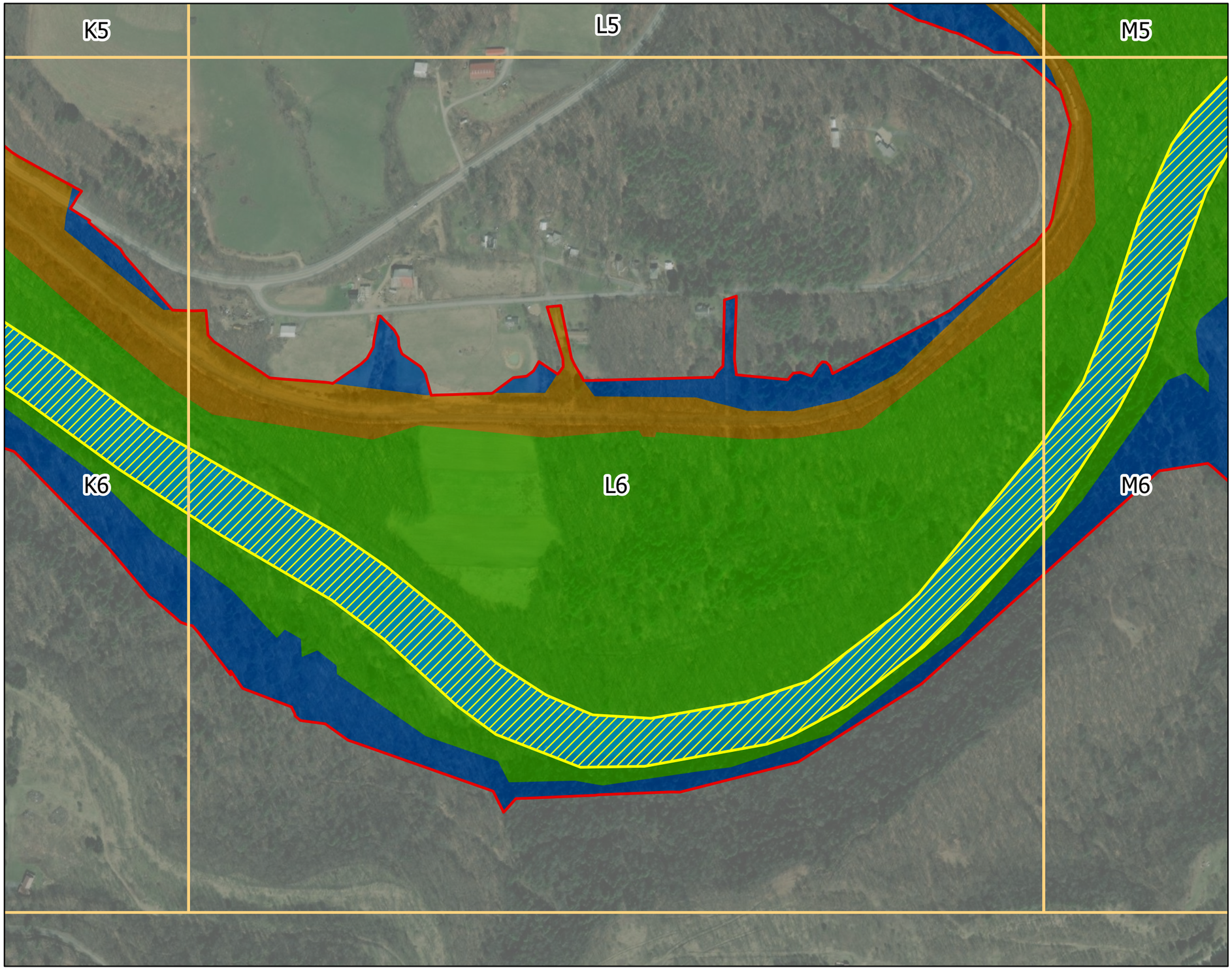


Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

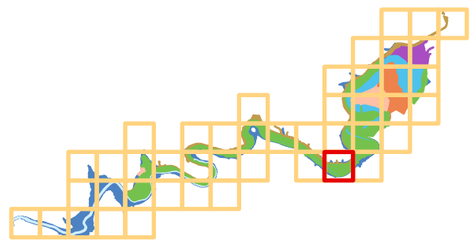
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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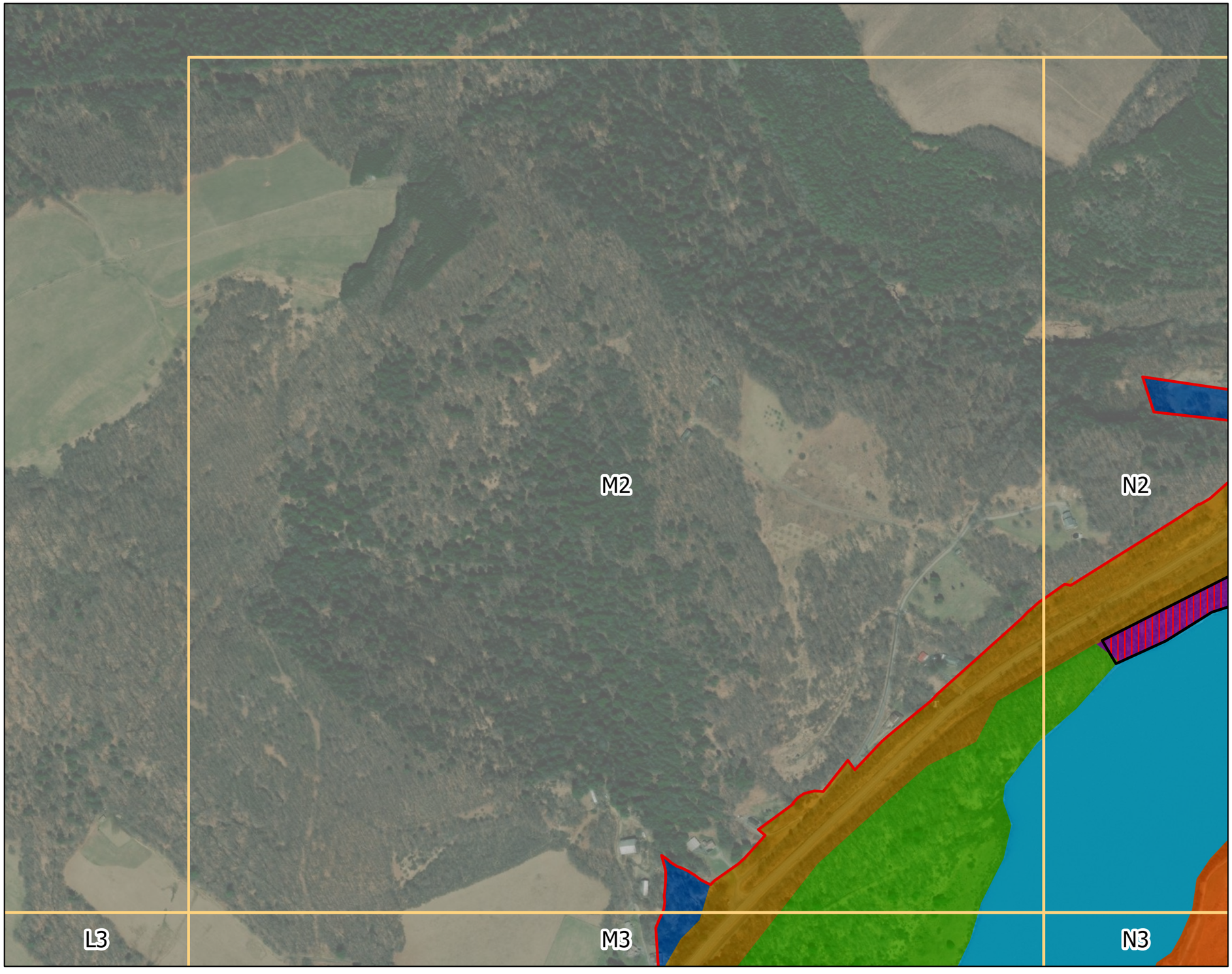
Curwensville Lake Master Plan Update

Land Classification | Grid View



Legend

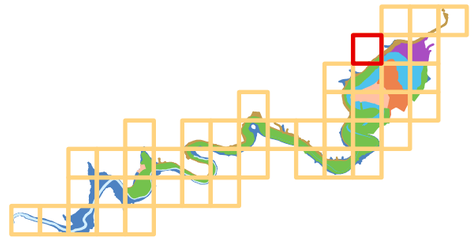
- Curwensville Study Area

Land Classification

- Project Operations
- High Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- Restricted



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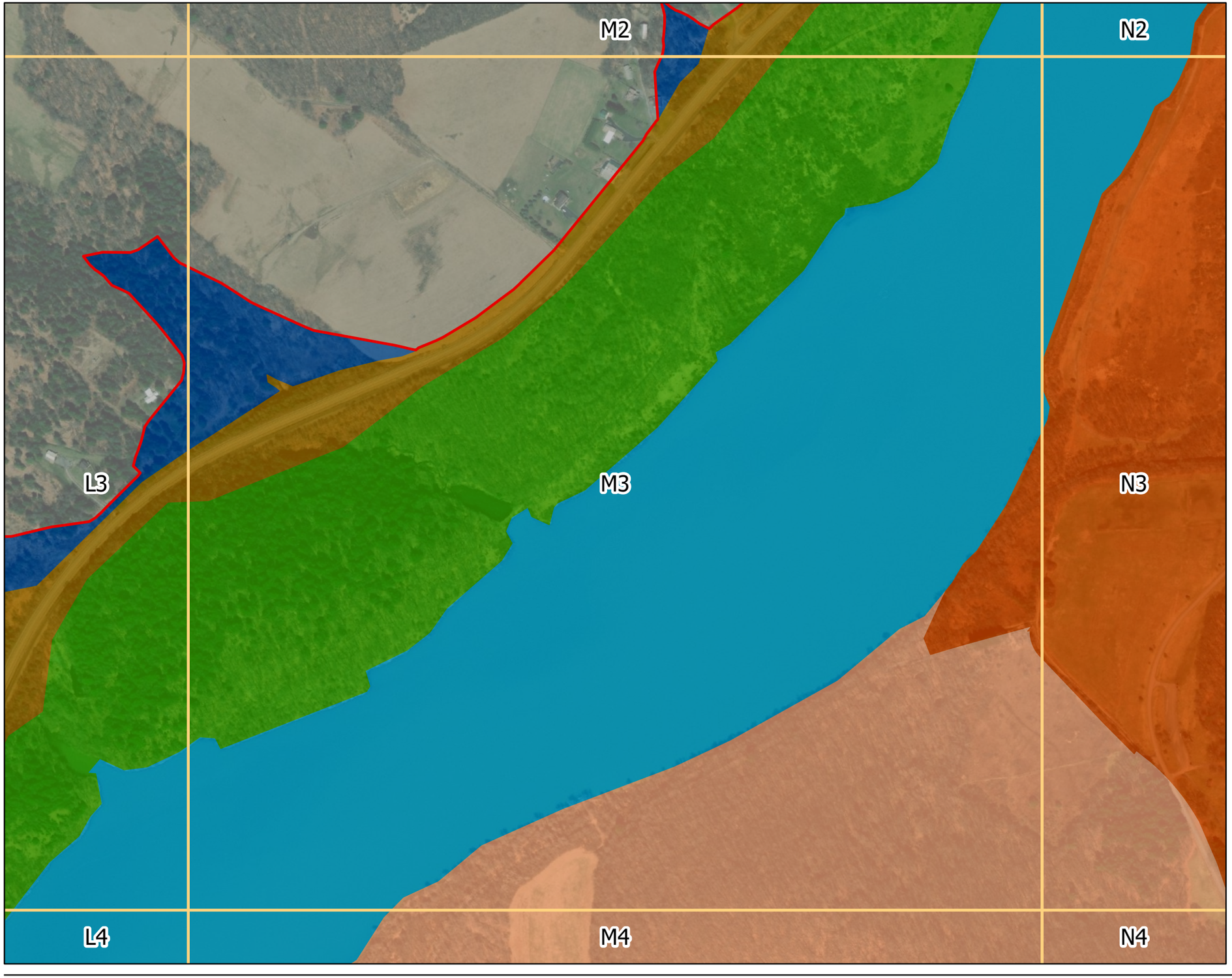


Curwensville Lake Master Plan Update

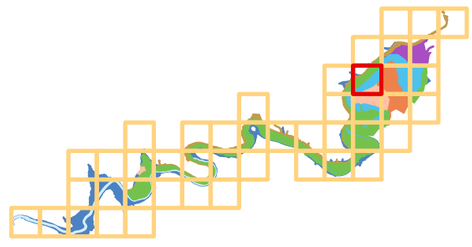
Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- High Density Recreation
- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement



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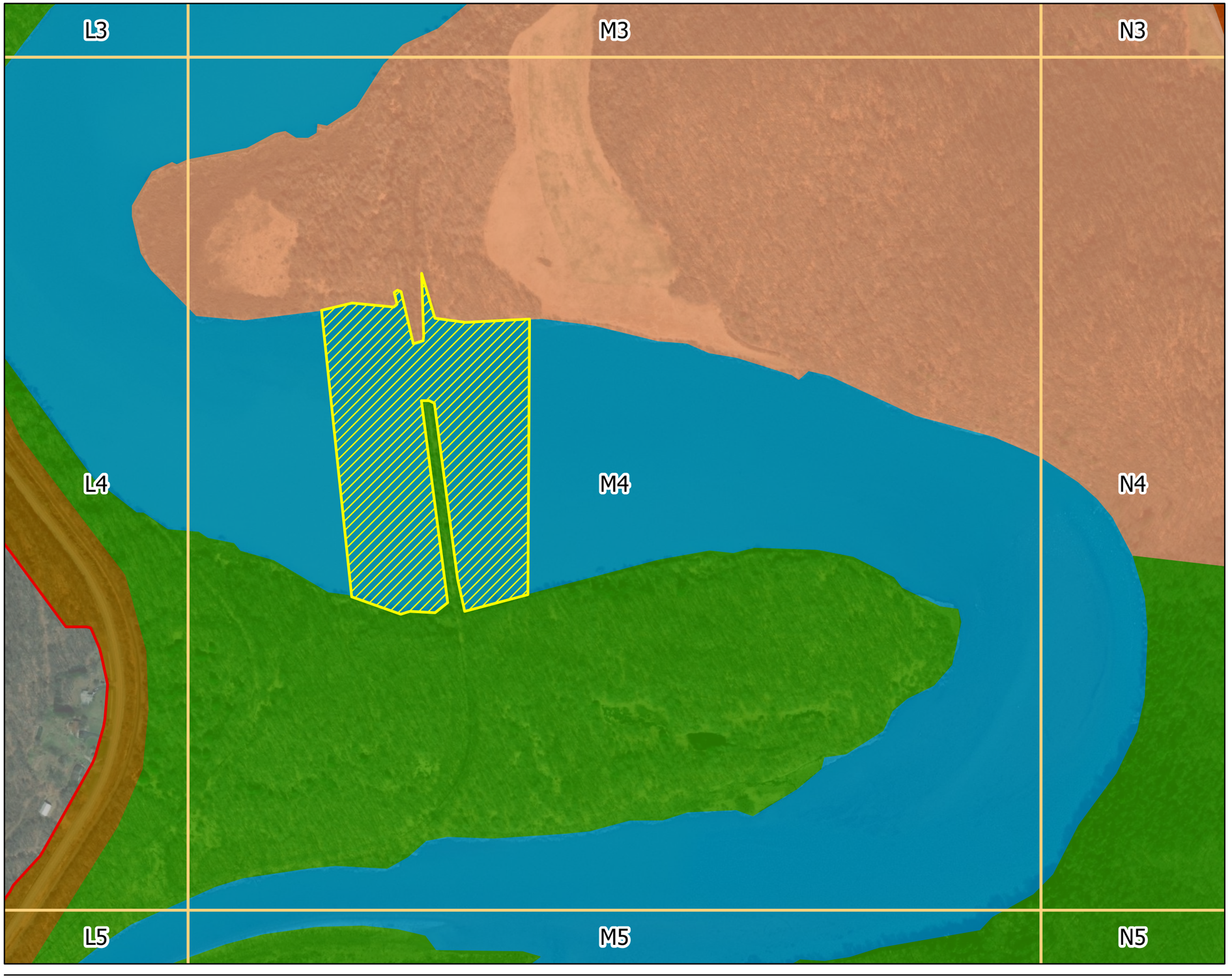


Curwensville Lake
Master Plan Update

Land Classification | Grid View

Legend

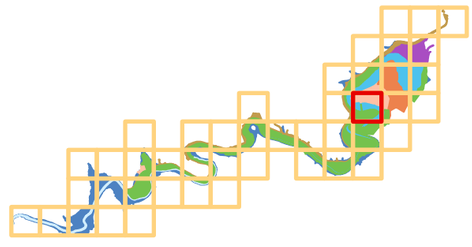
- Curwensville Study Area

Land Classification

- High Density Recreation
- Low Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation

Other Land use

- No Wake Zone



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Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

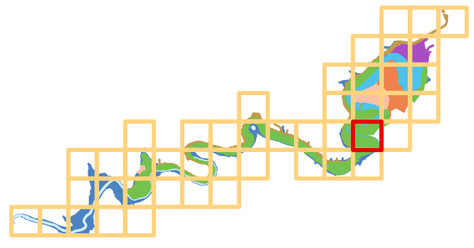
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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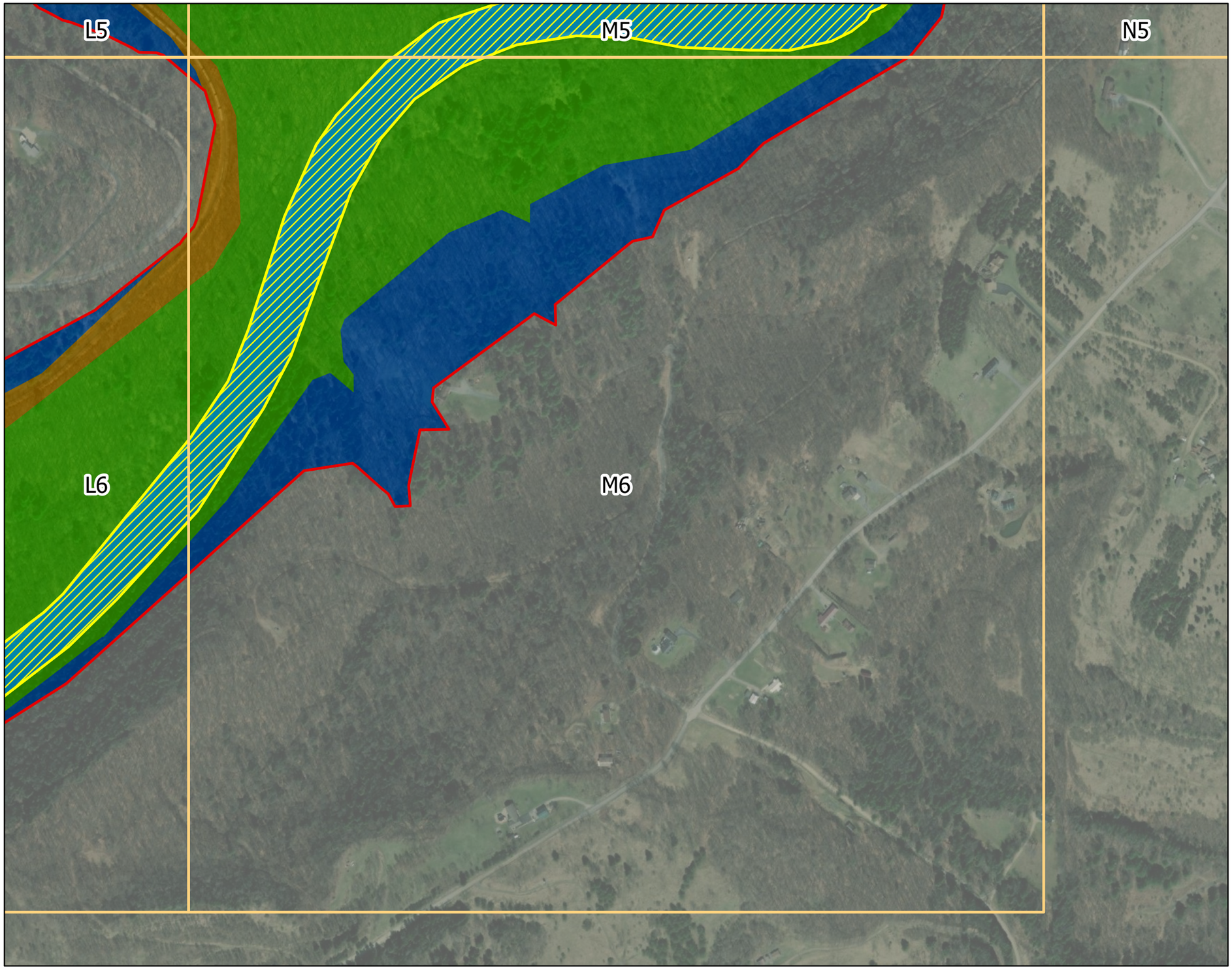


Curwensville Lake
Master Plan Update

Land Classification | Grid View

Legend

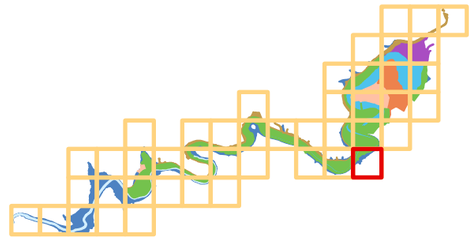
- Curwensville Study Area

Land Classification

- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone



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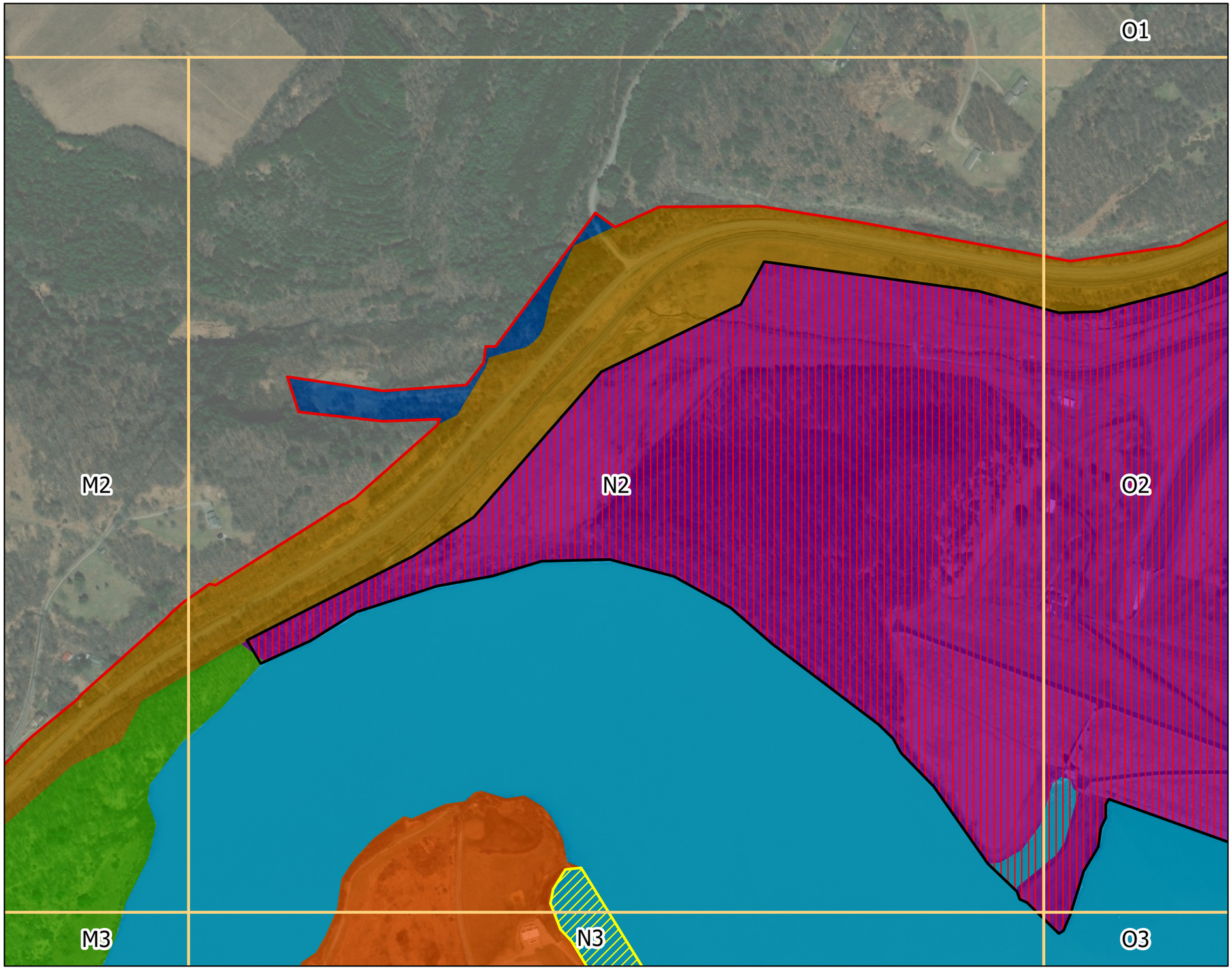
Curwensville Lake Master Plan Update

Land Classification | Grid View



Legend

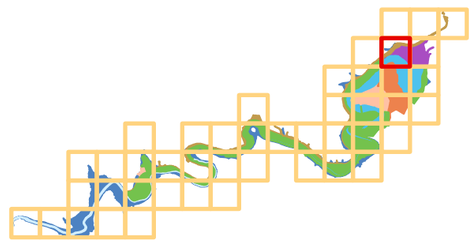
- Curwensville Study Area

Land Classification

- Project Operations
- High Density Recreation
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation
- Flowage Easement

Other Land use

- No Wake Zone
- Restricted



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O2
M3
N3
O3
M4
N4
O4

Curwensville Lake Master Plan Update

Land Classification | Grid View

Legend

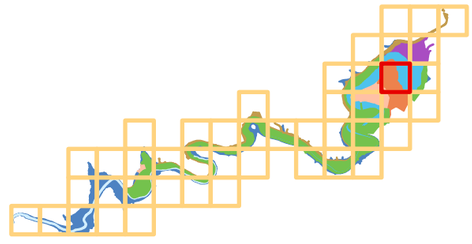
- Curwensville Study Area

Land Classification

- Project Operations
- High Density Recreation
- Low Density Recreation
- Vegetative Management
- Open Recreation

Other Land use

- No Wake Zone
- Restricted



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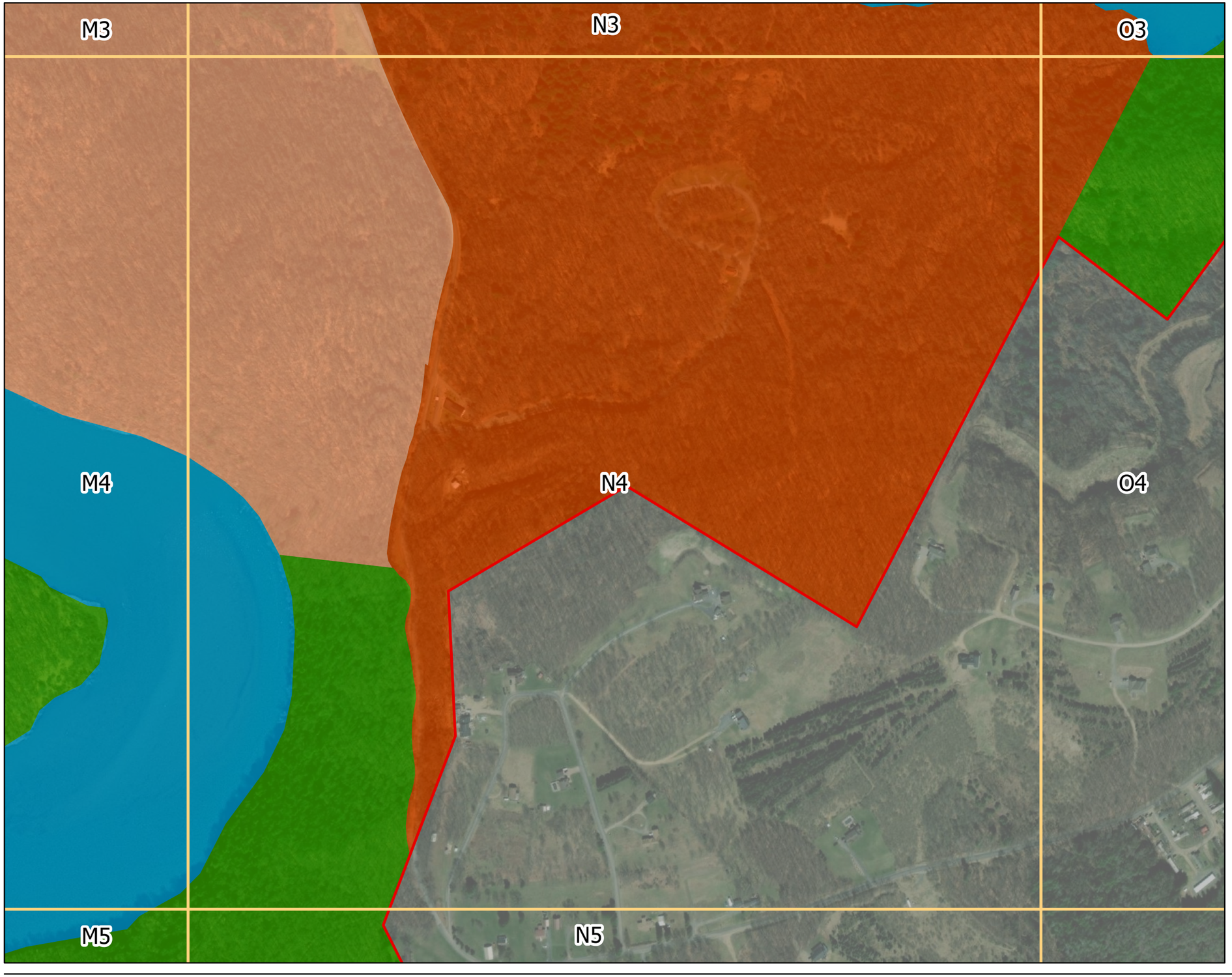

Curwensville Lake
Master Plan Update

Land Classification | Grid View

Legend

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Land Classification

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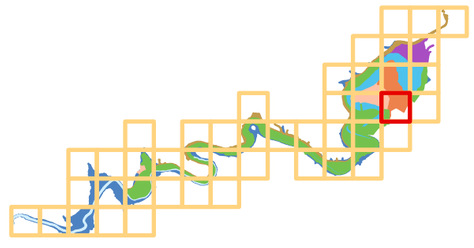

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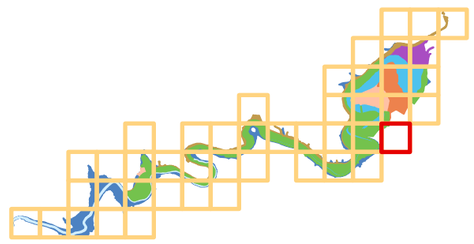

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Curwensville Lake Master Plan Update

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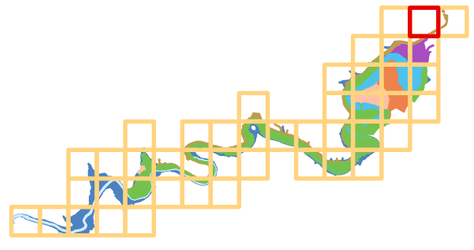

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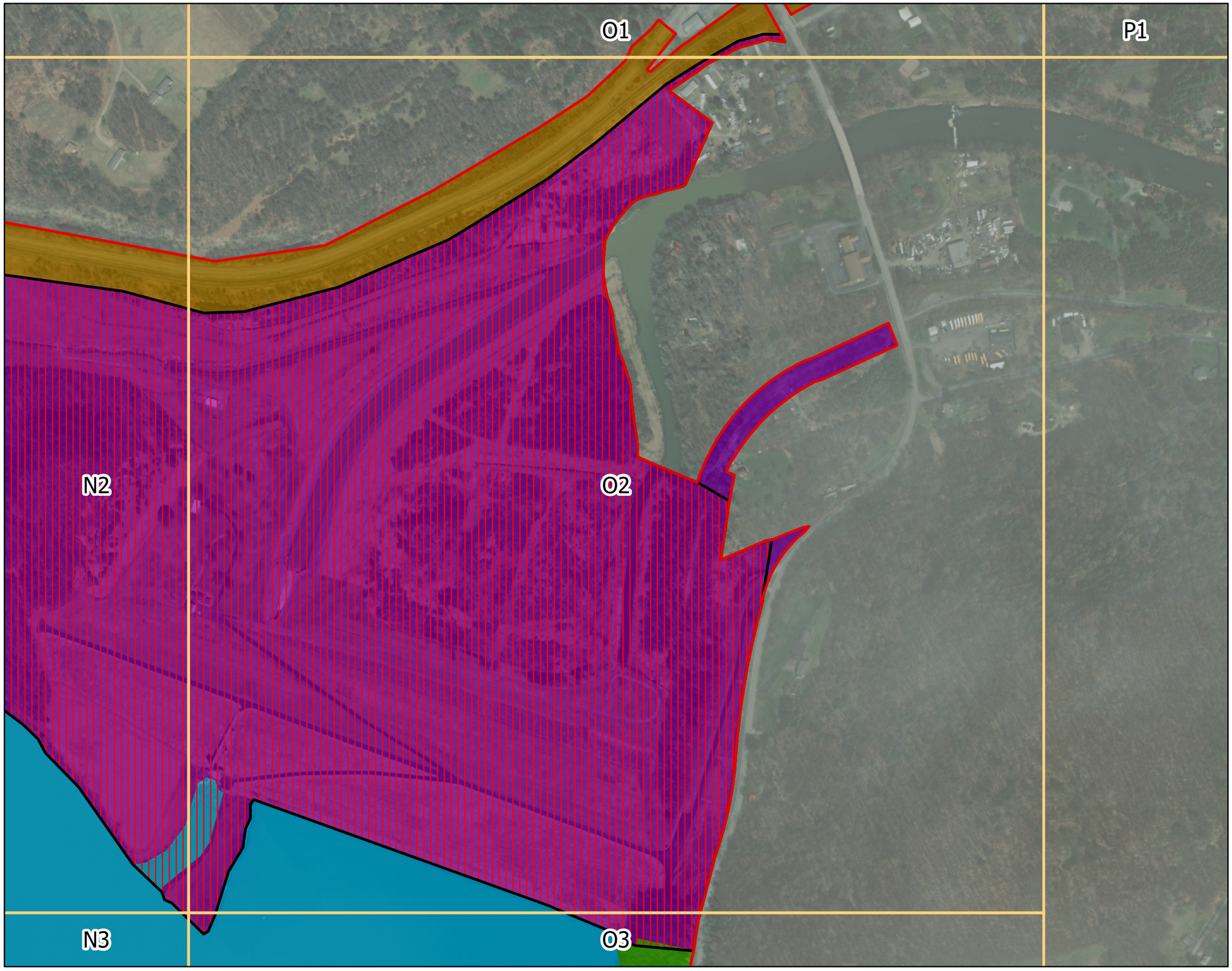

Curwensville Lake
Master Plan Update

Land Classification | Grid View

Legend

- Curwensville Study Area

Land Classification

- Project Operations
- Vegetative Management
- Highway and Railroad Relocations
- Open Recreation

Other Land use

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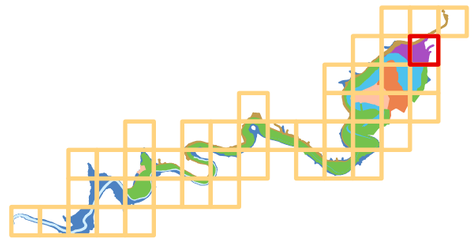

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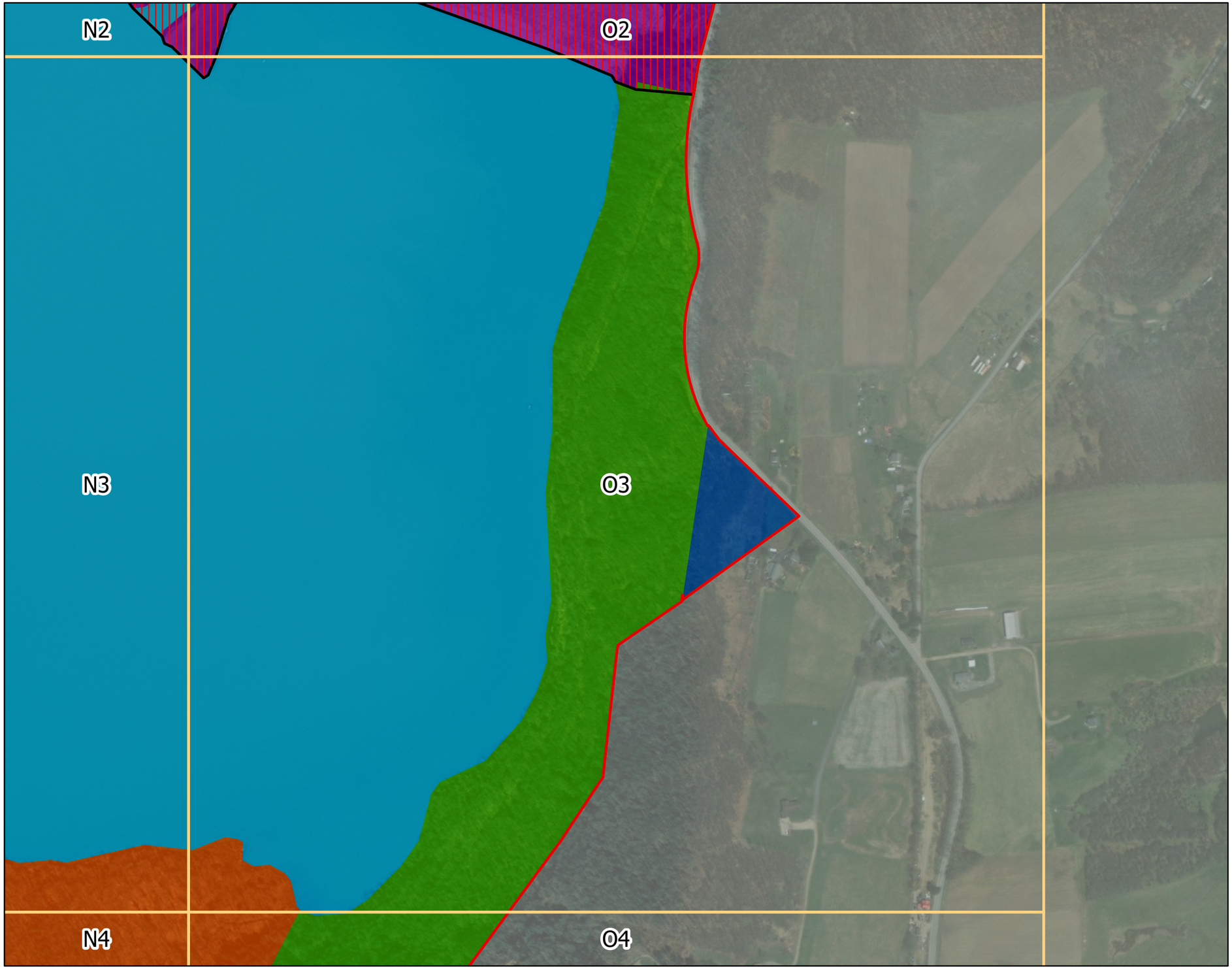

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Land Classification | Grid View

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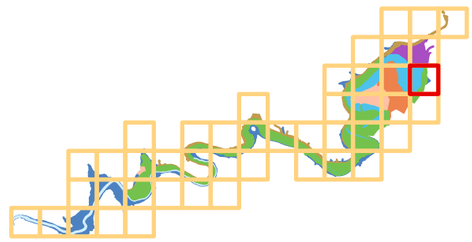

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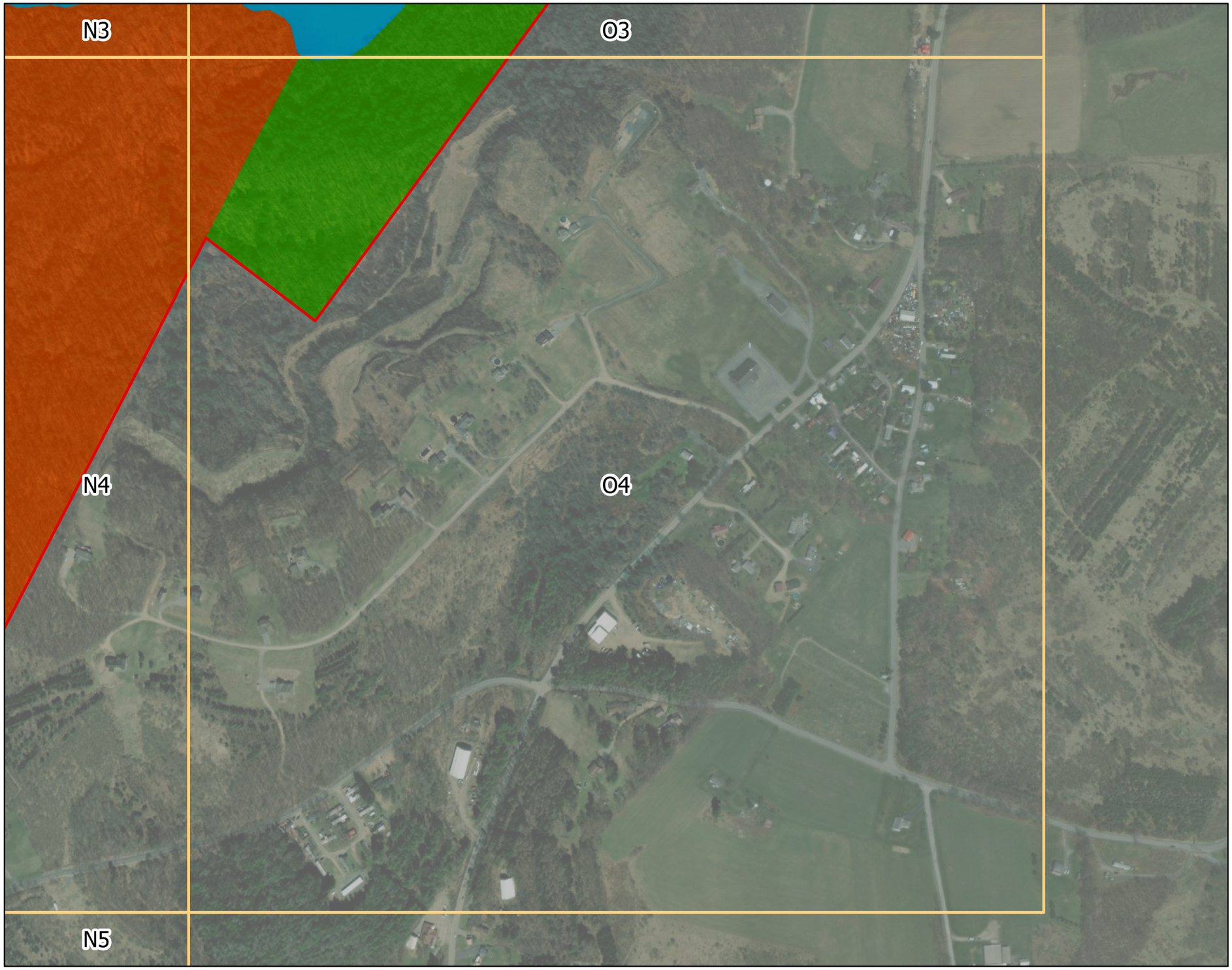

Curwensville Lake
Master Plan Update

Land Classification | Grid View

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Land Classification

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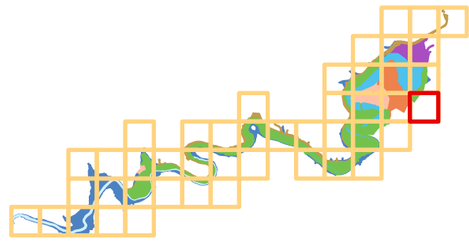

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Curwensville Lake
Master Plan Update

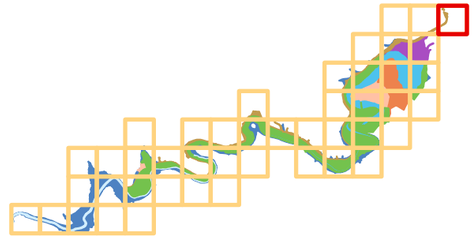
Land Classification | Grid View

Legend

Curwensville Study Area

Land Classification

Highway and Railroad Relocations



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APPENDIX G: NEPA DOCUMENTATION

US Army Corps
of Engineers
Baltimore District

FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT FOR CURWENSVILLE LAKE 2022 MASTER PLAN

CURWENSVILLE DAM AND RESERVOIR CLEARFIELD COUNTY, PENNSYLVANIA

July 2022

This Environmental Assessment follows 40 CFR Parts 1500-1508, National Environmental Policy Act Implementing Regulations dated 1978

Prepared by: **U.S. Army Corps of Engineers, Baltimore District**
2 Hopkins Plaza
Baltimore, Maryland 21201

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FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment for the Curwensville Lake 2022 Master Plan

Clearfield County, Pennsylvania

In accordance with the National Environmental Policy Act of 1969 (NEPA), including guidelines in 33 Code of Federal Regulations (CFR), Part 230 (Procedures for Implementing NEPA), the Baltimore District of the U.S. Army Corps of Engineers (USACE), has assessed the potential impacts of the 2022 Curwensville Lake Master Plan (2022 Master Plan). The Curwensville Lake Project was authorized and constructed for the primary purpose of flood risk management on the West Branch Susquehanna River. Secondary uses of the project lands and waters are water supply, water quality, recreation, and environmental stewardship of natural and cultural resources. Implementation of the 2022 Master Plan and proposed land changes must recognize and be compatible with the primary project mission of flood risk management, and the secondary purposes of water supply, water quality, recreation, and environmental stewardship of natural and cultural resources.

The 2022 Master Plan will provide guidance for stewardship of natural resources and management for long-term public access to, and use of, the natural resources at Curwensville Lake, including the land classification of the USACE-managed lands. USACE manages project lands in accordance with land classifications that have been determined in the 2022 Master Plan for the project lands. Thus, land classifications are fundamental to project lands management. Land classifications (see Table S-1) provide for development and resource management consistent with authorized purposes and other federal laws. The 2022 Master Plan provides a comprehensive description of Curwensville Lake (the Project), a discussion of factors influencing resource management and development, new resource management objectives, a synopsis of public involvement and input into the planning process, descriptions of existing development, and considerations of future development activities.

Under the No Action Alternative, USACE would take no action, which means no new resource analyses or land reclassifications would occur. The operation and management of the Project would continue as outlined in the 1968 Master Plan.

The Proposed Action includes adopting the 2022 Master Plan to reflect changes in land management and land uses, USACE regulations and guidance that have occurred since the release of the 1968 Master Plan, and coordination with the public. The 2022 Master Plan refines land classifications to meet authorized project purposes and current resource objectives. This includes a mix of natural resource and recreation management objectives that are compatible with regional goals established by stakeholders and USACE during the master planning process, recognize outdoor recreation trends, and are responsive to public comment. The purpose of the Proposed Action is to update the Curwensville Lake Master Plan. The action is needed as required by Engineer Regulation (ER) 1130-2-550 "Recreation Operations and Maintenance Policies," and Engineering Pamphlet (EP) 1130-2-550 "Recreation Operations and Maintenance Guidance and Procedures." The 2022 Master Plan is intended to serve as a comprehensive land and recreation management plan for the next

15 to 25 years and is needed to update the Curwensville Lake Master Plan in accordance with January 2013 updates to the ER and EP 1130-2-550.

Table S-1 identifies the required land and water surface classification changes associated with the Proposed Action.

Table S-1: Proposed Changes to Land Classifications at Curwensville Lake

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
Project Operations	273.8	217.2	Lands are associated with the dam and spillway structures that are operated and maintained for the flood risk management mission of the Project. The project operations area has changed slightly along Curwensville Tyrone Highway. The change in acres of the Project Operations area is converted to Vegetative Management in the 2022 Master Plan to more accurately reflect the activities on this land.
High Density Recreation	314.6	300.7	Lands are currently developed for intensive recreational activities and include boat launches, day use areas, and campgrounds. The new criteria for this land classification includes areas developed specifically to support intensive recreational activities. This land classification has been developed to support concentrated visitation and use of the recreational facilities they host. Dependent on available space, funding, and public demand, these areas may support additional outdoor recreation development in the future.
Multiple Resource Management Land			
Low Density Recreation	0	213.5	Management of this land classification calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics, while also supporting low impact recreational opportunities such as bank fishing, hiking, wildlife viewing, and access to the shoreline. Hunting may also be allowed in select areas that are a reasonable and safe distance from high density recreational areas, dam operations, and adjacent residential properties. The new land classification criteria exclude vegetation and wildlife management areas, leaving only areas with minimal development to support passive recreation use (i.e., primitive camping, hunting, trails, wildlife viewing, etc.).

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
Wildlife Management	1,290.6	(2,195.3)	This land classification was considered in the 1968 Master Plan and will continue in the 2022 Master Plan. However, because the wildlife management acres all overlap with other land classifications, the wildlife management acres are excluded from the total acres of the project. Wildlife management activities will continue to occur throughout the Curwensville Lake Project area. See Figure 2-1 in the Curwensville Lake 2022 Master Plan to see where wildlife management activities occur.
Vegetative Management	0	1,146.8	This land classification was not considered in the 1968 Master Plan. This classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. These lands may or may not be protected from development. In general, vegetative resources on USACE lands are managed for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber management.
Water Surface			
Designated No-Wake	0	142.3	Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps, mooring areas, swimming areas, and shallow areas. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Restricted	0	1.4	Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The restricted area is marked year-round by a cable across the intake channel with hanging restricted area signs. This change reflects new classification criteria and no actual change in water use. This

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description*
			designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Open Recreation Area	772.8	629.1	Open Recreation area includes all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use. This area includes all remaining water surface area outside of the Restricted and No-Wake Zones.
Total	4063.7*	4016.1*	

* *Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.*

USACE chose the Proposed Action because it would meet regional goals associated with good stewardship of land and water resources, meet regional recreation goals, and allow for continued use and development of project lands without violating national policies or public laws.

USACE used the Environmental Assessment (EA) and comments received from other agencies to determine whether the Proposed Action requires the preparation of an Environmental Impact Statement (EIS). This included an assessment of environmental, social, and economic factors that are relevant to the recommended alternative considered in this assessment. The EA determined no/negligible impact would occur to the following resources: air quality, greenhouse gasses and climate, noise, geology, cultural resources, groundwater, utilities, hazardous materials and waste, socioeconomics and environmental justice, and traffic and transportation (see Section 3.1 of the EA). Minor impacts could occur to water resources, soils, and biological resources, primarily during construction of future master planning projects (See Sections 3.2 through 3.5 of the EA). Efforts would be made to reduce adverse impacts by using standard construction best management practices (BMPs) to reduce disturbance, soil erosion, and sedimentation into adjacent surface waters and wetlands. Construction and operations of future master planning projects would use BMPs associated with prevention of impacts to sensitive species. These recommendations would occur during the time future projects are proposed and would include environmental reviews of each project.

Beneficial impacts would occur to water resources, soils, biological resources, and land use and recreation due to land reclassification. Beneficial impacts to water, soil, biological resources, and land use and recreation would occur through the establishment of separating the land classification between high and low density recreation areas, the vegetative

management land classification, and no wake zone classification. Additional beneficial impacts to the land use and recreation would also occur with the separation of the water surface classifications in no wake zone, restricted, and open recreation area.

Conclusion

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other federal, state and local agencies, Tribes, input of the public, and the review of my staff, it is my determination that the Proposed Action alternative would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

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Date: 2022.07.06 08:36:19 -04'00'

Date

ESTHER S. PINCHASIN
Colonel, U.S. Army
Commander and District Engineer

Table of Contents

LIST OF FIGURES

LIST OF TABLES

ACRONYMS and ABBREVIATIONS

Acronym	Definition
2022 Master Plan	2022 Curwensville Lake Master Plan
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet per second
DCNR	Pennsylvania Department of Conservation and Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EP	Engineering Pamphlet
ER	Engineer Regulation
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GIS	Geographical Information System
IPaC	Information for Planning and Consultation
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PADEP	Pennsylvania Department of Environmental Protection
PCD	Project Construction Datum
PFBC	Pennsylvania Fish and Boat Commission
PGC	Pennsylvania Game Commission
PNDI	Pennsylvania Natural Diversity Index
Project	Curwensville Dam and Reservoir Project
ROI	Region of Influence
SME	Subject Matter Expert
USACE	United States Army Corps of Engineers
USDA APHIS	United States Department of Agriculture, Animal & Plant Health
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
VUM	Visitor Use Monitoring

1 INTRODUCTION

1.1 PROJECT BACKGROUND

The Curwensville Dam and Reservoir Project (hereafter "Curwensville Lake Project" or "Project") was authorized and constructed under the Flood Control Act of 3 September 1954 in accordance with House Document 29, 84th Congress, 1st session, as a unit of the comprehensive flood control plan for the protection of communities in the West Branch Susquehanna River basin. Secondary uses of the project lands and waters are water supply, water quality, recreation, and environmental stewardship of natural and cultural resources. The Master Plan for the Project is the strategic land use management document that guides the comprehensive management and development actions related to all project recreational, natural, and cultural resources throughout the life of the Project. Implementation of the Master Plan and proposed land classifications changes must recognize and be compatible with the primary project mission of flood risk management.

The U.S. Army Corps of Engineers (USACE) produces and uses the Master Plan to guide the responsible stewardship of USACE-administered lands and resources for the benefit of present and future generations. The Master Plan presents an inventory and analysis of land resources, resource management objectives, land classifications, resource use plans for each land classification, current and projected park facility needs, an analysis of existing and anticipated resource use, and anticipated influences on overall project operation and management. Specific to the Project, the Master Plan presents an evaluation of the assets, needs, and potential uses of the Project reservoir and lands and provides direction for appropriate management, use, development, enhancement, protection, and conservation of the natural and man-made resources at the Project. The Master Plan is guided by Engineer Regulation (ER) 1130-2-550, titled "Recreation Operations and Maintenance Policies," and Engineering Pamphlet (EP) 1130-2-550, titled "Recreation Operations and Maintenance Guidance and Procedures". Per guidance, USACE land classifications provide for development and resource management consistent with authorized purposes and other federal laws.

USACE is proposing adoption of a new Master Plan at the Curwensville Lake Project to reflect changes that have occurred to the Project, in the region, in recreation trends, and in USACE policy since the release of the 1968 Master Plan for the Project. This Environmental Assessment (EA) considers the potential impacts to the natural and human environment from the implementation of the Curwensville Lake 2022 Master Plan (hereafter "2022 Master Plan").

1.1.1 Project Location and Setting

The Curwensville Lake Project is located on the West Branch of the Susquehanna River in Clearfield County, Pennsylvania. The Curwensville Dam formed the Curwensville Lake, which has a drainage area of 365 square miles. The dam manages 98 percent of the flow on the West Branch of the Susquehanna River at the borough of Curwensville (about 2 miles from the Curwensville Dam at borough center) and 75 percent of the flow at the borough of Clearfield (about 8 miles from Curwensville Dam at borough center). The project reduces the flood risk along the West Branch below the dam and provides a lake for recreation.

The Project area is located in a narrow valley with steep slopes at the downstream portion and gentler slopes in the upstream reaches (Figure 1-1). The surrounding ridges and slopes are wooded, and the valley floor contains some agriculture and low density residential housing.

1.1.2 Project History

The Curwensville Lake Project was authorized by the Flood Control Act of 3 September 1954 in accordance with House Document 29, 84th Congress, 1st session, as a unit of the comprehensive flood control plan for the protection of communities in the West Branch Susquehanna River basin. The Project was designed and constructed under the direction of the U.S. Army Corps of Engineers, Baltimore District. Construction of the dam and associated works commenced in April 1963, and the dam was operationally complete in November 1965.

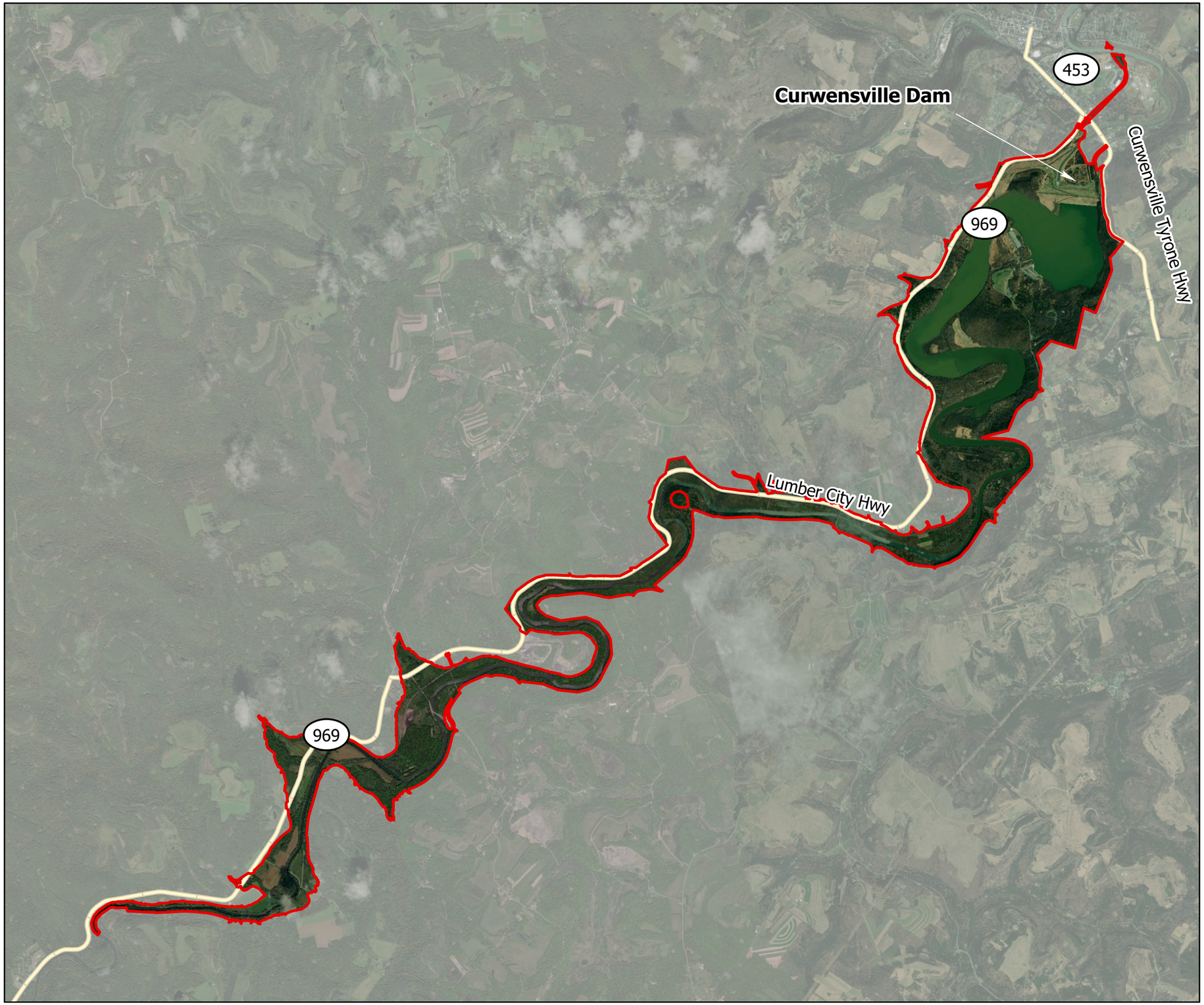
The Curwensville Dam consists of a rolled earthfill embankment 2,850 feet long having a width at its top of 25 feet and a maximum height of 131 feet above the streambed. The top of the dam elevation is 1,257 feet Project Construction Datum (PCD)[1]. The uncontrolled spillway is constructed in rock in a saddle adjacent to the left abutment. It is 480 feet long and has a crest elevation of 1,228 feet PCD. The spillway consists of a concrete sill excavated in a natural rock saddle. The design discharge capacity of the spillway is 154,000 cubic feet per second (cfs) under a total surcharge of 23 feet. To date, spillway flow has not occurred. The outlet works are located on bedrock at the left end of the dam and consist of three hydraulic slide (flood) gates (5.5-ft by 12-ft each) located in the intake control tower, a 594-foot-long, 15-foot-diameter conduit that is under the main embankment, and a stilling basin. In addition, two 30-inch diameter bypass outlet gates are located on either side of the gated outlet system. The total length of the outlet works (tower, tunnel and stilling basin) is about 918 feet. The maximum discharge through these outlet works, with the lake at spillway crest and all gates completely opened, is 9,800 cfs.

1.2 PURPOSE AND NEED FOR THE ACTION

The purpose of the action is to update the Curwensville Lake Master Plan. The action is needed as required by ER and EP 1130-2-550. The 2022 Master Plan is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years, which reflects changes that have occurred since 1968 in outdoor recreation trends, regional land use, population, legislative requirements, USACE management policy, and wildlife habitat at the Project.

[1] All elevations cited in this manual, unless otherwise noted, are referenced to the original project construction datum (PCD). In previous versions of the Water Control Manual, elevations were incorrectly referenced as NGVD29. In 2009, the Corps of Engineers began a Comprehensive Evaluation of Project Datums (CEPD). The CEPD effort was specifically intended to ensure that project elevations and datums are properly and accurately referenced to nationwide spatial reference systems used by other Corps Districts as well as federal, state, and local agencies. To that end, a new project benchmark was established and linked to the 1988 North American Vertical Datum (NAVD88). To convert PCD elevation for Curwensville Lake and its physical components to NAVD88, subtract 0.53 feet from the PCD elevation (USACE 2020a).

Figure 1-1 Site Vicinity



Curwensville Lake Environmental Assessment

Site Vicinity

Legend

Curwensville Study Area

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Feet
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1.3 SCOPE OF THE EA

USACE prepared this EA pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500-1517) dated 1978, and the USACE implementing regulations, Policy and Procedures for Implementing NEPA, ER 200-2-2 (USACE 1988) to evaluate existing conditions and potential impacts of implementing the 2022 Master Plan. NEPA requires federal agencies to review potential environmental effects of federal actions, which includes the adoption of formal plans, such as master plans, approved by federal agencies upon which future agency actions will be based. Since the NEPA process for this action began in June 2019, this EA follows the NEPA regulations in place at that time and does not apply the NEPA regulations that became effective on September 14, 2020. See 40 C.F.R. 1506.13.

Alternatives considered within this EA focus on the proposed land classifications as presented in the 2022 Master Plan and the types of future development projects that could occur within the land classifications. The EA does not consider implementation of specific projects identified within the 2022 Master Plan during the master planning process as those projects are conceptual in nature. The USACE would conduct further NEPA analysis on projects on USACE owned land identified within the 2022 Master Plan once funding is available and detailed project planning and design occurs, nor does it consider specific future development opportunities for leased areas, such as the Curwensville Lake recreation area (managed by Clearfield County). The USACE would conduct further NEPA analysis on projects on USACE owned land identified within the 2022 Master Plan once funding and detailed project plans and design are provided by Clearfield County or its partners.

1.4 COORDINATION AND PUBLIC REVIEW

USACE coordinated with agencies, organizations, and members of the public with a potential interest in the Proposed Action during the development of the 2022 Master Plan and in the preparation of this EA. Appendix A of this EA provides a record of public involvement and agency coordination related to this EA. Additionally, Appendix D and E of this Master Plan provide a record of coordination for the overall Master Plan with EA with project stakeholders, agencies, and the public.

A Public Notice of Intent to Prepare an Environmental Assessment was published on June 7, 2019 to the USACE web site and was distributed to project stakeholders, agencies, and the public. On both June 24, 2019 and July 12, 2019, the local news website GANT News published an article detailing the upcoming EA and master plan.

Agency coordination was conducted by USACE with the United States Fish and Wildlife Service (USFWS) through the Information, Planning, and Consultation (IPaC) online system to ensure compliance with Section 7 of the Endangered Species Act (ESA). Review was also performed by the Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission (PFBC), Pennsylvania Department of Conservation and Natural Resources (DCNR), Pennsylvania Department of Environmental Protection (PADEP), Pennsylvania Department of Topographic and Geologic Survey (PDTGS), and USFWS through the Pennsylvania Natural Diversity Index website (PNDI). Coordination results can be found in Appendix A of this EA.

Information on the progress of the Master Plan and instructions on participating in the public comment process were published on the Project's web page: https://nab.usace.afpims.mil/Missions/Dams-Recreation/Curwensville-Lake/.

The 2022 Master Plan and EA were made available for public review for a period of 30 days beginning on April 4, 2022 and ending on May 3, 2022. The public comments received were addressed in Appendix E of the Master Plan.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 DEVELOPMENT OF ALTERNATIVES

USACE identified alternatives considered within this EA as a part of the master planning process. This Chapter describes the master planning process, screening criteria for alternative development and the alternatives carried forth for detailed analysis within this EA.

2.1.1 Master Planning Process

USACE guidance recommends the establishment of resource goals and objectives for the purposes of development, conservation, and management of natural, cultural, and man-made resources at a project location. Goals describe the desired end state of overall management efforts, whereas objectives are concise statements describing measurable and attainable management activities that support the stated goals. Goals and objectives are hierarchical guidelines for obtaining maximum public benefits while minimizing adverse impacts on the human environment and are developed in accordance with 1) authorized project purposes, 2) applicable laws and regulations, 3) resource capabilities and suitability, 4) regional needs, 5) other governmental plans and programs, and 6) expressed public desires.

The 2022 Master Plan establishes the following management goals for the Curwensville Lake Project:

- **Goal A** – Provide the best management practices to respond to regional needs, resource capabilities and capacities, and expressed public interests consistent with authorized project purposes.

- **Goal B** - Protect and manage project natural and cultural resources through sustainable environmental stewardship programs.

- **Goal C** – Provide public outdoor recreation opportunities that support project purposes and public interests while sustaining project natural resources.

- **Goal D** – Recognize the unique qualities, characteristics, and potentials of the Project.

- **Goal E** – Provide consistency and compatibility with national objectives and other state and regional goals and programs.

2.1.2 Screening Criteria

For an alternative to be considered viable, it must be compatible with the primary project mission of flood risk management, and secondary missions of water quality control and water supply. In addition, the alternative must meet management goal objectives and USACE-wide Environmental Operating Principles. Based on these criteria, this EA evaluates the No Action Alternative and the Proposed Action Alternative.

2.2 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison to the anticipated effects of the other action alternatives. Under the No Action Alternative, the USACE would take no action

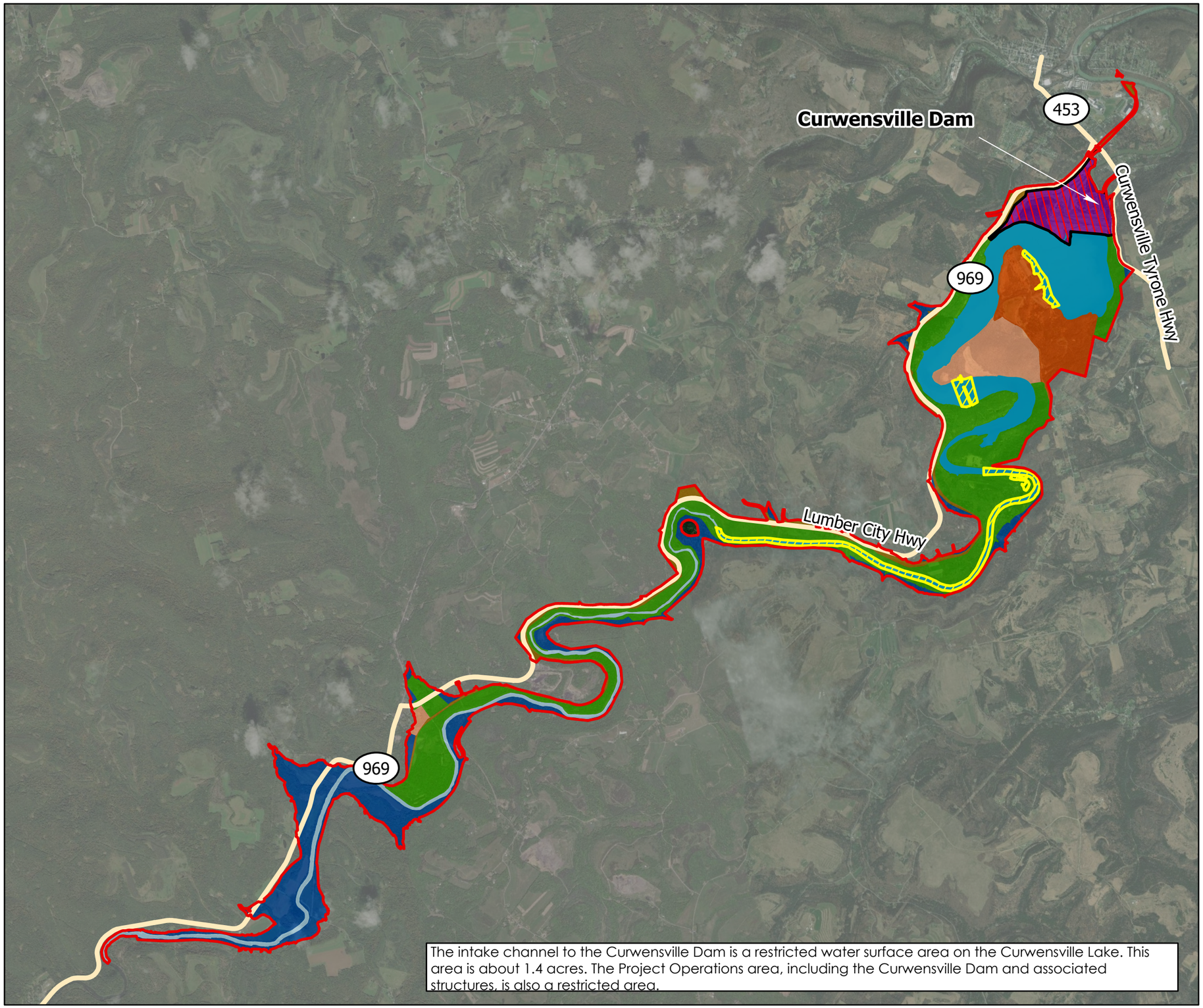
and would not adopt the 2022 Master Plan. The operation and management of the Project would continue as outlined in the existing 1968 Master Plan. No new land classifications would be designated. The No Action alternative would not meet the purpose and need for the action.

2.3 ALTERNATIVE 2: PROPOSED ACTION ALTERNATIVE (PREFERRED ALTERNATIVE)

Under Alternative 2, the Proposed Action Alternative, the USACE would implement the 2022 Master Plan and associated changes in land management in compliance with USACE regulations and guidance. This alternative would revise the land classifications to updated USACE standards and include resource objectives that reflect current and projected needs compatible with regional goals. Required changes associated with the Proposed Action include reclassifications of land, classification of the water surface, and adoption of new resource management and recreation objectives. Figure 2-1 depicts the new land classifications within the 2022 Master Plan. Table 2-1 quantifies the updated land and water surface reclassifications and provides a description of the land classification along with types of future projects that could occur within each land classification, as applicable.

The Proposed Action would update the Curwensville Master Plan to make it compliant with ER 1130-2-550 and EP 1130-2-550 and would meet the goals and objectives outlined in the 2022 Master Plan. Therefore, this alternative is the Preferred Alternative and will carry forward as the Proposed Action.

Figure 2-1 Proposed Land Classifications



The intake channel to the Curwensville Dam is a restricted water surface area on the Curwensville Lake. This area is about 1.4 acres. The Project Operations area, including the Curwensville Dam and associated structures, is also a restricted area.

Curwensville Lake Environmental Assessment

Proposed Land Classifications

Legend

- Curwensville Study Area

Proposed Land Use Classifications

- Project Operations
- High Density Recreation
- Highway and Railroad Relocations
- Restricted

Multiple Resource Management Lands

- Low Density Recreation
- Vegetative Management

Water Surface

- Open Recreation
- Flowage Easement
- River
- Designated No Wake Zone

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Feet
0
4,500
9,000
N

Table 2-1. Proposed Changes to Land Classifications at Curwensville Lake

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description
Project Operations[1]	273.8	217.2	Lands are associated with the dam and spillway structures that are operated and maintained for the flood risk management mission of the Project. The project operations area has changed slightly along Curwensville Tyrone Highway. The change in acres of the Project Operations area is converted to Vegetative Management in the 2022 Master Plan to more accurately reflect the activities on this land.
High Density Recreation	314.6	300.7	Lands are currently developed for intensive recreational activities and include boat launches, day use areas, and campgrounds. The new criteria for this land classification includes areas developed specifically to support intensive recreational activities. This land classification has been developed to support concentrated visitation and use of the recreational facilities they host. Dependent on available space, funding, and public demand, these areas may support additional outdoor recreation development in the future.
Multiple Resource Management Land			
Low Density Recreation	0	213.5	Management of this land classification calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics, while also supporting low impact recreational opportunities such as bank fishing, hiking, wildlife viewing, and access to the shoreline. Hunting may also be allowed in select areas that are a reasonable and safe distance from high density recreational areas, dam operations, and adjacent residential properties. The new land classification criteria excludes vegetation and wildlife management areas, leaving only areas with minimal development to support passive recreation use (i.e., primitive camping, hunting, trails, wildlife viewing, etc.).
Wildlife Management[3]	1,290.6	(2,195.3)	This land classification was considered in the 1968 Master Plan and will continue in the 2022 Master Plan. However, because the wildlife management acres all overlap with other land classifications, the wildlife management acres are excluded from the total acres of the project. Wildlife management activities will continue to occur throughout the Curwensville Lake Project area. See Figure 2-1 in Section 2 of the Curwensville Lake 2022 Master Plan to see where wildlife management activities occur.

Classification	1968 Master Plan (acres)	2022 Master Plan (acres)	Description
Vegetative Management	0	1,146.8	This land classification was not considered in the 1968 Master Plan. This classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. These lands may or may not be protected from development. In general, vegetative resources on USACE lands are managed for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber management.
Water Surface[1]			
Designated No-Wake[2]	0	142.3	Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps, mooring areas, swimming areas, and shallow areas. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Restricted	0	1.4	Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Curwensville Lake includes a small area around the dam and intake tower. The restricted area is marked year-round by a cable across the intake channel with hanging restricted area signs. This change reflects new classification criteria and no actual change in water use. This designation has always existed at Curwensville Lake; however, it was included within the overall Conservation Pool acreage in the 1968 Master Plan. The 2022 Master Plan separates this designation into its own category within the Water Surface classification.
Open Recreation Area	772.8	629.1	Open Recreation area includes all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use. This area includes all remaining water surface area outside of the restricted and No-Wake Zones.
Total[1,3,4,5,6,7]	4,063.7	4,016.1	

[1]Includes old Susquehanna Riverbed acreages before the Curwensville Dam was built, which created the Recreation Pool. Fee Simple and Easement Lands total to 3,700.9 acres (does not include old riverbed acreage). GIS calculated total for Land of Curwensville Lake Project

lands is 3,714.4 acres (does not include old riverbed acreage). There is 0.5 additional acres in Multiple Resource Management Lands due to riverbed acreages.

[2] No-Wake Zone includes area by beach for swimmers, boat ramp, and boat mooring area (17.5 acres); area near old railroad crossing (21.7 acres); and along narrow, shallow riverbed and wetland areas (103.1 acres).

[3]Wildlife Management overlaps with the other land classifications. The Wildlife Management acres in the Proposed Land Classification column reflects the number of acres currently maintained by the Pennsylvania Game Commission for wildlife populations and their habitat areas upstream of and around Curwensville Lake. Since there is overlap the acres listed for Wildlife Management is not added to the total acres.

[4] Mapping for the Master Plan update has been compiled using the best information available and is believed to be accurate. Prior land classification acres are based on original acquisition real estate deed records and mapping completed for the 1968 Master Plan. Due to improved mapping technologies, minor discrepancies exist when comparing prior and proposed land classification acreages.

[5]The Highway and Railroad Relocation land classification with 345.6 acres includes 231 acres of divested land by conveyance to Beech Creek Railroad Company and New York Central Railroad Company in March 1966. The divested acres is not owned or managed by USACE.

[6]The Unutilized/Unmerchantable Lands (47.1 acres) were sold in 2006 and 2007 so they are no longer included in the project land totals, but are included in the1964 project land totals.

[7] Other land classifications exist at Curwensville Lake Project, such as flowage easements, highway and railroad relocations, and unmodified river area. Thus, total project acres are not reflected in the above table, only the areas impacted by the update in land reclassification. For more information on the other project areas, see the Curwensville Lake 2022 Master Plan.

3 ENVIRONMENTAL SETTING AND CONSEQUENCES

3.1 INTRODUCTION

This chapter describes the natural and human environments that exist at the Project and the potential impacts of the No Action Alternative and Proposed Action (Preferred Alternative), outlined in Chapter 2. The description of baseline data sources and an approach for analyzing impacts are discussed in Sections 3.1.1 and 3.1.2, respectively.

Several resources were determined not to be affected by the Proposed Action; therefore, a detailed analysis of these topics is not presented in this chapter. Section 3.1.3 provides a discussion of resources analyzed within the EA, and justification for those resources dismissed from further analysis.

3.1.1 Description of Baseline Data and Data Sources

The EA used the following types of data to characterize the affected environment of the Project:

- Geographical Information System (GIS), including waters and wetlands inventory, floodplain mapping, and vegetation;
- Aerial photography: [ESRI, Google Earth]
- Regional and local reports: including Natural Resources Conservation Service (NRCS) Soil Surveys and previous studies conducted at the Project;
- Agency databases including USFWS and the U.S. Environmental Protection Agency (USEPA); and Pennsylvania resource agencies.
- Information presented within the 2022 Master Plan; and
- Agency coordination

3.1.2 Approach for Analyzing Impacts

Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place (40 CFR § 1508.8[a] (2019)). Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable (40 CFR § 1508.8[b](2019)). As discussed in this chapter, the alternatives may create temporary (less than 1 year), short-term (up to 3 years), long term (3 to 10 years), or permanent effects.

Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact (40 CFR § 1508.27 (2019)). The context refers to the setting in which the impact occurs and may include society, the affected region, the affected interests, and the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. This analysis classifies the intensity of impacts as beneficial, negligible, minor, moderate, or significant.

As stated in Section 1.3, Scope of the EA, the analysis focuses on the proposed land classifications as presented in the 2022 Master Plan and the types of future development projects that could occur within each land classification. Specific future projects contained within the 2022 Master Plan are qualitatively considered within this EA, as these projects are conceptual in nature. The USACE would conduct further NEPA analysis on projects on USACE

owned land identified within the 2022 Master Plan once funding and detailed project plans and design are provided by Clearfield County or its partners.

3.1.3 Level of Resource Area Analysis

Potentially relevant resource areas were initially considered for analysis in this EA. Consistent with NEPA implementing regulations and guidance, USACE focused the analysis on topics with the greatest potential for environmental impacts. This sliding-scale approach is consistent with NEPA (40 CFR § 1502.2(b)(2019)), under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance. Some resource topics are limited in scope due to the lack of direct effect from the Proposed Action on the resource or because that resource is not located within the Project. For example, no body of water in the Curwensville Lake watershed is designated as a federally wild or scenic river, so this resource will not be discussed.

In conducting this analysis, a qualified subject matter expert (SME) from USACE reviewed the potential direct and indirect effects of the No Action Alternative and the Proposed Action relative to each environmental and socioeconomic resource. The SME carefully analyzed and considered the existing conditions of each resource area within the Proposed Action's region of influence (ROI). Through this analysis, it was determined that, for several resource areas, none/negligible adverse effects would occur. This included air quality, greenhouse gases and climate, noise, geology, groundwater, cultural resources, utilities, hazardous materials and waste, socioeconomics and environmental justice, and traffic and transportation. These resources were therefore eliminated from further analysis. Additional detail is provided in Section 3.6.

3.2 WATER RESOURCES

3.2.1 Affected Environment

3.2.1.1 Surface Waters and Wetlands

The Curwensville Dam is located on the West Branch Susquehanna River approximately 0.5 mile downstream of Pennsylvania Route 453, which is on the outskirts of Curwensville. The dam is located within the Upper West Branch Susquehanna Watershed (HUC # 02050201). Curwensville Dam manages approximately 365 square miles, or 98 percent of the flow on the West Branch of the Susquehanna River at Curwensville (about 2 miles from the Curwensville Dam at borough center) and 75 percent of the flow at the borough of Clearfield (about 8 miles from Curwensville Dam at borough center). The project reduces flood risk along the West Branch below the dam, supplies water downstream in support of the Susquehanna River Basin Commission's (SRBC) basin wide low flow management policies, and provides a lake for recreation, fish, and wildlife. Some tributaries contributing to the reservoir include Anderson Creek and Montgomery Creek.

Natural wetlands are associated with the lower reaches of the reservoir and project area. USFWS mapper captures three open water ponds that contain excavated bottoms. Man-made ditches are present throughout the project area but are used mostly as drainage features during large storm or flooding events (USFWS 2020).

3.2.1.2 Water Quality

The water quality in Curwensville Lake is generally good, with pH values ranging between 6.5 and 7.0. The water quality is denoted by the U.S. Environmental Protection Agency (EPA) waterway impairment mapper (US EPA 2020b) as a good waterway, and water quality is not impaired with no impairments regarding aquatic life, including fish and shellfish consumption (US EPA 2020b).

Land use in the watershed is devoted mainly to woodland, mining, and agriculture. Several small communities and activities from farming in the watershed contribute to some nutrient loading. There are sporadic algae blooms in the lake following minor nutrient loading. No harmful algal blooms have been reported at Curwensville Lake to current date. Historically, when there are high nutrient levels and depletion of oxygen in the hypolimnion or the bottom layer of water, Curwensville Lake becomes a eutrophic lake. Yet, submerged aquatic vegetation (SAV) typically establishes in shallower areas during the summer.

Occasionally, localized leaks from a septic tank in the recreation area occur during high water events of three feet or higher. Parts of the recreation area are closed during this time because flooding tends to cover many of the recreation area's lands. The Curwensville Lake staff perform weekly *Escherichia coli* tests to ensure the water quality is safe for swimming in the lake and it is very rare that the beach will close for *E.coli* levels (only closed once, but sampling error was the likely explanation).

Some sources of acid mine drainage exist upstream and downstream of the lake. Presently, these have a minimal effect on the lake's water quality. However, there are still two continuing concerns about mitigating acid main drainage and they are, the potential for large releases to cause an acid slug (concentrated acidic water) on the West Branch Susquehanna River downstream from the dam, and the need to dilute increases in acidic water entering the West Branch Susquehanna River from tributaries downstream of the dam. While conditions have improved in the past decade, acidic conditions remain a concern.

3.2.1.3 Floodplains

Floodplains are areas of land adjacent to rivers and streams that convey overflows during flood events. The Federal Emergency Management Agency (FEMA) defines a floodplain as being any land area susceptible to being inundated by water from any source (FEMA 2017). FEMA prepares Flood Insurance Rate Maps (FIRM) that delineate flood hazard areas, such as floodplains, for communities. These maps are used to administer floodplain regulations and to reduce flood damage. Typically, these maps indicate the locations of 100-year floodplains. EO 11988, Floodplain Management, states that actions by federal agencies are to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative.

The National Flood Insurance Program (NFIP) requires state jurisdictions to issue permits for all development in the 100-year floodplain, as depicted on maps issued by FEMA. Development is broadly defined to include any man-made change to land, including grading, filling, clearing, dredging, extraction, storage, subdivision of land, and construction and improvement of structures and buildings. For any development to take place, all necessary permits must be obtained, which may include federal and state permits, as well as the local

permits. To be properly permitted, proposed development may not increase flooding or create a dangerous situation during flooding, especially on another person's property. If a structure is involved, it must be constructed to withstand damage during flooding events. The Pennsylvania Department of Environmental Protection (PADEP) is responsible for issuing floodplain development permits in Pennsylvania. FEMA classifies this area as Zone A (1% annual chance of flooding) (FIRM# 42033C0460D, 42033C0465D & 42033C0470D).

3.2.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2022 Master Plan and no new land classifications, or future development projects contained within the proposed 2022 Master Plan would occur. The operation and management of Curwensville and USACE lands would continue as outlined in the 1968 Master Plan. Although this alternative does not result in a 2022 Master Plan that meets current regulations and guidance, there would be no significant impacts to resources on project lands.

3.2.3 Proposed Action – Environmental Consequences

The reclassifications of land use required for the Proposed Action would result in none/negligible impact to the resources within the project area. Table 3-1 summarizes potential effects based on the proposed changes to land classifications and implementation of future master planning projects. These master planning projects are conceptual in nature and implementation of these would require further analysis under a separate NEPA document.

Table 3-1. Potential Water Resource Impacts Associated with Changes to Land Classifications and Implementation of Future Master Planning Projects

Classification	Potential for Impact
Project Operations	**Beneficial impact.** New or on-going projects consist of replacing safety railing at various locations throughout the operations area and resealing of pavement on top of the dam and parking areas. There will be beneficial impact to water resources from the 56.8 acres reclassification to Vegetation Management along Curwensville Tyrone Highway.
High Density Recreation	**Beneficial impact.** Future projects would occur within and adjacent to existing developed and intensively used areas, specifically to support recreation (managed by Clearfield County)*. No surface water or wetland resources are located within this land classification; however, use within these areas could indirectly affect surface water quality through erosion and sedimentation or increased runoff due to increased impervious surface. Construction and operations of future master planning projects would use best management practices (BMPs) associated with prevention of erosion and control of stormwater runoff. This includes obtaining a National Pollution Discharge Elimination System (NPDES) permit for projects involving earth disturbances exceeding one acre. Surface waters and wetlands, if present, would be avoided or permitted through the Section 404 process. USACE would consider the presence of the 100-year floodplain in design and siting future master planning projects within floodplain areas. While high density recreation can impact water quality due to potential erosion, the reduction in acres classified as high density recreation areas will beneficially impact water resources.
Multiple Resource Management Land	
Low Density Recreation	**None/Negligible Impact.** None/negligible impacts are expected to water resources from the land reclassification from former 1968 Wildlife Management lands. Construction and operations of future master planning projects* would use BMPs associated with prevention of erosion. Siting of hiking trails and shoreline access points would avoid disturbance to surface waters and wetlands. Any unavoidable impacts to water resources would be permitted through the Section 404 process.
Wildlife and Forest Management	**None/Negligible Impact.** Wildlife management activities will continue to occur throughout the Curwensville Lake Project area. None/negligible impacts on water resources are expected from this change in the land classification.
Vegetation Management	**Beneficial impact**. Beneficial impacts on water resources are expected from this land reclassification of former 1968 Wildlife Management lands and from some reclassification of former 1968 Project Operations lands.
Water Surface	
Designated No-Wake	**Beneficial impact.** This reclassification reflects new classification criteria and reflects the current water use practices. This reclassification will beneficially impact water resources.

Classification	Potential for Impact
Restricted	**None/Negligible Impact.** This reclassification reflects new land classification criteria and reflects the current water use practices. None/negligible impacts to water resources would occur.
Open Recreation Area	**None/Negligible Impact.** This reclassification reflects new classification criteria and reflects the current water use practices. None/negligible impact to water resources would occur.

** Any recreational improvements will be reviewed by USACE (including NEPA), but will be funded by Clearfield County and its partners.*

3.3 SOILS

3.3.1 Affected Environment

Soil complexes within the Curwensville Lake project area range from occasionally flooded soils to extremely stony. Some of the soils commonly seen in floodplains that are occurring within the Curwensville study area are Atkins silt loam (At), Philo silt loam (Ph), and Pope loam (Po). Although, most of the soils found within the study area are located on gradual slopes such as, Allegheny silt loam (AlB), Cavode silt loam (CaB), Monongahela silt loam (MoB), and Tyler silt loam (TyB) to name a few. There are some instances where moderately to very steep slopes occur, such as the Cedarcreek extremely channery loam (95D), Ernest silt loam (ErD), and Rayne-Gilpin complex (RcD).

3.3.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2022 Master Plan and no new land classifications, or future development projects contained within the proposed 2022 Master Plan would occur. The operation and management of Curwensville Reservoir and USACE lands would continue as outlined in the 1968 Master Plan. Although this alternative would not result in a 2022 Master Plan that meets current regulations and guidance, there would be no significant impacts to soil resources on project lands.

3.3.3 Proposed Action – Environmental Consequences

The land reclassifications required for the Proposed Action would result in none/negligible impact to soil resources. Table 3-2 summarizes potential effects to soil resources based on the proposed changes to land classifications and implementation of future master planning projects. These master planning projects are conceptual in nature and implementation of these would require further analysis under a separate NEPA document.

Table 3-2. Potential Soil Resource Impacts Associated with Changes to Land Classifications and Implementation of Future Master Planning Projects

Classification	Potential for Impact
Project Operations	**Beneficial impact.** New or on-going projects consist of replacing safety railing at various locations throughout operations area and resealing of pavement on top of the dam and parking areas. There will be beneficial impact to soil resources from the 56.8 acres reclassification to Vegetation Management along Curwensville Tyrone Highway.
High Density Recreation	**Beneficial impact.** Future projects would occur within and adjacent to existing developed and intensively used areas, specifically to support recreation (managed by Clearfield County) *. Use within these areas could directly impact soils through compaction and increased erosion potential due to recreational use and loss of soils from future development projects. Potential impacts, however, would be concentrated within areas already developed intensively for recreation, and therefore no new losses to areas of Prime Farmland or Farmland of Statewide Importance are anticipated. Construction and operations of future master planning projects would use BMPs associated with prevention of and control of erosion. USACE would consider the potential for erosion and occurrence of Prime Farmland soils in design and siting future master planning projects. While high density recreation can impact soil resources, the reduction in acres classified as high density recreation areas will beneficially impact soil resources.
Multiple Resource Management Land	
Low Density Recreation	**None/Negligible Impact.** Future projects in this area may cause minor erosion due to trail use and access to shoreline areas. Construction and operations of future master planning projects* would use BMPs associated with prevention of erosion. None/negligible impacts are expected to soil resources from the land reclassification from former 1968 Wildlife Management lands.
Wildlife and Forest Management	**None/Negligible Impact.** Wildlife management activities will continue to occur throughout the Curwensville Lake project area. None/negligible impacts on soil resources are expected from this change in land classification.
Vegetative Management	**Beneficial Impact**. Beneficial impacts on soil resources are expected from this land reclassification of former 1968 Wildlife Management lands and from some reclassification of former 1968 Project Operations lands.
Water Surface	
Designated No-Wake	**Beneficial Impact.** This reclassification reflects new classification criteria and reflects the current water use practices. This reclassification will beneficially impact soil resources on shorelines.
Restricted	**None/Negligible Impact.** This reclassification reflects new classification criteria and reflects the current water use practices. None/negligible impacts to soils would occur.

Classification	Potential for Impact
Open Recreation Area	**None/Negligible Impact.** This change reflects new classification criteria and no actual change in water use; therefore, None/negligible impact to soils would occur.

** Any recreational improvements will be reviewed by USACE (including NEPA) but will be funded by Clearfield County and its partners*.

3.4 BIOLOGICAL RESOURCES

3.4.1 Affected Environment

3.4.1.1 Vegetation

The Curwensville Lake Project supports numerous types of vegetation and habitats, including wetlands, open water, grassy areas, fields, and forests. According to the U.S. Forest Service (USFS), North Central Pennsylvania is characterized by more forest than any other cover type. The primary forest types present are deciduous forests, with significant amounts of mixed and evergreen forests. Other major cover types include pasture/hay and cultivated crops. Nearly 50 percent of the forests in North Central Pennsylvania belong to the maple/beech/birch group (50 percent of forests). The primary species within this group include red maple, sugar maple, and black cherry. Other forest groups present in North Central Pennsylvania are the oak/hickory, white pine/red pine/hemlock, and aspen/birch groups. Several types of wetlands and open water features are present throughout the Project and include riverine, lacustrine, palustrine, and emergent systems (USFWS, 2020b). Each wetland classification creates a unique ecosystem for specific types of wetland plants and wildlife. In addition, wetland vegetation provides several beneficial uses which include enhancing water quality, filtering runoff, preventing localized erosion, and providing habitat and food sources for wildlife.

3.4.1.2 Wildlife and Fisheries

The Curwensville Lake Project provides an abundance of habitat for various types of wildlife. Mammalian wildlife found on Project lands include white-tailed deer (*Odocoileus virginianus*), bobcat (*Lynx rufus*), river otter (*Lontra canadensis*), Eastern cottontail rabbit (*Sylvilagus floridanus*), fisher (*Pekania pennanti*), grey squirrel (*Sciurus carolinensis*), and groundhogs (*Marmota monax*). Common avian species include a variety of waterfowl and wading birds, woodpeckers and songbirds, as well as common game species including wild turkey (*Meleagris gallopavo*) and ruffed grouse (*Bonasa umbellus*) (DCNR, 2018). The PGC has a license to perform wildlife management activities on approximately 2,195.3 acres over the Curwensville Project Area. The PGC manages wildlife populations through maintaining fields (e.g., mowing), gates, fruit trees, signage, food plots, and nesting structures, removal of fallen trees, and turkey tagging.

Curwensville Lake and its tributaries support healthy populations of many native and stocked fish species. Species that are present within the reservoir include small and largemouth bass (*Micropterus dolomieu* and *Micropterus salmoides*), panfish (*Centrarchidae spp*.), tiger muskellunge (*Esox masquinongy X Esox lucius*), northern pike (*Esox lucius*), walleye (*Sander vitreus*), black crappie (*Pomoxis nigromaculatus*), brown bullheads (*Ameiurus nebulosus*), and channel catfish (*Ictalurus punctatus*) among others. Access to the lake for fishing is available throughout the year. The Pennsylvania Fish and Boat Commission (PFBC) manages the lake's

fishery and stocks tiger muskellunge fingerlings in alternate years. Artificial fish habitat structures have been placed in the lake to improve its fishery and angling opportunities. Curwensville Lake supports recreational fisheries for bass, panfish, and tiger muskellunge. PFBC biologists sample the lake's fish populations periodically to guide management of the reservoir's fishery resources (DCNR 2020).

3.4.1.3 Threatened and Endangered Species

3.4.1.3.1 Federally-Listed Species

As of 2020, three federally-listed threatened or endangered species are known to exist within the project impact area, the Indiana bat (*Myotis sodalis*), the Northern long-eared bat (*Myotis septentironalis*), and northeastern bulrush (*Scirpus ancistrochaetus*) (USFWS 2020a).

The Indiana bat is a small bat weighing only one-quarter of one ounce that was listed in 1967 and remains listed as federally endangered. In winter, Indiana bats hibernate in caves and mines. In summer, their habitat includes small to medium river and stream corridors with well-developed riparian woods, woodlots within 1 to 3 miles of small to medium rivers and streams, and upland forests. Major threats to their populations include winter disturbance of hibernacula, commercialization of caves, pesticides and other contaminants, summer habitat destruction and mortality due to the white-nose syndrome fungus (USFWS 2019).

Northern long-eared bats are medium sized bats (about 3-4 inches in length) associated with mature, interior forest environments. Unlike most other bats, northern long-eared bats forage along wooded hillsides and ridgelines – not above valley-bottom streams and along the edges of riparian forests. The species is listed as threatened throughout its range, primarily due to impacts of white-nose syndrome. Populations at northern long-eared bat hibernation sites have declined by 99 percent since the discovery of white-nose syndrome. Forest fragmentation and conversion are also major threats to the species due to its association with large blocks of mature forest (USFWS 2020a).

3.4.1.3.2 Pennsylvania State Threatened and Endangered Species

According to the Pennsylvania Natural Heritage Program screening tool, the state threatened Allegheny woodrat (*Neotoma magister*) is known to occur in the project area (PNDI, 2020).

The Allegheny woodrat is listed as threatened in Pennsylvania and vulnerable nationally. They are related to packrats found in the Western United States and can be distinguished from common Norway rats based on their furred tail, larger ears and eyes, heavier head, and longer whiskers. Their preferred habitat includes extensive expanses of abundant, closely spaced surface rock surrounded by unfragmented forest. While they may be found in deciduous, coniferous, or mixed forests, mast-producing trees are important as a food source. Rocky areas are important habitat for Allegheny woodrats, as they nest deep within rock outcrops, use rock crevices and protected ledges for storing food, and establish latrines on flat rock surfaces protected by an overhang. Several factors are thought to have contributed to the population's decline, including the decline of the mast producing trees, such as the American chestnut (reduced by chestnut blight) and oak trees (reduced by gypsy moth infestations); infection by the racoon roundworm parasite; predation pressure from increasing great horned owl populations; competition with growing porcupine populations for habitat;

and forest fragmentation. Populations in some of the Allegheny woodrat's range, including North Central Pennsylvania, are thought to be relatively healthy (Butchkowski 2014).

3.4.1.4 Other Protected Species

Bald Eagles (*Haliaeetus leucocephalus*), a previously federally and Pennsylvania state-listed endangered species, were removed from the federal list in August 2007 and Pennsylvania's list in 2013. Although this species is not listed as an endangered or threatened species, it is protected under the Bald and Golden Eagle Protection Act, as noted by the USFWS Information for Planning and Consultation (IPaC) system (USFWS 2020a). According to Cornell Lab of Ornithology's (2020) and Curwensville State Park staff, both immature and adult Bald Eagles were sighted at Curwensville Reservoir during the 2020 breeding season.

The timber rattlesnake (*Crotalus horridus*) is state protected species in Pennsylvania. Pennsylvania. Killing timber rattlesnakes is prohibited by PFBC. Timber rattlesnakes are large snakes of the pit viper family that can be identified by their "V"-shaped dark bands on a grey, yellow, black or brown body. In Pennsylvania, timber rattlesnakes are typically found at elevations greater than 1,800 feet. They prefer southern-facing upland forested areas with talus slopes, rocky ledges and outcrops, and boulder fields, which are used for basking (thermoregulation), and dens. Threats to timber rattlesnake populations include human activities related to habitat alteration, overhunting and poaching (Urban 2004).

3.4.1.5 Invasive and Nuisance Species

Invasive species are non-native species whose introduction into an ecosystem is likely to cause environmental, human, or economic harm. Non-native species may not be affected by existing predators, disease, or other limiting factors in their introduced range and therefore may thrive and outcompete native species. Non-native invasive species are therefore often difficult and expensive to manage (NWF, 2020). The Curwensville Lake and associated lands are experiencing several terrestrial invasive species. No aquatic invasive species are documented within the lake. Some of the invasive and nuisance species found at the project area are described below.

Species native to eastern Asia have been observed within and/or adjacent to the Project area. The emerald ash borer (*Agrilus planipennis Fairmarie*), for example, was destructive for many years at the Project area before the host species (*Fraxinus* spp.) populations became too low to support emerald ash borer populations. Other invasive insect pests found in surrounding regions that may affect the Project area in the future include the hemlock wooly adelgid (*Adelges tsugae*) and the spotted lanternfly (*Lycorma delicatula*). The Spotted lanternfly was found in Pennsylvania in 2014 and has since spread to 34 counties, all of which are under a state-imposed quarantine. Clearfield County is not one of the counties that are affected yet; however, neighboring counties to the south and southeast are showing large numbers of the invasive pest (USDA Penn. 2020).

Both invasive and native nuisance bird species are present in the project area. The European starling (*Sturnis vulgaris*) was introduced to Central Park, New York City in 1890 and is now a common resident of both urban and rural areas in the United States. European starlings outcompete native cavity nesting species by evicting birds occupying a cavity and using it for their own nests (USDA APHIS 2017). Starlings are present in the project but are not actively

managed. Canada geese have been historically problematic at the Project area and there are concerns of the geese causing elevated E. coli levels in the lake. The Curwensville Recreation Areas are proposing nonlethal population control including harassment and egg addling, but these methods have yet to be implemented.

Zebra Mussels (*Dreissena polymorpha*) were initially discovered at Curwensville Lake in March 2013, attached to the trash racks at the intake tower. The density and abundance of the Zebra Mussel population were characterized as low and sparse. Project staff has monitored the lake since the initial discovery and noted a decline in the population. No Zebra Mussels were seen from 2018 to 2020. In April 2021, Zebra Mussels were spotted on woody debris that had been recently removed from the base of the intake tower. Coordination with PFBC's Aquatic Invasive Species Coordinator has been initiated and the siting of the Zebra Mussels at the lake has been documented on both the State of Pennsylvania's Invasive Species website (https://www.paimapinvasives.org/) and the U.S. Geological Service Nonindigenous Aquatic Species website (https://www.nas.er.usgs.gov/). The USACE and Curwensville Lake park staff will continue to monitor the lake for the presence, density, and abundance of the species and continue to coordinate with PFBC.

3.4.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2022 Master Plan and no new land classifications or future development projects contained within the proposed 2022 Master Plan would occur. The operation and management of the Curwensville Lake Project would continue as outlined in the 1968 Master Plan. Although this alternative does not result in a 2022 Master Plan that meets current regulations and guidance, there would be no significant impacts to biological resources on project lands.

3.4.3 Proposed Action – Environmental Consequences

The land reclassifications required for the Proposed Action would result in none/negligible impacts to beneficial impacts to biological resources. Table 3-3 summarizes potential effects to biological resources based on the proposed changes to land classifications and implementation of future master planning projects. These master planning projects are conceptual in nature and implementation of these would require further analysis under a separate NEPA document.

Table 3-3. Potential Biological Resource Impacts from Changes to Land Classifications and Implementation of Future Master Planning Projects

Classification	Potential for Impact
Project Operations	**Beneficial impact.** New or on-going projects consist of replacing safety railing at various locations throughout operations area and resealing of pavement on top of the dam and parking areas. There will be beneficial impact to biological resources from the 56.8 acres reclassification to Vegetation Management along Curwensville Tyrone Highway.
High Density Recreation	**Beneficial impact.** Future projects would occur within and adjacent to existing developed and intensively used areas, specifically to support recreation (managed by Clearfield County)*. Land use within these areas could directly impact vegetation and wildlife habitat from recreational development and use. Potential impacts, however, would be concentrated within existing high density recreation areas. The Master Plan does not propose any loss of forest due to recreational development. While intensive use may increase the potential for invasive species introduction and spread, maintaining a high density recreation area focuses management and control of invasive species in higher use areas which would have the greater potential for presence of invasive species. Construction and operations of future master planning projects would use any BMPs associated with prevention of impacts to sensitive species recommended during future separate environmental review of projects proposed in the 2022 Master Plan. While high density recreation can impact biological resources, the reduction in acres classified as high density recreation areas will beneficially impact biological resources.
Multiple Resource Management Land	
Low Density Recreation	**None/Negligible impact.** Future projects would have minor impacts on biological resources, primarily resulting from potential minor amounts of vegetation crushing or removal due to trail use, access to shoreline areas, and implementation of other proposed master planning projects in the area. Construction and operations of future master planning projects* would use any BMPs associated with prevention of impacts to sensitive species recommended during future separate environmental review of projects proposed in the 2022 Master Plan. Construction and operations of future master planning projects* would use BMPs associated with prevention of erosion. Siting of hiking trails and shoreline access points would avoid disturbance to surface waters and wetlands. Any unavoidable impacts would be permitted through the Section 404 process. While low density recreation can impact biological resources, none/negligible impacts are expected to biological resources from the land reclassification from former 1968 Wildlife Management lands.
Wildlife and Forest Management	**None/Negligible impact.** Wildlife management activities will continue to occur throughout the Curwensville Lake project area. None/negligible

Classification	Potential for Impact
	impacts on biological resources are expected from this change in land classification.
Vegetative Management	**Beneficial Impact.** Beneficial impacts on biological resources are expected from this land reclassification of former 1968 Wildlife Management lands and from some reclassification of former 1968 Project Operations lands.
Water Surface	
Designated No-Wake	**Beneficial Impact.** This reclassification reflects new classification criteria and reflects the current water use practices. This reclassification will beneficially impact biological resources in and around Curwensville Lake.
Restricted	**None/Negligible impact.** This reclassification reflects new classification criteria and reflects the current water use practices. None/negligible impacts to biological resources would occur.
Open Recreation Area	**None/Negligible impact.** This change reflects new classification criteria and no actual change in water use; therefore, None/negligible impacts to biological resources would occur.

** Any recreational improvements will be reviewed by USACE (including NEPA) but will be funded by Clearfield County and its partners*.

3.5 LAND USE AND RECREATION

3.5.1 Affected Environment

The primary function of the Curwensville Lake Project is flood risk management, but the project also supports recreation opportunities. Visitors at Curwensville Lake Project take part in a wide range of recreational activities such as, fishing, viewing natural features, sightseeing, walking and hiking, camping, picnicking and family gatherings, swimming, etc. Existing recreational facilities include a picnic/day use area with pavilions, sanitary facilities, camp sites, hiking trails, disc golf, playgrounds, beach, dog swimming area, dog park, sports and open fields, a boat mooring area, and boat launch. USACE maintains the recreational pool at 1,162 feet PCD year-round, which provides visitors boating, fishing, and swimming opportunities.

Portions of the Curwensville Lake Project not used for operation and maintenance of the Curwensville Dam are leased to Clearfield County and licensed to the PGC. Clearfield County operates and maintains the Curwensville Lake recreation area. The PGC maintains wildlife populations and habitat areas upstream and around the Curwensville Lake. The Pennsylvania Fish and Boat Commission (PFBC) manages the lake's fishery and stocks tiger muskellunge fingerlings in alternate years. Species that are present within the reservoir include small and largemouth bass (*Micropterus dolomieu* and *Micropterus salmoides*), panfish (*Centrarchidae* spp), tiger muskellunge (*Esox masquinongy X Esox Lucius*), northern pike (*Esox Lucius*), walleye (*Sander vitreus*), black crappie (*Pomoxis nigromaculatus*), brown bullheads (*Ameiurus nebulosus*), and channel catfish (*Ictalurus punctatus*) among others. A number of artificial fish habitat structures have been placed in the lake to improve its fishery and angling opportunities. Curwensville Lake supports recreational fisheries for bass, panfish, and tiger muskellunge. PFBC biologists sample the lake's fish populations periodically to guide management of the reservoir's fishery resources (DCNR 2020).

3.5.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2022 Master Plan and no new land classifications, or future development projects contained within the proposed 2022 Master Plan would occur. The operation and management of Curwensville Reservoir and USACE lands would continue as outlined in the 1968 Master Plan and there would be no short-, and mid-range planning of future projects for recreational improvements and development at the Curwensville Lake Project. Therefore, the No Action Alternative is anticipated to have none/negligible impacts to minor negative impacts to land use and recreation. Although this alternative does not result in a 2022 Master Plan that meets current regulations and guidance regarding land classifications, there would be no significant impacts to land use and recreation.

3.5.3 Proposed Action – Environmental Consequences

The reclassifications required for the Proposed Action would result in none/negligible impact to beneficial impacts to recreation. Table 3-4 summarizes potential effects to biological resources based on the proposed changes to land classifications.

Table 3-4. Potential Land Use and Recreation Impacts from Changes to Land Classifications

Classification	Potential for Impact
Project Operations	**Beneficial impact.** New or on-going projects consist of replacing safety railing at various locations throughout operations area, and resealing of pavement on top of the dam and parking areas. There will be beneficial impact to recreation from the 56.8 acres reclassification to Vegetation Management along Curwensville Tyrone Highway because it opens the land for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber.
High Density Recreation	**Beneficial impact.** Future projects would occur within and adjacent to existing developed and intensively used areas, specifically to support recreation (managed by Clearfield County)*. The reduction of intensive recreation acres leaves other acreages available for other uses such as low density recreation. Thus, benefiting the range of recreation opportunities available.
Multiple Resource Management Land	
Low Density Recreation	**Beneficial impact.** The new land classification identifies recreation as a primary use; however, vegetation and wildlife management also occur as important secondary uses throughout this classification. This new classification will benefit low density recreation opportunities.
Wildlife and Forest Management	**None/Negligible impact.** Wildlife management activities will continue to occur throughout the Curwensville Lake project area. None/negligible impact to recreation expected from this change in land classification.
Vegetative Management	**Beneficial Impact.** In general, vegetative resources on USACE lands are managed for multiple purposes, including wildlife habitat, recreational activities in parks, landscape aesthetics, and timber. This new classification would assist USACE with their goal of protection and management of natural resources while beneficially allowing for some recreational opportunities.
Water Surface	
Designated No-Wake	**Beneficial Impact.** This reclassification will beneficially impact recreation in and around Curwensville Lake by protecting natural, man-made, and human resources.
Restricted	**Beneficial Impact.** This reclassification will beneficially impact recreation in and around Curwensville Lake by designating the areas not safe for recreation on Curwensville Lake.
Open Recreation Area	**Beneficial Impact.** This reclassification will beneficially impact recreation in and around Curwensville Lake by designating the safe areas to operate boats above the No Wake speeds designated.

** Any recreational improvements will be reviewed by USACE (including NEPA) but will be funded by Clearfield County and its partners*.

3.6 ADDITIONAL RESOURCES NOT ANALYZED IN THIS EA

Impacts on the following resources were determined to be negligible; therefore these resources were not further analyzed in this EA.

3.6.1 Air Quality

The Curwensville Lake Project is in Clearfield County, Pennsylvania which meets attainment for all criteria pollutants, therefore the Clean Air Act's General Conformity Rule does not apply. Changes to land classifications under the Proposed Action would not affect air quality. Implementation of future master planning projects may generate temporary emissions from construction activities, including particulate matter and other criteria pollutants. Future development and increased recreational opportunities may also generate increased visitation and corresponding vehicle emissions. These impacts are outside the scope of this EA and will be evaluated under future EAs as funding becomes available to implement the future master planning projects. As a result, this resource area is not discussed further in this EA.

3.6.2 Greenhouse Gases and Climate

The Curwensville Lake Project is geographically located within the National Oceanic and Atmospheric Administration (NOAA) Climate Division 36-07 – Pennsylvania Central Mountains (NOAA 2020.). This area is characterized by a temperate climate, with the average annual temperature being between 38- and 58-degrees Fahrenheit and an average annual precipitation of 41.6 inches. Changes to land classifications under the Proposed Action would not affect greenhouse gas emissions or climate. Potential greenhouse gas emissions and climate change impacts associated with the implementation of future master planning projects will be evaluated in the future associated with project development and are outside of the scope of this EA. As a result, this resource area is not discussed further in this EA.

3.6.3 Geology and Topography

The Curwensville Lake Project is located within the Pittsburgh Low Plateau Section of the Appalachian Plateaus Province, which is characterized by smooth to irregular, undulating surface; narrow, relatively shallow valleys; strip mines and reclaimed land. The underlying rock type consists of shale, siltstone, sandstone, limestone, and coal. The origin of the landforms come from fluvial erosion; periglacial mass wasting and strip mining (Sevan 2000). Changes to land classifications under the Proposed Action would not affect geology or topography. Construction activities associated with implementation of proposed future projects will be evaluated for impacts to geology and topography during the project planning process. As a result, this resource area is not discussed further in this EA.

3.6.4 Groundwater

Changes to land classifications will not adversely affect the quality or availability of groundwater. Assessment of future master planning project's water use would be performed during detailed project-specific planning. Therefore, groundwater resources are not discussed further in this EA.

3.6.5 Noise

The Project area is in a physical setting characterized as rural. In rural areas, most noise comes from transportation, farming operations, and other miscellaneous human and animal sources. Changes to land classifications under the Proposed Action would not change the existing noise environment. Assessment of any future master planning project's impact on noise would be performed during detailed project-specific planning. As a result, this resource area is not discussed further in this EA.

3.6.6 Cultural Resources

The ROI for the Curwensville Lake Project includes potential cultural resources within and adjacent to (i.e., within 50 feet) of master planning project footprints. The cultural resource analysis includes a Threshold of Significance, which is defined as significant impacts to cultural resources that have the potential to occur within the project footprints. Significant impacts to cultural resources would occur if the Proposed Action:

1. Causes substantial adverse change in the significance of historical or archaeological resources as defined in the National Historic Preservation Act (NHPA); or
2. Disturbs any human remains, including those buried outside of formal cemeteries.

There are 22 known archaeological sites within the Curwensville Dam project area. Eleven sites were documented through informant or amateur archaeological survey and feature unidentified prehistoric components. Three sites are associated with work completed as part of a Pennsylvania Historical and Museum Commission (PHMC) research grant and are associated with unidentified prehistoric components. Three sites were documented through institutional-affiliated research and are associated with unidentified prehistoric components. Four sites were documented as part of Section 106 compliance excavations; two of these are nineteenth and early twentieth century, while the other two feature unidentified prehistoric components. One site originates from an unknown project but featured an unidentified historic component.

Known architectural or above-ground resources are associated with the Curwensville Dam such as the assistant dam tender's residence, the main office and maintenance building, the intake tower, spillway, and earthen embankment. Other above-ground resources include those associated with the Curwensville recreation area such as the main office, comfort stations, campgrounds, boat launches, and a beach. The Curwensville Dam and its associated structures are currently being evaluated to determine its eligibility for inclusion in the National Register of Historic Places (NRHP).

There are no known historic structures or archaeological sites within the Project footprints that are eligible for or listed in the NRHP. Structures present before the Project were razed as part of dam construction. If specific project actions are proposed in the future due to changes in land classification, they will be subject to consultation and review under Section 106 of the NHPA. As a result, this resource area is not further discussed in this EA and is dismissed from further analysis.

3.6.7 Utilities

Changes to land classifications under the Proposed Action would not affect utilities. An assessment of utilities associated with any future master planning projects would be performed during detailed project-specific planning. Therefore, utilities are not discussed further in this EA.

3.6.8 Hazardous Materials and Wastes

An ammonium sulfate incident was reported in 1987, 1988, and 1989 adjacent to but outside of the Project area. A Toxic Release Inventory (TRI) report was filed in 1989 (TRI # 16833SPRRGCOOPE). The incident occurred at RTE 2 Cooper Road, Curwensville, PA 16833 and at the time of the incident, the facility name was Superior Brands Inc. The incident has

been rectified and no known contaminated sites have occurred since this incident within the Project area (US EPA 2020a). Changes to land classifications under the Proposed Action would not affect hazardous materials and wastes. An assessment of hazardous materials and wastes associated with any future master planning projects would be performed during detailed project-specific planning. As a result, this topic is not discussed further in this EA.

3.6.9 Socioeconomics and Environmental Justice

The Proposed Action would not result in any appreciable effects to the local or regional socioeconomic environment. Changes to land classification would have no impact on socioeconomics or environmental justice. Impacts to socioeconomics and environmental justice associated with any future master planning projects would be assessed during detailed project-specific planning. As a result, this resource area is not discussed further in this EA.

3.6.10 Traffic and Transportation

Changes to land classification would have no impact on traffic and transportation. Any temporary impacts from increased truck traffic during construction of future master planning projects would be assessed during detailed project-specific planning. As a result, traffic and transportation are not discussed further in this EA.

4 CUMULATIVE IMPACTS

As defined by CEQ, cumulative effects are those that "result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, without regard to the agency (federal or non-federal) or individual who undertakes such other actions" (40 CFR 1508.7(2019)). Cumulative effects analysis captures the effects that result from the Proposed Action in combination with the effects of other actions taken during the duration of the Proposed Action at the same time and place. Cumulative effects may be accrued over time and/or in conjunction with other pre-existing effects from other activities in the area (40 CFR 1508.25); therefore, pre-existing impacts and multiple smaller impacts should also be considered. Overall, assessing cumulative effects involves defining the scope of the other actions and their interrelationship with the Proposed Action to determine if they overlap in space and time.

The geographic scope or region of the cumulative effects analysis includes the county the project is located in (Clearfiled County) and its surrounding counties (Centre, Cambria, Indiana, Jefferson, Elk, Cameron, and Clinton counties). The temporal scope is 15 to 25-year timeframe.

The NEPA and CEQ regulations require the analysis of cumulative environmental effects of a Proposed Action on resources that may often manifest only at the cumulative level. Cumulative effects can result from individually minor, but collectively significant, actions taking place. As noted above, cumulative effects are most likely to arise when a Proposed Action is related to other actions that could occur in the same location and at a similar time.

The Proposed Action focuses solely on the implementation of the proposed land classifications presented in the 2022 Master Plan. This EA does not consider implementation of specific projects identified within the 2022 Master Plan during the master planning process, as those projects are conceptual in nature, nor does it consider specific future development opportunities for leased areas, such as Kettle Creek State Park. Projects identified during the master planning process within the 2022 Master Plan would require separate NEPA analyses prior to construction.

4.1 CURRENT AND REASONABLY FORESEEABLE PROJECTS WITHIN AND NEAR THE ROI

This section identifies reasonably foreseeable projects that may have cumulative, incremental impacts in conjunction with the Proposed Action. Beyond the future master planning projects identified in the 2022 Master Plan, no other projects were identified within or near the Project area that would lead to cumulative impacts.

4.2 ANALYSIS OF CUMULATIVE IMPACTS

Impacts on each resource were analyzed according to how other actions and projects within the ROI might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment.

As discussed above, minimal growth and development are expected to continue near Curwensville Lake. No cumulative impacts from this administrative action on resources are

expected when added to the impacts of activities associated with the Proposed Action or No Action Alternative or from the potential projects identified in the 2022 Master Plan.

5 IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

NEPA requires that federal agencies identify "any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented" (42 U.S. Code § 4332). An irreversible commitment of resources occurs when the primary or secondary impacts of an action result in the loss of future options for a resource. Usually, this is when the action affects the use of a nonrenewable resource, or it affects a renewable resource that takes a long time to renew. The impacts for this project from the reclassification of land use or future master planning projects centered on recreation enhancement and development would not be considered an irreversible commitment because much of the land could be converted back to prior use at a future date. An irretrievable commitment of resources is typically associated with the loss of productivity or use of a natural resource (e.g., loss of production or harvest). No irreversible or irretrievable impacts are anticipated from implementation of the 2022 Master Plan.

6 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 6-1 presents a summary of the environmental consequences by the alternative analyzed in this EA. As discussed in Chapter 4, selection of the Proposed Action Alternative would not be anticipated to cause cumulative adverse impacts. Table 6-2 presents conservation measures recommended within Chapter 3.

Table 6-1. Summary of Potential Environmental Effects

Alternative	Impact Type*			Intensity of Impact		
	Beneficial	None/Negligible	Negative	Minor	Moderate	Significant
Water Resources						
No Action Alternative		X				
Proposed Action Alternative	X	X				
Soil Resources						
No Action Alternative		X				
Proposed Action Alternative	X	X				
Biological Resources						
No Action Alternative		X				
Proposed Action Alternative	X	X				
Land Use and Recreation						
No Action Alternative		X	X	X		
Proposed Action Alternative	X	X				

**Impacts on resource categories are based on applicable land classifications changes. Section 3 describes anticipated impacts from changes to land classification under the Proposed Action alternative.*

Table 6-2. Conservation Measures for Future Master Planning Projects

Measure	Resource Protected
Construction and operations of future master planning projects would use best management practices (BMPs) associated with prevention of erosion and control of stormwater runoff. This includes obtaining a National Pollutant Discharge Elimination System (NPDES) permit for projects involving earth disturbances exceeding one acre.	Water and Soil
Surface waters and wetlands, if present, would be avoided or permitted through the Section 404 process.	Water
USACE would consider the presence of the 100-year floodplain in design and siting future master planning projects within floodplain areas.	Water
USACE would consider the potential for erosion and occurrence of Prime Farmland soils in design and siting future master planning projects.	Soil
Construction and operations of future master planning projects would use BMPs associated with the prevention of impacts to sensitive species recommended by resource agencies during future environmental review of projects proposed in the 2022 Master Plan.	Biological
Impacts to sensitive receptors (e.g., adjacent residences and campers) would be minimized as these activities would be restricted to the daytime and would be temporary in nature	Noise Environment
Per the facility's Integrated Cultural Resources Management Plan, if any human remains or cultural items are found within or adjacent to Curwensville Dam and Reservoir that may be demonstrably related to one of the recognized tribal entities, then Public Law 101-601, the Native American Grave Protection and Repatriation Act, would be implemented and the affected group contacted.	Cultural Resources

Table 6-3 summarizes the level of compliance of the proposed alternative with environmental protection statutes and other environmental regulations. Based on the evaluation of project impacts described in Section 3, there are no significant impacts from the proposed action, and a Finding of No Significant Impact (FONSI) has been prepared.

Table 6-3. Compliance of the Proposed Action with Environmental Protection Statutes and Other Environmental Requirements

Federal Statutes	Level of Compliance
Anadromous Fish Conservation Act	Full
Archeological and Historic Preservation Act	N/A
Clean Air Act	N/A
Clean Water Act	N/A
Coastal Barrier Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	N/A
Endangered Species Act	Full
Estuary Protection Act	N/A
Farmland Protection Policy Act	Full
Federal Water Project Recreation Act	Full
Fish and Wildlife Coordination Act	Full
Land and Water Conservation Fund Act	N/A
Magnuson-Stevens Act	N/A
Marine Mammal Protection Act	N/A
Marine Protection, Research and Sanctuaries Act	N/A
Migratory Bird Treaty Act	Full
National Environmental Policy Act	Full
National Historic Preservation Act	Full
Noise Control Act	Full
Resource Conservation and Recovery Act	N/A
River and Harbors Act	N/A
Safe Drinking Water Act	N/A
Solid Waste Disposal Act	N/A
Toxic Substances Control Act	N/A
Water Resources Planning Act	N/A
Watershed Protection and Flood Prevention Act	Full
Wetlands Conservation Act	N/A
Wild and Scenic Rivers Act	N/A
Executive Orders (EOs), Memoranda, etc.	
Protection and Enhancement of Environmental Quality (EO 11514)	Full
Protection and Enhancement of Cultural Environment (EO 11593)	Full
Floodplain Management (EO 11988)	Full
Protection of Wetlands (EO 11990)	Full
Environmental Justice in Minority and Low-Income Populations (EO 12898)	Full
Protection of Children from Health Risks and Safety Risks (EO 13045)	Full
Consultation and Coordination with Indian Tribal Governments (EO 13175)	N/A
Indian Sacred Sites (EO 13007)	N/A
Invasive Species (EO 13112)	Full
Migratory Bird (EO 13186)	Full
Facilitation of Cooperative Conservation (EO 13175)	N/A
Chesapeake Bay Protection and Restoration (EO 13508)	Full

Federal Statutes	Level of Compliance
Stewardship of the Oceans, Our Coasts, and the Great Lakes (EO 13547)	N/A
Streamlining Service Delivery and Improving Customer Service (EO 13571)	N/A
Prime and Unique Farmlands (CEQ Memorandum, 11 Aug 80)	Full

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8 APPENDIX

A. PUBLIC AND AGENCY INVOLVEMENT

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, BALTIMORE DISTRICT
2 HOPKINS PLAZA
BALTIMORE, MD 21201

June 13, 2019

Operations Division

SUBJECT: Coordination for Curwensville Dam and Reservoir Master Plan Revision

Dear Coordinating Stakeholders:

In compliance with the National Environmental Policy Act (NEPA), the U.S. Army Corps of Engineers, Baltimore District (USACE), is preparing an Environmental Assessment (EA) for the implementation of a Master Plan for the Curwensville Dam and Reservoir. The Master Plan is being updated by the Baltimore District.

The Curwensville Dam and Reservoir, located on the West Branch Susquehanna River in Clearfield County, Pennsylvania, is maintained by the Baltimore District. The Baltimore District's Operations Division, periodically updates the project's master plan. Details of design, management and administration, and implementation of the project are addressed in the Curwensville Dam and Reservoir Operation and Maintenance Manual.

The project's original master plan, Dated December 1968, was authorized by the Flood Control Act of 1954 (Public Law 780, 83rd Congress, 2nd session) in accordance with House Document No. 29, 84th Congress, 1st Session as part of the flood control plan for the West Branch Susquehanna River. The plan described the manner in which all project lands, waters, forests, and other resources will be conserved, enhanced, developed, managed, and used in the public interest throughout the life of the project. Correspondingly, the plan is a vital tool for responsible stewardship and sustainability of the project's resources for the benefit of present and future generations.

The updated master plan will guide and articulate USACE's responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. The master plan is dynamic and flexible based on changing conditions; however, the master plan does not address the specifics of regional water quality, shoreline management, or water level management. Furthermore, the operation and maintenance of project operation facilities is not included in this master plan.

To assist in the development of the EA, we are requesting that you provide information concerning your interests or your organization's area of responsibility or expertise within 30 days from the date of this notice to the address below. A timely review of this information and a written response will be greatly appreciated. Substantive public comments received via the NEPA process will be fully considered by USACE. For continued master plan project updates, information can be found on our website at https://www.nab.usace.army.mil/CL-Master-Plan-Revision/

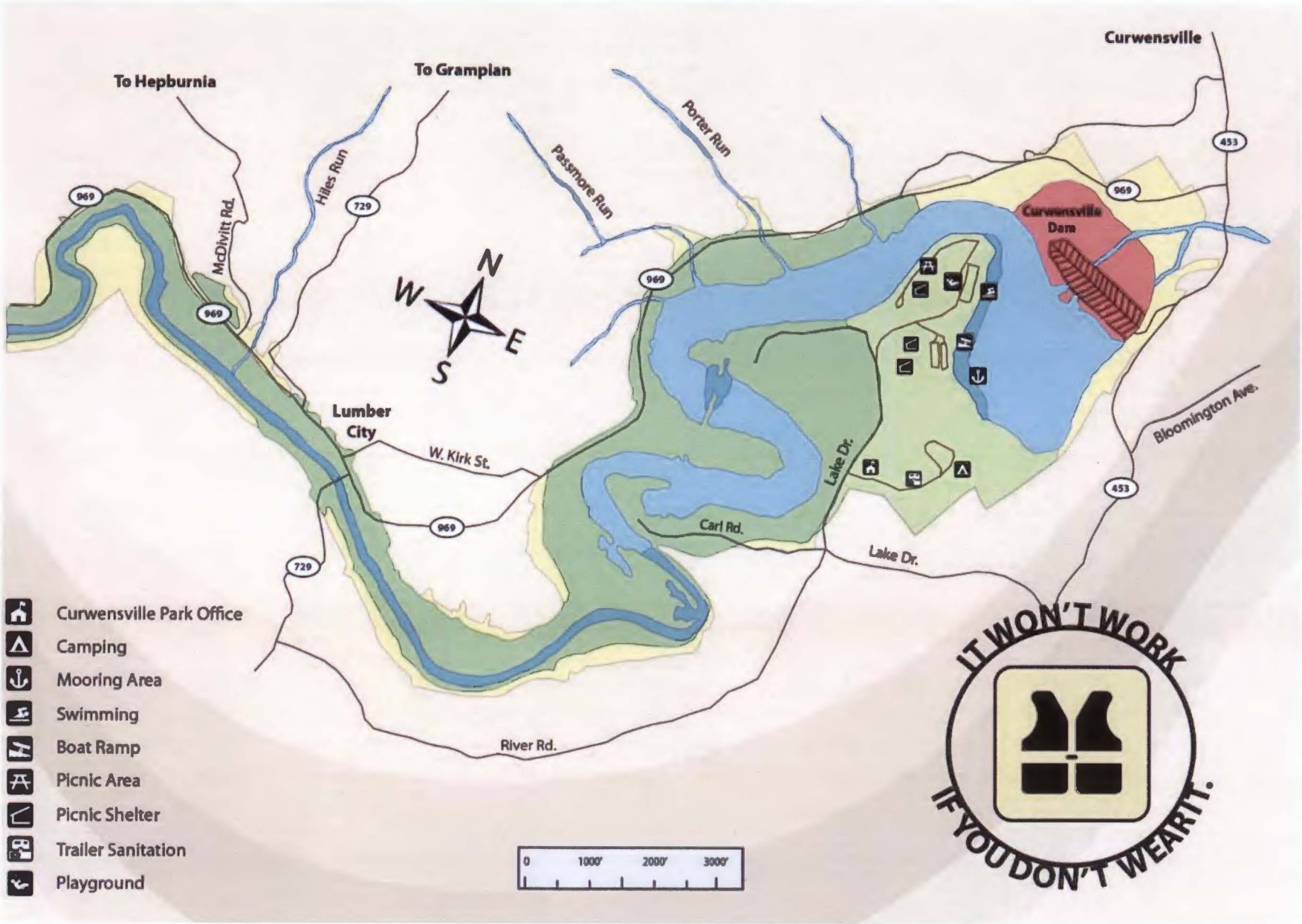
If you have any questions, please contact Andrew Hofmann by email at Andrew.D.Hofmann@usace.army.mil, by telephone at (410) 962-4370, or by mail at

U.S. Army Corps of Engineers, Baltimore District, ATTN: CENAB-OPF (Hofmann), 2 Hopkins Plaza, Baltimore, Maryland 21201.

Sincerely,

Steven M. Brown
Chief, Flood Risk Management Branch

Enclosure: Site Map


To Hepburnia
To Grampian
Curwensville
Porter Run
Passmore Run
Hiles Run
McDivitt Rd.
969
729
453
Curwensville Dam
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W
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Lumber City
W. Kirk St.
Lake Dr.
Carl Rd.
Bloomington Ave.
River Rd.
Curwensville Park Office
Camping
Mooring Area
Swimming
Boat Ramp
Picnic Area
Picnic Shelter
Trailer Sanitation
Playground
0
1000'
2000'
3000'
IT WON'T WORK
IF YOU DON'T WEAR IT.

United Electric
COOPERATIVE, INC.
A Touchstone Energy® Partner

June 17, 2019

Steven M. Brown
Chief, Flood Risk MGT Branch
US Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

RE: Coordination for Curwensville Dam
& Reservoir Master Plan Revision

Dear Mr. Brown:

Please be advised, the only interest United Electric Cooperative has in the Curwensville Dam area is electrical service to the camping area.

If you should have further questions, do not hesitate to contact our office.

Sincerely,

Stephen A. Long
Manager of Engineering
& Technical Services

SAL/daw

P.O. Box 688 • DuBois, PA 15801 • tel 814.371.8570 • fax 814.371.2417

Hofmann, Andrew D CIV USARMY CENAB (USA)

From: Webber, Tina <twebber@pa.gov>
Sent: Wednesday, July 10, 2019 2:43 PM
To: Hofmann, Andrew D CIV USARMY CENAB (USA)
Subject: [Non-DoD Source] C_20151523033C.pdf
Attachments: C_20151523033C.pdf

Thank you for contacting the Pennsylvania State Historic Preservation Office (SHPO) for project review in accordance with state and federal laws. Our response is attached to this email. A hard copy will not follow in the mail unless requested. If this review requires a response, please mail to the address below; we cannot accept electronic submissions. This message is being sent on behalf of the SHPO review staff. If you have any questions about this review, please contact the appropriate reviewer. A list of reviewers by region and discipline is available at:

Blockedhttp://www.phmc.pa.gov/Preservation/Project-Review/Pages/Contact-Information.aspx <Blockedhttp://www.phmc.pa.gov/Preservation/Project-Review/Pages/Contact-Information.aspx>

If you have questions regarding our review for archaeology, please contact Casey Hanson at chanson@pa.gov <mailto:chanson@pa.gov> . If you have questions regarding our review for above ground, please contact Cheryl Nagle at chnagle@pa.gov <mailto:chnagle@pa.gov> .

Tina Webber/Clerk Typist II

PHMC/PA State Historic Preservation Office

400 North Street, 2nd Floor/Harrisburg, PA 17120-0093

Phone: (717) 705-4036/Fax: (717) 772-0920

twebber@pa.gov

Pennsylvania has a new statewide historic preservation plan! Check it out <Blockedhttps://phmc.info/PresPlan> and learn how we can work together to make sure #preservationhappenshere <Blockedhttps://twitter.com/hashtag/preservationhappenshere> in Pennsylvania every day.

Pennsylvania State Historic Preservation Office
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

July 10, 2019

Steven M. Brown
US Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

Re: File No. ER 2015-1523-033-C
COE Environmental Assessment: Coordination for Curwensville Dam & Reservoir Master Plan Revision, Curwensville, Clearfield County

Dear Mr. Brown:

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Archaeological Resources

Previously recorded archaeological sites, listed below, are located within or adjacent to your project area. These resources could be adversely affected by project activities and have not been evaluated for their eligibility for listing on the National Register of Historic Places. It is our opinion that a Phase I archaeological survey to relocate these known sites and locate other potentially significant sites within the project area should be conducted. Guidelines and instructions for conducting all phases of archaeological survey in Pennsylvania are available on our website http://www.phmc.pa.gov/Preservation/About/Documents/SHPO-Guidelines-Archaeological-Investigation.pdf.

P.A.S.S. #36 Cd 62, 36 Cd 66, 36 Cd 67, 36 Cd 68, 36 Cd 69, 36 Cd 70, 36 Cd 116

The PASHPO will keep the information you provided for this submission and any subsequent submission on file. Please provide a copy of this letter and any other project-related correspondence to your state or federal permitting or funding agency.

Pennsylvania Fish & Boat Commission

established 1866

Division of Environmental Services
Centre Region Office
595 E. Rolling Ridge Drive
Bellefonte, PA 16823

July 12, 2019

Mr. Steve M. Brown
Chief, Flood Risk Management Branch
ATTN: CENAB-OPF (Hofmann)
U.S. Army Corps of Engineers, Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

RE: Coordination for Curwensville Dam and Reservoir Master Plan Revision
Public Notice

Dear Mr. Brown:

The Pennsylvania Fish and Boat Commission (PFBC) appreciates the opportunity to comment on the Public Notice for the Curwensville Lake Project Master Plan (MP) Revision and Environmental Assessment (EA). As stated in the Public Notice, the U.S. Army Corps of Engineers (USACE) is in the process of updating the MP and preparing an EA for the Curwensville Lake. To assist in the development of the EA, the USACE is requesting information concerning our agencies interests and area of responsibility.

Curwensville Lake is located on the West Branch of the Susquehanna River in Clearfield County. Aside from the purpose of flood control, the dam provides fishing and boating recreational opportunities. The PFBC is responsible for managing the fish populations and is involved in habitat improvement projects in the lake. The PFBC is also interested in the water quality impacts of increased or decreased releases from the dam and how that may affect waters downstream.

The PFBC looks forward to and encourages continued cooperation with the U.S. Army Corps of Engineers as this project moves forward. You can contact Jason Detar, Area Fisheries Manager by telephone at (814) 359-5118 or by email at jdetar@pa.gov or you can contact me by telephone at (814) 359-5194 or by email at hsmiles@pa.gov.

Sincerely,

Heather Smiles

Heather A. Smiles, Chief
Division of Environmental Services

c: J. Detar

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
http://www.fws.gov/northeast/pafo/

In Reply Refer To: February 17, 2021
Consultation Code: 05E2PA00-2021-SLI-0578
Event Code: 05E2PA00-2021-E-02398
Project Name: Curwensville Dam Master Plan Update

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

Any activity proposed on National Wildlife Refuge lands must undergo a "Compatibility Determination' conducted by the Refuge. Please contact the individual Refuge to discuss any questions or concerns.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
(814) 234-4090

Project Summary

Consultation Code: 05E2PA00-2021-SLI-0578
Event Code: 05E2PA00-2021-E-02398
Project Name: Curwensville Dam Master Plan Update
Project Type: LAND - MANAGEMENT PLANS
Project Description: The purpose of this project is to update the master Plan and Environmental Assessment for Curwensville Dam in Clearfield County, PA. The Curwensville Lake Master Plan is the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the project. It is the basic document guiding USACE responsibilities pursuant to Federal Laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.93349885,-78.54680024162437,14z

Counties: Clearfield County, Pennsylvania

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Ecological Services Field Office
110 Radnor Road Suite 101
State College, PA 16801-7987
Phone: (814) 234-4090 Fax: (814) 234-0748
http://www.fws.gov/northeast/pafo/

In Reply Refer To: April 19, 2021
Consultation code: 05E2PA00-2021-TA-0578
Event Code: 05E2PA00-2021-E-03597
Project Name: Curwensville Dam Master Plan Update

Subject: Verification letter for the 'Curwensville Dam Master Plan Update' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Chris Johnson:

The U.S. Fish and Wildlife Service (Service) received on April 19, 2021 your effects determination for the 'Curwensville Dam Master Plan Update' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat *Myotis sodalis* Endangered

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

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[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Curwensville Dam Master Plan Update

2. Description

The following description was provided for the project 'Curwensville Dam Master Plan Update':

> The purpose of this project is to update the master Plan and Environmental Assessment for Curwensville Dam in Clearfield County, PA. The Curwensville Lake Master Plan is the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the project. It is the basic document guiding USACE responsibilities pursuant to Federal Laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.93349885,-78.54680024162437,14z

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

1. PROJECT INFORMATION

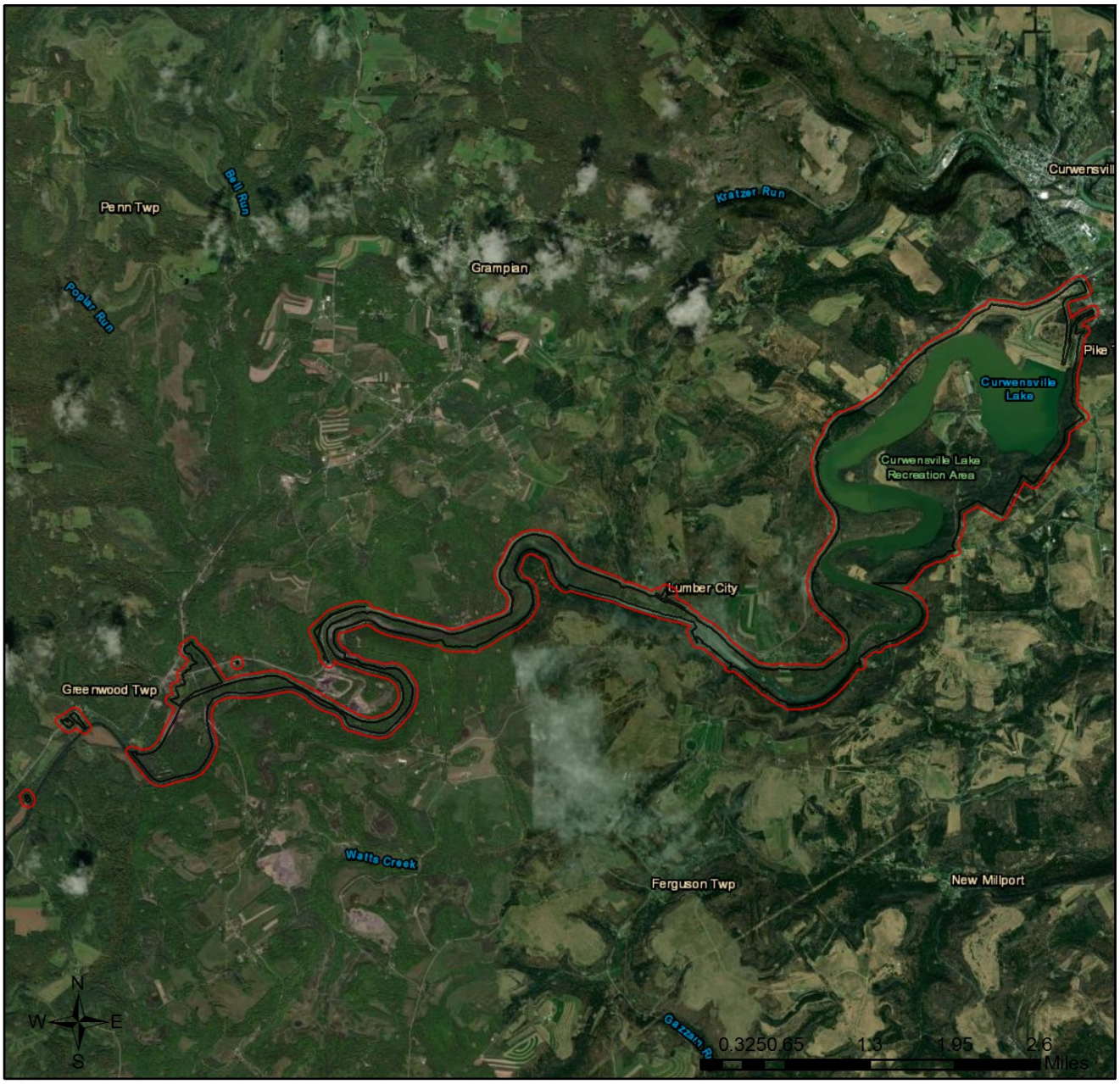
Project Name: **Curwensville Dam Master Plan Update**
Date of Review: **9/21/2021 11:17:52 AM**
Project Category: **Recreation, Other**
Project Area: **2,687.64 acres**
County(s): **Clearfield**
Township/Municipality(s): **CURWENSVILLE; FERGUSON TOWNSHIP; GREENWOOD TOWNSHIP; PENN TOWNSHIP; PIKE TOWNSHIP**
ZIP Code:
Quadrangle Name(s): **CURWENSVILLE; MAHAFFEY**
Watersheds HUC 8: **Upper West Branch Susquehanna**
Watersheds HUC 12: **Bell Run; Curwensville Dam-West Branch Susquehanna River; Deer Run-West Branch Susquehanna River; Little Clearfield Creek**
Decimal Degrees: **40.932530, -78.553335**
Degrees Minutes Seconds: **40° 55' 57.1076" N, 78° 33' 12.67" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	**Conservation Measure**	**No Further Review Required, See Agency Comments**
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	**Potential Impact**	**MORE INFORMATION REQUIRED, See Agency Response**

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Curwensville Dam Master Plan Update

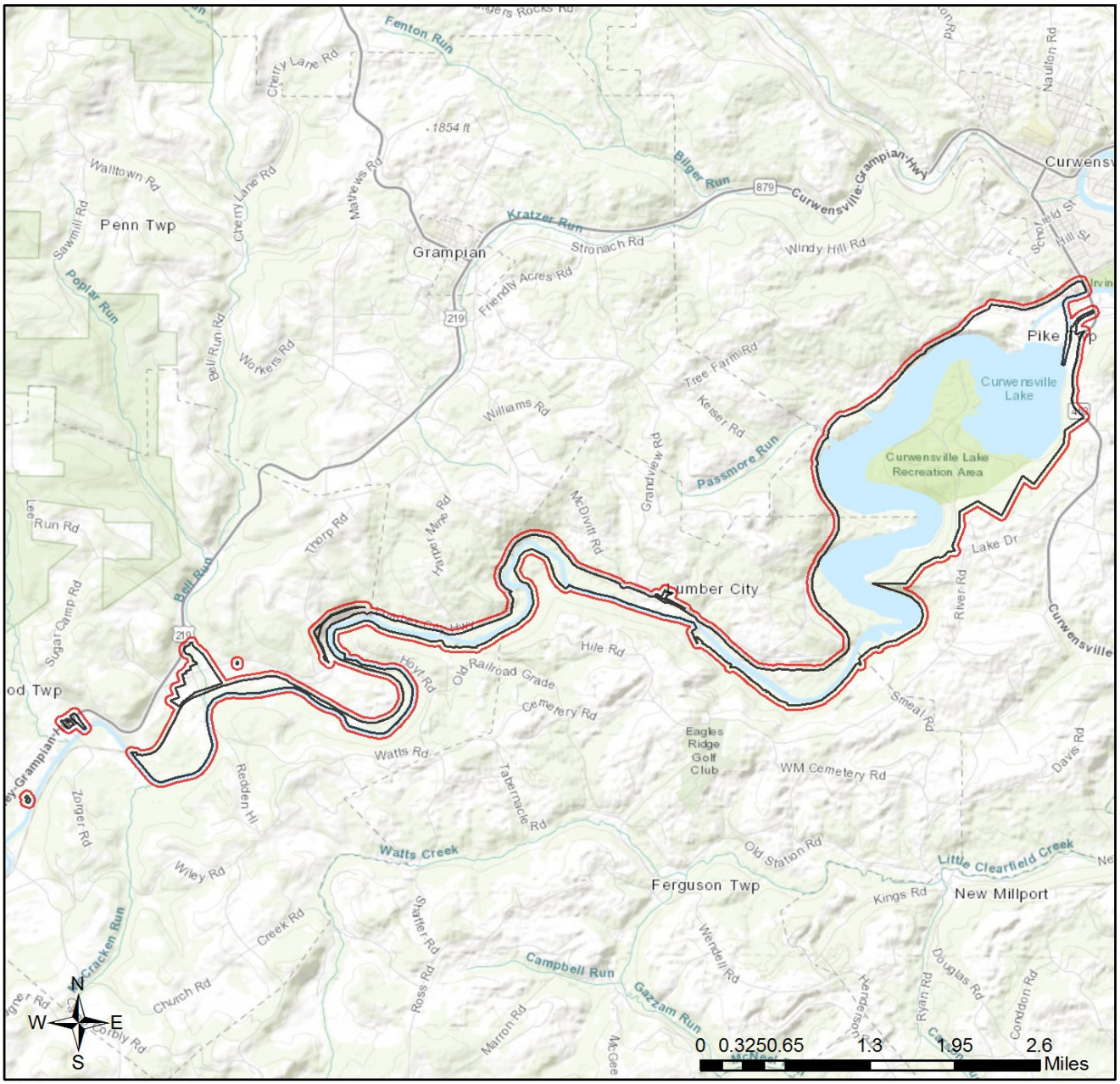


Project Boundary

Buffered Project Boundary

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China

Curwensville Dam Master Plan Update



Project Boundary

Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

RESPONSE TO QUESTION(S) ASKED

Q1: The proposed project is in the range of the Indiana bat. Describe how the project will affect bat habitat (forests, woodlots and trees) and indicate what measures will be taken in consideration of this. Round acreages up to the nearest acre (e.g., 0.2 acres = 1 acre).
Your answer is: No forests, woodlots or trees will be affected by the project.

Q2: Is tree removal, tree cutting or forest clearing of 40 acres or more necessary to implement all aspects of this project?
Your answer is: No

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources
RESPONSE:
Conservation Measure: One or more geologic features of special concern is known on or near your site. There are voluntary options to augment, restore or reduce the impact to these resources. We encourage you to contact the PA Bureau of Topographic and Geologic Survey (jshaulis@pa.gov or 717-702-2037) for more information on the feature and specific recommendations.

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here: https://conservationexplorer.dcnr.pa.gov/content/survey-protocols)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Paleozoic earth history	Paleozoic Earth History	Special Concern Resource*	Special Concern Resource*	

PA Fish and Boat Commission
RESPONSE:
No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service
RESPONSE:

Information Request: Due to the proximity of this project to a bald eagle nest, it is possible that project activities may disturb bald eagles, which is a form of "take" under the Bald and Golden Eagle Protection Act and may require a permit. The Service has prepared a project screening form to help you determine which specific measures may be necessary to avoid disturbing bald eagles and their nests, based on the type and scope of your proposed project or activity, and its distance from a bald eagle nest. Complete the "Bald Eagle Project Screening Form" (see https://www.fws.gov/northeast/ecologicalservices/pdf/eagle/NE_Bald-Eagle_Project-Screening-Form_rev20200416.pdf) and implement the measures identified on that form. Submit a copy of the completed Screening Form to the appropriate federal or state permitting agencies (e.g., PA DEP).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.
** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email the following information to the agency(s) (see AGENCY CONTACT INFORMATION). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies (but not USFWS).
*If information was requested by USFWS, applicants must email, or mail, project information to IR1_ESPenn@fws.gov to initiate a review. USFWS will not accept uploaded project materials.

Check-list of Minimum Materials to be submitted:
____Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
____A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
____**SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
____Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Christopher Johnson
Company/Business Name: US Army Corps of Engineers - Baltimore District
Address: 2 Hopkins Plaza
City, State, Zip: Baltimore, Maryland, 21201
Phone:(_____)_____ Fax:(_____)_____
Email: Christopher.a.Johnson@usace.army.mil

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

_____ 2022-Jan-03

applicant/project proponent signature date

From:	Shaulis, James
To:	Johnson, Christopher A CIV USARMY CENAB (US)
Cc:	Mathesz, Melanie K CIV (USA); Reese, Stuart; Hand, Kristen; Schmid, Katherine; Ebersole, Craig
Subject:	[Non-DoD Source] RE: [External] FW: Curwensville Dam Master Plan Update
Date:	Monday, April 19, 2021 2:56:05 PM
Attachments:	Curwensville MP_PNDI Draft Receipt.pdf Rocks at Curwensville Lake.docx

Christopher,

The geoheritage site of special concern referenced as " Paleozoic Earth History" in the Project Search ID: PNDI-727653 is and outcrop that displays geologic relationships that are important for understanding the geologic history of Pennsylvania (see attached word doc). Since you are updating your master plan please keep this site in mind as you move forward with your new management document and let us know if you anticipate any changes that may impact this site. Thank you for providing us the opportunity to comment about this site.

Sincerely,

Jim Shaulis

From: Johnson, Christopher A CIV USARMY CENAB (US)
[mailto:Christopher.A.Johnson@usace.army.mil]
Sent: Monday, April 19, 2021 10:54 AM
To: Shaulis, James <jshaulis@pa.gov>
Cc: Mathesz, Melanie K CIV (USA) <Melanie.K.Mathesz@usace.army.mil>
Subject: [External] FW: Curwensville Dam Master Plan Update

Good Morning,

I wanted to follow-up on the previous email from February in order to complete the appropriate agency coordination. If any additional information is needed, please don't hesitate to contact me.

Thanks again,

Chris Johnson
Biologist
US Army Corps of Engineers
Baltimore District, Planning Division
443-807-7461

From: Johnson, Christopher A CIV USARMY CENAB (US)
Sent: Wednesday, February 17, 2021 11:38 AM
To: jshaulis@pa.gov
Subject: Curwensville Dam Master Plan Update

From: Johnson, Christopher A CIV USARMY CENAB (US)
To: jshaulis@pa.gov
Subject: Curwensville Dam Master Plan Update
Date: Wednesday, February 17, 2021 11:37:00 AM
Attachments: Curwensville MP_PNDI Draft Receipt.pdf

Good Afternoon,

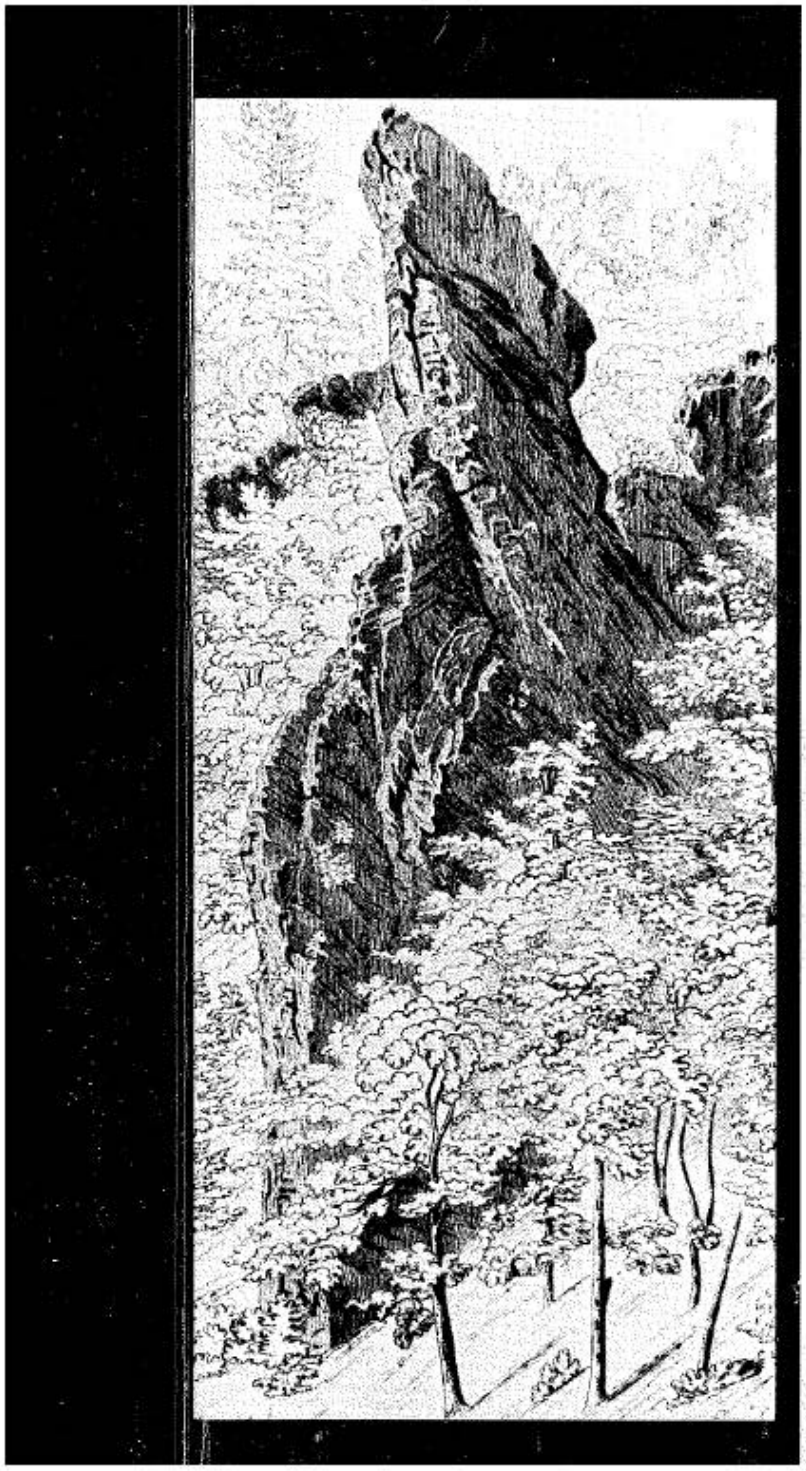
My name is Chris Johnson, and I am a Biologist working for the U.S. Army Corps of Engineers (USACE) in the Baltimore District. Our district is currently working to update the Curwensville Master Plan from the original 1968 version, as well as provide an Environmental Assessment (EA). The Curwensville Lake Master Plan is the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the project. It is the basic document guiding USACE responsibilities pursuant to Federal Laws to preserve, conserve, restore, maintain, manage, and develop the project lands, waters, and associated resources.

As part of our preliminary coordination, I utilized the Pennsylvania Natural Heritage Program – Conservation Explorer program. A PNDI Draft receipt (attached) was received and indicated that I should contact the PA Bureau of Topographic and Geologic Survey due to one or more features of special concern known on or near the proposed site. However, the overall goal of this project is to only update and/or change land classifications from their existing status from the 1968 Master Plan to their current status in this new Master Plan – absolutely no construction or earth disturbance will take place within the project limits. Please allow this email to serve as our due diligence to coordinate with the appropriate agencies, and to ensure all parties are included and understand the scope of work.

If there are any questions or concerns with the information provided, please do not hesitate to contact me.

Thank you!

Chris Johnson
Biologist
US Army Corps of Engineers
Baltimore District, Planning Division
443-807-7461



Environmental Geology Report 7
Part 2
1987

OUTSTANDING SCENIC GEOLOGICAL FEATURES OF PENNSYLVANIA

PART 2

PENNSYLVANIA GEOLOGICAL SURVEY
150TH ANNIVERSARY
1836 - 1986

396. ROCKS AT CURWENSVILLE LAKE

COUNTY: Clearfield TOWNSHIP: Pike

QUADRANGLE: Curwensville

LOCATION: Along Pa. Route 969, 3 miles southwest of Curwensville; along the west side of Curwensville Lake.

REMARKS: This site represents the best example of the discontinuous rock layers that are typical of the Pennsylvanian-age rocks in western Pennsylvania. The variable bedding dips and rock thicknesses are due to paleotopography (ancient topography), interrupted and uneven deposition of original sediments (differential sedimentation), and differential compaction.

This is the only known location where genetic relationships between the Mercer high-alumina flint clay and surrounding rocks can be interpreted. The Mercer clay is a unique economic mineral deposit whose origin has generated controversy for years.

REFERENCES:

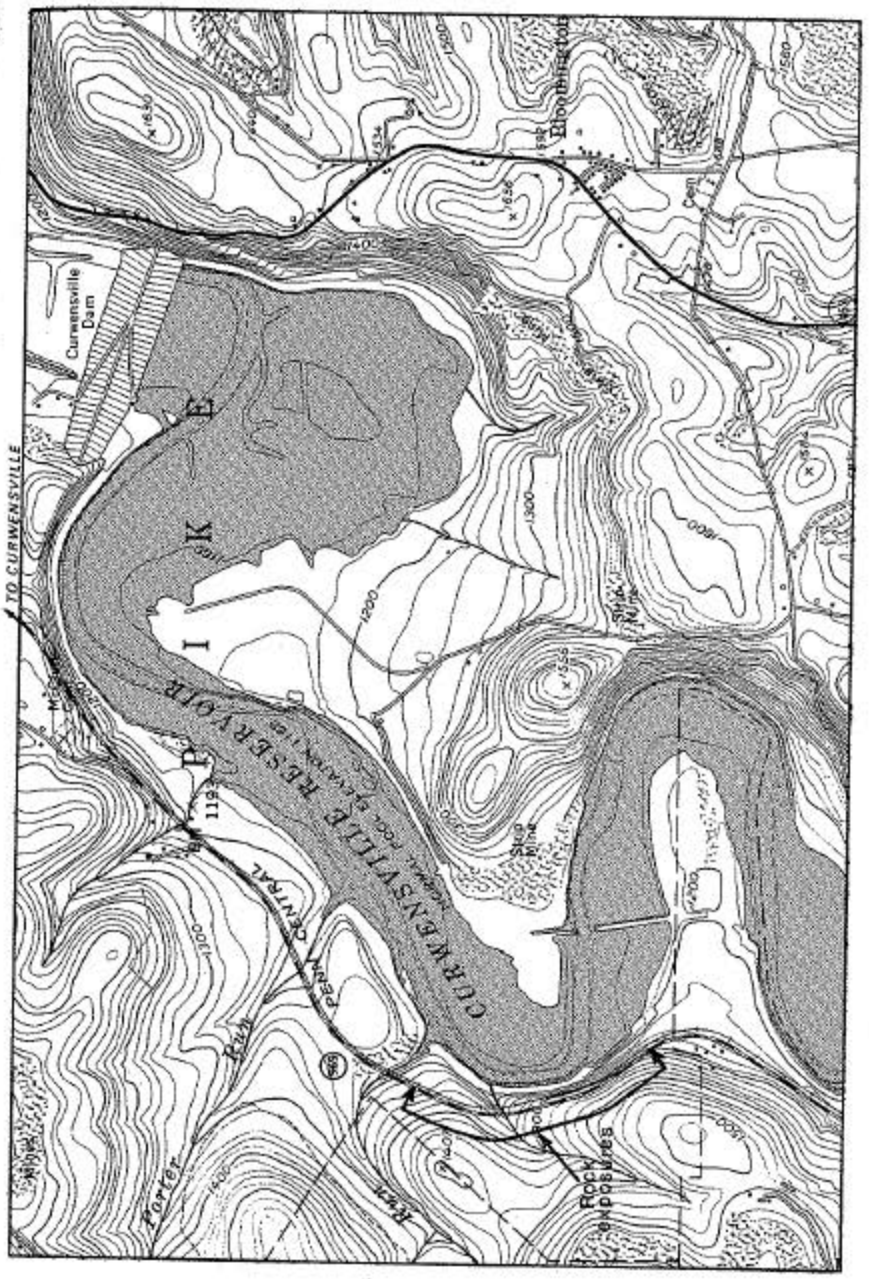
Edmunds, W. E., and Berg, T. M. (1971), *Geology and mineral resources of the southern half of the Penfield 15-minute quadrangle, Pennsylvania,* Pennsylvania Geological Survey, 4th ser., Atlas 74cd, 184 p.

Foose, R. M. (1944), *High-alumina clays of Pennsylvania,* Economic Geology, v. 39, p. 557–577.

Williams, E. G., and Bragonier, W. A. (1974), *Controls of Early Pennsylvanian sedimentation in western Pennsylvania,* in Briggs, Garrett, ed., *Carboniferous of the southeastern United States,* Geological Society of America Special Paper 148, p. 135–152.

APPALACHIAN PLATEAUS PROVINCE

PITTSBURGH PLATEAUS SECTION



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