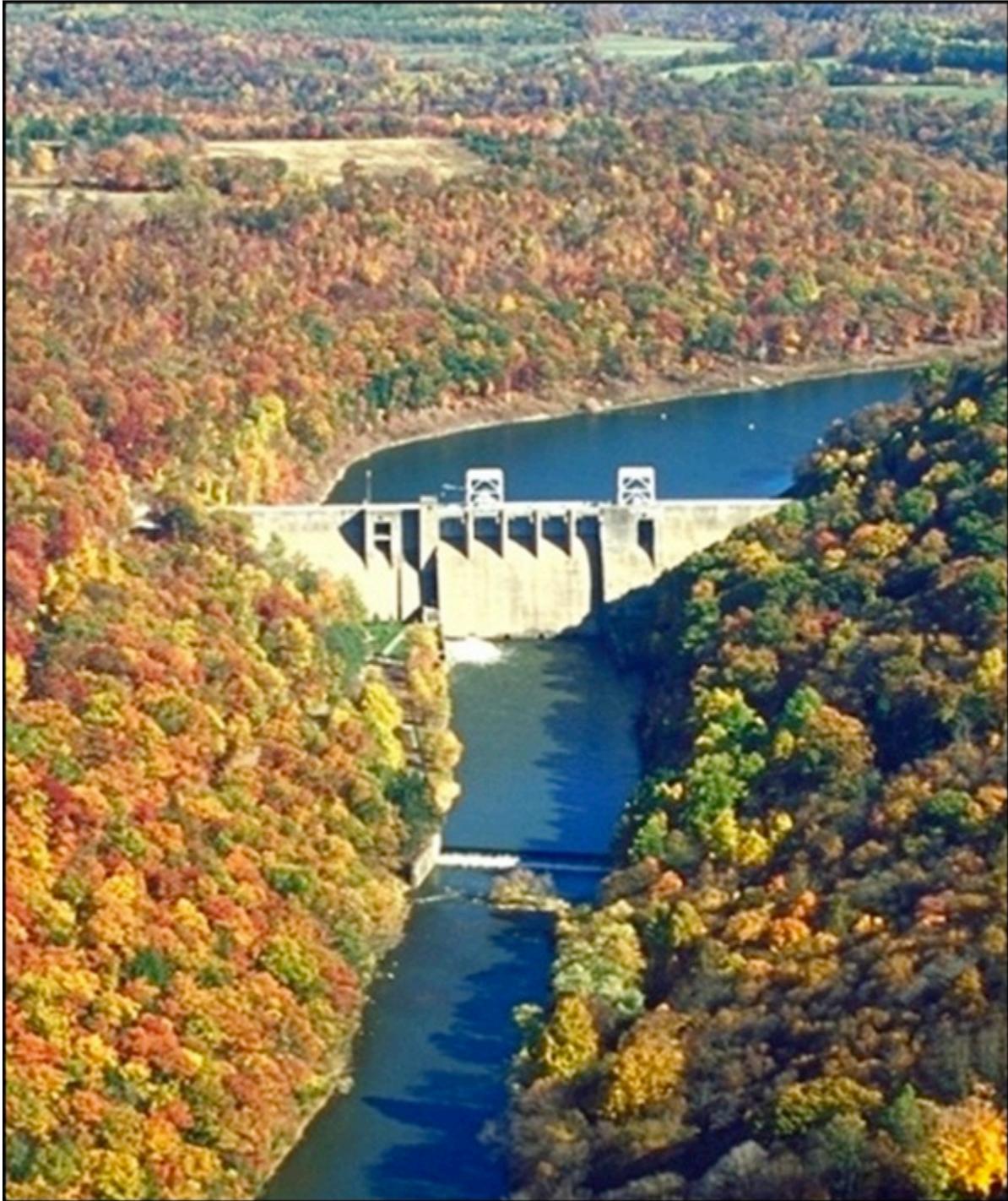


# Environmental Assessment

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Mahoning Creek Lake Master Plan Update

Mahoning Creek Watershed



## Table of Contents

1	Purpose and Need .....	1
1.1	Introduction and Background.....	1
1.1.1	Land Allocations and Classifications.....	1
1.2	Project Area.....	3
1.3	Purpose and Need.....	3
1.4	Prior NEPA Documentation.....	5
2	Alternatives .....	5
2.1	No Action .....	5
2.2	Revised MP – Conservation/Low-Density Recreation Development.....	6
2.3	Revised MP – High-Density Recreational Development.....	8
3	Affected Environment.....	9
3.1	Physical Environment .....	9
3.1.1	Hydrology and Floodplains.....	9
3.1.2	Water Quality.....	9
3.1.3	Air Quality .....	9
3.1.4	Climate.....	11
3.1.5	Geology, Topography and Soils .....	12
3.1.6	Noise .....	12
3.1.7	Hazardous Materials .....	12
3.2	Biological Environment .....	13
3.2.1	Fish and Wildlife.....	13
3.2.2	Terrestrial Vegetation and Land Cover.....	13
3.2.3	Threatened and Endangered Species .....	13
3.2.4	Invasive Species.....	13
3.2.5	Wetlands .....	13
3.3	Community Setting .....	13
3.3.1	Cultural Resources .....	13
3.3.2	Socio- Economic Profile.....	13
3.3.3	Recreation .....	14
3.3.4	Transportation.....	14

4	Environmental Consequences.....	14
4.1	Physical Environmental Impacts.....	15
4.1.1	Hydrology and Floodplains.....	15
4.1.2	Water Quality.....	16
4.1.3	Air Quality.....	16
4.1.4	Climate.....	17
4.1.5	Geology, Topography and Soils.....	17
4.1.6	Noise.....	17
4.1.7	Hazardous Materials.....	17
4.2	Biological Environmental Impacts.....	18
4.2.1	Fish and Wildlife.....	18
4.2.2	Terrestrial Vegetation and Land Cover.....	18
4.2.3	Threatened and Endangered Species.....	19
4.2.4	Invasive Species.....	19
4.2.5	Wetlands.....	19
4.3	Community Setting Impacts.....	19
4.3.1	Cultural Resources.....	19
4.3.2	Socio- Economic Profile.....	20
4.3.3	Transportation.....	20
4.3.4	Recreation.....	20
4.4	Cumulative Impacts.....	21
4.5	Compliance with Environmental Statutes.....	23
5	Coordination and Public Involvement.....	23
6	Conclusion.....	24

# 1 Purpose and Need

## 1.1 Introduction and Background

The US 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 District maintains a Master Plan (MP) for each reservoir project. An MP is a strategic land use management document that guides the comprehensive administration and conservation of natural and cultural resources, and the development of recreation at Corps reservoirs. The Pittsburgh District is proposing to adopt and implement a revision to the Mahoning Creek Lake MP.

Authorized by the Flood Control Acts of 1936 and 1938, Mahoning Creek Lake became operational in 1941 after a two-year construction period. It is one link in a system of 16 Flood Control Projects and provides protection for the Lower Allegheny River Valley and the Upper Ohio River.

The original MP was completed in 1950 and last updated in 1976. Changes in Corps regulations and community needs necessitate a revision. The revised MP will replace the former version and provide a balanced, up to date management plan that follows current Federal laws and Corps regulations while sustaining Mahoning Creek Lake's natural resources and providing outdoor recreational experiences. The revised MP applies changes to the land and water classifications and lays out future recommendations for management of both recreation and natural resources.

### 1.1.1 Land Allocations and Classifications

As part of updating the MP, land allocation and land use classifications will be updated to ensure consistency with the land's authorized purpose. Land allocations identify the authorized purposes for which Corps' lands were acquired. There are four categories of allocation:

1. Operations: These are the lands acquired for the congressionally authorized purpose of constructing and operating the Project. The location of all dam facilities as well as the lake, are included in this allocation.
2. Recreation: These lands were acquired specifically for the congressionally authorized purpose of recreation. These lands are referred to as separable recreation lands. Lands in this allocation can only be given a land classification of "Recreation".
3. Fish and Wildlife: These lands were acquired specifically for the congressionally authorized purpose of fish and wildlife management. These lands are referred to as separable fish and wildlife lands. Lands in this allocation can only be given a land classification of "Wildlife Management".
4. Mitigation: These lands were acquired specifically for the congressionally authorized purpose of offsetting losses associated with development of the project. These lands are

referred to as separable mitigation lands. Lands in this allocation can only be given a land classification of “Mitigation”.

Land classifications refine the land allocations considers public desires, legislative authority, regional and Project-specific resource requirements, and suitability. Land classification indicates the primary use for which Project lands are managed. Classifications provide for development and resource management consistent with authorized purposes and other Federal laws. The previous MP uses an obsolete classification scheme that has been rectified in this document to meet current standards. The system for land classification has been realigned to meet current standards.

#### *Project Operations*

This classification includes lands required for the dam and associated structures, powerhouse, operations center, administrative offices, maintenance compounds, and other areas that are used to operate and maintain the Lakes. Where compatible with operational requirements, Project Operations lands may be used for wildlife habitat management and recreational use. Licenses, permits, easements, or other outgrants are issued only for uses that do not conflict with operational requirements.

#### *High Density Recreation*

These lands are designated for intensive levels of recreational use to accommodate and support the recreational needs and desires of visitors. They include lands on which existing or planned major recreational facilities are located and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use. In general, any uses of these lands that interfere with public enjoyment of recreation opportunities are prohibited. Low-density recreation and wildlife management activities compatible with intensive recreation use are acceptable, especially on an interim basis. No agricultural uses are permitted on those lands except on an interim basis for maintenance of scenic or open space values. Permits, licenses, and easements are not issued for non-compatible manmade intrusions such as pipelines; overhead transmission lines; and non-project roads, except where warranted by the public interest and where no viable alternative area or route is available.

#### *Environmentally Sensitive Areas (ESAs)*

This classification consists of areas where scientific, ecological, cultural, or esthetic features have been identified. Development of public use on lands within this classification is normally prohibited to ensure that these sensitive areas are not adversely impacted. Agricultural uses are not permitted on lands with this classification.

#### *Multiple Resource Management Lands*

This classification includes lands managed for one or more of the following activities:

- **Low Density Recreation.** These lands are designated for dispersed and/or low- impact recreation use. Development of facilities on these lands is limited. Emphasis is on providing opportunities for non-motorized activities such as walking, fishing, hunting, or nature study. Site-specific, low-impact activities such as primitive camping and picnicking are allowed. Facilities may include boat ramps, boat docks, trails, parking areas and vehicle controls, vault toilets, picnic tables, and fire rings. Manmade intrusions,

including power lines, non-project roads, and water and sewer pipelines, may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management, including agricultural activities that do not greatly alter the natural character of the environment, are permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Hunting and fishing are allowed pursuant to tribal or state fish and wildlife management regulations where these activities are not in conflict with the safety of visitors and project personnel.

- **Wildlife Management.** Proper management techniques will be applied wherever the opportunity exists to improve conditions for wildlife, recreation, scenic value, timber, wildfire prevention, pest control, watershed protection or for use on the project.
- **Future or Inactive Recreation Areas.** This sub-classification consists of lands for which recreation areas are planned for the future or lands that contain existing recreation areas that have been temporarily closed

### *Water Surface*

There are four possible sub-classifications:

- **Restricted.** Water areas restricted for project operations, safety, and security purposes.
- **Designated No-Wake.** To protect environmentally sensitive shoreline areas, recreational water access areas from disturbance, and/or public safety.
- **Fish and Wildlife Sanctuary (FWS).** Annual or seasonal restrictions on areas to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning.
- **Open Recreation.** Those waters available for year-round or seasonal water-based recreational use.

## **1.2 Project Area**

The Project area is defined as the land held by the Corps in fee at Mahoning Creek Lake, located in the Allegheny River watershed of southwestern Pennsylvania. Mahoning Creek Lake is located on Mahoning Creek along portions of Armstrong, Indiana, and Jefferson Counties. It has approximately 2,500 acres that will be covered by the revised MP. The dam is 21.6 river miles from the Allegheny River confluence near Templeton, and approximately 77 river miles from the Ohio River in Pittsburgh. A project area map is located in Appendix A, Plate 1.

## **1.3 Purpose and Need**

An MP conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of Corps lands. The purpose is to provide a strategic land use management plan that balances the development of recreation features with environmental stewardship practices and natural resource conservation and is in compliance with current regulations, policies and laws governing MPs. The original 1950 MP focused on construction and development of recreation areas. The 1976 revision updated data on existing conditions, anticipated recreational use and types of facilities required to fulfill expected use. This 1976 MP

no longer serves its intended purpose based on a combination of age and substantial changes to the Project, regional demographics, and surrounding land usage. The Corps has also updated its policies directing the development and implementation of MPs (most notably in EP-1130-2-550 Change 5, dated 30 January 2013) which includes updating the categories of land classifications used to define project lands.

The need for the update was determined by an MP evaluation that identified a number of deficiencies that no longer made it a viable document. There have been significant changes in regional natural resources management, including: the naming of special status species, competing interests for resources, energy extraction, invasive species, and development of state wildlife plans. Changes in area demographics and culture have also changed the types of recreation demanded. Philosophical changes in agency management have occurred, notably, the 2009 establishment of a Non-Recreational Outgrant Policy that altered permitted land use on all Corps properties. Significant data gaps were also identified. In order to meet these new directives and comply with Corps policy requiring regular updates to MPs, the District proposes to adopt the revised Mahoning Creek Lake MP with updated land classifications and a revised set of recommendations for future developments and improvements.

This Environmental Assessment (EA) addresses the proposed adoption and implementation of the revised Mahoning Creek Lake MP – Conservation/Low-Density Development. It analyzes potential impacts of implementing the MP upon the natural, cultural, and human environment. The EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; regulations of the Council on Environmental Quality (CEQ); and Corps regulations, including Engineer Regulation 200-2-2, Procedures for Implementing NEPA. The EA references the attached Mahoning Creek Lake MP.

The typical focus of NEPA compliance consists of environmental impact assessments for individual projects, rather than for long-range Plan. However, application of NEPA to broader and more strategic decisions not only meets the CEQ implementing regulations and Corps regulations for implementing NEPA, but also allows the Corps to begin considering the environmental consequences of their actions long before any physical activity is undertaken.

Environmental documents prepared concurrently with the MP can influence and modify strategic land use decisions. The intention of the MP is to develop land classifications that will guide the sustainable development of resources within the Mahoning Creek Lake Projects. This EA evaluates a variety of approaches to assess potential environmental impacts of proposed future recreation features. It examines recreational activities in broad categories listed as “high” and “low” density based on developmental needs, rather specific projects. Additional coordination and documentation will be conducted, as appropriate, for future projects that are the result of this proposed MP. If the District determines it is in the best interest of the public to accept the MP and reclassify Corps-managed lands, the District would perform additional site-specific compliance with Section 106 of the National Historic Preservation Act and Section 7 of the

Endangered Species Act and obtain any required permits for specific future projects/actions. Future projects would also be reviewed to identify which actions discussed within this EA may be classified as categorical exclusions in accordance with Paragraph 9 of ER 200-2-2, consistent with CEQ definitions under 40 CFR 1508.4, and which actions would require additional analysis under a tiered NEPA document.

#### **1.4 Prior NEPA Documentation**

*Mahoning Creek Lake, Allegheny River Basin, Pennsylvania, Environmental Report – Addition of a Conservation Pool* (1974) was prepared in conjunction with the 1976 MP update. The report was prepared to examine the impacts of raising the summer pool elevation by 23 feet to accommodate recreation and fish and wildlife management.

## **2 Alternatives**

This EA examines three alternatives; a preferred alternative of adopting a revised MP with an emphasis on conservation/low-density development, a secondary alternative of a revised MP with an emphasis on high-density development, and a No-Action Alternative in which the current MP would continue to guide operations and management.

Data collection, public comments, and findings of the MP team determined that conservation/low-density development was the only alternative that would meet the purpose, need, and objectives of the master planning process. It also meets the need for sustainable management and conservation of natural resources within the project, while also providing for current and future quality outdoor recreational needs of the public, and providing consistency with updated Corps regulations. Compared to the No-Action Alternative, Conservation/Low-Density Development presents minor changes to existing management practices while High-Density Development represents a marked change from the current MP, emphasizing significant construction of infrastructure and utilities to support recreational activities.

### **2.1 No Action**

Inclusion of the No-Action Alternative is prescribed by CEQ regulations and serves as the baseline against which Federal actions can be compared. Under this alternative the District would not approve the adoption or implementation of a revised MP and would not meet current regulations or goals to regularly update a master planning document. The 1976 MP would continue to provide the only source of comprehensive management guidance; however, information provided in the 1976 plan is out of date and no longer adequately addresses the needs of the District, other management partners, or users of Mahoning Creek Lake. Furthermore, the 1976 MP does not include the revised land classifications in accordance with current Corps regulations (See Chapter 2.3). Retaining the 1976 MP would prevent a proactive approach to managing Mahoning Creek Lake. Future major developments or resource

management policies would require approval on a case-by-case basis without the benefit of evaluation in the context of an overall plan.

## 2.2 Revised MP – Conservation/Low-Density Recreation Development

Adopting this course of action is the District’s preferred alternative. The revision changes the land and water classifications, most notably the addition of sensitive area and water surface classifications. The revised MP also lays out future recommendations for management of both recreation and natural resources, with emphasis on conservation and low-impact development.

The management recommendations were developed through comments, interviews, public meeting workshops, and the completion of surveys. These management recommendations are non-regulatory and available for use by any citizen, group, or agency. Development of new, modern facilities would potentially include partnering with stakeholders to share in the cost, operation and maintenance of any such asset. Potential partners for the implementation are groups with the resources best suited to assist in meeting these objectives, such as Western Pennsylvania Conservancy, Evergreen Conservancy, Little Mahoning Creek Watershed Association, sportsmen’s clubs and other cultural and recreational groups.

**Table EA- 1. Existing and Proposed Land Classification Categories and Acreages**

Existing Land Use Class	Proposed Land Use Class	Proposed Land Use Acres
Agricultural Management	Environmentally Sensitive Areas	13.2
	MRML Low Density Recreation	3.0
	MRML Wildlife Management	428.5
Esthetic Management	MRML Low Density Recreation	13.9
	MRML Wildlife Management	16.8
	Project Operations	13.6
Game Management	Environmentally Sensitive Areas	13.4
	MRML Wildlife Management	164.8
Natural Area	MRML Low Density Recreation	60.5
	MRML Wildlife Management	54.8
Special Preservation	Environmentally Sensitive Areas	10.4
	MRML Low Density Recreation	3.8
Wild Area	Environmentally Sensitive Areas	194.6
	High Density Recreation	21.4
	MRML Low Density Recreation	127.1
	MRML Wildlife Management	1338.1
	Project Operations	15.0
<b>TOTAL</b>		<b>2492.8</b>

*\*Calculated from GIS overlays. Acreages presented are for planning purposes only and not intended for real estate or survey use.*

Further detail of the recommendations is available within the MP (Section 5). Below are the recommendations, grouped by similar impact types:

**Terrestrial recreation development:**

- Continuously work to develop and connect regional multi-use trails - Provide trail opportunities of all types, with minimum adverse impacts and maximum benefits for natural, cultural, and community resources
- Provide support to relocate the Baker Trail off Route 839 onto reservoir property and extend it to Milton Loop with accompanying day-use sites
- Provide connection between recreation facilities and cultural heritage sites
- Identify opportunities with Dayton Area Local History Society
- Help maintain cultural traditions and improve or develop unique historic, artistic, and heritage sites
- Explore opportunity to partner with the Boy Scouts of America to establish a special-use tent camping area near the Manager's office
- Enhance wildlife viewing opportunities
  - Focus on Bald Eagle; possible eagle-cam

**Aquatic recreation development:**

- Provide support for water trails
  - recreational corridors for canoes, kayaks, and small motorized watercraft, includes access points, boat launches, day use areas and sometimes overnight camping locations
- Explore opportunity to assist Smicksburg designation as "River Town"
  - Pennsylvania Environmental Council's River Town Program helps local communities recognize the river as a potential economic and community asset, and thus a resource worthy of protection.
- Provide access to and promote awareness of opportunities for public participation and enjoyment of recreational fishery resources
- Support outreach programs designed to stimulate angler participation in the conservation and restoration of aquatic systems
- Develop and encourage partnerships with the private sector to advance aquatic resource conservation and enhance recreational fishing opportunities

**Habitat modifications:**

- Improve habitat and water quality to support viable, healthy, and, where feasible, self-sustaining recreational fisheries
- Manage wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities
- Explore and implement solution for horse manure at Milton Loop boat launch
- Prepare for increase in non-recreational requests (i.e. Pennsylvania Shell ethylene cracker plant-related infrastructure, natural gas transmission lines)

- Coordinate early to communicate Corps land use policies, identify ESAs and FWSs, develop mitigation plans
- Continuously monitor for invasive species
  - Focus on aquatic plants: Hydrilla has hit OH and MON rivers as well as most PA state parks
- Focus on conservation and preservation
  - Continuously work to identify Environmentally Sensitive Areas (ESAs) and Fish and Wildlife Sanctuaries (FWSs)
  - Protect open space and wildlife habitat
  - Identify opportunities for increasing regional greenways

### **Maintenance and visitor safety improvements**

- Integrate emergency management
  - Improve communications
  - Support rescue efforts and training
  - Aid visitors and responders with improved signs (i.e. body of water, river mile, etc.)
  - Consider response efforts in recreation resource development
- Maintenance of existing park and recreation facilities
  - Road repair and improvement
  - Identify partnering opportunities
  - Identify project areas with low use and degraded facilities; divest when appropriate

### **Outreach**

- Continuously improve, develop, and support educational programs to support green-collar workers
  - Provide venue for environmental education
  - Provide opportunities for renewable energy
- Continuously work to stay engaged and further coordination efforts with external partners, including PA DEP Clean Water Program, PA Game Commission, Armstrong County, Indiana County, Little Mahoning Creek Watershed Association

## **2.3 Revised MP – High-Density Recreational Development**

An alternative revision for recreation use is to expand existing developed areas and seek to create new ones. Development of up to 90 percent of the low-density recreation as high-density recreation could occur under this alternative. This would necessitate the creation of additional impervious surfaces (roads and parking lots), plus extension of existing water and electricity utilities, and possible construction of new permanent structures. This would require regular maintenance and services.

This is not the preferred plan because of the initial cost of the development and the recurring costs of operation and maintenance of added facilities. With a significant increase in funding and visitor numbers, feasibility of this alternative could improve in the future.

### 3 Affected Environment

#### 3.1 Physical Environment

##### 3.1.1 Hydrology and Floodplains

See MP sections 2.2 Hydrology and 2.4.7 Water Quality & Sedimentation for information.

##### 3.1.2 Water Quality

See MP section 2.4.7 Water Quality & Sedimentation for information.

##### 3.1.3 Air Quality

Mahoning Creek Lake is located in a generally rural area of Pennsylvania that exhibits fair air quality compared to more urbanized areas. There are only minor sources of air contamination within the project area, primarily associated with vehicles. The following table provides current air quality standards for six principal air pollutants, as defined by the Clean Air Act, and their current levels (i.e., “status”), averaged across Armstrong, Indiana, and Jefferson Counties. The National Ambient Air Quality Standards (NAAQS) are the concentrations of these principal pollutants, above which, adverse effects on human health may occur.

**Table EA- 2. National Ambient Air Quality Standards (NAAQS) and air quality status (either attained on non-attained) for Armstrong, Indiana, and Jefferson Counties as of Feb. 13, 2017.**

Pollutant	NAAQS (standards)	Averaging Time	Status (County) *
Carbon Monoxide (as of 2011)	9 ppm (10 mg/m <sup>3</sup> )	8-hour	Full Attainment
	35 ppm (40 mg/m <sup>3</sup> )	1-hour	Full Attainment
Lead (as of 2008)	0.15 µg/m <sup>3</sup>	Rolling 3-Month Avg	Full Attainment
Nitrogen Dioxide (as of 2010)	53 ppb	Annual	Full Attainment
	100 ppb	1-hour	Full Attainment
Particle pollution (PM <sub>10</sub> as of 2012)	150 µg/m <sup>3</sup>	24-hour	Full Attainment
Particle pollution (PM <sub>2.5</sub> as of 2012)	12.0 µg/m <sup>3</sup>	Annual	Armstrong (Elderton) – Nonattainment (Moderate)
	35 µg/m <sup>3</sup>	24-hour	Indiana - Nonattainment
Ozone (as of 2008)	0.075 ppm	8-hour	Armstrong – Marginal Nonattainment
Sulfur Dioxide (as of 2010)	75 ppb	1-hour	Armstrong – Nonattainment Indiana – Nonattainment

\*Status obtained from the USEPA Green Book  
(<https://www3.epa.gov/airquality/greenbook/qbstateb.html>)

As the above table indicates, Elderton, Armstrong County and Indiana County exceed NAAQS in particle pollution (PM<sub>2.5</sub>) and sulfur dioxide, due to effluent from local and up-wind industries. Armstrong County is also rated as marginal non-attainment for ozone. Air quality has been improving nationally and regionally. Armstrong, Indiana, and Jefferson ranked 17<sup>th</sup>, 6<sup>th</sup>, and 11<sup>th</sup>, respectively, in Pennsylvania's county air quality index (see graphs below).

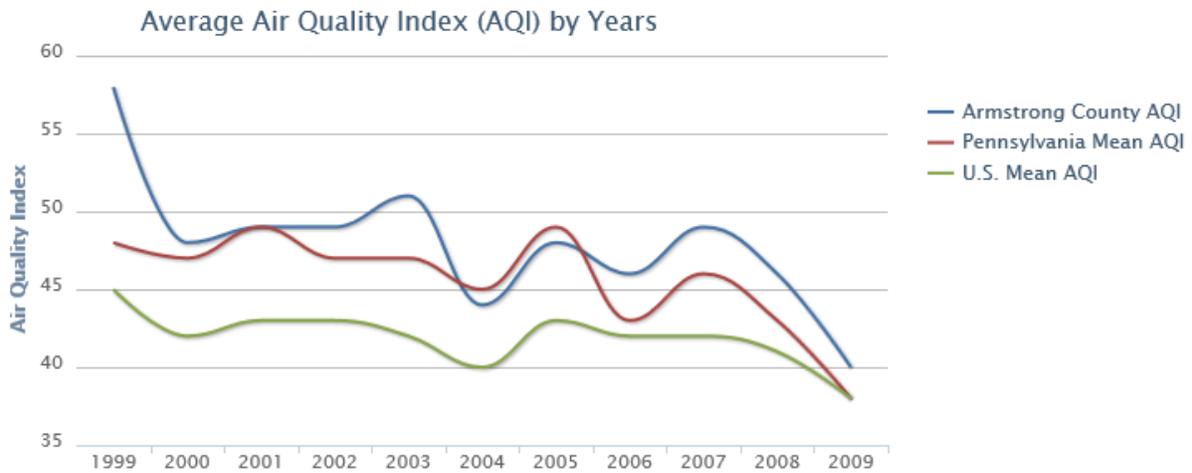


Figure 2-1 - EPA data averaged from 1999-2009 for Armstrong County monitoring sites.

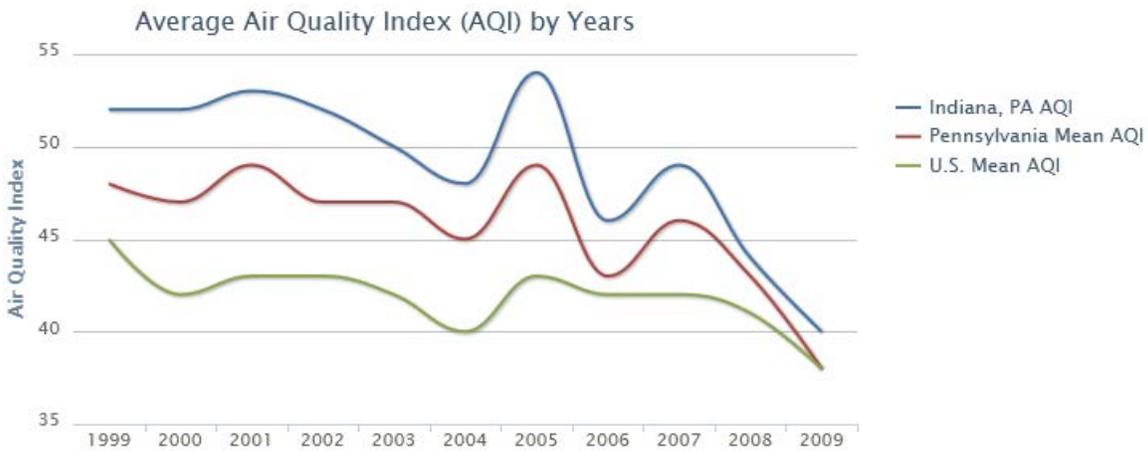


Figure 2-2 – EPA data averaged from 1999-2009 for Indiana County monitoring sites.

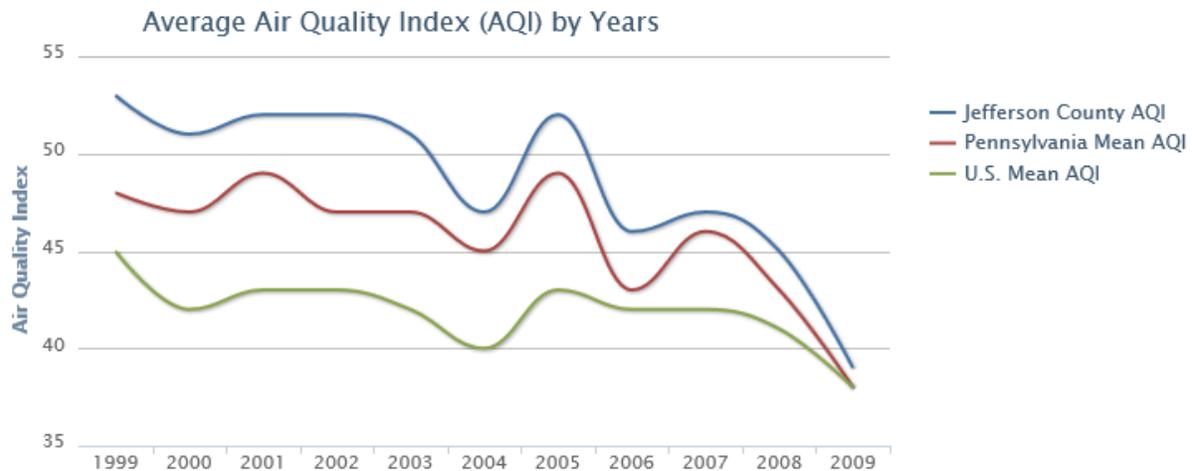


Figure 2-3 – EPA data averaged from 1999-2009 for Jefferson County monitoring sites.

### 3.1.4 Climate

The climate in the project area is temperate and humid, with an appreciable seasonal variation in temperature. It is geographically in a region of variable frontal activity, being subjected to alternate polar and tropical air-mass invasion. The prevailing wind direction is from the west or has a westerly component. Summer precipitation is usually associated with thunderstorms resulting from convective activity, and is generally confined to small areas, with short durations and high intensities. In the late fall, winter, and early spring months, precipitation is usually the result of the passage of low-pressure system over the basin. Occasional stagnation and stationary development produce prolonged precipitation. Snowmelt is frequently a contributing factor to winter and early spring flood runoff. A study of floods indicates a possibility of serious flooding during any season of the year. The frequency of flooding however is highest for the late winter-early spring season.

The future effects of anticipated climate change on water resources are of increasing concern. It is considered highly likely that the region will continue to warm throughout the 21st century, with temperature increases projected to occur relatively evenly throughout the year. Such change may impact interconnected hydrologic aspects, including: precipitation, snowpack, runoff, soil moisture & drought, evapotranspiration, groundwater, stream temps, floods and water quality. The following table illustrates the general climate projections for regional water resources.

Generally, it is possible that the region's climate will become warmer and more extreme in the future, with longer dry periods and precipitation events of greater intensity. The most significant effects predicted for stream and wetland communities are increased water temperature and increased variability of the water environment. The latter may be reflected in changing seasonal patterns of water levels, reduced stream flows during dry periods, larger floods and longer droughts.

**Table EA- 3. Summary of General Projections for Regional Water Resources for 21st Century**

<b>Hydrologic Aspects</b>	<b>Projections, including Confidence Levels</b>
Precipitation	Increase in winter precipitation as rain. Small to no increase in summer precipitation. Increase in heavy precipitation events [ <b>high confidence for winter, lower for summer</b> ].
Snowpack	Substantial decrease in snow cover extent and duration [ <b>high confidence</b> ].
Runoff	Overall increase, but mainly due to higher winter runoff. Decrease in summer runoff due to higher evapotranspiration [ <b>moderate confidence</b> ].
Soil moisture/droughts	Decrease in summer and fall soil moisture. Increased frequency of short and medium-term soil moisture droughts [ <b>moderate confidence</b> ].
Evapotranspiration	Increase in temperature throughout the year. Increase in evapotranspiration during spring, summer and fall [ <b>high confidence</b> ].
Groundwater	Increase in recharge due to reduced frozen soil and higher winter precipitation when plants are not active and evapotranspiration is low [ <b>moderate confidence</b> ].
Stream temperature	Increase in stream temperature for most streams likely. Some spring-fed headwater streams less affected [ <b>high confidence</b> ].
Floods	Decrease of rain-on-snow events, but more summer floods and higher flow variability [ <b>moderate confidence</b> ].
Water Quality	Flashier runoff and increasing water temperatures might negatively impact water quality [ <b>moderate confidence</b> ].

Source: *Pennsylvania Climate Impact Assessment Update*, 2015.

### 3.1.5 Geology, Topography and Soils

See MP section 2-3 for information.

### 3.1.6 Noise

The area surrounding Mahoning Creek Lake is mainly rural and there are no apparent intrusive noise sources from around the lakes. At the lakes themselves, noise sources include watercraft motors, vehicular traffic, and human voices at areas of concentrated use (for example, day use areas and campgrounds). Noises along the creek vary as a function of proximity to human noise sources as sections by more populated areas or transportation corridors can have substantial noise from those sources.

### 3.1.7 Hazardous Materials

The EPA's Envirofacts website lists one coal mine within close proximity to Mahoning Creek Lake. As there are no specific plans to develop federal lands and adjacent properties are undeveloped, the potential for discovery of hazardous materials is remote. In the event that any developments on Corps property are proposed, however, Federal law requires site-specific due diligence on a case-by-case basis before development can occur. Hazardous materials are regulated by the Resource Conservation and Recovery Act, the Comprehensive Environmental

Response, Compensation, and Liability Act, Oil Pollution Act, Toxic Substances Control Act, and related guidelines established by the Corps and Pennsylvania. Any change in the storage or use of hazardous materials must comply with these regulations.

### **3.2 Biological Environment**

#### **3.2.1 Fish and Wildlife**

See MP section 2.4.1 for information.

#### **3.2.2 Terrestrial Vegetation and Land Cover**

Lands at Mahoning Creek Lake are both predominately vegetated by deciduous forest. The following table lists the vegetation type and amount of acres at each project.

**Table EA- 4. Terrestrial Vegetation Types**

<b>Predominant Vegetation Type</b>	<b>Acres</b>
Annual And Perennial Forb/Grass	518
Deciduous Forest	2293
Deciduous Shrub land	136
Evergreen Forest	28
Maintained Lawn	39
Mixed Deciduous-Evergreen Forest	9

Land Cover within the watershed consists mainly of forested area and agricultural areas. A land cover map is located in Appendix A, Plate 10.

#### **3.2.3 Threatened and Endangered Species**

See MP section 2.4.3 and Table 2-2 for information.

#### **3.2.4 Invasive Species**

See MP section 2.4.4 for information.

#### **3.2.5 Wetlands**

See MP section 2.4.6 for information.

### **3.3 Community Setting**

#### **3.3.1 Cultural Resources**

See MP section 2.5 for information.

#### **3.3.2 Socio- Economic Profile**

See MP sections 2.6 and 2.7 for information.

### **3.3.3 Recreation**

See MP section 2.8 for information.

### **3.3.4 Transportation**

Located less than an hour away from Downtown Pittsburgh, Mahoning Creek Lake is crossed and bounded by a number of roads including State Routes 28/66, 839, 954, and U.S. 119.

Developed roads and parking lots exist on project lands. These roads and parking lots are confined to areas that support developed recreational sites. The undeveloped portions of the project have limited transportation infrastructure. Trails run throughout the project and provide access to certain portions of these lands. The transportation corridor map is in Appendix A, Plate 11.

## **4 Environmental Consequences**

This section describes and compares effects of the alternatives to existing conditions within each environmental media category. NEPA requires consideration of context, intensity, and duration of adverse and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. These elements are considered in the following impact analysis.

Adoption of the proposed MP would help define the approval process for future actions affecting project lands, depending on whether the actions are 1.) specifically included in the MP, 2.) not included in the MP, but consistent with the Plan, or 3.) not included and not consistent with the recommendations, objectives and policies stated in Corps regulation. For actions that are identified in the MP, the approval process would still require adequate NEPA consideration (whether categorically excluded or requiring an additional tiered EA) and compliance with other environmental laws and regulations prior to initiating construction.

The following table presents a summary of potential impacts. Impacts are described in detail by environmental media category:

**Table EA- 5. Summary of Impact Analysis for Alternatives**

<b>Resource</b>	<b>No-Action Alternative</b>	<b>Conservation/Low-Density Development</b>	<b>High-Density Development</b>
<i>Physical Environment</i>			
Hydrology & Flood Plains	No Impact	No Impact	No Impact
Water Quality	Potential long-term degradation from outdated planning	No Impact	Minimal Adverse Impact
Air Quality	No Impact	No Impact	Temporary Minimal Adverse Impact
Climate	No Impact	No Impact	No Impact
Geology, Topography, & Soils	No Impact	No Impact	Temporary Minimal Adverse Impact
Noise	No Impact	No Impact	Temporary Minimal Adverse Impact
Hazardous Materials	No Impact	No Impact	No Impact
<i>Biological Environment</i>			
Fish & Wildlife	Potential long-term degradation from outdated planning	Minimal Beneficial Impact	Minimal Beneficial Impact
Terrestrial Vegetation & Land Cover	Potential long-term degradation from outdated planning	Minimal Beneficial Impact	Temporary Minimal Adverse Impact
Threatened & Endangered Species	No Impact	No Impact	No Impact
Invasive Species	No Impact	Minimal Beneficial Impact	Minimal Beneficial Impact
Wetlands	No Impact	No Impact	No Impact
<i>Community Setting</i>			
Cultural Resources	No Impact	No Impact	No Impact
Socioeconomic Profile	Potential long-term degradation from outdated planning	No Impact	No Impact
Transportation	No Impact	No Impact	No Impact
Recreation	Minimal Adverse Impact	Minimal Beneficial Impact	Minimal Beneficial Impact

## **4.1 Physical Environmental Impacts**

### **4.1.1 Hydrology and Floodplains**

***No-Action, Conservation/Low-Density Development, High-Density Development.*** None of the alternatives would have a significant impact to hydrology or floodplains. In order to meet the missions of the Corps and the other management partners, many developed sites and facilities are located within the floodplain. Most of these structures have been designed to withstand and not interfere with the conveyance of floodwaters. This is important, as periodically it becomes necessary for these lands to be flooded to achieve the Corps' flood risk management purpose. All

actions occurring within floodplains must be consistent with EO 11988, Floodplain Management, and related Corps policy. Any construction activities would not impede the flood storage capacity of the Project. This would include improvements to existing recreation facilities, addition of buildings/facilities to previously disturbed areas, addition or improvement to boat launches, and maintenance dredging and disposal of sediment.

#### **4.1.2 Water Quality**

**No-Action.** No significant impact to water quality would occur. 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, leading to an overall degradation of water resources over time.

**Conservation/Low-Density Development.** No significant impact to water quality is anticipated. For the known proposed activities noted in Section 2 (terrestrial recreation development, aquatic recreation development, habitat modifications, maintenance and safety improvements, and outreach) overall water quality benefits are expected. Some construction activities, such as trail construction, may have temporary adverse impacts to water quality. However, these impacts would be minimal as construction would be done with an approved erosion and sedimentation plan, as needed. Clean Water Act permits would be completed, as needed, when project specific information is obtained. Removal of invasive species in areas adjacent to bodies of water should only be undertaken using herbicides approved for aquatic use and in approved doses to ensure impacts to water quality are avoided. Habitat improvement projects and thoughtful management of non-recreational requests are expected to have direct benefits to water quality. Additionally, increased outreach and public education regarding water resource vulnerability can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

**High-Density Development.** Potential impact to water quality is anticipated. This alternative could create additional areas of impervious surfaces that would generate additional stormwater runoff. Depending upon the size of paved areas and proximity to Mahoning Creek, there is the potential for introducing nutrients to waters from soil erosion and sediment. In addition, runoff could temporarily raise local water temperatures and impact turbidity, thereby effecting local habitats.

#### **4.1.3 Air Quality**

**No-Action, Conservation/Low-Density Development.** Air quality within the project boundary can be influenced by exhaust from motor vehicles and boats, the use of grills and fire pits. The large open area that is created by the reservoir allows for strong breezes to blow through the project area. These breezes can rapidly reduce and/or eliminate any localized air quality concerns caused by these pollutants. Neither the No-Action Alternative nor the Conservation/Low-Density Development alternatives would have significant adverse impacts to air quality.

**High-Density Development.** Temporary, minor impacts could occur during construction activities. In addition, increased recreational traffic could increase local emissions for the long term. While local impacts could occur, overall the level of increase would be expected to be minimal in comparison to the general emissions of the surrounding counties.

#### **4.1.4 Climate**

**No-Action, Conservation/Low-Density Development, High-Density Development.** None of the alternatives will significantly impact current or future expected climate conditions.

#### **4.1.5 Geology, Topography and Soils**

**No-Action, Conservation/Low-Density Development.** No impacts will occur to geology, topography or soils from either alternative.

**High-Density Development.** There is a potential for limited minor impacts to soils from the creation of additional impervious surfaces (roads and parking lots), plus extension of existing water and electricity utilities, and possible construction of new permanent structures. No significant impact to geology, topography, or soils would occur.

#### **4.1.6 Noise**

**No-Action, Conservation/Low-Density Development.** None of the alternatives will have a significant impact on existing noise levels. Construction activities and habitat maintenance activities could have local, temporary impacts. Additionally, trail development could lead to increased human access and noise to new areas of the Project, particularly any heritage trail development. By avoiding any known sensitive areas, such as nesting sites or culturally important quiet areas, and using adaptive management as needed to correct any unforeseen impacts, no significant impact to noise levels is expected.

**High-Density Development.** Construction activities would temporarily increase noise levels, however not to the level of a significant adverse impact. The effects of converting lands to High-Density recreation and improvements leading to increased car and boat traffic would have permanent impacts on noise levels. By avoiding any known sensitive areas, such as nesting sites or culturally important quiet areas, and using adaptive management as needed to correct any unforeseen impacts, no significant impact to noise levels is expected.

#### **4.1.7 Hazardous Materials**

**No-Action, Conservation/Low-Density Development, High-Density Development.** No impacts are expected to hazardous materials from any alternative. As needed, further site-specific reviews of any development site would be conducted for compliance with the Comprehensive Environmental Response, Compensation and Liability Act and Corps real estate requirements (Environmental Condition of Property/Preliminary Assessment Screening).

Additionally, thoughtful preparation and planning for the projected increase in non-recreational requests (i.e. Pennsylvania Shell ethylene cracker plant-related infrastructure, natural gas

transmission lines) will protect the Project resources from any negative impacts. Designation of ESAs and FWSs will protect the most sensitive sites on Project lands.

## **4.2 Biological Environmental Impacts**

### **4.2.1 Fish and Wildlife**

**No-Action.** No significant impact to fish and wildlife would occur. 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, leading to an overall degradation of the land and water resources over time.

**Conservation/Low-Density Development, High-Density Development.** These alternatives would have an overall beneficial impact on fish and wildlife resources through a systematic approach to management of Project land and water resources. The monitoring, adaptive management and habitat improvement efforts will all have beneficial impacts. Protection and management of sensitive areas through the designation of ESAs and FWSs will also be beneficial. Additionally, increased outreach and public education regarding fish and wildlife resources can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

Construction activities associated with the planned projects would have short duration negative impacts due to increased noise and human disturbance. Also the development of new trails into new areas of the Project could disturb individual animals. Prior to any clearing of trees or construction activities, surveys for nesting birds or protected species would be conducted as necessary to ensure compliance. By avoiding sensitive areas and sensitive seasons (nesting, bat roosting, etc.) and using adaptive management as needed to correct any unforeseen impacts, no significant impact to fish and wildlife is expected.

### **4.2.2 Terrestrial Vegetation and Land Cover**

**No-Action.** No significant impact to vegetation and land cover would occur. 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, Project-wide consideration of individual actions may be lost, leading to an overall degradation of the land and water resources over time.

**Conservation/Low-Density Development, High-Density Development.** Vegetation would be surveyed and a management plan implemented under these alternatives. Removal of invasive species and addition of environmentally sensitive areas would improve native terrestrial vegetation within the area. Additionally, increased outreach and public education can increase awareness and sensitivity, as well as community feelings of responsibility, ownership, and protection of the resource.

Proposed construction and maintenance activities could have local impacts to vegetation, however in the context of the overall size of the natural areas within the Project, these impacts would not be significant.

#### **4.2.3 Threatened and Endangered Species**

***No-Action, Conservation/Low-Density Development, High-Density Development.*** None of the alternatives would have any effect on threatened or endangered species. Best management practices, to include seasonal restrictions on vegetation removal, would insure that no impact would occur. Any recommended development actions that may impact protected species would require consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act once site specific details are available.

#### **4.2.4 Invasive Species**

***No-Action.*** The original MP does not address invasive species, and is out of date and non-compliant with current laws and regulations. However, under the No Action alternative the District would continue to implement best management practices with regards to invasive species management.

***Conservation/Low-Density Development, High-Density Development.*** The low- and high-density development alternatives would address invasive species issues and will follow current District policy by using adaptive and best management practices in prevention, education, early detection, rapid response, and containment to try to control and manage invasive species. Overall a positive effect with regard to reducing the prevalence of invasive species is anticipated as a result of the preferred alternative.

#### **4.2.5 Wetlands**

***No-Action, Conservation/Low-Density Development, High-Density Development.*** None of the alternatives would impact wetlands. Wetlands are regulated under Section(s) 401 and 404 of the Clean Water Act. Section 401 Water Quality Certification ensures compliance with water quality standards. Section 404 regulates activities within Waters of the U.S., which includes Mahoning Creek Lake and their surrounding tributaries. Further direction is provided by EO11990: Protection of Wetlands and related Corps regulations. Recommendations included within the preferred alternative will need to comply with Clean Water Act regulations and permitting prior to initiation of construction. Any proposed development would avoid impacting wetlands. If wetland impacts could not be avoided, then further analysis and coordination would be needed for that action.

### **4.3 Community Setting Impacts**

#### **4.3.1 Cultural Resources**

***No-Action.*** The No-Action Alternative would have “No Effect” on historic or archeological resources.

***Conservation/Low-Density Development, High-Density Development.*** Section 106 of the National Historic Preservation Act 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. The recreation recommendations contained within the Low- and High-Density Development alternatives would include site specific coordination in accordance with the Section 106 process. The Low- and High-Density Development alternatives would also have a beneficial impact on cultural resources by allowing these locations to be managed accordingly. Development of heritage trails would be developed in such a way as to protect sensitive resources and would use adaptive management as needed to correct any unforeseen impacts. No significant impact to cultural resources would be expected

#### **4.3.2 Socio- Economic Profile**

***No-Action.*** No significant impact to socioeconomics would occur. 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, leading to an overall degradation of the land and water resources over time. Degradation of the resources could potentially reduce the recreation opportunities and, therefore, recreation related business opportunities.

***Conservation/Low-Density Development, High-Density Development.*** None of the action alternatives would significantly impact socioeconomics. Future plans under the low- or high-density development alternatives could enhance concessions in the area with a likely small positive impact to the local economy. None of the alternatives would adversely affect minority populations, low-income populations or children. No significant impact to socioeconomics and environmental justice are anticipated.

#### **4.3.3 Transportation**

***No-Action, Conservation/Low-Density Development, High-Density Development.*** None of the alternatives would impact transportation. Recommendations for improvements and construction projects under the low- or high density alternatives could have short-term adverse impact on transportation within the region from traffic diversions during construction; however, no significant long-term adverse impacts are anticipated.

#### **4.3.4 Recreation**

***No-Action.*** Although maintenance of current recreational facilities would continue under the No-Action Alternative, continued use of the existing MP would not accurately reflect the current status of facilities or existing and future recreational needs which would impact the recreation activities within the project area. . 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, leading to an overall degradation of the land and water resources over time.

***Conservation/Low-Density Development, High-Density Development.*** The recreational needs of the public would be better accommodated through the implementation of either of the other two proposed alternatives. Potential beneficial impacts include modernizing and upgrading existing facilities and increased management of natural resources through some of the Resource Plan recommendations.

#### **4.4 Cumulative Impacts**

The CEQ regulations that implement NEPA require assessment of cumulative impacts in the decision-making process for Federal projects. Cumulative impacts are defined as impacts which result when the impact of the preferred alternative is added to the impacts of other present and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.7).

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impacts of activities in and around Mahoning Creek Lake. Past actions include the construction and operation of the reservoir and the construction of the surrounding recreation areas. Concurrent regional development included construction of residential, commercial, and industrial facilities throughout the region. All of these developments have had varying levels of adverse impacts on the physical and natural resources in the region. Many of these developments, however, have had beneficial impacts on the region's socioeconomic resources. In addition, many of the historic impacts have been offset throughout the years by the resource stewardship efforts of the District, the Pennsylvania Game Commission, and the Pennsylvania Fish & Boat Commission.

The development of the dam and reservoir created new natural and physical conditions, and altered Mahoning Creek's hydrology, which, through careful management by the District and other management partners, have created new and successful habitats and other natural resource conditions. The District and the other management partners have also brought a wide variety of high-quality recreational opportunities to the reservoir.

Existing and future actions also contribute to the cumulative impacts in and around the reservoirs. Existing and future actions include the operation of project facilities, upgrades and maintenance of recreation sites, as well as residential, commercial, and industrial development throughout the region.

Under the No-Action Alternative (baseline conditions), project operations would continue, somewhat inefficiently, using out-of-date guidance that is not agile and slow to respond to potential environmental changes. Consequently, threats such as invasive species could establish prior to detection and remediation, potentially harming local ecosystems in the process. Existing recreational activities would continue but no new types would be generated. Modernized emergency response systems would not be implemented, thus leaving safety degraded. No new visitors who would otherwise be a benefit for the local economy would be attracted.

Under the Conservation/Low-Density Development Alternative, ongoing project operations would be enhanced by new processes for efficient management of environmental resources and integrating any future recreational activities in a manner with minimal adverse impacts. Such a system would be responsive to both changes in the environment and recreational demands. The emphasis on conservation will preserve the region's aesthetics, maintain thriving ecosystems and habitats, and enhance recreation activities. The planned approach will continue to attract visitors and potentially bring in new ones, benefitting the local economy. The programmatic approach to project management, included in this EA and attached MP, would allow for future development plans and mitigation responses to be adapted to address any adverse actions. This would allow the District and other management partners to continue to reduce the negative contribution of its activities to regional cumulative impacts through proactive actions and adaptive resource management strategies.

The High-Density Development Alternative would include some of the land management processes; however, concentrations of high-density development would have a variety of adverse impacts – short-term for air and soil from construction activities, longer-term to the creek bank from possible soil erosion and water from effects of runoff from impervious surfaces. Runoff has the potential to impact water temperatures and introduce nutrients which may be harmful to local habitats. These consequences can be mitigated, but a constant expense which may not always be available in an era of declining budgets. High-density development would bring in additional management expenses for utilities infrastructure installation and maintenance. The clearing of significant amounts of trees for new developments would eliminate certain habitats and alter the aesthetics of the region. High-density development would be driven by demand, which current polls have determined to support the opposite types of recreation.

#### 4.5 Compliance with Environmental Statutes

<b>Federal Policy</b>	<b>Compliance Status</b>
Archaeological and Historic Preservation Act, 16 U.S.C. 469, et seq.	Full Compliance
Bald and Golden Eagle Protection Act, 16 U.S.C. 668-668c	Full Compliance
Clean Air Act, as amended, 42 U.S.C. 1857h-7, et seq.	Full Compliance
Clean Water Act, 33 U.S.C. 1857h-7, et seq.	Full Compliance
Comprehensive Environmental Response, Compensation, and Liability Act 42 U.S.C. 9601 et seq.	Full Compliance
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full Compliance*
Federal Water Project Recreation Act, 16 U.S.C. 460-1(12), et seq.	Full Compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 601, et seq.	Full Compliance*
Land and Water Conservation Fund Act, 16 U.S.C. 460/-460/-11, et seq.	Full Compliance
Migratory Bird Treaty Act 16 U.S.C. 703-712	Full Compliance
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full Compliance**
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Full Compliance*
River and Harbors Act, 33 U.S.C. 403, et seq.	Full Compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Not Applicable
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.	Full Compliance
Flood Plain Management (EO11988)	Full Compliance
Protection of Wetlands (EO11990)	Full Compliance*
Environmental Justice in Minority Populations and Low-Income Populations (EO12898)	Full Compliance
Invasive Species (EO13112)	Full Compliance

\*Having met all requirements for this stage of planning, but future recommendations contained within this EA may require additional action for compliance.

\*\*Full compliance anticipated after public review and District Commander signs FONSI.

### 5 Coordination and Public Involvement

Agency and public involvement was initiated in 2017, when the District published notices announcing Plan to revise the MP. This notice was followed by public comment periods, agency meetings, and additional public open houses. These public involvement activities and comments are described in detail in Chapter 7 of the MP and Appendix B, Agency and Public Coordination.

The Mahoning Creek Lake MP, Environmental Assessment, and draft Finding of No Significant Impact will be circulated for a 30-day public review period.

## 6 Conclusion

The Conservation/Low-Density Development Alternative meets currently foreseeable recreation and environmental stewardship needs and addresses environmental issues, with no significant environmental impacts anticipated. The recommended alternative also brings the MP into compliance with updated Corps regulations. An Environmental Impact Statement is not required and a FONSI will be prepared.

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