

ENVIRONMENTAL ASSESSMENT

Berlin Lake 2021 Master Plan



August 2021

FINDING OF NO SIGNIFICANT IMPACT

Berlin Lake 2021 Master Plan Berlin Lake Project Mahoning, Portage, and Stark Counties, Ohio

The U.S. Army Corps of Engineers, Pittsburgh District (Corps) is presenting an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended. The Environmental Assessment (EA) dated August 2021, for the Berlin Lake 2021 Master Plan, located in Mahoning, Portage, and Stark Counties, Ohio at the Berlin Lake Project (Project), evaluates potential environmental impacts associated with updating the Master Plan.

The EA considered two alternatives. The preferred alternative, ultimately the Proposed Federal Action, includes updating the Master Plan.

In addition to the preferred alternative, a “no action” alternative was evaluated, which is to continue to operate the Project under the existing Master Plan. For the preferred alternative, the potential effects to the following resources were evaluated:

Environmental Resource	Minor effect	No effect
Aesthetics	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aquatic resources, Wetlands, Hydrology, and Water Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive species	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fish and wildlife habitat	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Federally protected species, including threatened and endangered species	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic properties and Other Cultural Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hazardous, toxic, and radioactive waste	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Land use	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Navigation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise levels	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Public infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Socio-economics	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental justice and Socioeconomics	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Climate change	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Child health and safety	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Pursuant to Section 7 of the Endangered Species Act of 1973 (ESA), as amended, the Corps determined that the preferred alternative will have no effect on threatened and endangered species and no effect on designated critical habitat. Future development projects will be evaluated for ESA compliance once plan details have been developed.

Pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, the Corps subsequently determined that the Proposed Federal Action has no effect on historic or cultural resources. Future development projects will be evaluated for NHPA compliance once plan details have been developed.

Pursuant to the Clean Water Act of 1972 (CWA), as amended, the Corps has determined that the Proposed Federal Action will have no impacts on waters of the United States. Future development projects will be evaluated for CWA compliance once plan details have been developed.

A 30-day public comment period occurred from 27 September 2021 to 27 October 2021. One comment letter was received pertaining to the EA. Comments and responses can be found in the final EA.

Based on the EA, reviews by other Federal, State and local agencies, input of the public, and the review by my staff, it is my determination that the Proposed Federal Action does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement is not required and will not be prepared.

1/26/22

Date



ADAM J. CZEKANSKI
COLONEL, Corps of Engineers
District Commander

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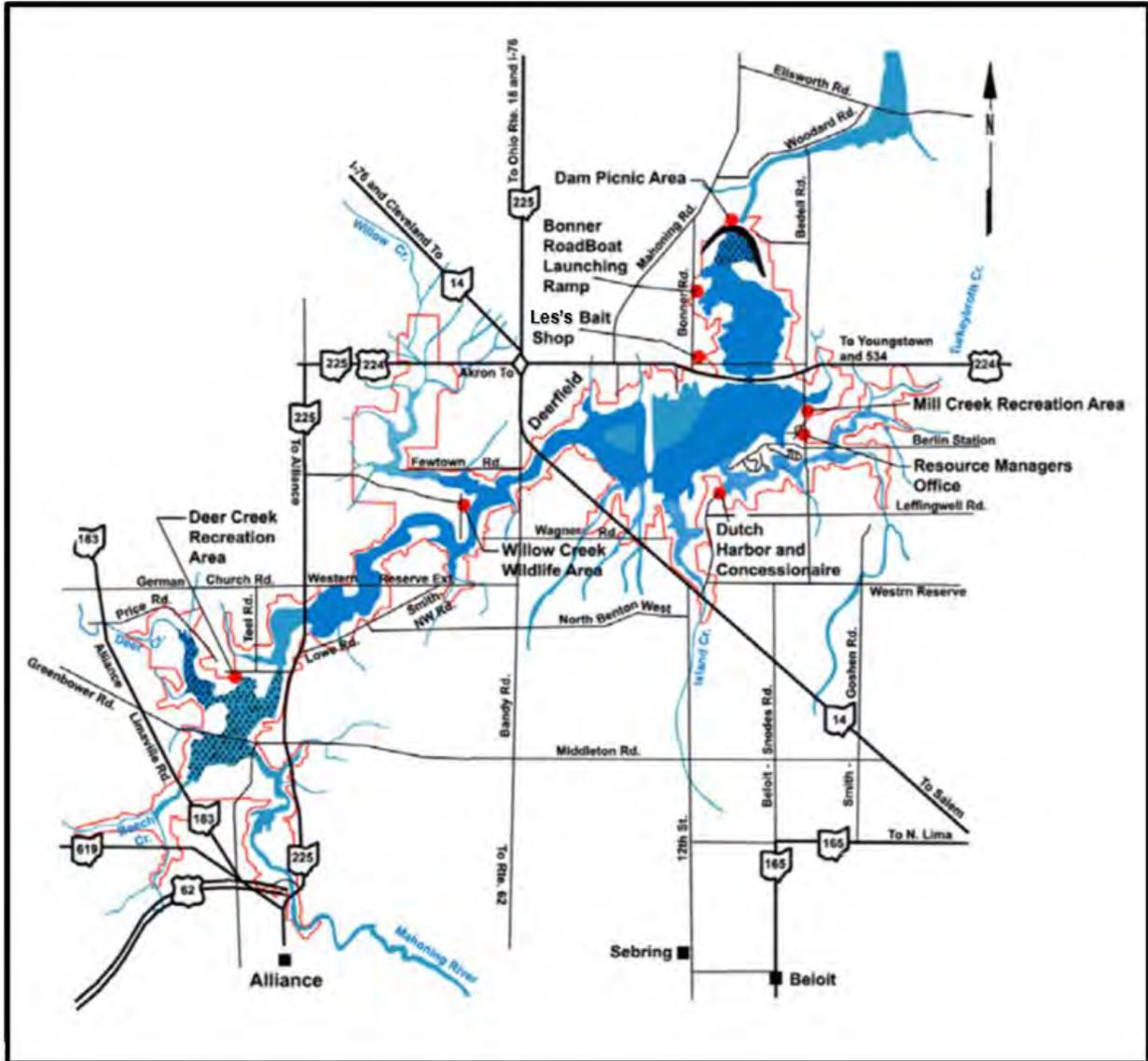
1 Introduction

The U.S. Army Corps of Engineers (Corps) is responsible for the maintenance, restoration, and stewardship of natural resources on the multipurpose reservoir projects it manages. To facilitate the management and use of these lands, the Corps maintains a Master Plan (MP) for each project. A MP is required for each Civil Works Project and all fee-owned lands for which the U.S. Army Corps of Engineers (Corps) has administrative responsibility. The MP serves as a strategic land-use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the Berlin Lake Project (Project). The existing Project MP was completed in 1984 but has not been comprehensively revised since then. The Pittsburgh District Corps is proposing to adopt and implement revisions to the Berlin Lake MP.

The purpose of this Environmental Assessment (EA) is to assess the impact of proposed updates to the Project MP, and to ensure compliance with the National Environmental Policy Act (NEPA) and other environmental laws. The EA will also provide an opportunity for public involvement in the decision-making process. This EA has been prepared in accordance with NEPA and the Council on Environmental Quality's (CEQ) Regulations (40 CFR Part 1500-1508), and the Corps Engineering Regulation (ER) 200-2-2, Procedures for Implementing NEPA.

1.1 Project Location

Berlin Lake is located on the Mahoning River in Stark, Portage and Mahoning Counties, Ohio (Figure 1) approximately 25 miles west of Youngstown, Ohio and approximately 80 miles northwest of Pittsburgh, Pennsylvania. The Berlin Lake Dam is located at Mahoning River mile 70.7 at the northern end of the Project. The Mahoning River headwaters begin in Columbiana County, Ohio, about 12 miles southeast of Alliance and flow generally northward to a point near Warren, Ohio, where the river turns towards the southeast and flows through the communities of Leavittsburg, Warren, Niles, Youngstown, and Lowellville, Ohio, and then into Pennsylvania. There the Mahoning River joins the Shenango River forming the Beaver River.



1.2 Project Overview

The Berlin Lake Dam is a concrete gravity dam flanked by earthen embankments. The dam is 1,045 feet in height and 5,750 feet in length including the embankments. The dam structures include outlet works consisting of two ring jets, three ball valves, four crest gates measuring 30 feet wide by 18 feet high, and an uncontrolled concrete ogee spillway. The dam controls the runoff from 249 square miles of the total 1,140-square-mile drainage area of the Mahoning River, located in northeastern Ohio and west central Pennsylvania. This 1,140 square mile area is the land area that channels rainfall and snowmelt to the creeks, streams, and rivers that fill Berlin Lake. Within the reservoir, these waters are slowed and stored and provide various uses and benefits to the community. The quality and quantity of the inflow waters influence the reservoir. About 1,085 square miles or 96 percent of the drainage basin is located in the Ohio

counties of Ashtabula, Geauga, Trumbull, Portage, Mahoning, Stark, and Columbiana, and the remaining 4% is located in Lawrence County in Pennsylvania.

The Project covers 6,899.9 acres of fee lands and 1,161.5 acres of flowage easements. The Corps maintains the Resource Manager's Office, Ranger Station/Information Center, maintenance compound, a dwelling, campground, two boat launches (one paved and one unimproved), playgrounds, picnic areas, a disc golf course, and reservable picnic shelters.

The Corps leases 6,553.9 acres of Project lands and waters to the Ohio Department of Natural Resources (ODNR), 9.4 acres of lands and waters to Dutch Harbor Marina, 2.2 acres of lands and waters to Berlin Yacht Club, 17.1 acres of lands and waters to Les's Bait and Marcko Landing, LLC, and 2.2 acres of lands and waters to Stark County Parks. Project lands, as referred to throughout this EA, include those lands acquired by the Corps for the Project and are depicted in boundary map (Appendix B, Plate 3 of the MP).

1.3 Authorization and Project Description

The Berlin Lake Project (Project) has five authorized purposes: flood control, low flow augmentation for water quality control, water supply, fish and wildlife enhancement, and recreation. Authorized by the Flood Control Act of 1938, the Project was originally authorized to reduce flooding and provide low flow augmentation for water quality, which included the dedication of active reservoir storage capacity for low water regulation for water quality. Subsequent acts authorized supplemental purposes for water supply (Flood Control Act of 1944), fish and wildlife enhancement (Fish and Wildlife Coordination Act of 1958), and recreation (Flood Control Act of 1944, as amended by the Flood Control Act of 1962). Of these three supplemental purposes, additional storage in Berlin Lake was allocated only for water supply. The Project is one unit of the flood control reservoir system constructed in the Mahoning-Beaver River basin to reduce flooding in the Mahoning, Beaver, and upper Ohio River valleys, and to improve water quality. The Project provides low flow augmentation for domestic and industrial water supply. The Project is operated to meet downstream flow requirements at Leavittsburg, Ohio.

1.4 National Environmental Policy Act Overview

Within NEPA, the CEQ regulations, and the Corps regulations, a process is set forth where the Corps must assess the environmental effects of proposed federal actions and consider reasonable alternatives to their proposed actions. In general, NEPA requires federal agencies to make a series of evaluations and decisions that anticipate adverse effects on environmental resources. For those actions with the greatest potential to create significant environmental effects, the consideration of the proposed action and alternatives is presented in an Environmental Impact Statement (EIS). Where the potential effects of the proposed action are not determined to be significant, the agencies prepare an EA. The revision to the Berlin Lake Project Master Plan is accompanied by an EA to support the decision making.

The CEQ's NEPA Regulations do not contain a detailed discussion regarding the format and content of an EA, but an EA must briefly discuss the need for the proposed action, the proposed action and alternatives, probable environmental effects of the proposed action and alternatives, and agencies and persons consulted in the preparation of the EA.

1.5 Previous MP NEPA Documentation

An EA and Finding of No Significant Impact (FONSI) for the *Operation and Maintenance of Berlin Lake* were prepared by the Corps in 1986 (USACE, 1986).

2 Purpose and Need

2.1 Master Plan Overview

A MP was developed for the Project in 1984. It is Corps policy that each MP shall be reviewed on a periodic basis and revised as required. ER 1130-2-550 establishes the policy for the management of recreation programs and activities, and for the operation and maintenance of Corps of Engineers recreation facilities and related structures, at civil works water resource projects.

The MP 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. The MP guides efficient and cost-effective management, development, and use of Project lands. The MP also guides and articulates Corps responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the Project lands, waters, and associated resources. The MP is a dynamic operational document projecting what could and should happen over the life of the Project and is flexible based upon changing conditions. The MP deals in concepts, not in details of design or administration. Detailed management and administration functions are addressed in the Operational Management Plan (OMP), which implements the concepts of the MP as operational actions.

MPs are required for civil works projects and other fee-owned lands for which the Corps has administrative responsibility for management of natural and manmade resources. Engineer Pamphlet (EP) 1130-2-550 establishes guidance for the preparation of MPs. As stated therein, the primary goals of the MPs are to prescribe an overall land and water management plan, resource objectives, and associated design and management concepts, which:

1. Provide the best management practices to respond to regional needs, resource capabilities and suitabilities, and expressed public interests and desires consistent with authorized Project purposes;
2. Protect and manage project natural and cultural resources through sustainable environmental stewardship programs;

3. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project itself while sustaining project natural resources;
4. Recognize the particular qualities, characteristics, and potentials of the project; and
5. Provide consistency and compatibility with national objectives and other state and regional goals and programs.

2.2 Purpose and Need for the Updated Master Plan

It is Corps policy that each MP shall be reviewed on a periodic basis and revised as required (ER 1130-2-550 and ER 1130-2-406). The existing Project MP was approved in 1984.

The newly drafted, Berlin Lake 2021 Master Plan (2021 MP) provides a comprehensive description of the project; a discussion of factors influencing resource management and development; an identification and discussion of special problems; a synopsis of public involvement and input to the planning process; and descriptions of past, present, and proposed development.

3 Alternatives

When preparing an EA, the Corps should develop a range of alternatives that could reasonably achieve the need that the proposed action is intended to address. The alternatives being considered in this EA are a no action alternative of continuing to operate the Project under the 1984 MP, and the proposed action of operating the Project consistent with a new MP. The preparation of an environmental assessment, with only two alternatives (continuing to operate the Project without a new MP, and operating the Project with a new MP) is appropriate because there are no other reasonable alternatives to consider for evaluation.

3.1 No Action

NEPA requires that federal agencies describe and analyze a no action alternative. The no action alternative considers what would happen if the Corps continued operating and managing the Project under the 1984 MP, which would not be revised or updated. The no action alternative provides a baseline from which other alternatives can be compared and evaluated.

Under the no action alternative, the 1984 MP would continue to be the document used for management of the Project. The 1984 MP would not account for any changes at the Project or in the surrounding areas that occurred after 1984. The 1984 MP does not include the updated land classifications (see MP Section 3.2) and is out of date with current Corps regulations. Without an updated MP, future development decisions would therefore be assessed on an ad hoc basis without the benefit of a comprehensive assessment of recreation and natural resource conditions and opportunities at the Project.

3.2 Proposed Action – Adoption of the Revised Master Plan

Under this alternative, the 2021 MP would be approved for the Project and would replace the 1984 MP. The 2021 MP addresses important updates due to recreation demand, amenities within the project, current environmental conditions, and pertinent laws and policies. The 2021 MP changes the land classification nomenclature and lays out future recommendations for management of both recreation and natural resources. While the nomenclature has changed, the uses of those lands will remain similar to their current uses. The scope of the 2021 MP and this EA are limited to actions on the Corps property.

3.2.1 Scope and Objectives of the 2021 MP

The 2021 MP provides guidelines and direction for future project development and use and is based on authorized project purposes, Corps policies and regulations on the operation of Corps projects, responses to regional and local needs, resource capabilities and suitable uses, and expressed public interests consistent with authorized project purposes and pertinent legislation. The 2021 MP provides a District-level policy consistent with national objectives and other state and regional goals and programs.

3.2.2 Land Allocation, Land Classifications, and Resource Objectives

Land allocations at all Corps Civil Works water resource projects are based on the Congressionally-authorized purpose for which the project lands were acquired. Since the 1984 MP, the Corps has changed the land classification nomenclature, which is consistent with the nomenclature used in the new land surveys. Land classification categories as defined by EP 1130-2-550, change 5, dated 30 January 2013, are as follows:

1. Project Operations
2. High Density Recreation
3. Mitigation
4. Environmentally Sensitive Areas
5. Multiple Resource Management
 - a. Low Density Recreation
 - b. Wildlife Management
 - c. Vegetative Management
 - d. Future or Inactive Recreation
6. Water Surface
 - a. Restricted
 - b. Designated No-Wake
 - c. Fish and Wildlife Sanctuary
 - d. Open Recreation

See the 2021 MP Section 3.2 for a description of each land classification. The land classification and land use changes are outlined below in Table EA-1.

Table EA-1. Land classification and land use changes proposed.

1984 Master Plan		2021 Master Plan	
Existing	Existing Acreage	Proposed	Proposed Acreage
Limited Use Area	901.4	Wildlife Management	1,529.8
Protection Area	2,019.6	Environmentally Sensitive Areas	895.8
		Vegetative Management	0.0
Intensive Recreation	370.7	High Density Recreation	319.2
Non-Intensive Recreation	155.2	Low Density Recreation	632.1
N/A	N/A	Future or Inactive Recreation	0.0
N/A	N/A	Project Operations	70.7
Power Boating Zone	1,163.2	Open Recreation	2,372.6
No-Wake Zone	2,651.0	Designated No-Wake	1,427.4
		Restricted	14.6
		Fish and Wildlife Sanctuary	2.1

*Note: Acreage numbers for historical land use classifications were calculated in GIS software by scanning, georeferencing, and digitizing the 1984 Land Use Classification Map. Due to the scale and other limitations of the original hand-drawn map, acreages should be considered very approximate.

3.2.3 Proposed Recommendations

The 2021 MP provides specific management recommendations including: coordinating partnerships with state and federal agencies, stakeholders and the community; modernizing facilities within existing footprints and prioritizing actions that improve visitor safety and experience; making road improvements; updating land classifications; conserving wildlife management and environmentally sensitive areas through continued coordination with resource agency partners; developing survey methods to identify sensitive habitats, and enhancing natural areas and restoring sensitive habitats through native vegetation plantings, removal of invasive species along with other efforts targeted at non-game species habitat; and managing threatened and endangered species through U.S. Fish & Wildlife Service (USFWS) Recovery Plans. Development proposals include adding a picnic shelter at the Mill Creek Day Use Area, demolishing an unused dwelling, creating a nature trail at the Mill Creek campground, adding full hookup campsites and additional electric campsites at the Mill Creek campground, and adding cabins at the Mill Creek campground (see 2021 MP Sections 4 and 7). The land classifications have changed under the new nomenclature; however the current and proposed uses of those lands remain the same.

Recommendations in the 2021 MP that will have no environmental impacts include coordinating partnerships with state and federal agencies, stakeholders, and the community; prioritizing actions that improve visitor safety and experience; conserving wildlife management and environmentally sensitive areas through continued coordination with resource agency partners; developing survey methods to identify sensitive habitats; and managing threatened and endangered species through USFWS Recovery Plans.

Enhancing natural areas and restoring sensitive habitats through native vegetation plantings, and removal of invasive species along with other efforts targeted at non-game species habitat will provide minor benefits to fish and wildlife habitats. Minor benefits to fish habitats are also expected with the installation of suspended fish habitat structures.

Road improvements and the modernization of facilities within existing footprints will need to be evaluated for environmental compliance if earth disturbance or construction activities are proposed once plan details are available.

A picnic shelter measuring approximately 30 by 50 feet is proposed at the Mill Creek Day Use Area. It will be located in the corner of an existing paved parking lot and will be constructed from a kit and anchored to the parking lot with posts driven into the asphalt.

An unused government building located near the Berlin Dam Project Office is proposed to be demolished. The building was constructed in 1947 and there is the potential for the presence of asbestos containing materials and lead-based paint inside the buildings. Prior to any demolition work, the Corps and/or its contractor will be responsible for assessment, testing, and abatement, as applicable. The building is also eligible for listing in the National Register of Historic Places due to its age. The demolition of the building will need to be evaluated for compliance with the National Historic Preservation Act (NHPA) and consultation with the Ohio State Historic Preservation Office will be required.

The addition of full hook-up campsites, addition of electric campsites, addition of cabins, and creation of a nature trail at the Mill Creek Campground are proposed in the 2021 MP; however, no details are currently available. When specific plans and details are available in the future, these proposed developments will need to be evaluated for environmental compliance (Clean Water Act (CWA), Endangered Species Act (ESA), NHPA, and other environmental laws as applicable).

While all of the recommendations listed in the 2021 MP were considered in this EA, there are not enough details available to fully evaluate the environmental impacts of all of the recommendations. Table EA-2 details the proposed recommendations and lists whether the recommendations have been fully or partially evaluated for environmental impacts in this EA.

Table EA-2. Recommendations and level of environmental compliance evaluation for MP.

Recommendation	Full Compliance	Partial Compliance
Coordinating partnerships	Yes	
Road improvements	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Modernizing facilities for Americans with Disabilities Act (ADA) compliance	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Picnic shelter at Mill Creek Day Use Area	Yes	
Demolish unused dwelling	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Create nature trail at Mill Creek Campground	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Add full hookup campsites and additional electric campsites at Mill Creek Campground	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Add cabins at Mill Creek Campground	No	A separate evaluation for compliance with environmental laws will need to be completed once specific plans are developed.
Add fish habitat structures	Yes	

Surveys, native plantings, and invasive species removal	Yes	
Managing T&E species with USFWS recovery plans	Yes	

4 Affected Environment and Environmental Consequences

NEPA and the CEQ’s NEPA Implementing Regulations require that an EA identify the likely environmental effects of a proposed project and that the agency determine whether those impacts may be significant. The determination of whether an impact significantly affects the quality of the human environment must consider the potentially affected environment and the degree of the effects of the impacts (40 CFR Part 1501.3).

The potentially affected environment is the area in which the proposed action would take place. The potentially affected environment is based on the specific location of the proposed action(s) and takes into account the entire affected region, the affected interests, and the locality.

The term “degree” refers to the intensity or severity of impact that would result if the proposed action were implemented. Some examples of factors considered when evaluating the degree of an impact include: the extent of both beneficial (positive) and adverse (negative) effects, the extent to which the proposed project affects public health or safety, the extent of impacts to unique characteristics of the geographic area (some examples include proximity to historic or cultural resources, wetlands, or ecologically critical areas), the extent to which the action may adversely affect an endangered or threatened species or its habitat, and whether the action is related to other actions that combined may cause long-term or short-term effects.

This section describes the existing environmental conditions within the Project (affected environment) providing a baseline for measuring expected changes that would result from adopting the proposed 2021 MP.

This section provides a discussion of any beneficial or adverse environmental effects of the Proposed Action alternative and the No Action alternative. The terms “impact” and “effect” are used interchangeably in this section. Effects may occur at the same time and place or may occur at a later time or a distance away from an action but have a reasonably close causal relationship to a proposed action. The section also describes whether effects are temporary (short-term and occurring during the period of construction or implementation) or permanent (long-term and remaining for years into the future). The term “significant” means that an effect would result in a substantial change to the environment or resource. Minor effects do not substantially change the environment or resource.

4.1 Aesthetics

4.1.1 Existing Condition

The Project offers diverse scenic and natural resources comprised of forested and reservoir habitats. Opportunities for wildlife viewing and scenic views exist within the Project and along the reservoir shoreline. Berlin Lake is designated by the National Audubon Society as an Important Bird Area (IBA). When the reservoir is drawn down in mid-summer, extensive areas of mudflats are exposed attracting migratory shorebirds. The birds utilize the Project's shorelines and mudflats as stopover habitat and provide unique opportunities to the public for bird watching (Audubon, 2021a).

4.1.2 Environmental Consequences

4.1.2.1 No Action

Under the no action alternative, the 2021 MP would not be approved for the Project. The current conditions would continue to exist. No impacts to aesthetics would occur.

4.1.2.2 Proposed Action

Implementation of the 2021 MP would be expected to have no long-term adverse effects on the aesthetic character of the Project. Future development may cause temporary and localized changes in aesthetics during construction; however, these changes would not be expected to cause significant or adverse impacts to the aesthetics of the Project.

Minor beneficial impacts are expected with the installation of the nature/interpretive trail at the Mill Creek Campground, as this project will increase wildlife viewing and aesthetics for users of the trail.

4.2 Air Quality

The Clean Air Act requires the United States Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants, known as criteria air pollutants. These pollutants include lead, sulfur dioxide, particulate matter (PM-2.5 and PM-10), ozone, carbon monoxide, and nitrogen dioxide (USEPA, 2021a). The NAAQS are the concentrations of these principal pollutants, above which, adverse effects on human health may occur. Areas that persistently exceed the standards are designated as nonattainment areas. Federal actions must not cause or contribute to new violations, worsen existing violations, or delay attainment of NAAQS.

4.2.1 Existing Condition

The Project is located in the Greater Metropolitan Cleveland Intrastate Air Quality Control Region (40 CFR Part 81.22) and the Northwest Pennsylvania-Youngstown Interstate Air Quality Control Region (40 CFR Part 81.74). Only Portage County is not in attainment for the 8-hour ozone (2015) standard. The Project is in attainment for all other NAAQS in Mahoning, Portage, and Stark Counties (USEPA, 2021b). The Project is located within a rural area and de minimis emissions likely occur from gasoline

vapors, motor vehicle exhaust, and lawn care equipment exhaust on a regular basis, and construction equipment exhaust during construction work.

The USEPA index for reporting air quality is the U.S. Air Quality Index (AQI). Values range from 0 to 500. As AQI values increase, air pollution levels increase. An AQI value range between 0-50 is considered “good” with little to no risk of air pollution causing health problems. AQI values ranging from 51-100 are considered “moderate” where air quality is acceptable, but populations sensitive to air pollution may have an increased risk of health problems. AQI values greater than 100 are considered unhealthy (Airnow, 2021). Daily AQI values for Mahoning County, Portage County, and Stark County are shown in Figures 2, 3 and 4.

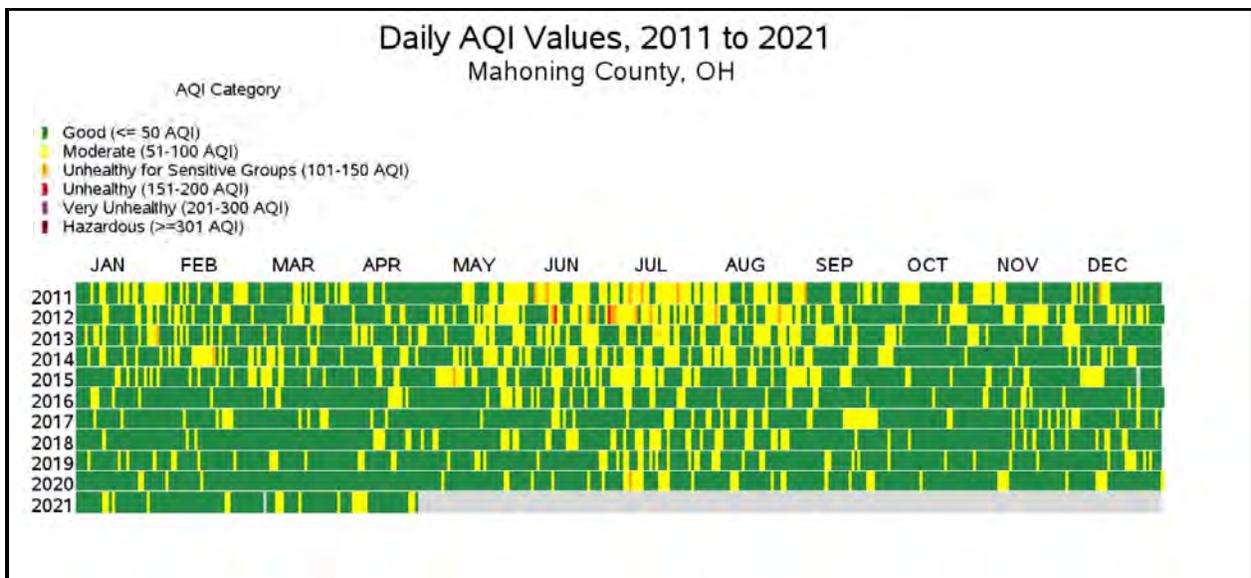


Figure 2 – Daily AQI values from January 2011 to April 2021 for Mahoning County (USEPA, 2021c)

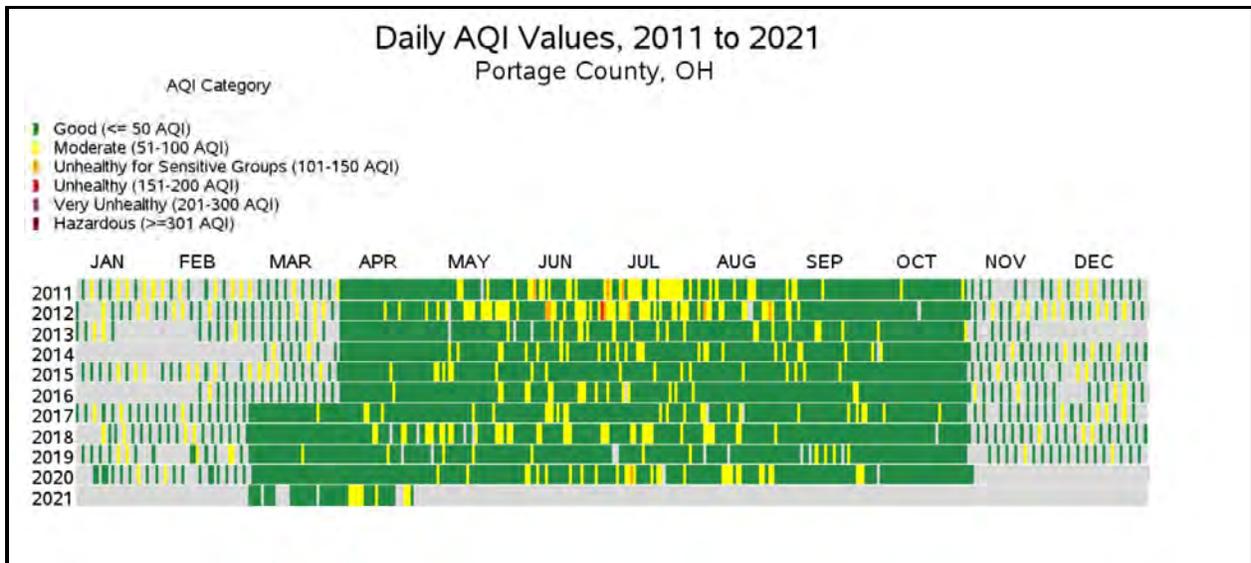


Figure 3 – Daily AQI values from January 2011 to April 2021 for Portage County (USEPA, 2021c)

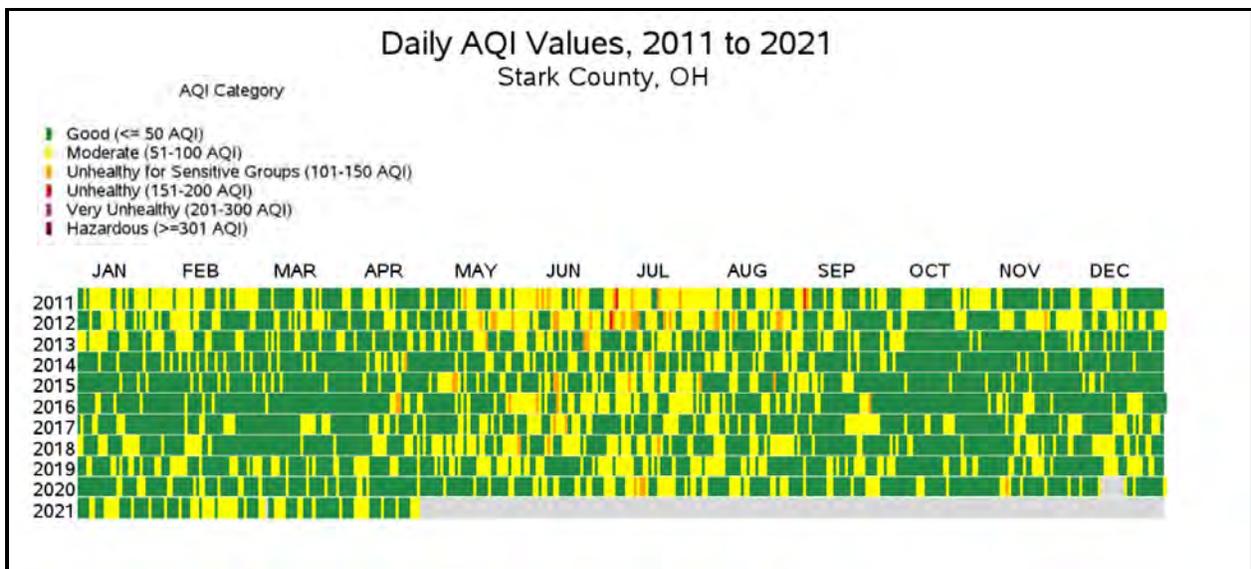


Figure 4 – Daily AQI values from January 2011 to April 2021 for Stark County (USEPA, 2021c)

4.2.2 Environmental Consequences

4.2.2.1 No Action

Under the no action alternative, the 2021 MP would not be approved for the Project.

The Project would continue to be operated and managed under the 1984 MP.

Temporary and minor impacts to air quality would still occur from construction activities, vehicle exhaust, boat exhaust, and the use of grills and firepits. These impacts are considered de minimis due to their temporary and localized nature.

4.2.2.2 Proposed Action

Air quality would not be predicted to change from existing conditions as the effects of implementing the 2021 MP, including the future development actions, on air quality would be minimal. Localized and temporary emissions associated with construction of new or improved amenities would occur. Emissions associated with construction equipment operation and construction would be considered *de minimis*, as they would be localized, of relatively short duration, and would occur when constructing any new or improved future development features. Temporary and minor impacts to air quality would continue to occur from typical recreation use at the Project (e.g., vehicle and boat exhaust, and the use of grills and firepits); however, these impacts are *de minimis* due to their temporary and localized nature.

4.3 Aquatic Resources, Wetlands, Hydrology, and Water Quality

4.3.1 Existing Condition

Berlin Lake is located on the Mahoning River. Mill Creek, Deer Creek, and Island Creek are three large tributaries that flow directly into the reservoir. The Mahoning River flows into Pennsylvania where it joins the Shenango River forming the Beaver River.

According to the National Wetland Inventory (NWI) as of March 2021, the Project includes approximately 4,074.9 acres of wetlands. There are 58.9 acres of riverine wetlands, 3,190.9 acres of lake wetlands, 764.5 acres of freshwater forested/shrub wetlands, 54.5 acres of freshwater emergent wetlands, and 6.1 acres of freshwater pond wetlands. See Appendix B, Plate 5 of the MP for the wetlands map.

Water quality standards are the provisions that describe the desired condition of a water body and the means by which that condition will be achieved (USEPA, 2021d). Water quality standards for waters in Ohio are developed by the Ohio Environmental Protection Agency (OEPA) and approved by the USEPA. The water quality standards form the legal basis for controlling pollutants entering waters of the United States (WOTUS). Water quality standards consist of three core elements which are designated uses (recreation, water supply, aquatic life), criteria (numeric concentrations of chemical constituents and/or a narrative describing a condition), and antidegradation requirements (maintenance and protection of existing uses and high quality waters) (USEPA, 2021d).

States assess waters based on water quality standards to determine if waters are meeting designated uses, meeting water quality standard criteria and degradation requirements. Streams that do not meet these standards are considered impaired (USEPA, 2021d).

The upper Mahoning River watershed, which includes the reach of the Mahoning River upstream of Berlin Lake, Berlin Lake itself, Lake Milton, and the reach of the Mahoning River between Milton Dam and Leavittsburg, OH, was assessed by the OEPA in 2006 and was found to have impairments to aquatic life and recreational uses (OEPA, 2008). OEPA developed a Total Maximum Daily Load (TMDL) report, the “Upper Mahoning

River Watershed TMDL Report,” for the upper watershed, which was approved by the USEPA on September 28, 2011, to identify and address these impairments. This TMDL report addresses impairments for total phosphorus, habitat, siltation, and Escherichia coli bacteria. There are a number of point source discharges within the watershed regulated with National Pollutant Discharge Elimination System (NPDES) discharge permits. According to this TMDL report, the reach of the Mahoning River from Berlin Dam downstream to Leavittsburg, OH, which includes Lake Milton, is also impaired. Primary causes of impairment include siltation, flow alteration, nutrients, upstream dam releases, upstream impoundment, low dissolved oxygen, and poor habitat. Pollutants from wastewater treatment systems contribute to the impairment of the watershed (OEPA, 2011).

Water quality monitoring at the reservoir has been performed by the Corps regularly since 1969. Data collected includes chemical, physical, and biological samples. Project staff take biweekly samples from the reservoir inflow at Alliance, Ohio and at the dam outflow. Corps water quality staff conduct yearly limnology surveys of the reservoir. Also, every ten years, monthly intensive limnology surveys are conducted from March through November to document long-term changes within the reservoir.

Berlin Lake is a nutrient enriched and hyper-eutrophic impoundment that experiences moderate to severe thermal and chemical stratification during the summer season. Concentrations of iron, manganese, aluminum, phosphorus, ammonia nitrogen, apparent color, and acidity all increase with depth during the summer season. Conversely, water temperature, dissolved oxygen, phytoplankton, chlorophyll, nitrate-nitrite, nitrogen, and pH values decrease with depth in the reservoir. Anoxic, or low dissolved oxygen conditions, first develop in the deeper hypolimnetic waters of the reservoir in May and persist there until late September or early October. Abundant algal growth in the reservoir is likely due to increased nutrient inputs from wastewater treatment plants, aging sewer infrastructure leaks, and agricultural fertilizers. Factors that contribute to reservoir productivity and algae growth include nutrient over-enrichment, high water temperatures, sunlight, impoundment, and related summer thermal stratification. A rapid increase in algae growth is called an algae bloom, and a bloom of a species of algae or cyanobacteria (bluegreen algae) that can naturally produce biotoxins is called a harmful algae bloom (HAB). HABs can create biochemical conditions that may harm the health of the environment, plants, or animals. Algae and bluegreen algae blooms commonly occur every summer at Berlin Lake, and HABs were documented by the Corps during 2020 and 2021.

4.3.2 Environmental Consequences

4.3.2.1 No Action

Under the no action alternative, the 2021 MP would not be approved for the Project. The Project would continue to be managed under the existing 1984 MP. There are no known extensive development plans in the area that would be expected to cause water quality degradation in the reservoir. Continued water quality monitoring would occur with

the no action alternative to track any changes caused by local development, allowing corrective measures to be considered if needed. Impacts that would occur from proposed future development would continue to be evaluated for compliance with the Clean Water Act. No impacts to aquatic resources, wetlands, hydrology, or water quality would occur.

4.3.2.2 Proposed Action

Under the proposed action, future development under the 2021 MP would occur without adverse effects to the water quality of the reservoir or its tributaries. Construction activities would result in ground-surface disturbances that could increase runoff, but best management practices during construction would be expected to minimize the potential for adverse water quality impacts. After construction is completed, disturbed areas would be revegetated to minimize erosion and sedimentation, and to protect surface soils. The existing water quality in the reservoir is a result of factors substantially unrelated to the management actions on Project lands and results from land use and discharges to the watershed upstream from the Project.

Future development in areas surrounding the reservoir would require the use of appropriate best management practices to avoid adverse impacts to water quality. Those developments would be evaluated for water quality impacts and CWA permits would be obtained, as needed, once project specific plans and details are available. No impacts to aquatic resources, wetlands, hydrology, or water quality are expected to occur under this alternative.

The installation of suspended fish habitat structures is not considered fill for the purposes of CWA compliance and does not require an analysis under Section 404 or Section 401.

4.4 Invasive Species

4.4.1 Existing Condition

The most common invasive terrestrial plant species observed by staff at the Project are: Japanese honeysuckle (*Lonicera japonica*), Japanese knotweed (*Polygonum cuspidatum*), autumn-olive (*Elaeagnus umbellata*), buckthorns (*Rhamnus frangula*, *R. cathartica*), purple loosestrife (*Lythrum salicaria*), common reed or phragmites (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), garlic mustard (*Alliaria petiolata*), multiflora rose (*Rosa multiflora*), giant hogweed (*Heracleum mantegazzianum*), and bush honeysuckles (*Lonicera maackii*, *L. tatarica*, *L. morrowii*). The most common invasive insects are: Asian long-horned beetle (*Anoplophora glabripennis*), emerald ash borer (*Agrilus planipennis*), gypsy moth (*Lymantria dispar*), and the hemlock woolly adelgid (*Adelges tsugae*). The most common aquatic invasive species are the hydrilla (*Hydrilla verticillata*) and the zebra mussel (*Dreissena polymorpha*).

4.4.2 Environmental Consequences

4.4.2.1 No Action

Currently there is no management plan for invasive species. Under the no action alternative, the District would continue to implement best management practices with regards to invasive species management. No adverse impacts from invasive species are expected.

4.4.2.2 Proposed Action

The 2021 MP proactively addresses invasive species issues and will follow current District policy by using a formalized process of adaptive and best management practices in prevention, education, early detection, rapid response, and containment to try to control and manage invasive species. One of the proposed development activities is to develop an invasive species management plan. It is expected that there will be a minor beneficial impact as a result of the control and reduction of invasive species at the Project and further beneficial impacts when the management plan has been developed and implemented.

4.5 Fish and Wildlife Habitat

4.5.1 Existing Condition

Fish and wildlife habitats at the Project consist of forested habitat, scrub-shrub uplands, wetlands, streams, the Mahoning River and the reservoir. The Project habitats support a variety of wildlife species common to Ohio. According to project staff, few of the more common avian species likely to occur at the Project include osprey (*Pandion haliaetus*), turkey (*Meleagris gallopavo*), red-winged blackbirds (*Agelaius phoeniceus*), robins (*Turdus migratorius*), song sparrows (*Melospiza melodia*), common mergansers (*Mergus merganser*), and mallards (*Anas platyrhynchos*).

Berlin Lake is designated as an Important Bird Area (IBA). The IBA program is a partnership between BirdLife International and the National Audubon Society and recognizes those areas which provide breeding, wintering, or migration habitat (Audubon, 2021a). IBA sites are categorized by their priority (state, global, or continental), and Berlin Lake is recognized as a state priority in Ohio (Audubon, 2021b). Berlin Lake is part of the larger Berlin Lakes System comprised of Berlin Reservoir, Lake Milton, and Walborn Reservoir, which provide shoreline and mudflat habitat for migratory shorebirds. A variety of species visit the shoreline and mudflats when Berlin Lake levels drop beginning in mid-summer through the fall (Audubon, 2021c).

Mammal species of the region commonly observed by project staff include white-tailed deer (*Odocoileus virginianus*), red fox (*Vulpes vulpes*), opossum, (*Didelphis virginiana*), raccoon (*Procyon lotor*), and gray squirrel (*Sciurus carolinensis*). In addition, the Project supports a variety of amphibians and reptiles, including multiple frog, turtle, salamander, and snake species.

The Project also provides habitat for a diverse assemblage of fish species. Project staff have observed species including smallmouth/largemouth bass (*Micropterus sp.*),

walleye (*Sander vitreus*), yellow perch (*Perca flavescens*), black crappie (*Pomoxis nigromaculatus*), muskellunge (*Esox masquinongy*), catfish (i.e., *Ictalurus punctatus*, *Ameiurus catus*, etc.), common carp (*Cyprinus carpio*), white sucker (*Catostomus commersonii*), golden redhorse (*Moxostoma erythrurum*), green sunfish (*Lepomis cyanellus*), pumpkinseed (*Lepomis gibbosus*), bluegill (*Lepomis macrochirus*), bluntnose minnow (*Pimephales notatus*), and white crappie (*Pomoxis annularis*).

4.5.2 Environmental Consequences

4.5.2.1 No Action

Continued use of the existing 1984 MP would not be expected to have an effect on fish and wildlife habitat.

4.5.2.2 Proposed Action

Proposed development actions on the Project must comply with the NEPA and all other laws pertaining to the conservation of natural resources, including fish and wildlife habitat. Prior to implementation of any development activity that could adversely impact wetlands, terrestrial habitats, or aquatic habitats, field surveys and all appropriate coordination with state and/or federal agencies will be conducted by the Corps. As such, future development would occur with minimal effects to the habitats of the Project. No significant impacts to fish and wildlife habitat are expected with the 2021 MP.

Two acres of open water are proposed to be reclassified as a fish and wildlife sanctuary zone. Fish and wildlife sanctuary zones have annual or seasonal restrictions on areas to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning. The two acres at the Project that fall under this category are designated as an Osprey nesting area and are restricted from 1 March through 30 September. This will have a minor beneficial impact to osprey habitat. Restricting this area will reduce disturbance to nesting ospreys.

Minor beneficial impacts to fish habitat are expected with the installation of suspended fish habitat structures. Minor beneficial impacts to fish and wildlife habitat are expected with native plantings and invasive species removal.

4.6 Federally Protected Species, including Threatened and Endangered Species

Under the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531-1544), endangered species are defined as any species in danger of extinction throughout all or portions of its range. A threatened species is any species likely to become endangered in the foreseeable future. The ESA defines critical habitat of the above species as a geographic area that contains the physical or biological features that are essential to the conservation of a particular species and that may need special management or protection. This section also covers birds listed under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C § 703-712) as birds of conservation concern and birds listed under the Bald and Golden Eagle Protection Act (16 U.S.C. § 668-668d).

4.6.1 Existing Condition

The USFWS Information for Planning and Consultation (IPAC) website provides site specific information regarding whether or not threatened or endangered species may be present in a particular location. The species information is made available through a search of the IPAC database along with county species lists maintained by the USFWS Ohio Field Office (USFWS, 2021a). A review of this information, as of August 10, 2021, included five species: the Indiana bat (*Myotis sodalis*), the northern long-eared bat (*Myotis septentrionalis*), northern wild monkshood (*Aconitum noveboracense*), Mitchell's satyr butterfly (*Neonympha mitchellii*), and the eastern massasauga rattlesnake (*Sistrurus catenatus*).

Potentially occupied habitat exists for the endangered Indiana bat at the Project. The Indiana bat roosts under the peeling bark of dead and dying trees during the summer months and hibernates during the winter months in caves or abandoned mines (USFWS, 2021b).

Potentially occupied habitat exists for the threatened northern long-eared bat at the Project. During the summer months, the northern long-eared bat resides underneath bark, in cavities or crevices of both live trees and snags (dead trees) and hibernates during winter months in caves and mines (USFWS, 2021c).

Northern wild monkshood is a threatened plant species typically found on shaded to partially shaded cliffs, alagific talus slopes, or on cool streamside sites (USFWS, 2021d).

Mitchell's satyr butterfly is endangered and inhabits fens, which are a rare type of wetland (USFWS, 2021e). Fens develop over a long period of time, up to 10,000 years, and receive nutrients from drainage of surrounding mineral soils and groundwater movement. They are capable of forming peat and have significantly declined due to mining and agricultural activities (USEPA, 2021e).

The eastern massasauga rattlesnake is threatened and inhabits wet areas including wetlands and low areas along rivers and lakes (USFWS, 2021f.)

Bald eagles are known to nest within the Project and are regularly sighted in the vicinity of the reservoir. These birds are protected under the MBTA and the Bald and Golden Eagle Protection Act.

4.6.2 Environmental Consequences

4.6.2.1 No Action

The no action alternative would not affect federally listed threatened and endangered species and would not affect bald eagles.

4.6.2.2 Proposed Action

The proposed action of adopting the 2021 MP would not affect the Indiana bat, the northern long-eared bat, northern wild monkshood, Mitchell's satyr butterfly, or the eastern massasauga snake. The proposed action would not affect bald eagles.

Best management practices, to include seasonal restrictions on tree and vegetation removal, would ensure that no impact would occur. These restrictions would be species specific, based on recovery plans. Once site specific details are available for future proposed development, those plans will be reviewed to determine compliance with the ESA. Consultation with the USFWS under Section 7 of the ESA will be initiated if it is determined that those activities may affect ESA-listed species. Prior to any clearing of vegetation or construction activities, coordination with the USFWS will be performed and surveys for Indiana bats, northern long-eared bats, and eastern massasauga rattlesnakes would be conducted as necessary to ensure compliance. By avoiding sensitive areas and sensitive seasons (April-October for trees equal to or greater than 3-inches diameter at breast height (dbh) that may be used as bat habitats) and using adaptive management as needed to correct any unforeseen impacts, no significant impact to threatened or endangered species is expected. To ensure that no impacts to bald eagles will occur, the USFWS' *Bald Eagle Management Guidelines and Conservation Measures* will be followed (USFWS, 2021g.) Surveys and best management practices, as appropriate, will be conducted if proposed development activities may affect ESA-listed species and/or bald eagles.

There will be no effect to any federally listed species or to critical habitat from the proposed picnic shelter at the Mill Creek Day Use Area or from the installation of the fish habitat structures. All other proposed development projects will need to be evaluated for effects to threatened and endangered species once plan details are available.

4.7 Historic Properties and Other Cultural Resources

4.7.1 Existing Condition

The Project is one of rich cultural history. Project lands had been inhabited for thousands of years prior to the European settlement. This is evidenced in the archaeological record encountered during previous investigations. Eight different cultural resource surveys have been completed within the Project; therefore, 40% of the Project has been surveyed. The intent of some these surveys was to identify cultural resources for the future management, while others were associated with specific projects and undertakings. Furthermore, regional universities have performed excavations within known archaeological sites at the Project with the purpose of obtaining additional information and training students on how to perform archaeological fieldwork and cultural resources investigations. Additional research is still necessary in order to fully understand and manage cultural resources within the Project.

Archaeological research indicates that the area has been inhabited from Archaic times (4,850 BP. – 11,700 BP.) to the 20th century. A total of 58 cultural resources have been identified within Project lands. These include archaeological sites, historic buildings, and structures. One of the most visible cultural resource within the Project is the Berlin Dam. This structure has been determined to be eligible for inclusion in the National Register. The National Register is the official list of the nation's historic places worthy of

preservation. However, most of the Project's cultural resources are archaeological sites. Many of these sites have the potential to produce important information about prehistoric and historic activities within the Project's lands.

4.7.2 Environmental Consequences

4.7.2.1 *No Action*

Under the no action alternative, the 2021 MP would not be approved for the Project in the foreseeable future. Section 106 of the NHPA of 1966, as amended, and its implementing regulations (36 CFR Part 800) require Federal agencies to take into account the effect of an undertaking on historic and archeological resources if that project is under the direct or indirect jurisdiction of the agency or has been licensed or assisted by that agency. Compliance with the NHPA is required for any future development. The no action alternative will not impact cultural resources.

4.7.2.2 *Proposed Action*

Implementing the 2021 MP with future development actions would be expected to have no effect on the cultural resources of the Project as all proposed development actions would still be required to comply with the NHPA. Prior to implementation of any ground disturbing activity, including any of the future development proposed, field surveys and Section 106 NHPA coordination with the Ohio State Historic Preservation Office (SHPO) will be conducted by the Corps. Federal and state laws require federal agencies to minimize or mitigate adverse impacts to historic properties (36 CFR Part 800.13). Should unanticipated historic or prehistoric resources be discovered during ground disturbing activities, work must cease immediately, and the Corps will contact the Ohio SHPO.

The installation of the picnic shelter at the Mill Creek Day Use Area does not have the potential to affect historic properties or cultural resources. The shelter will be constructed from a prefabricated kit and placed on top of the existing asphalt parking lot. The ground underneath the parking lot was previously disturbed during its construction and the anchor posts will be driven through the asphalt into this previously disturbed ground. Consultation with the Ohio SHPO will be initiated for the other proposed development activities, including the demolition of the government building, described in Section 3.2 of this EA when plan details are available.

4.8 Floodplains

4.8.1 Existing Condition

Floodplains are present adjacent to areas along the reservoir and its tributaries.

4.8.2 Environmental Consequences

4.8.2.1 *No Action*

Continuing to manage the Project under the 1984 MP would not be expected to impact floodplains.

4.8.2.2 Proposed Action

There would be no environmental consequences of adopting the 2021 MP expected to affect floodplains at the Project.

4.9 Hazardous, Toxic, and Radioactive Waste

4.9.1 Existing Condition

Hazardous materials are regulated by the Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Oil Pollution Act; Toxic Substances Control Act; and related guidelines established by the Corps and Ohio. There are no permitted hazardous waste disposal facilities in proximity to the Project.

While petroleum is not regulated under CERCLA, there are areas within the Project where petroleum products are present and pose the potential for leaks and/or discharges. At the Project, the Dutch Harbor Marina provides refueling. Petroleum products are stored in underground/aboveground storage tanks. A search of U.S. EPA's Envirofacts database shows facilities with NPDES permits within the vicinity of the Project (USEPA, 2021f). There are no active or abandoned coal mines located within the Project. There are seven inactive oil and gas wells and 41 active oil and gas wells on Corps fee owned property.

4.9.2 Environmental Consequences

4.9.2.1 No Action

Under the no action alternative, the 2021 MP would not be approved for the Project. Future development would likely still occur without the benefit of a comprehensive planning document. Regardless, there would be no environmental consequences related to hazardous, toxic, and radioactive waste (HTRW) because these substances are not found on Project lands. If any developments on the Corps property are proposed, Federal law requires site-specific environmental due diligence on a case-by-case basis before development can occur. Any change in the storage or use of hazardous materials must comply with federal regulations.

4.9.2.2 Proposed Action

Implementing the 2021 MP would be expected to have no effect on HTRW materials. Any future development proposed requires site-specific environmental due diligence. Any change in the storage or use of HTRW materials must comply with federal regulations, and as such the implementation of the 2021 MP would not cause any environmental consequences.

Due to the age of the government building, there is the potential for the presence of asbestos containing materials and lead-based paint inside the buildings. Prior to any demolition work, the Corps and/or its contractor will be responsible for assessment, testing, and abatement, as applicable. Lead-based paint or asbestos containing materials, if present, will be managed in accordance with ER 200-2-3, Environmental Compliance Policies, and other applicable laws and regulations.

4.10 Land Use

4.10.1 Existing Condition

The Project provides a wide variety of recreational opportunities. The Project provides opportunities for camping, boating, and swimming and access for hunting and fishing. There are multiple recreation and picnic areas located throughout the project.

4.10.2 Environmental Consequences

4.10.2.1 *No Action*

Under the no action alternative, the 2021 MP would not be approved for the Project in the foreseeable future. Recreation and visitation would likely continue. The continued use of the 1984 MP would not accurately reflect existing or future recreational needs with regard to land use. The Corps would continue to operate the Project but without the benefit of an updated MP as guidance for management decisions. Without an updated MP, it is possible that Project-wide consideration of individual actions may be lost.

4.10.2.2 *Proposed Action*

The recreational needs of the public would be better accommodated through the implementation of the proposed action and is reflective of the changes in land usage. While the nomenclature has changed for the land classifications, the uses of those lands will remain similar to their current uses. No adverse impacts or changes in land use will occur with the new nomenclature. No recreational capacity, facilities, or lands are lost on account of this reclassification.

4.11 Navigation

There are no navigable waters, as defined in 33 CFR Part 329, within the Project. No impacts to navigable waters will occur with either the no action alternative or the proposed action alternative.

4.12 Noise Levels

4.12.1 Existing Condition

Noise levels are measured in units of sound pressure levels called decibels. A-weighted sound levels, abbreviated as dBA, describe how the human ear perceives relative loudness (USDL, 2021). Typical noise sources at the Project such as those described in Table EA-3, would include commercial and residential vehicle traffic, lawn care, motorboats and jet skis, and temporary construction projects (USDL, 2021 and CDC, 2021). Noise levels above 85 decibels can damage hearing depending upon the length of time that someone is exposed to the noise (CDC, 2021).

Table EA-3. Typical noise sources and levels (USDL, 2021 and CDC, 2021).

Noise Source/Activity	Typical Noise Level (dBA)
Silent Room	20
Residence	50
Normal Conversation	60
City Traffic	85
Lawn Mower	85

Motorboat and Jet Ski	90
Motorcycle	95
Car Horn (at 16 feet)	100
Construction Activity (Operating Heavy Equipment)	120

4.12.2 Environmental Consequences

4.12.2.1 *No Action*

Under the no action alternative, the 2021 MP would not be approved for the Project. No changes to typical noise levels at the Project would occur and no adverse impacts are expected. Temporary increases in noise would be expected during construction activities, but best management practices would be implemented to minimize noise from construction equipment and activities. Noise levels would be expected to return to typical levels once construction activities are complete.

4.12.2.2 *Proposed Action*

Implementing the 2021 MP would not result in long-term effects related to the level of background or ambient noise at the Project. Temporary increases in noise would be expected during future construction, but best management practices would be implemented to minimize noise from construction equipment and activities. Noise levels would be expected to return to typical levels once construction activities are complete.

4.13 Public Infrastructure

4.13.1 Existing Condition

Roadways within the Project allow access to camping, recreation areas, picnic areas, and fishing and boating access.

4.13.2 Environmental Consequences

4.13.2.1 *No Action*

Under the no action alternative, the Project would continue to be managed by the 1984 MP. Regular roadway maintenance would be expected to occur. No adverse impacts to public infrastructure are expected.

4.13.2.2 *Proposed Action*

The 2021 MP proposed facility modernization including improvements to roads leading to and surrounding the Project. Implementing the 2021 MP would provide minor beneficial impacts to public infrastructure (roadways) within the Project.

4.14 Environmental Justice and Socioeconomics

Executive Order (EO) 12898, dated February 11, 1994, directs each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

The CEQ has oversight of the federal government's compliance with EO 12898 and NEPA. CEQ, in consultation with the USEPA and other affected agencies, developed NEPA guidance for addressing requirements of the EO (CEQ, 1997). This guidance was developed to further assist federal agencies with their NEPA procedures so that environmental justice (EJ) concerns are effectively identified and addressed.

The CEQ has also identified six general principles for consideration in identifying and addressing EJ in the NEPA process which include: (1) area composition (demographics); (2) data (concerning cumulative exposure to human health or environmental hazards); (3) interrelated factors (recognize the interrelated cultural, social, occupational, or economic factors); (4) public participation; (5) community representation; and (6) tribal representation.

The following definitions are used by the CEQ in guidance on key terms of the EO:

- **Low-income population:** Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports, Series P-60 on Income and Poverty. In identifying low income populations, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect.
- **Minority:** Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
- **Minority population:** Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies may consider as a community either a group of individuals living in geographic proximity to one another, or a geographically dispersed/transient set of individuals (such as migrant workers or Native American), where either type of group experiences common conditions of environmental exposure or effect. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.

- Disproportionately high and adverse human health effects: When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 - Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death.
 - Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group.
 - Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.
 - Disproportionally high and adverse environmental effects: When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
 - Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment.
 - Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group.
 - Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

4.14.1 Existing Condition

The Project is located in Mahoning, Portage, and Stark Counties, Ohio. Data from the US Census Bureau indicates that approximately 11.9% of the population in Portage County, 18.4% of the population in Mahoning County, and 13.0% of the population in Stark County are considered low-income (USCB, 2021). Approximately 9.1% of the population in Portage County, 19.7% of the population in Mahoning County, and 12% of the population in Stark County are considered minority populations (USCB, 2021).

4.14.2 Environmental Consequences

4.14.2.1 *No Action*

Under the no action alternative, the 2021 MP would not be adopted, and the Project would continue to operate under the existing 1984 MP. Continuing to operate under the 1984 MP would not cause disproportional adverse effects to either minority or low-income communities.

4.14.2.2 *Proposed Action*

Implementing the 2021 MP would not cause disproportionate adverse effects to minority or low-income communities.

4.15 Climate Change

4.15.1 Existing Condition

Average annual precipitation for nearby Youngstown, Ohio totals 38.91 inches. July is the warmest month with an average high temperature of 80°F, while January is the coldest month with an average high temperature of 33°F (USCD, 2021).

Climate change is expected to continue to warm the region throughout the 21st century, with temperature increases projected to occur relatively evenly throughout the year (Drum et al., 2017). Intolerant flora and fauna, as well as species currently existing on the edge of their range, are at greatest risk of local extirpation as a result of altered environmental conditions expected under climate change (USEPA, 2021h). There is potential for water management and water quality difficulties, such as not being able to make summer pool in time for the recreation season due to drought conditions (USEPA, 2021i). Climate change may also cause increased storm runoff, which could potentially result in greater inputs of pollution, which in turn can affect water quality of the reservoir and downstream of the reservoir. Increased runoff may alter rates of sedimentation within the reservoir and reduce the lifetime of the reservoir (USEPA, 2021j).

4.15.2 Environmental Consequences

4.15.2.1 *No Action*

Under the no action alternative, the Project would continue to be operated under the 1984 MP. No changes to climate would occur under the no action alternative.

4.15.2.2 *Proposed Action*

There would be no environmental consequences on the climate for present or future actions resulting from adopting the 2021 MP in the project vicinity.

4.16 Child Health and Safety

4.16.1 Existing Condition

While there are no schools or daycares within the Project, children are expected to be present at the Project due to the variety of recreational opportunities, including campgrounds, located at the Project.

4.16.2 Environmental Consequences

4.16.2.1 No Action

Under the no action alternative, the Project would continue to be managed under the 1984 MP. Appropriate safety measures would be implemented during any construction activities to protect child health and safety. No adverse impacts to child health and safety would occur.

4.16.2.2 Proposed Action

The 2021 MP includes future construction and development. Appropriate safety measures would be implemented during any construction activities to protect child health and safety. No adverse impacts to child health and safety are expected with the 2021 MP.

5 Summary of Environmental Effects

The 2021 MP provides guidelines and direction for future Project development and use, and are based on authorized Project purposes, Corps of Engineers policies and regulations on the operation of Corps of Engineers projects, responses to regional and local needs, resource capabilities and suitable uses, and expressed public interests consistent with authorized Project purposes and pertinent legislation.

Careful planning, sound engineering, appropriate coordination with resource agencies and effective execution have developed the recreational resources at the Project while protecting and enhancing the important environmental resources; these practices would be expected to continue.

If and when future development projects were implemented, localized and temporary construction-related effects (e.g., diesel/gasoline engine emissions, noise, fugitive dust, minor earth-moving) would be the extent of the environmental consequences.

Compliance with the CWA, ESA, NHPA, and other environmental laws as applicable, would be completed prior to future development projects to ensure that no significant environmental effects occur.

6 Compliance with Environmental Laws

Acceptance of the 2021 Berlin Lake MP and the subsequent construction of the potential future modifications to existing infrastructure as well as new features would not commence until the proposed actions achieve environmental compliance with the applicable laws and regulations, as described below. Environmental compliance for any proposed actions would be achieved upon coordination of this Environmental

Assessment with appropriate agencies, organizations, and individuals for their review and comments.

Bald and Golden Eagle Protection Act, 16 U.S.C. §668-668d.

In compliance.

The Bald and Golden Eagle Protection Act prohibits the taking, possession or commerce of bald and golden eagles, except under certain circumstances. Amendments in 1972 added penalties for violations of the Act or related regulations. Adopting the 2021 MP would not adversely affect bald or golden eagles, or their habitat.

Clean Air Act, as amended, 42 U.S.C. § 1857h-7, et seq.

In compliance.

The purpose of this Act is to protect public health and welfare by the control of air pollution at its source, and to set forth primary and secondary National Ambient Air Quality Standards to establish criteria for States to attain or maintain. Minor and temporary releases would occur during construction activities for actions to maintain or improve facilities at the Project; however, these emissions would be short-term, small-scale, and would be considered *de minimis*. No significant impacts to air quality are expected with the adoption of the 2021 MP.

Clean Water Act, as amended, (Federal Water Pollution Control Act) 33 U.S.C. § 1251, et seq.

In compliance.

The Clean Water Act (CWA) is the primary legislative vehicle for federal water pollution control programs and the basic structure for regulating discharges of pollutants into WOTUS, which includes navigable waters, rivers, streams, and wetlands. The CWA was established to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” The CWA sets goals to eliminate discharges of pollutants into navigable waters, protect fish and wildlife, and prohibit the discharge of toxic pollutants in quantities that could adversely affect the environment. The Corps regulates discharges of dredge or fill material into WOTUS pursuant to Section 404 of the CWA. Section 404 authorization is required to place dredge or fill material into WOTUS. If authorization under Section 404 is required, then Section 401 water quality certification is required from the state of Ohio. A NPDES permit would be required under Section 402 of the CWA if proposed construction activities would disturb greater than one acre of land.

The proposed projects considered in the 2021 MP would likely not result in the placement of dredge or fill material into WOTUS; however once plan details are available the project sites will be evaluated to ensure compliance with the CWA.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

Not applicable.

CERCLA was passed in response to numerous abandoned, leaking hazardous waste sites, discovered in the late 1970's, which posed serious threats to human health and the environment. CERCLA was designed to impose cleanup and reporting requirements on the private sector, as well as federal facilities, by identifying those sites where releases of hazardous substances had occurred or might occur, and pose a serious threat to human health, welfare or the environment; taking appropriate action to remedy those releases; and seeking that the parties responsible for the releases pay for the cleanup activities. CERCLA authorizes cleanup responses when there is a release or threat of a release of a hazardous substance into the environment and sets a framework for accomplishing those actions. To the extent such knowledge is available, 40 CFR Part 373 requires notification of CERCLA hazardous substances in a land transfer. The implementation of the 2021 MP would not involve real estate transactions.

Endangered Species Act, as amended. 16 U.S.C. § 1531, et seq.

In compliance.

The Endangered Species Act (ESA) establishes a national program for the conservation of threatened and endangered species of fish, wildlife, and plants and the habitat upon which they depend. Section 7(a) of the ESA requires that federal agencies consult with the USFWS to ensure that proposed actions are not likely to jeopardize the continued existence of endangered or threatened species or to adversely modify or destroy designated critical habitats.

The adoption of the 2021 MP would not affect threatened or endangered species. Future development will be evaluated for compliance with the ESA once specific plans and details are developed. Agency consultations, if necessary, will be conducted for future developments once plans are established.

Environmental Justice (E.O. 12898).

In compliance.

E.O. 12898 mandates that “each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The proposed updates to the MP do not disproportionately affect minority or low-income populations.

Federal Water Project Recreation Act, 16 U.S.C. § 460(l)(12), et. seq.

In compliance.

In the planning of any federal navigation, flood control, reclamation, or water resources project, the Federal Water Project Recreation Act, as amended, requires that full consideration be given to opportunities that the Project affords for outdoor recreation and fish and wildlife enhancement. The Act requires planning with respect to development of recreation potential. Projects must be constructed, maintained, and operated in such a manner if recreational opportunities are consistent with the purpose of the Project. The proposed updates to the MP include development of recreational opportunities, and fish and wildlife enhancement.

Fish and Wildlife Coordination Act, as amended, 16 U.S.C. § 661, et seq.

In compliance.

The Fish and Wildlife Coordination Act requires governmental agencies, including the Corps, to coordinate activities so that adverse effects on fish and wildlife would be minimized when water bodies are proposed for modification. No modifications are proposed in association with the proposed update to the MP.

Migratory Bird Treaty Act

In compliance.

The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms, or implements, the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The take of any migratory bird is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent overutilization. Executive Order 13186 (2001) directs agencies to take certain actions to implement the act. The Corps of Engineers will consult with the USFWS with regard to their consideration of the effects of the actions identified in the MP revision for potential effects on migratory birds for future development projects once specific plans and details are available. No effects are anticipated from the adoption of the 2021 MP.

National Historic Preservation Act, as amended, 16 U.S.C. § 470a, et seq.

In compliance.

Section 106 of the NHPA of 1966 and its implementing regulations (36 CFR Part 800) require federal agencies to identify and resolve adverse effects to historic properties within the Area of Potential Effects (APE) of projects, activities, or programs funded in whole or in part under direct or indirect jurisdiction of a federal agency. Historic properties include buildings, structures, objects, sites, and historic districts worthy of preservation due to historic significance. This process is carried out in consultation with Advisory Council on Historic Preservation, State Historic Preservation Offices (SHPO), Certified Local Governments, Indian Tribes, and the interested public.

The Pittsburgh District has made the determination that the actions identified in the proposed 2021 MP update (coordinating partnerships, prioritizing actions that improve visitor safety and experience, conservation of wildlife management and ESAs, surveys, native plantings, and invasive species removal, management of threatened and endangered species with USFWS recovery plans) do not have the potential to adversely impact cultural resources.

Consultation with the Ohio SHPO will be initiated for the proposed development projects identified in Section 3.2 of this EA once plan details are available.

National Environmental Policy Act (NEPA), as amended, 42 U.S.C. § 4321, et seq.

In compliance.

This EA and Finding of No Significant Impact (FONSI) have been prepared in accordance with the CEQ's NEPA Implementing Regulations (40 CFR Part 1500-1508). An Environmental Impact Statement (EIS) is not required.

Noise Control Act of 1972, 42 U.S.C. § 4901 to 4918.

In compliance.

This Act establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. Federal agencies are required to limit noise emissions to within compliance levels. Noise emission levels at the Project site would increase above current levels temporarily due to construction of improvements or features identified in the 2021 MP. Appropriate measures would be taken to keep the noise level within the compliance levels.

Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403

In compliance.

This law prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army. The actions identified in the 2021 MP would not involve the construction of structures within the reservoir.

Floodplain Management, E.O. 11988

In compliance.

Executive Order 11988 requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy of the floodplain, and to avoid direct and indirect support of floodplain development where there is a practicable alternative. In accomplishing this objective, "each agency shall provide

leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by flood plains.” The actions identified in the 2021 MP would not affect the flood holding capacity or flood surface profiles of the reservoir.

Invasive Species, E.O. 13312

In compliance.

Federal agencies shall not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions. No invasive species will be introduced to the Project as a result of the proposed updates to the MP. Invasive species will be managed and controlled at the Project through invasive species removal and the development of control methods.

Protection of Wetlands, E.O. 11990

In compliance.

Executive Order 11990 encourages federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands when undertaking federal activities and programs. Each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands, which may result from such use. The actions identified in the 2021 MP would not involve construction in, or effects to, wetlands. Future development proposed will be evaluated for compliance under the CWA once specific plans and details are developed.

7 Public Involvement

A scoping meeting was held on September 20, 2018 with Corps staff, Project partners and key stakeholders. In compliance with 40 CFR Part 1501.4(e)(2), this EA was circulated for a 30-day review to concerned agencies, organizations, and the interested public from September 27, 2021 to October 27, 2021. A number of comments were received with one comment letter pertaining specifically to the EA. See Section 9 for comment summary and response. The EA and FONSI will be retained in the Pittsburgh District's administrative files for future reference and as a record of NEPA compliance.

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9 Public Comments and Responses

Environmental Assessment

One comment letter was received with the following comments pertaining specifically to the EA. Other public comments received related to the Master Plan are addressed in the Master Plan document (see Appendix C), with the summary included below.

Comment 1: Clean Water Act

“The Project is not in compliance with The Clean Water Act for the following reasons:

-the Clean Water Act requires that storage and water releases shall not be provided as a substitute for adequate treatment or other methods of controlling water at the source;

-while states can issue discharge permits, such permits cannot negatively or adversely affect the water quality and cannot be used if the waters of Berlin are used as a method to alleviate pollution.

Based on the foregoing, the Ohio EPA should not dictate flow requirements to flush or dilute pollution in, through or out of Berlin Lake or do the same for pollution downstream.”

Corps Response:

This Environmental Assessment analyzes the impacts of the Proposed Action, which is the adoption of the revised Master Plan document and the recommendations outlined in Table EA-2. Storage, water releases, and flow requirements are outside of the scope of this Environmental Assessment.

Per Engineer Pamphlet, 1130-2-550, *Recreation Operations and Maintenance Guidance Procedures*, “the Master Plan does not address the specifics of regional water quality, shoreline management (ER 1130-2-406), or water level management. The operation and maintenance of project operations facilities is not included in the Master Plan.”

Comment 2: Fish and Wildlife Coordination Act

“The Project is not in compliance because the Project has ignored the ODNR requests to maintain the lake level in a manner that is beneficial to the Walleye population”

Corps Response:

The Environmental Assessment analyzes the impacts of the Proposed Action as described above. Lake elevations are outside the scope of this Environmental Assessment.

Comment 3: Protection of Wetlands

“The Project is not in compliance as annually the wetlands are drained in mid-summer or early fall.”

Corps Response:

As stated above, the Environmental Assessment analyzes the impacts of the Proposed Action. Lake elevations and associated changes to wetland hydrology are outside the scope of this Environmental Assessment.

Comment 4: Harmful Algal Blooms (HABs)

A comment was made noting that the EA stated that no HABs were identified at Berlin Lake.

Corps Response:

The EA contained an error. Section 4.3.1 has been updated to include information regarding the documentation of HABs in 2020 and 2021.

Master Plan

Comments received for the Master Plan were grouped by topic. The topics and Corps responses are as follows:

Comment Topic 1: Lake levels, water quality, and shoreline management:

The majority of comments were in regard to water level management, water quality, and shoreline management. Per Engineer Pamphlet, 1130-2-550, Recreation Operations and Maintenance Guidance Procedures, “the Master Plan does not address the specifics of regional water quality, shoreline management (ER 1130-2-406), or water level management. The operation and maintenance of project operations facilities is not included in the Master Plan.” Further detail and information in relation to lake levels, water quality and shoreline management will be provided when the Corps updates the Water Control Manual and Shoreline Management Plan.

Comment Topic 2: Discharge Permits:

There were several comments in regard to management activities that fall under the purview of Ohio Environmental Protection Agency (OEPA). The Corps does not issue discharge permits, these permissions are granted by OEPA.

Comment Topic 3: Land and water classifications:

A question was posed as to where fish and wildlife sanctuary classifications could be found. Land classifications can be found in Appendix B, Plate 6, Land Classification map. Water classifications can be found in Appendix B, Plate 7, Recreation map. Fish and wildlife sanctuary areas are not physically marked at the Project; however, staff regularly remind visitors that these locations are no-wake from 1 March through 30

September. In addition, the 1984 Land Class map was added as Appendix B, Plate 8 as a reference to previous land and water classifications. A comment was also made referencing a no-wake zone starting at Route 225 going upstream. This area has been updated on Plate 7, Recreation map to show open recreation. Acreage numbers were also changed for no-wake and open recreation. Lastly, language was added under German Church Boat Launch that states “this launch is open year-round; however, it may not be accessible certain times of the year depending on water levels.”

Comment Topic 4. Project Authorizations:

Comments were posed in regard to authorizing purposes. Section “1 Project Authorization”, lists the Projects operating purposes and authorities. Use of the word “primary” was removed from section “1.1 Project Purpose.”

Comment Topic 5. Water Quality and Sedimentation:

Questions were posed to sections “2.1.7 Water Quality and 2.1.8 Sedimentation.” Some changes and additions were made to these sections. However, further detail and information will be presented in a forthcoming update to the Water Control Manual.

Comment Topic 6: Cultural Resources:

There was a concern about the status of the Project’s Cultural Resource Management Plan. Additional research is necessary in order to fully understand and manage cultural resources at the Project. A Cultural Resource Management Plan is in the process of being prepared for the Project.

Comment Topic 7: Socio-economics:

Numbers were adjusted in section “2.3.2 Population” to include 2020 census numbers as well as the historic 2010 numbers to better illustrate the decline or lack of change in population for the market area. Additional information was also added to section “2.3.5 Economic Impact of Recreation Related Spending” to further explain that the Project is pulling a greater number of visitors from outside the market area. This information was retrieved by comment cards.

Comment Topic 8: Best Management Practices:

Considerations to adding additional language related to water level management and its effects on fish/amphibian habitat was requested under Best Management Practices. The Master Plan and associated best management practices for land and water classifications do not address specifics of water level management. Suggested best management practices were reviewed by the resource experts for merit, feasibility, and appropriateness for Corps implementation.

Comment Topic 9: Special Considerations:

A question was posed on the highest levels of acid, alkaline, and metal mine drainage within the Project area. However, the Corps does not currently possess a map showing

these specifics; therefore, this information was not incorporated into the Master Plan. Additionally, language regarding draw-downs was removed from section “5.11 Important Bird Area.”