

Draft Environmental Assessment for the Indian Rock Dam Master Plan

York County, Pennsylvania

April 2019



DRAFT FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT FOR THE INDIAN ROCK DAM MASTER PLAN

YORK COUNTY, PENNSYLVANIA

In accordance with the National Environmental Policy Act of 1969 (NEPA), including guidelines in 33 Code of Federal Regulations (CFR) Part 230 (Procedures for Implementing NEPA), the Baltimore District of the U.S. Army Corps of Engineers (USACE) has assessed the potential impacts of the 2019 Indian Rock Dam Master Plan (2019 Master Plan).

The 2019 Master Plan will provide guidance for stewardship of natural resources and management for long-term public access to, and use of, the natural resources of Indian Rock Dam, including the land use classification of the USACE-managed lands. Land use classifications (see Table S-1) provide for development and resource management consistent with authorized purposes and other Federal laws. The 2019 Master Plan provides a comprehensive description of Indian Rock Dam (the Project), a discussion of factors influencing resource management and development, new resource management objectives, a synopsis of public involvement and input into the planning process, descriptions of existing development, and consideration of future development activities.

Under the No Action Alternative, the USACE would take no action, which means no new resources analysis or land use reclassifications would occur. The operation and management of Indian Rock Dam would continue as outlined in the 1959 Master Plan.

The Proposed Action includes adopting the 2019 Master Plan to reflect changes in land management and land uses, USACE regulations and guidance that have occurred since the 1959 Master Plan, and coordination with the public. The 2019 Master Plan refines land classifications to meet authorized project purposes and current resource objectives. This includes a mix of natural resource and recreation management objectives that are compatible with regional goals established by stakeholders and the USACE during the master planning process, recognize outdoor recreation trends, and are responsive to public comments. The purpose of the Proposed Action is to ensure that the conservation and sustainability of the land, water, and recreational resources at Indian Rock Dam comply with applicable environmental laws and regulations and to maintain quality land for future use. The 2019 Master Plan is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years, which reflects changes that have occurred since 1959 in outdoor recreation trends, regional land use, population, legislative requirements, USACE management policy, and wildlife habitat at Indian Rock Dam.

The need for the Proposed Action is to update the Indian Rock Dam Master Plan in accordance with January 2013 updates to the Engineer Regulation (ER) and Engineering Pamphlet (EP) 1130-2-550.

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

Table S-1. Proposed Changes to Land Use Classifications at Indian Rock Dam

Classification	1959 Master Plan (acres)^a	2019 Master Plan (acres)	Description
Project Operations	125	95	Lands associated with the dam and spillway structures that are operated and maintained for fulfilling the flood risk management and water storage missions of Indian Rock Dam. Although unrelated to USACE project operations, this classification also includes the private firing range leased and managed by the Fraternal Order of Police.
Wildlife and Game Management	1,634	N/A	The 1959 Master Plan included this classification, however, the proposed 2019 Master Plan update divides lands within this classification into multiple resource management lands.
High-Density Recreation^b	ND	0	Lands used for intensive recreational activities. This land use classification is not proposed for Indian Rock Dam in the 2019 Master Plan update.
Multiple Resource Management Lands			
Low-Density Recreation	ND	2	Lands with minimal development or infrastructure that support passive public recreation use, like fishing, hunting, wildlife viewing, or hiking. This includes approximately 2 acres of land within the Project encompassing the five parking areas for hunting, fishing, and wildlife viewing activities as well as the Hanover Trolley Trail. There are no future plans for the existing low-density recreation lands.
Vegetative Management	ND	1,588	This land use classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. The primary objective for these lands is to manage the forest to ensure a healthy, diverse, and visual aesthetic continuous forest canopy throughout the Indian Rock Dam property. The provision and protection of wildlife habitat and the availability of these lands for passive recreation activities are also important objectives. Pennsylvania Game Commission manages approximately 350 acres of Prescribed Burn Zones within this classification to stabilize the vegetative areas. Pennsylvania Game Commission also manages several Habitat Restoration Areas in order to support a healthy ecosystem for both the plants and animals in the area. Current recreational use of these lands includes, but is not limited to hunting, bank fishing, wildlife viewing, and hiking. Future uses include all existing uses with the possibility of enhancing these uses with amenities like signage or new primitive access trails.
Water Surface			
Restricted	ND	1	Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The Restricted water surface at Indian Rock Dam which operates as a dry reservoir is limited to the areas around the dam and the spillway.
Open Recreation Area	ND	69	Open Recreation area includes all water surface areas available for year-round or seasonal water-based recreational use. As Indian Rock Dam is a reservoir, areas with water surface open recreation include all remaining water surface area outside of the restricted zones (e.g. Codorus Creek).

^a The 1959 Master Plan did not include land classifications. When Indian Rock Dam was established, the only land allocation category that applied to the Project was Operations, which includes lands required to operate the dam and accomplish the primary authorized purposes of the Project.

^b As the High Density Recreation land classification does not occur in the 1959 Master Plan and is not proposed in the 2019 Master Plan, this classification is not carried for analysis within the EA.

N/A = not applicable; ND = Not Defined; USACE = U.S. Army Corps of Engineers

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

USACE used the Environmental Assessment (EA) and comments received from other agencies to determine whether the Proposed Action requires the preparation of an Environmental Impact Statement (EIS). This included assessment of all environmental, social, and economic factors that are relevant to the recommended alternative considered in this assessment. The EA determined negligible impact would occur to the following resources: air quality, greenhouse gases and climate, noise, geology, cultural resources, groundwater, wild and scenic rivers, utilities, hazardous materials and waste, socioeconomics and environmental justice, and traffic and transportation (see Section 3.1 of the EA). Minor adverse and beneficial impacts could occur to water resources, soils, and biological resources, and beneficial impacts would occur to land use and recreation (see Sections 3.2 through 3.5 of the EA).

Conclusion

Based on the summary of effects evaluated in the EA, I have determined that the Proposed Action alternative, which I have selected, will not have a significant effect on the natural and human environment. For this reason, no Environmental Impact Statement needs to be prepared.

Date

John T. Litz, PMP
Colonel, U.S. Army
Commander and District Engineer

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ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the effects to the natural and human environment from the 2019 Indian Rock Dam Master Plan. The EA will facilitate the decision-making process regarding the Proposed Action and alternatives.

- CHAPTER 1 INTRODUCTION, PURPOSE, NEED, AND SCOPE summarizes the purpose of and need for the Proposed Action, provides relevant background information, and describes the scope of the EA. This Chapter also includes public involvement and agency coordination efforts conducted during preparation of the EA.
- CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES examines alternatives for implementing the Proposed Action and describes the recommended alternative.
- CHAPTER 3 ENVIRONMENTAL SETTING AND CONSEQUENCES describes the existing natural and human environments, and identifies the potential effects of implementing the Proposed Action and alternatives.
- CHAPTER 4 CUMULATIVE EFFECTS describes the impact on the environment that may result from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions.
- CHAPTER 5 COMPLIANCE WITH ENVIRONMENTAL LAWS provides a listing of environmental protection statutes and other environmental requirements.
- CHAPTER 6 IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES identifies any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented.
- CHAPTER 7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES summarizes the potential environmental consequences of implementing the Proposed Action and alternatives.
- CHAPTER 8 REFERENCES provides bibliographical information for cited sources.
- CHAPTER 9 LIST OF PREPARERS identifies persons who prepared the document and their areas of expertise.
- APPENDIX A PUBLIC AND AGENCY CORRESPONDENCE provides relevant documentation of correspondence with the public and agencies.

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ACRONYMS

Acronym	Definition
AHPA	Archeological and Historic Preservation Act
BMP	best management practice
Ce	Chester silt loam
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Cm	Codorus silt loam
Cn	Conestoga silt loam
CRIS	Cultural Resource Information System
EA	Environmental Assessment
EIS	Environmental Impact Statement
Ek	Elk silt loam
EO	Executive Order
EP	Engineering Pamphlet
ER	Engineering Regulation
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FPPA	Farmland Protection Policy Act
GIS	Geographical Information System
Lw	Lindside silt loam
MBTA	Migratory Bird Treaty Act
MF	Migratory Fishes
MO	Mt. Airy and Manor soils
ND	Not Defined
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
ROI	region of influence
SME	subject matter expert
T/A/Y	tons per acre per year

Acronym	Definition
TSF	Trout Stocking
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
Vo	Volusia channery silt loam

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DRAFT ENVIRONMENTAL ASSESSMENT

INDIAN ROCK DAM MASTER PLAN

YORK COUNTY, PENNSYLVANIA

CHAPTER 1 INTRODUCTION, PURPOSE, NEED, AND SCOPE

1.1 INTRODUCTION

The Master Plan is the strategic land use management document that guides the comprehensive management and development actions related to all project recreational, natural, and cultural resources throughout the life of the Project. Specific to this Environmental Assessment (EA), Indian Rock Dam (also referred to the Project) was authorized and constructed for the primary purposes of controlling floods in the Codorus Creek Watershed and Lower Susquehanna River Basin.

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

The USACE is proposing adoption of a new Master Plan at Indian Rock Dam to reflect changes that have occurred to the Project, in the region, in recreation trends, and in USACE policy since the 1959 Master Plan. This EA considers the potential impacts to the natural and human environment from implementation of the 2019 Indian Rock Dam Master Plan (herein referred to as the “2019 Master Plan”).

1.1.1 Project Location and Setting

Indian Rock Dam is in York County, Pennsylvania, on Codorus Creek, approximately 3 miles upstream from the City of York (see Figure 1-1). Project lands occupy approximately 1,755.5 acres of land with 1,660.2 fee simple acres and 95.3 flowage easement acres. The dam controls a drainage area of approximately 94 square miles, which is approximately 41 percent of the watershed upstream from York (USACE 2018).

The term “**fee simple**” refers to land owned by an entity or individual; in this case, land owned by the federal government. The USACE manages fee simple lands and also leases portions of the Project to other entities for recreational, resource management, and agricultural purposes (see Section 3.5).

The term “**easement**” refers to land which a user has rights over, however is not owned by the user. The USACE has the right to flood 95.3 acres of non-USACE owned land under flowage easements.

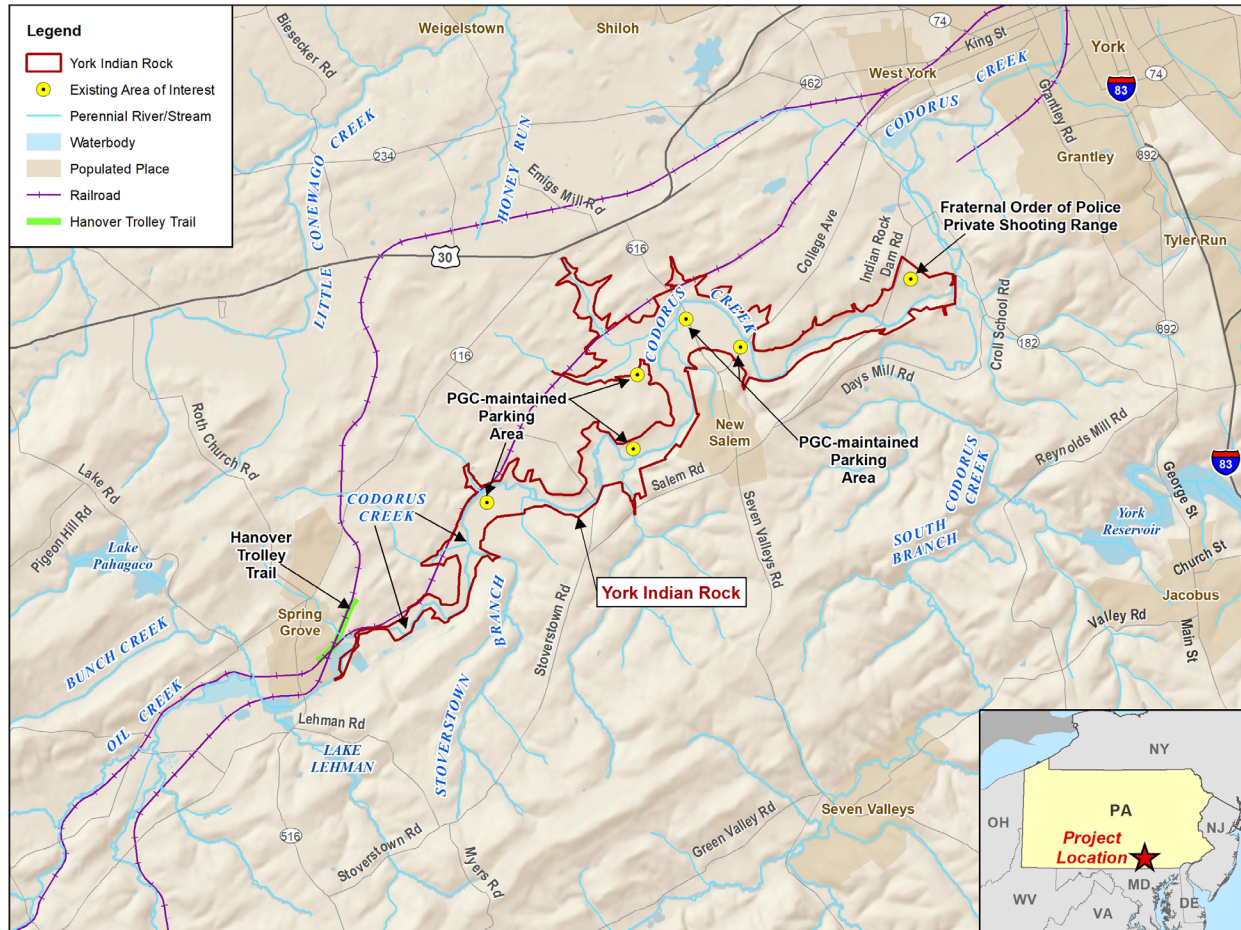


Figure 1-1. Project Location Map

1.1.2 Project Background

The Indian Rock Dam project on Codorus Creek was authorized by the Flood Control Act of June 22, 1936 (Public Law 74-738, 74th Congress, 2nd Session) in order to control floods in the Lower Susquehanna River Basin. The USACE completed the Indian Rock Dam project in 1950 for the primary purposes of controlling floods in the Lower Susquehanna River Basin as part of a comprehensive flood control plan. The Project provides immediate flood protection for the valley downstream from the dam and assists in controlling floods on Codorus Creek and the Susquehanna River. A major secondary use of the Project lands is recreation and environmental stewardship of natural and cultural resources. The Project is heavily utilized by individuals and groups from near and far who participate in a variety of activities like fishing, hiking, picnicking, and enjoying the great outdoors (USACE 2019).

The dam consists of rolled earth and rockfill, rising 83 feet above the streambed and extending 1,000 feet across the valley. The Project controls a drainage area of 94 square miles that is equivalent to 41 percent of the watershed upstream from York. The reservoir area behind the dam is normally dry, however, the reservoir area has a storage capacity of 28,000 acre-feet (9.1 billion gallons) at spillway crest (USACE 2019). The Project also contributes to Executive Order (EO) 13508 goals to protect habitat and water quality and expand public access within the Chesapeake Bay Watershed (USACE 2019).

1.2 PURPOSE AND NEED FOR THE ACTION

The purpose of the Proposed Action is to ensure that the conservation and sustainability of the land, water, and recreational resources at Indian Rock Dam comply with applicable environmental laws and regulations and to maintain quality land for future use. The 2019 Master Plan is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years, which reflects changes that have occurred since 1959 in outdoor recreation trends, regional land use, population, legislative requirements, USACE management policy, and wildlife habitat at Indian Rock Dam.

The need for the Proposed Action is to update the Indian Rock Dam Master Plan in accordance with January 2013 updates to ER and EP 1130-2-550.

1.3 SCOPE OF THE EA

The USACE prepared this EA pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500–1517), and the USACE implementing regulations, Policy and Procedures for Implementing NEPA, ER 200-2-2 (USACE 1988) to evaluate existing conditions and potential impacts of implementing the 2019 Indian Rock Dam Master Plan. NEPA requires federal agencies to review potential environmental effects of federal actions which includes the adoption of formal plans, such as master plans, approved by federal agencies upon which future agency actions will be based.

Alternatives considered within this EA focus on the proposed land use classifications as presented in the 2019 Master Plan and the types of future development projects that could occur within the land use classifications. The EA does not consider implementation of specific projects identified within the 2019 Master Plan during the master planning process as these projects are conceptual in nature. The USACE would conduct further NEPA analysis on projects identified within the 2019 Master Plan once funding is available and detailed project planning and design occur.

In accordance with the above regulations, the USACE intends to use this EA to meet USACE's regulatory requirements under NEPA and provide USACE with the information needed to make an informed decision about the potential effects to the natural and human environment from implementing the Proposed Action.

1.4 PUBLIC AND AGENCY INVOLVEMENT

The USACE invites public participation in the NEPA process. Consideration of the views of and information provided by all interested persons and stakeholders promotes open communication and enables better decision-making. USACE coordinated with agencies, organizations, and members of the public with a potential interest in the Proposed Action during development of the 2019 Master Plan and in preparation of this EA. A Public Notice was sent to interested parties on December 11, 2018, announcing that USACE was preparing an EA for the 2019 Master Plan update (see Appendix A). Stakeholders contacted included:

- City of York
- York County Parks
- York County Rail Trail Authority (YCRTA)
- Pennsylvania Game Commission
- Springettsbury Township
- Spring Garden Township
- York College of Pennsylvania
- Susquehanna Commerce Center
- West Manchester Township
- York New Salem
- Glatfelter Paper Company
- Pennsylvania Department of Transportation

- York Water
- North Codorus Township
- York Area Regional Police
- Lake Marburg

1.4.1 Public Review

The EA process includes a 30-day public review period. A notice of availability was published in the York Daily Record, York Dispatch, PennLive/The Patriot-News and Press & Journal regarding the availability of the Draft EA. A hard copy of the Draft EA is available at the Glatfelter Memorial Library (Spring Grove, Pennsylvania) and the Martin Library (York, Pennsylvania). This document has also been placed for review on the Project's website at the following URL address: <https://www.nab.usace.army.mil/IRD-Master-Plan-Revision/>. Public comments received during the 30-day public comment period will be considered in preparation of the Final EA and will be made part of the Administrative Record.

1.4.2 Agency Coordination

The USACE has distributed this Draft EA to the U.S. Fish and Wildlife Service (USFWS) – Region 5, the Pennsylvania Department of Conservation and Natural Resources, the Pennsylvania Game Commission, and the Pennsylvania Fish and Boat Commission.

The USACE also coordinated with the USFWS Pennsylvania Ecological Services Field Office and the Pennsylvania Natural Heritage Program in preparation of this EA regarding the presence and potential affects to protected species. Information on protected species is included in Section 3.4.

Copies of agency correspondence are included in Appendix A of this EA.

CHAPTER 2 PROPOSED ACTION AND ALTERNATIVES

2.1 DEVELOPMENT OF ALTERNATIVES

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

2.1.1 Master Planning Process

USACE guidance recommends the establishment of resource goals and objectives for purposes of development, conservation, and management of natural, cultural, and human-made resources at a project location. Goals describe the desired end state of overall management efforts, whereas objectives are concise statements describing measurable and attainable management activities that support the stated goals. Goals and objectives are guidelines for obtaining maximum public benefits while minimizing adverse impacts on the environment and are developed in accordance with 1) authorized project purposes, 2) applicable laws and regulations, 3) resource capabilities and suitability, 4) regional needs, 5) other governmental plans and programs, and 6) expressed public desires. Table 2-1 outlines the goals and objectives proposed in the 2019 Indian Rock Dam Master Plan.

Table 2-1. Growth Concepts Identified within the 2019 Master Plan

Goal	Description	Objectives	Timeframe
1	Improve infrastructure and utilities	✓ Address key safety concerns	Short to Mid-range (within the next 1 to 10 years)
2	Enhance existing recreation sites and amenities	✓ Expand hiking trails – connect current system of trails	Short to Mid-range (within the next 1 to 10 years)
3	Expand recreational opportunities in key areas	No requirements identified for this goal.	Not Applicable
4	Invest in key operational and support facilities	No requirements identified for this goal.	Not Applicable

2.1.2 Screening Criteria

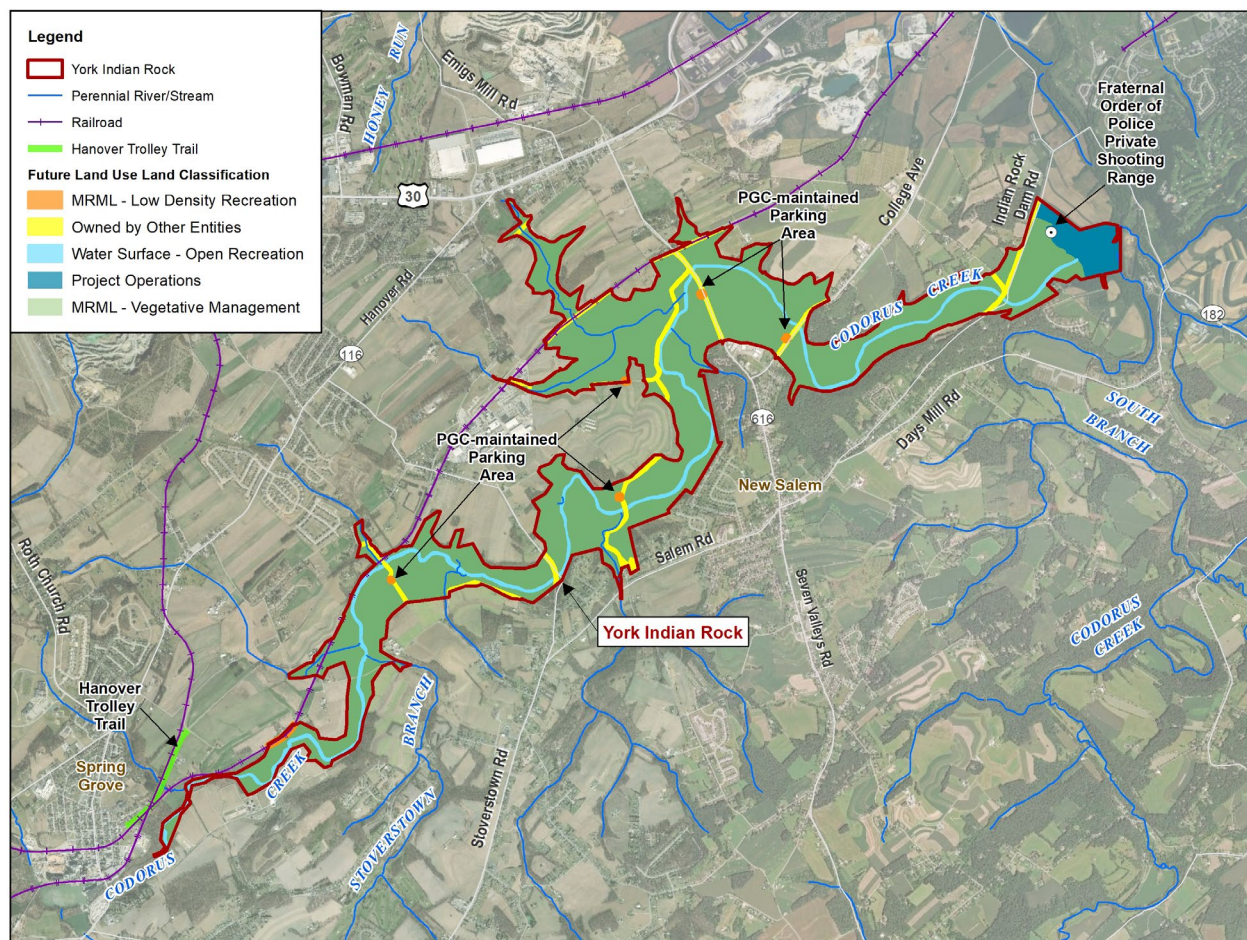
For an alternative to be considered viable, it must be compatible with the primary project missions of flood risk management, water quality control, and water supply. In addition, the alternative must meet management goal objectives and USACE-wide Environmental Operating Principles as described in Chapter 3 of the 2019 Master Plan. Based on these criteria, this EA considers the No Action Alternative (Section 2.2) and the Proposed Action Alternative (Section 2.3).

2.2 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison to the anticipated effects of the other action alternatives. Under the No Action Alternative, the USACE would take no action and would not adopt the 2019 Master Plan. The operation and management of Indian Rock Dam would continue as outlined in the current 1959 Master Plan. No new land use classifications would occur and a framework for future development at Indian Rock Dam would not occur.

2.3 ALTERNATIVE 2: PROPOSED ACTION ALTERNATIVE (PREFERRED ALTERNATIVE)

Under Alternative 2, the USACE would implement the 2019 Master Plan and associated changes in land management in compliance with USACE regulations and guidance. This alternative would adopt land classifications to USACE standards and include resource objectives that reflect current and projected needs compatible with regional goals. Required changes associated with the Proposed Action include classifications of land, classification of the water surface, and adoption of new resource management and recreation objectives. Figure 2-1 depicts the proposed new land use classifications within the 2019 Master Plan. Table 2-2 quantifies the proposed land and water surface reclassifications and provides a description of the land use classification along with types of future projects that could occur within each land use classification, as applicable.



Note: Indian Rock Dam operates as a dry reservoir. Surface Water classification includes land area occupied by Codorus Creek. MRML = multiple resource management lands

Figure 2-1. Proposed 2019 Indian Rock Dam Master Plan Reclassification Map

Table 2-2. Proposed Changes to Land Use Classifications at Indian Rock Dam

Classification	1959 Master Plan (acres) ^a	2019 Master Plan (acres)	Description
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Vegetative Management	ND	1,588	This land use classification includes an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. The primary objective for these lands is to manage the forest to ensure a healthy, diverse, and visual aesthetic continuous forest canopy throughout the Indian Rock Dam property. The provision and protection of wildlife habitat and the availability of these lands for passive recreation activities are also important objectives. Pennsylvania Game Commission manages approximately 350 acres of Prescribed Burn Zones within this classification to stabilize the vegetative areas. Pennsylvania Game Commission also manages several Habitat Restoration Areas in order to support a healthy ecosystem for both the plants and animals in the area. Current recreational use of these lands includes, but is not limited to hunting, bank fishing, wildlife viewing, and hiking. Future uses include all existing uses with the possibility of enhancing these uses with amenities like signage or new primitive access trails.
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N/A = not applicable; ND = Not Defined; USACE = U.S. Army Corps of Engineers

The Proposed Action would update the 1959 Master Plan compliant with ER and EP 1130-2-550, and would meet goals and objectives outlined in the 2019 Master Plan. Therefore, this alternative is the Preferred Alternative and will carry forward as the Proposed Action.

2.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The USACE initially considered other alternatives to the Proposed Action as part of the master planning charrette process. However, none met the purpose of and need for the Proposed Action or the USACE regulations and guidance. As such, no other alternatives beyond the No Action and Preferred Alternative are being carried forward for analysis in this EA.

CHAPTER 3 ENVIRONMENTAL SETTING AND CONSEQUENCES

3.1 INTRODUCTION

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

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

3.1.1 Description of Baseline Data and Data Sources

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

- Geographical Information System (GIS), including waters and wetlands inventory, floodplain mapping, and vegetation
- Aerial photography: U.S. Department of Agriculture (USDA), National Agriculture Imagery Program
- Regional and local reports: including Natural Resources Conservation Service (NRCS) Soil Surveys and previous studies conducted at Indian Rock Dam
- Agency databases including the USFWS and the U.S. Environmental Protection Agency (USEPA)
- Information presented within the 2019 Master Plan
- Agency consultation

3.1.2 Approach for Analyzing Impacts

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

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

- Beneficial – Impacts would improve or enhance the resource.
- Negligible – A resource would not be affected, or the effects would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.

- Minor – Effects on a resource would be detectable, although the effects would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- Moderate – Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects, would be extensive and likely achievable.
- Significant – Effects on a resource would be obvious and long-term and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse effects would be required and extensive, and success of the mitigation measures would not be guaranteed.

As stated in Section 1.3, Scope of the EA, the analysis focuses on the proposed land use classifications as presented in the 2019 Master Plan and the types of future development projects that could occur within each land use classification. Specific future projects contained within the 2019 Master Plan are qualitatively considered within this EA, as these projects are conceptual in nature. The USACE would conduct further NEPA analysis on projects identified within the 2019 Master Plan once funding is available and detailed planning and design occur. As illustrated in Table 2-1, these projects would occur within two periods: short-range (within the next 1 to 5 years) and mid-range (within the next 6 to 10 years).

3.1.3 Level of Resource Area Analysis

All potentially relevant resource areas were initially considered for analysis in this EA. Consistent with NEPA implementing regulations and guidance, USACE focused the analysis on topics with the greatest potential for environmental impacts. This sliding-scale approach is consistent with NEPA (40 CFR 1502.2(b)), under which impacts, issues, and related regulatory requirements are investigated and addressed with a degree of effort commensurate with their importance. Some resource topics are limited in scope due to the lack of direct effect from the Proposed Action on the resource or because that resource is not located within the Project. For example, no body of water in the Indian Rock Dam watershed is designated as a federally wild or scenic river, so this resource will not be discussed. Table 3-1 provides justification for whether the EA carries a resource area through for detailed consideration.

In conducting this analysis, a qualified subject matter expert (SME) reviewed the potential direct and indirect effects of the No Action Alternative and the Proposed Action relative to each environmental and socioeconomic resource. The SME carefully analyzed and considered the existing conditions of each resource area within the Proposed Action's region of influence (ROI). Through this analysis, it was determined that, for several resource areas, negligible adverse effects would occur. This included air quality, greenhouse gases and climate, noise, geology, groundwater, cultural resources, wild and scenic rivers, utilities, hazardous materials and waste, socioeconomic and environmental justice, and traffic and transportation (see Table 3-1).

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Air Quality	South Central Pennsylvania Intrastate Air Quality Control Region	<p>Significant impacts to air quality would occur if the Proposed Action generated emissions that:</p> <ul style="list-style-type: none"> Exceed the general conformity rule <i>de minimis</i> (of minimal importance) threshold values; or Contribute to a violation of any federal air regulation. 	Yes	<p>Indian Rock Dam in an area meeting attainment for all criteria pollutants, and therefore, the General Conformity Rule does not apply (USEPA 2019). Changes to land use classifications under the Proposed Action would not affect air quality. Implementation of future master planning projects would generate temporary emissions from construction activities, including particulate matter and other criteria pollutants. Future development and increased recreational opportunities could also generate increased visitation and corresponding vehicle emissions. These increases, however, would be insignificant and would not affect air quality. Increases could also be offset by people travelling less distance to obtain recreational experiences previously not offered at the Project. As a result, this resource area is not further discussed in this EA.</p>

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Greenhouse Gases and Climate	York County, Pennsylvania	Significant impacts to greenhouse gases would occur if the Proposed Action contributes to substantial greenhouse gas emissions and climate change.	Yes	York County is in Climate Zone 7 with an average annual temperature of 53°F (U.S. Climate Data 2019). Changes to land use classifications under the Proposed Action would not affect greenhouse gas emissions or climate. Implementation of future master planning projects would generate temporary emissions from construction activities, including greenhouse gases. Future development and increased recreational opportunities could also generate increased visitation and corresponding greenhouse gas emissions from vehicles. These increases, however, would be insignificant to greenhouse gas levels and to climate change contribution. Increases in greenhouse gas emissions could also be offset by people travelling less distance to obtain recreational experiences previously not offered at the Project. As a result, this resource area is not further discussed in this EA.
Geology and Topography	Geology and topography within and adjacent to (i.e., within 50 feet) master planning project footprints	Significant impacts would occur to geology and topography if the Proposed Action is located on a geologic unit or contains topography that is unstable, or would become unstable due to the project, potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	Yes	The Project falls within the Piedmont Upland physiographic province, which is characterized by broad, rounded to flat-topped hills and shallow valleys. Changes to land use classifications under the Proposed Action would not affect geology or topography. Construction activities associated with future development would not affect the geology and siting and design of future projects would consider the steep topography. As a result, this resource area is not further discussed in this EA.

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Water Resources	Watersheds, state-designated stream segments, wetlands, and groundwater aquifers associated with Indian Rock Dam	<p>Significant impacts would occur to water resources if the Proposed Action:</p> <ul style="list-style-type: none"> Violates any water quality standards or waste discharge requirements; Results in an excess sediment load in adjacent waters, affecting impaired resources; Results in unpermitted direct impacts to waters of the United States; Violates policies, regulations, and permits related to wetlands conservation and protection; Substantially affects surface water drainage or stormwater runoff, including floodwater flows; or Substantially affects groundwater quantity or quality. 	<p>No (surface water and wetlands)</p> <p>Yes (groundwater)</p>	<p>Indian Rock Dam is in the Codorus Creek watershed, Hydrologic Unit Code, 0205030607. Changes to land use classification and future master planning projects could have the potential to adversely impact surface waters and wetlands. As a result, these resources are further discussed in Section 3.2.</p> <p>Changes to land use classification and construction of future master planning projects are not anticipated to adversely affect the quality or availability of groundwater. Therefore, groundwater is not further discussed in this EA.</p>
Soils	Soils within and adjacent to (i.e., within 50 feet) master planning project footprints	Significant impacts would occur to soils if the Proposed Action results in substantial soil erosion or topsoil loss.	No	Changes to land use classification and future master planning projects could affect soils susceptible to erosion and Prime Farmland soils. As a result, this resource area is further discussed in Section 3.3.

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Biological Resources	Biological resources within and adjacent to Indian Rock Dam	<p>Significant impacts would occur to biological resources if the Proposed Action causes:</p> <ul style="list-style-type: none"> • Substantial and permanent conversion or net loss of habitat at the landscape scale; • Long-term loss or impairment of a substantial portion of local habitat (species-dependent); • Loss of populations of species; or • Unpermitted or unlawful “take” of species protected under the Endangered Species Act, the Bald and Golden Eagle Protection Act, or the Migratory Bird Treaty Act. 	No	Changes to land use classification and future master planning projects have the potential to impact biological resources from loss of habitat and habitat degradation. As a result, this resource area is further discussed in Section 3.4.
Noise	Indian Rock Dam and adjacent lands	<p>Significant noise impacts would occur if the Proposed Action:</p> <ul style="list-style-type: none"> • Violates any federal, state, or local noise ordinance; • Creates incompatible land uses for areas with sensitive noise receptors outside the project area; or • Creates noise loud enough to threaten or harm human health. 	Yes	Indian Rock Dam is in a physical setting characterized as rural, with the City of York and surrounding suburbs located directly to the north and east. In rural areas most noise comes from transportation, and human and animal sources (Engineering Toolbox 2013). Noise is also generated at the Project from the firing range located in lands leased by the Fraternal Order of Police. Changes to land use classifications under the Proposed Action would not change the existing noise environment. Operational activities would be consistent with current noise levels. As a result, this resource area is not further discussed in this EA.

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Land Use and Recreation	Land use within and directly adjacent to Indian Rock Dam	<p>Significant impacts would occur to land use and recreation if the Proposed Action:</p> <ul style="list-style-type: none"> Conflicts with applicable land use plans, policies, or regulation of an agency with jurisdiction over the project; Conflicts with applicable habitat conservation plan or natural community conservation plan; or Diminishes existing recreational opportunities. 	No	As the Proposed Action implements changes to land use classifications and identifies future recreational projects within and adjacent to Indian Rock Dam, these resource areas are further discussed in Section 3.5.
Cultural Resources	Cultural resources within and adjacent to (i.e., within 50 feet) master planning project footprints	<p>Significant impacts to cultural resources would occur if the Proposed Action:</p> <ul style="list-style-type: none"> Causes substantial adverse change in the significance of historical or archaeological resources as defined in the National Historic Preservation Act (NHPA); or Disturbs any human remains, including those buried outside of formal cemeteries. 	Yes	The USACE currently does not have an ICRMP for Indian Rock Dam. USACE performs Section 106 compliance on a project-by-project basis. Changes to land use classification would not adversely affect cultural resources, however, future master planning projects and uses have the potential to directly impact cultural resources from construction and grading activities or indirectly from erosion due to use. In regard to the 2019 Indian Rock Dam Master Plan, this would include establishment of new primitive access trails. Prior to future master planning project implementation involving new construction, sites with the potential for archaeological resources (e.g., undisturbed locations) would be surveyed and the USACE would consult with the Pennsylvania State Historic Preservation Office for Section 106 concurrence. As a result, this resource area is not further discussed in this EA.

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Utilities	Utilities within and near Indian Rock Dam	A significant impact would occur if the Proposed Action were to result in a substantial increase in any utility consumption to the extent that generation capacity is exceeded, based on currently available projections, or unacceptable demands are placed on infrastructure supply and distribution systems.	Yes	Changes to land use classifications and future projects identified under the Proposed Action would not affect utilities. Therefore, utilities are not further discussed in this EA.
Hazardous Materials and Wastes	Areas within and adjacent to (i.e., within 50 feet) of master planning project footprints	A significant impact would occur if the project were to create a significant hazard to the public or the environment through release of hazardous materials into the environment.	Yes	No known contaminated sites occur at Indian Rock Dam. Changes to land use classifications under the Proposed Action would not affect hazardous materials and wastes. Construction-related debris from future master planning projects would be managed, disposed, and recycled in accordance with state and federal requirements. Future development and related increased visitation could result in corresponding minor increases of waste generation, however, any waste generated during operations would be comparable to existing types generated and would be properly managed in accordance with state, and federal requirements. As a result, this resource area is not further discussed in this EA.

Table 3-1. Environmental Resource Area Assessment Criteria and Level of Assessment

Resource Area	ROI	Thresholds of Significance	Dismissed from further Analysis?	Rationale for Level of Assessment
Socio-economics and Environmental Justice	Areas within Indian Rock Dam and immediate surrounding communities and counties	<p>Significant impacts to socioeconomics and environmental justice would occur if the Proposed Action:</p> <ul style="list-style-type: none"> • Causes substantial change to the sales volume, income, employment or population of the surrounding ROI; • Displaces substantial numbers of existing housing units or people, necessitating the construction of replacement housing elsewhere; • Causes disproportionate adverse economic, social, or health impacts on minority or low-income populations; or • Causes disproportionate health or safety risk to children. 	Yes	<p>The Proposed Action would not result in any appreciable effects to the local or regional socioeconomic environment. Changes to land use classification would have no impact on socioeconomics or environmental justice. Construction of future master planning projects (primitive trails) would have negligible beneficial effects associated with temporary employment of construction personnel and transportation of goods and materials to the construction sites.</p> <p>There would be no effects on environmental justice since the Proposed Action would be located within federal lands and projects would benefit local residences by enhancing recreational opportunities. Potential effects from construction and operation of future master planning projects would not result in disproportionate adverse environmental or health effects on low-income or minority populations or children. As a result, socioeconomics and environmental justice are not discussed further in this EA.</p>
Traffic and Transportation	Public roadways and key access points within and near Indian Rock Dam	<p>Significant impacts to traffic and transportation would occur if Proposed Action:</p> <ul style="list-style-type: none"> • Causes an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system; • Substantially increases hazards due to a design feature; • Noticeably hinder emergency access; or • Overwhelm existing parking capacity. 	Yes	<p>Changes to land use classification would have no impact on traffic and transportation. Future master planning projects would result in temporary increased truck traffic during construction to haul materials and wastes to and from the construction sites. Road closures would not be anticipated for construction of primitive trails and increases in visitation and corresponding traffic would be negligible. As a result, traffic and transportation are dismissed from this EA.</p>

3.2 WATER RESOURCES

3.2.1 Affected Environment

3.2.1.1 Surface Waters and Wetlands

Indian Rock Dam is located along Codorus Creek, which is part of the greater Susquehanna River watershed. The dam controls about 41 percent of the Codorus Creek watershed upstream of York (USACE 2018). The watershed is a mosaic of forested, agricultural, and residential land use. Codorus Creek is the predominant surface water feature within the Project (see Section 3.2.1.2 regarding water quality and use designations).

Wetlands at Indian Rock Dam are concentrated along Codorus Creek within the 100-year floodplain. This includes a mix of forested and emergent wetlands (USFWS 2018). Wetlands are protected under Section 404 of the Clean Water Act and EO 11990 Protection of Wetlands. In accordance with the Clean Water Act, disturbance to, or filling in, of potential wetlands at the Project are avoided to the highest degree possible, but if necessary, the USACE Regulatory Branch is consulted for jurisdictional determination and possible permitting for wetlands disturbance.

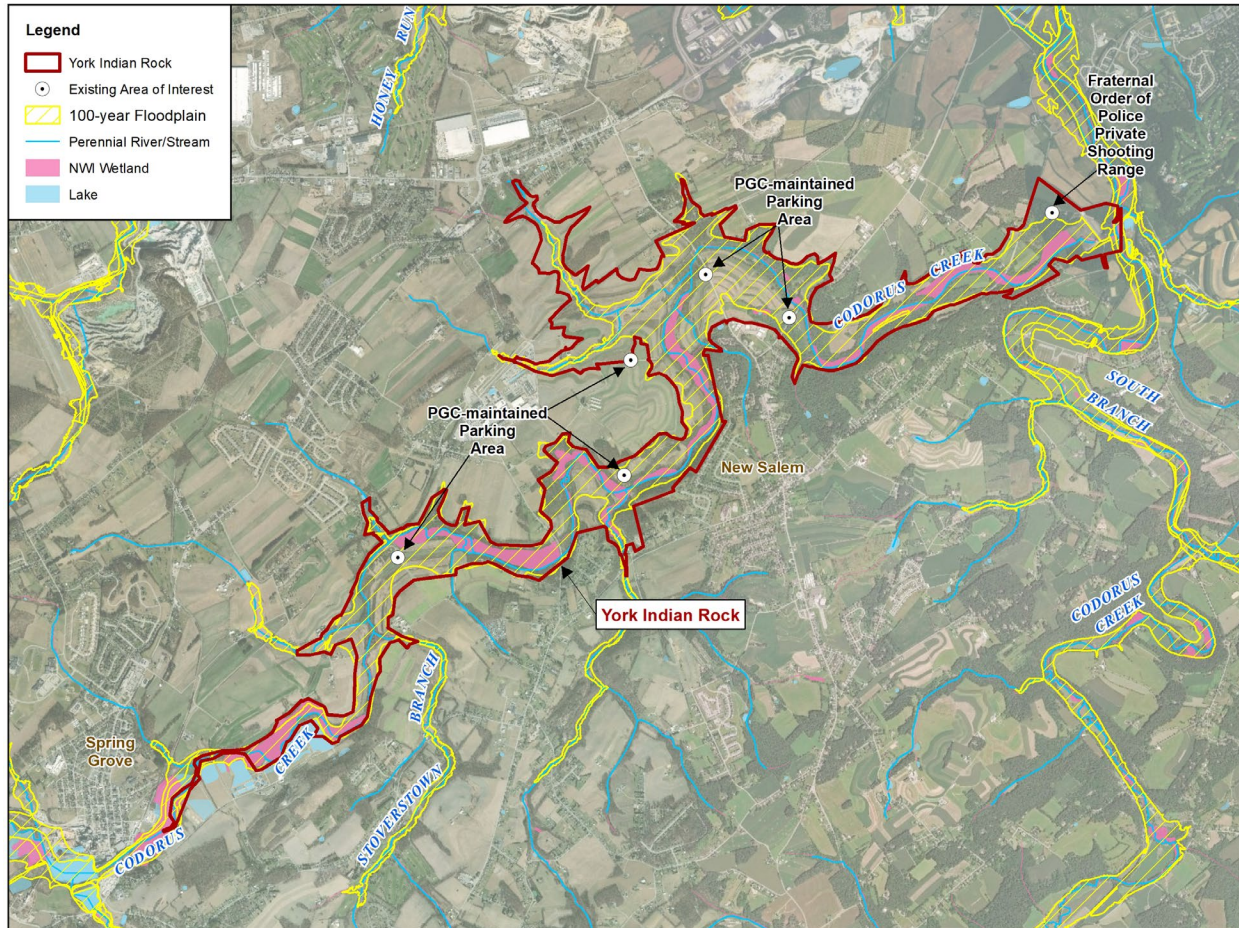
Figures 3.2-1 shows the location of surface water and wetlands within the Project.

3.2.1.2 Water Quality

The Codorus Creek watershed has historical impairment issues, primarily from severe bank erosion, high sediment loads, and thermal warming. To address the issues, the York County Conservation District and Codorus Creek Watershed Association prepared the Codorus Creek Nonpoint Source Pollution Control Watershed Implementation Plan under the Pennsylvania Department of Environmental Quality 319 Watershed Improvement Program (York County Conservation District 2007). The plan serves as a management tool for local governing agencies and entities, nonprofit organizations, watershed groups, and other stakeholders for future stream restoration efforts in the watershed to improve aquatic habitat, designated uses, and water quality of the Codorus Creek and its many streams and tributaries.

The Clean Water Act requires that states report on water quality of their waters. Through ambient water quality monitoring, states determine if a waterbody satisfies the water quality criteria associated with each state's designated uses. Section 401 of the Clean Water Act requires applicants of a federal license or permit provide a certification that any discharges from the facility would comply with the act, including state-established water quality standard requirements. When a state-defined designated use is not met or supported by the waterbody, it is deemed impaired. Designated uses are defined on a state-by-state basis and documented according to the reporting requirements of Clean Water Act Sections 303 and 305. According to the 2016 Final Pennsylvania Integrated Water Quality Monitoring and Assessment Report Section 305(b) Report and 303(d) List, the Codorus Creek watershed agricultural nonpoint source - impaired watersheds and references the existing Watershed Implementation Plan (PADEP 2016).

According to the State of Pennsylvania's Chapter 93 Water Quality Standards, the State of Pennsylvania designates Codorus Creek in the Project as Migratory Fishes (MF) and Trout Stocking (TSF) (PADEP 2019). The MF designation is for waters supporting passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which move to or from flowing waters to complete their life cycle in other waters. The TSF designation is for waters supporting maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.



Source: FEMA 2019; USFWS 2018; USGS 2016; USDA-FSA 2017.

Figure 3.2-1. Surface Waters and Wetland Resources at Indian Rock Dam

3.2.1.3 Floodplains

Floodplains are areas of land adjacent to rivers and streams that convey overflows during flood events. The Federal Emergency Management Agency (FEMA) defines a floodplain as being any land area susceptible to being inundated by water from any source (FEMA 2018). FEMA prepares Flood Insurance Rate Maps (FIRMs) that delineate flood hazard areas, such as floodplains, for communities. These maps are used to administer floodplain regulations and to reduce flood damage. Typically, these maps indicate the locations of 100-year floodplains, which are areas with a 1 percent chance of flooding occurring in any single year. EO 11988, Floodplain Management, states that actions by federal agencies are to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative.

The National Flood Insurance Program (NFIP) requires local jurisdictions to issue permits for all development in the 100-year floodplain, as depicted on maps issued by FEMA. Development is broadly defined to include any man-made change to land, including grading, filling, clearing, dredging, extraction, storage, subdivision of land, and construction and improvement of structures and buildings. For any development to take place, all necessary permits must be obtained, which may include federal and State permits, as well as the local permit. To be properly permitted, proposed development may not increase flooding or create a dangerous situation during flooding, especially on another person's property. If a structure is involved, it must be constructed to minimize damage during flooding. The Pennsylvania

Emergency Management Agency acts as the Coordinating Office for the NFIP in Pennsylvania and is responsible for issuing floodplain development permits.

Floodplains are widely distributed along Codorus Creek at the Project (see Figure 3.2-1). FEMA classifies floodplains at the Project as Zone A (no base flood elevations determined) (FEMA 2019).

3.2.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2019 Master Plan and no new land use classifications or future development projects contained within the proposed 2019 Master Plan would occur. The operation and management of Indian Rock Dam and USACE lands would continue as outlined in the 1959 Master Plan. Although this alternative does not result in a Master Plan that meets current regulations and guidance, there would be no significant impacts to water resources on project lands.

3.2.3 Proposed Action – Environmental Consequences

The reclassifications required for the Proposed Action would result in negligible to minor adverse water resource impacts and beneficial impacts. Table 3.2-1 summarizes potential effects to surface waters and wetlands based on the proposed changes to land use classifications.

Table 3.2-1. Potential Water Resource Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
Project Operations	125	95	No Impact. This land use classification would designate lands associated with the direct support for flood control operations, including dam and spillway structures. No new projects are proposed within this land use.
Wildlife and Game Management	1,634	N/A	No Impact. Although this classification is not proposed in the 2019 Master Plan, wildlife management is encompassed in the vegetative management and wildlife management classifications proposed in the 2019 Master Plan.
Multiple Resource Management Land			
Low-Density Recreation	ND	2	No Impact. This land use classification focuses on lands with minimal development or infrastructure that support passive public recreation use, like fishing, hunting, wildlife viewing, or hiking. This includes approximately 2 acres of land within the Project encompassing the five parking areas for hunting, fishing, and wildlife viewing activities as well as the Hanover Trolley Trail. There are no future plans for the existing low-density recreation lands.
Vegetative Management	ND	1,588	Minor Impact. This land use includes an ecosystem-based management designated for stewardship of forest, prairie, and other native vegetative cover. According to USFWS NWI mapping, approximately 187 acres of forested wetland and 13.5 acres of emergent wetland occur within this land use classification. FEMA FIRM mapping also indicates approximately 1,138 acres of this land use classification occurs within the 100-year floodplain. Future new primitive access trails would have minor impacts on water resources, primarily due to the potential for direct disturbance during construction and indirect effects of sedimentation from erosion. Construction and operations of these projects would use BMPs associated with prevention of erosion. All projects would avoid disturbance to surface waters and wetlands, where possible. Any unavoidable impacts would be permitted through the Section 404 process. Improved trails would

Table 3.2-1. Potential Water Resource Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
			reduce erosion elsewhere at the Project by encouraging use of maintained designated access points. Proposed projects are not anticipated to impact floodplain elevation or impede or affect flood water movement.
Water Surface			
Restricted	ND	1	No Impact. Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. No impacts to water resources would occur.
Open Recreation Area	ND	69	No Impact. Open Recreation areas include all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use, therefore, no impact would occur.

BMP = best management practice; ND = Not Defined; NWI = National Wetland Inventory; USFWS = U.S. Fish and Wildlife Service

3.3 SOILS

3.3.1 Affected Environment

According to the soil survey for York County, Pennsylvania, soils within the Project are predominantly mapped as Lindside silt loam (Lw), Conestoga silt loam (Cn), Codorus silt loam (Cm), Chester silt loam (Ce), Elk silt loam (Ek) and Mt. Airy and Manor soils (MO). The Lw and Cm soils tend to be moderately well drained are located on floodplains. Cn, Ce, and MO soils are located along hillslopes and Ek soils along terraces, all of which are classified as well drained (NRCS 2019).

Prime Farmland

The President and Congress enacted the Farmland Protection Policy Act of 1981 to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses (Public Law 97-98). Prime farmland is defined by the NRCS as “having the best combination of chemical and physical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses” (NRCS 2019). Undeveloped land with high crop production potential may be classified as “prime farmland.”

NRCS designates the following soil units, totaling approximately 1,275 acres, as Prime Farmland at Indian Rock Dam (NRCS 2019):

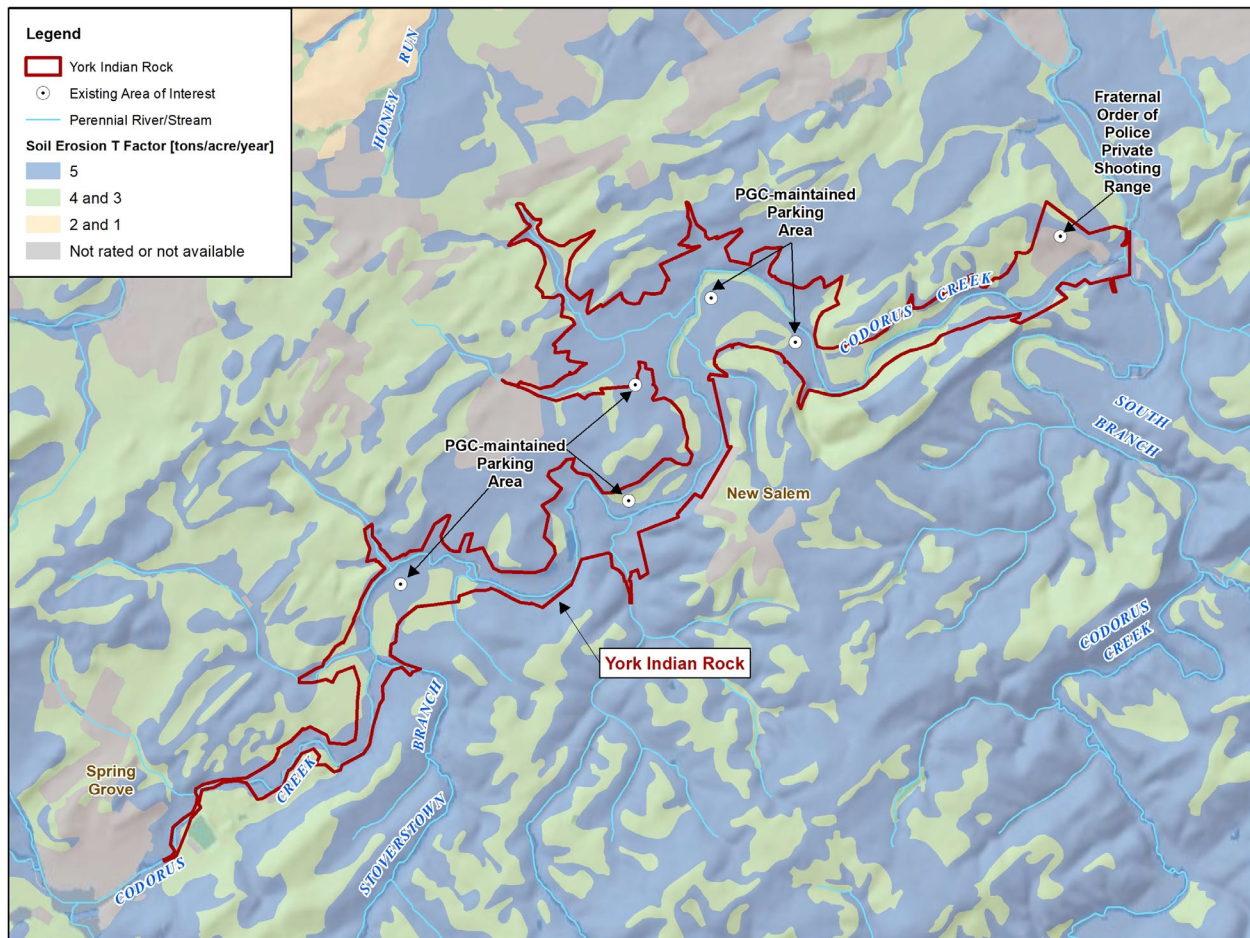
- Chagrins silt loam
- Chester silt loam
- Clarksburg silt loam
- Codorus silt loam
- Conestoga silt loam
- Duffield silt loam
- Elk silt loam
- Glenelg channery loam
- Lindside silt loam
- Mt. Airy and Manor soils

Soil Erosion

Soil particles and organic matter can become detached from the soil column by the impact of rain water, and the steep topography can result in erosion. The force of wind can also contribute to the potential for

soil erosion. At the moment soil particles become suspended in the runoff or in the air, soil changes from being a natural resource supporting plant growth to being a pollutant – sediment or dust. Soil erosion is less of a factor at Indian Rock Dam compared to other USACE projects due to the lack of steep topography. As stated in Section 3.2.1.2, however, sediment loading has historically caused water quality impairment in the watershed from agriculture and other land disturbances. The EA considers two soil classifications (discussed below) used by the NRCS to determine erosion potential at Indian Rock Dam.

Erosion T Factor is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur on a soil unit without affecting crop productivity (e.g., vegetation growth and cover) over a sustained period. The rate is in tons per acre per year (T/A/Y). A soil with a T Factor rating of 5 T/A/Y can tolerate 5 times as much erosion without a loss in productivity compared to a soil with a T Factor rating of 1 T/A/Y. Erosion T Factor is a good indicator of the overall soil erosion tolerance, and of the effect of erosion on a soil's ability to support plant growth, and can be used for understanding the various soil units' capacity for supporting plant growth following disturbance. As shown in Figure 3.3-1, a majority of the Project is classified as a 5 or 4 and 3 erosion T Factor, meaning the soils are resilient to wind and water erosion.

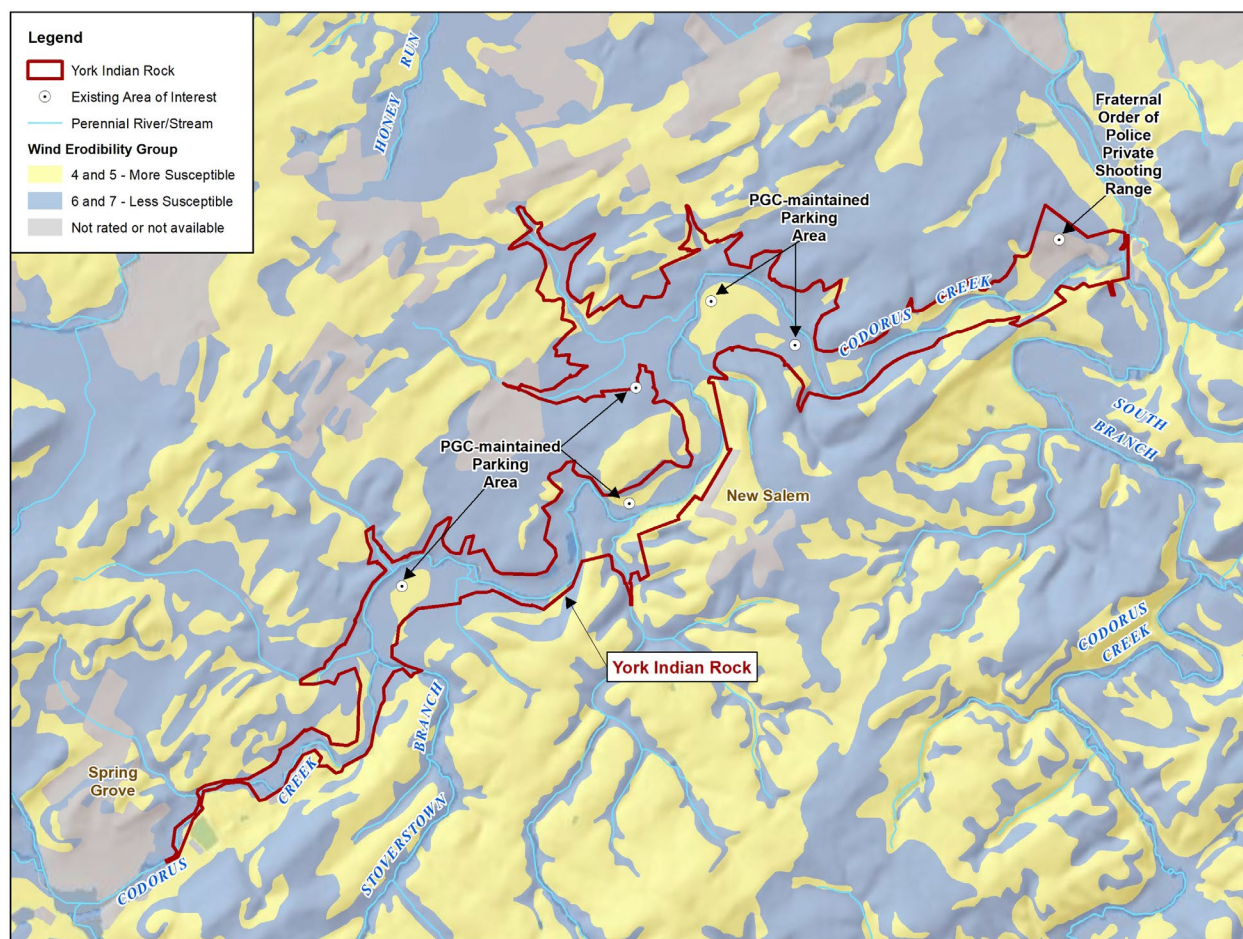


Source: NRCS 2018

Figure 3.3-1. Soil Erosion Potential Considering T Factor

Wind Erodibility Groups (Figure 3.3-2) are also used to determine erosion potential. Wind erodibility groups are assigned to soils based on their inherent susceptibility to wind erosion based on soil properties, primarily soil texture and structure. The group scale runs from Group 1 (being the most susceptible) to

Group 8 (being the least susceptible). As shown on Figure 3.3-2, most of Indian Rock Dam is classified as wind erodibility Groups 6 and 7, with pockets of wind erodibility groups 5 and 5, indicating a low to moderate susceptibility to wind erosion.



Source: NRCS 2018

Figure 3.3-2. Soil Erosion Potential Considering Wind Erodibility Groups

3.3.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2019 Master Plan and no new land use classifications or future development projects contained within the proposed 2019 Master Plan would occur. The operation and management of Indian Rock Dam and USACE lands would continue as outlined in the 1959 Master Plan. Although this alternative does not result in a Master Plan that meets current regulations and guidance, there would be no significant impacts to soil resources on project lands.

3.3.3 Proposed Action – Environmental Consequences

The reclassifications required for the Proposed Action would result in negligible to minor adverse and beneficial soil resource impacts. Table 3.3-1 summarizes potential effects to soil resources based on the proposed changes to land use classifications.

Table 3.3-1. Potential Soil Resource Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
Project Operations	125	95	No Impact. This land use classification would designate lands associated with the direct support for flood control operations, including dam and spillway structures. No new projects are proposed within this land use.
Wildlife and Game Management	1,634	N/A	No Impact. Although this classification is not proposed in the 2019 Master Plan, wildlife management is encompassed in the vegetative management and wildlife management classifications proposed in the 2019 Master Plan.
Multiple Resource Management Land			
Low-Density Recreation	ND	2	No Impact. This land use classification focuses on lands with minimal development or infrastructure that support passive public recreation use, like fishing, hunting, wildlife viewing, or hiking. This includes approximately 2 acres of land within the Project encompassing the five parking areas for hunting, fishing, and wildlife viewing activities as well as the Hanover Trolley Trail. Designation of this land use classification would not affect soil resources and no future projects are planned within this land use designation.
Vegetative Management	ND	1,588	Minor Impact. This land use includes an ecosystem-based management designated for stewardship of forest, prairie, and other native vegetative cover. Approximately 1,189 acres of soil are classified as prime farmland. Future new primitive access trails would have minor impacts on soil resources, primarily due to the potential for direct disturbance during construction and indirect effects of erosion. Construction and operations of these projects would use BMPs associated with prevention of erosion. Improved trails would reduce erosion elsewhere at the Project by encouraging use of maintained designated access points.
Water Surface			
Restricted	ND	1	No Impact. Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. No impacts to soil resources would occur.
Open Recreation Area	ND	69	No Impact. Open Recreation areas include all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use, therefore, no impact would occur.

BMP = best management practice; ND = Not Defined

3.4 BIOLOGICAL RESOURCES

3.4.1 Affected Environment

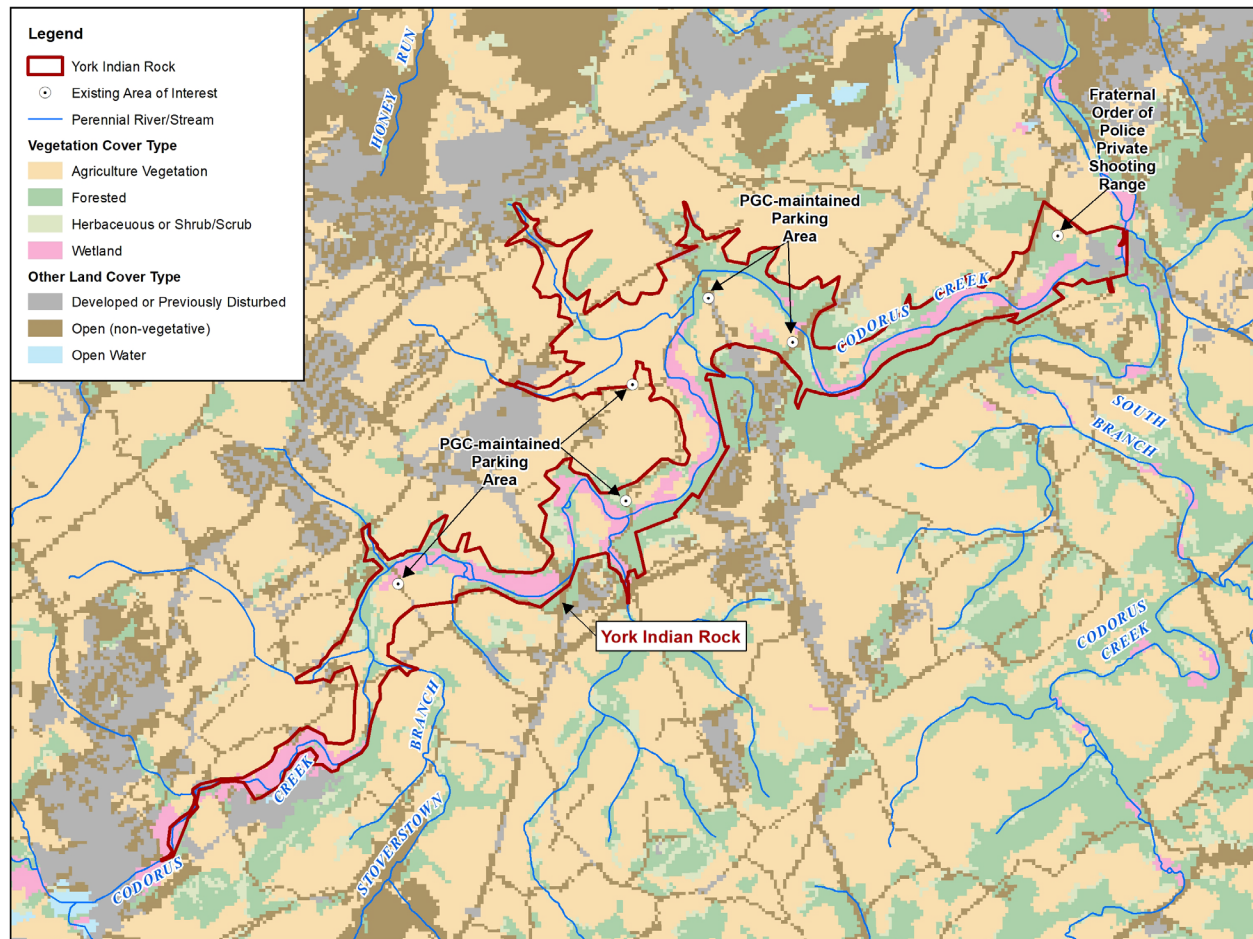
3.4.1.1 Vegetation

Indian Rock Dam is in Ecoregion 64c (Piedmont Uplands) is characterized by rounded hills, low ridges, relative high relief, and narrow valleys (USEPA 1999). Typical mapped natural vegetation communities are Appalachian oak forest dominated by white and red oaks (*Quercus alba* and *Q. rubra*). Agriculture has transformed many areas within this ecoregion which is a dominate land use in the region (USEPA 1999). Figure 3.4-1 shows the distribution of vegetation communities at the Project. The predominant cover type is forested, herbaceous and agricultural cover.

3.4.1.2 Wildlife and Fisheries

The common species of mammals in the vicinity of Indian Rock Dam include white-tailed deer (*Odocoileus virginianus*), gray and red foxes (*Urocyon conereioargenteus*, *Vulpes vulpes*), squirrels (*Sciurus sp.*), opossums (*Didelphis virginiana*) raccoons (*Procyon lotor*), skunks (*Mephitis mephitis*), groundhogs (*Marmota monax*), beaver (*Castor canadensis*), and cottontail rabbits (*Sylvilagus floridanus*).

As stated in Section 3.2.1.2, Codorus Creek is designated as a warm water fishery which would support common carp (*Cyprinus carpio*), brown bullhead (*Ameiurus nebulosus*), rock bass (*Ambloplites rupestris*), pumpkinseed (*Lepomis gibbosus*), yellow perch (*Perca flavescens*), white sucker (*Catostomus commersonii*) and trout (*Oncorhynchus*).



Source: USGS 2016

Figure 3.4-1. Vegetation Communities at Indian Rock Dam

3.4.1.3 Species of Conservation Concern

As of 2019, only one federally protected species listed under the Endangered Species Act has the potential to occur at the Project, the bog turtle (*Clemmys muhlenbergii*) (see Appendix A, March 28, 2019 USFWS coordination letter). Table 3.4-1 provides information on this species.

Table 3.4-1. Federally Protected Threatened, Endangered, and Protected Species that Could Occur at Indian Rock Dam

Common Name	Status	Habitat/Requirement
Bog Turtle	FT	Bog turtles live in spring fed meadows and bogs dominated by tussock sedge and grasses with a substrate consisting of deep mucky soils fed by groundwater seeps. They require shallow surface water or saturated soils present year-round and open conditions associated with early-successional wetland habitats. The turtle requires deep mucky soils for hibernation and thermoregulation and the low grasses and sedges for nesting areas and cover. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

FT = federally threatened

Bald eagles, a previously listed federally endangered species, were removed from the federal list in August 2007. Although this species is not listed as an endangered or threatened species, it is protected under the Bald and Golden Eagle Protection Act, as noted by USFWS. Bald eagles have the potential to occur at Indian Rock Dam (USFWS 2019).

A review of the USFWS Information for Planning and Conservation database identified four species of migratory birds of conservation concern that have the potential to occur at Indian Rock Dam (USFWS 2019). This includes the bald eagle, cerulean warbler (*Dendroica cerulea*), red-headed woodpecker (*Melanerpes erythrocephalus*), and wood thrush (*Hylocichla mustelina*).

The Migratory Bird Treaty Act (MBTA) (16 U.S. Code 703-712) prohibits the take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect), or the attempt to engage in any such conduct, of any migratory bird without authorization from the USFWS. All migratory birds (identified in 50 CFR 10.13) are protected under the MBTA. The U.S. Department of the Interior's Office of the Solicitor issued Memorandum M-37050 on December 22, 2017, which adopts the position that the MBTA prohibition on the "taking" or "killing" of migratory birds applies only to deliberate acts intended to take a migratory bird (U.S. Department of Interior 2017). The legal opinion reverses the position of prior administrations that the MBTA prohibits not only the intentional take of migratory birds but also the take of migratory birds that is incidental to otherwise lawful activity (i.e., unintentional). Unintentional take includes disturbance to species and nests during ground-clearing activities, such as clearing, where unobserved nests of migratory birds could be located. The breeding season ranges among species with the earliest having a start of April 28th and latest end of September 10th with the exception of the bald eagle which breeds September 1st to July 31st (USFWS 2019).

State Protected Species

The USACE reviewed the Pennsylvania Natural Heritage Program's Conservation Explorer to determine the potential presence of state-protected species at the Project. Their database includes records from the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission and the Pennsylvania Department of Conservation and Natural Resources. The Conservation Explorer database did not include any occurrences of species at the Project (PANHP 2019). As stated in Section 1.4.2, USACE is coordinating with these three agencies in review of this EA to confirm Pennsylvania Natural Heritage Program's records.

3.4.1.4 Invasive Species

Invasive species are defined as non-native species whose introduction into an ecosystem is likely to cause environmental, human, or economic harm. Non-native, or exotic, species have not evolved the natural checks and balances that normally keep population growth in check, thus they can spread rapidly and completely take over natural areas. These species are often difficult and expensive to control.

There are currently no invasive species reported within project boundaries. The Codorus Creek Watershed Implementation Plan lists the following invasive species of concern within the watershed: mile-a-minute weed (*Polygonum perfoliatum*), purple loosestrife (*Lythrum salicaria*), Japanese knotweed (*Polygonum cuspidatum*), garlic mustard (*Alliaria petiolata*), autumn olive (*Elaeagnus umbellata*), multiflora rose (*Rosa multiflora*), and Japanese honeysuckle (*Lonicera japonica*) (York County Conservation District 2007).

3.4.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2019 Master Plan and no new land use classifications or future development projects contained within the proposed 2019 Master Plan would occur. The operation and management of Indian Rock Dam and USACE lands would continue as outlined in the 1959 Master Plan. Although this alternative does not result in a Master Plan that meets current regulations and guidance, there would be no significant impacts to biological resources on project lands.

3.4.3 Proposed Action – Environmental Consequences

The reclassifications required for the Proposed Action would result in negligible to minor adverse and beneficial biological resource impacts. Table 3.4-1 summarizes potential effects to biological resources based on the proposed changes to land use classifications.

Table 3.4-1. Potential Biological Resource Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
Project Operations	125	95	No Impact. This land use classification would designate lands associated with the direct support for flood control operations, including dam and spillway structures. No new projects are proposed within this land use.
Wildlife and Game Management	1,634	N/A	No Impact. Although this classification is not proposed in the 2019 Master Plan, wildlife management is encompassed in the vegetative management and wildlife management classifications proposed in the 2019 Master Plan.
Multiple Resource Management Land			
Low-Density Recreation	ND	2	No Impact. This land use classification focuses on lands with minimal development or infrastructure that support passive public recreation use, like fishing, hunting, wildlife viewing, or hiking. This includes approximately 2 acres of land within the Project encompassing the five parking areas for hunting, fishing, and wildlife viewing activities as well as the Hanover Trolley Trail. There are no future plans for the existing low-density recreation lands.
Vegetative Management	ND	1,588	Minor and Beneficial Impacts. This land use includes an ecosystem-based management designated for stewardship of forest, prairie, and other native vegetative cover. Future new primitive access trails would have minor impacts on biological resources, primarily due to the potential for direct disturbance during construction of new trails and indirect effects of vegetation crushing and erosion from trail use. Construction and operations of these projects would use BMPs associated with prevention of erosion. Improved trails would reduce erosion elsewhere at the Project by encouraging use of maintained designated access points. Construction and operations of these projects would use BMPs associated with prevention of impacts to sensitive species, including removal of vegetation outside of nesting seasons for bird species (April 28 – September 10). Additionally, areas proposed for disturbance would be surveyed for wetlands within 300-feet of

Table 3.4-1. Potential Biological Resource Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
			the proposed construction footprint; wetlands areas identified would be assessed for suitable bog turtle habitat by a qualified surveyor prior to disturbance and activities coordinated with the USFWS. Beneficial impacts to biological resources would occur as classification recognized land designated for vegetation management using an ecosystem-based approach with a focus on native vegetation cover.
Water Surface			
Restricted	ND	1	No Impact. Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. No impacts to biological resources would occur.
Open Recreation Area	ND	69	No Impact. Open Recreation areas include all water surface areas available for year-round or seasonal water-based recreational use. This change reflects new classification criteria and no actual change in water use, therefore, no impact would occur to biological resources.

BMP = best management practice; ND = Not Defined

3.5 LAND USE AND RECREATION

3.5.1 Affected Environment

Since completion of the dam in June 1950, project lands continue to be outleased for agriculture, grazing, and wildlife management purposes. Since adding recreation as an additional authorized purpose, recreational outleases have also been supported. There are currently 43 outgrants, most of which are easements. However, a few outgrants consist of a license to the Pennsylvania Game Commission for wildlife management on most of the Project (approximately 1,539 acres) and a lease to the Fraternal Order of Police for a shooting range at the far end of the dam (approximately 38 acres) (USACE 2018).

Although the primary function of the lake is flood risk management, the Project is also authorized to support recreation opportunities above and below the dam. Recreation facilities with the Project are mostly nature-based, including fishing, canoeing/kayaking, picnicking, hunting, and wildlife viewing. As the Project operates as a dry reservoir, the Project does not offer swimming.

3.5.2 No Action – Environmental Consequences

Under the No Action Alternative, USACE would not implement the 2019 Master Plan and no new land use classifications or future development projects contained within the proposed 2019 Master Plan would occur. The operation and management of Indian Rock Dam and USACE lands would continue as outlined in the 1959 Master Plan and there would be no short-, mid-, and long-range planning of future projects for recreational improvements and development at Indian Rock Dam. Therefore, the No Action Alternative is anticipated to have a minor impact to land use and recreation. Although this alternative does not result in a Master Plan that meets current regulations and guidance regarding land use classifications, there would be no significant impacts to land use and recreation.

3.5.3 Proposed Action – Environmental Consequences

The reclassifications required for the Proposed Action would result in beneficial impacts to land use and recreation. Table 3.5-1 summarizes potential effects to land use and recreation based on the proposed changes to land use classifications.

Table 3.5-1. Potential Land Use and Recreation Impacts from Changes to Land Use Classifications

Classification	1959 Master Plan (acres)	2019 Master Plan (acres)	Potential for Impact
Project Operations	125	95	No impact. This land use classification is carried over from the 1959 Master Plan and would not impact land use or recreation.
Wildlife and Game Management	1,634	N/A	No impact. The 1959 Master Plan included this classification, however, the proposed 2019 Master Plan update divides lands within this classification into multiple resource management lands.
Multiple Resource Management Land			
Low-Density Recreation	ND	2	Beneficial impact. This land use classification focuses on areas suitable for supporting low-impact and passive recreational opportunities such as bank fishing, hiking, wildlife viewing, and for access to the banks of Codorus Creek. Although no projects have been identified, it optimizes the siting of future low-density master planning projects to developed locations in proximity to existing parking areas and the Hanover Trolley Trail.
Vegetative Management	ND	1,588	Beneficial Impact. This land use includes an ecosystem-based management designated for stewardship of forest, prairie, and other native vegetative cover. This classification would assist USACE with their goal of protection and management of natural resources at Indian Rock Dam. Future new primitive access trails within this land classification would improve recreation opportunities by expanding the trail system and improving access for activities such as hiking, fishing, wildlife viewing and access to Codorus Creek.
Water Surface			
Restricted	ND	1	Beneficial Impact. Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. This classification would aid to protect recreational users at the Project.
Open Recreation Area	ND	69	No Impact. Open Recreation areas include all water surface areas available for year-round or seasonal water-based recreation. This change reflects new classification criteria and no actual change in water use, therefore, no impact would occur.

CHAPTER 4 CUMULATIVE EFFECTS

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

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

4.1 CURRENT AND REASONABLY FORESEEABLE PROJECTS WITHIN AND NEAR THE ROI

This section identifies reasonably foreseeable projects that may have cumulative, incremental impacts in conjunction with the Proposed Action. The main action identified within the ROI is the Codorus Creek levee system repair. The purpose of the project is to rehabilitate and repair the Codorus Creek flood risk management levee system and improve the overall reliability of the Indian Rock Dam/Codorus Creek flood risk management project. The proposed rehabilitation work tasks include replacement of approximately 600 linear feet of the levee wall, replacement and addition of riprap at the base of the new floodwall, levee bank stabilization along approximately 690 linear feet and drainage conduit maintenance along the length of the levee system. As part of this effort, the USACE completed a Final EA in February of 2019. The Final EA concluded many of the proposed impacts would be short-term and temporary in nature, and upon project completion, the project would provide for stabilized levee banks, thereby reducing erosion and deterioration of the existing system. Minor and short-term effects are expected to occur to soils, surface waters, recreational navigation, terrestrial resources, parks and recreation, aesthetics, and threatened and endangered species. Beneficial effects would occur to surface waters, aesthetics, health and safety, population and socioeconomics, and environmental justice. No effects would occur to Wild and Scenic rivers, floodplains, wetlands, hazardous materials and solid waste, and climate. Work on the project is anticipated to begin 4th quarter of 2019.

The Codorus Creek Levee System Repair EA also identified projects that would fall within the ROI for projects considered in this Master Plan Update EA. This included Rail Trail extension projects, converting former railroad tracks into recreational trails and a future Codorus Creek access points.

4.2 ANALYSIS OF CUMULATIVE IMPACTS

Impacts on each resource were analyzed according to how other actions and projects within the region of influence might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For this analysis the intensity of impacts will be classified as negligible, minor, moderate, or significant (see Section 3.1.2).

As discussed above, the main projects identified near Indian Rock Dam are the proposed levee repair project and Codorus Creek access projects. Cumulative adverse impacts on resources would not be expected when

added to the impacts of activities associated with the Proposed Action or No Action Alternative. A summary of the anticipated cumulative impacts on each resource is presented below.

4.2.1 Water Resources

As discussed in Section 3.2, the No Action Alternative is not anticipated to have an adverse impact on water resources and the Proposed Action Alternative is anticipated to have negligible to minor adverse and beneficial water resource impacts. Adverse water resource impacts discussed in Section 3.2.3 resulting from changes to land use classification are not anticipated to cumulatively contribute to significant adverse water impacts in combination with the levee improvements or improved Codorus Creek access. Additionally, repairs to the levee system would help reduce existing sedimentation from erosion along Codorus Creek and within the floodplain. All projects would be required to adhere to federal, state, and local regulations, thereby ensuring that avoidance, minimization, and mitigation of unavoidable impacted aquatic resources would occur.

4.2.2 Soils

As discussed in Section 3.3, the No Action Alternative is not anticipated to have an adverse impact on soil resources and the Proposed Action Alternative is anticipated to have negligible to minor adverse and beneficial impacts. Adverse soil resource impacts discussed in Section 3.3.3 from changes to land use classification are not anticipated to cumulatively contribute to significant adverse soil resource impacts in combination with the levee improvements or improved Codorus Creek access. Additionally, repairs to the levee system would help reduce existing erosion along Codorus Creek and within the floodplain. Overall adverse impacts would be avoided through use of appropriate sediment and erosion BMPs during construction and from maintenance of areas experiencing erosion during operations.

4.2.3 Biological Resources

As discussed in Section 3.4, the No Action Alternative is not anticipated to have an adverse impact on biological resources and the Proposed Action Alternative is anticipated to have negligible to minor adverse and beneficial impacts. Adverse impacts to biological resources discussed in Section 3.4.3 resulting from changes to land use classification are not anticipated to cumulatively contribute to significant adverse biological resource impacts in combination with the levee improvements or improved Codorus Creek access. Additionally, the levee project would provide for unobstructed fish passage. These projects would also adhere to similar requirements discussed in Section 3.4.3, reducing the potential for adverse impacts to protected species.

4.2.4 Land Use and Recreation

As discussed in Section 3.5, the No Action Alternative is anticipated to have minor impacts to recreation and land use and the Proposed Action Alternative is anticipated to have beneficial impacts. Adverse impacts to land use resources discussed in Section 3.5.2 from the No Action Alternative are not anticipated adversely and cumulatively contribute to significant land use and recreation impacts in combination with the levee improvements or improved Codorus Creek access. Additionally, the levee project and Codorus Creek access projects would provide for improved recreational opportunities and access to the creek and further improve recreational experiences within the greater region.

CHAPTER 5 COMPLIANCE WITH ENVIRONMENTAL LAWS

This EA has been prepared to satisfy the requirements of all applicable environmental laws and regulations, and has been prepared in accordance with the CEQ's implementing regulations for NEPA, 40 CFR 1500 – 1508, and the USACE ER 200-2-2, Environmental Quality: Procedures for Implementing NEPA. The 2019 Master Plan is consistent with the USACE's Environmental Operating Principles.

The following is a list of applicable environmental laws and regulations considered and the status of compliance with each (also see Table 5-1 for a summary):

- Anadromous Fish Conservation Act of 1965, as amended – The 2019 Master Plan would not affect anadromous fish populations or interfere with measures to conserve, develop, and enhance anadromous fish resources.
- Archeological and Historic Preservation Act (AHPA) of 1974 – The 2019 Master Plan land classifications would not adversely affect cultural resources. USACE would evaluate future master planning projects contained within the 2019 Master Plan and compliance with the AHPA on an individual basis during the design process as projects become funded.
- Clean Air Act of 1977 – The USEPA established nationwide air quality standards to protect public health and welfare. Existing operation and management of the Project is compliant with the Clean Air Act and would not change with the 2019 Master Plan.
- Clean Water Act of 1977 – The Proposed Action complies with all state and federal Clean Water Act regulations and requirements. A state water quality certification pursuant to Section 401 of the Clean Water Act is not required for the 2019 Master Plan land use reclassifications. There would be no change in the existing management of the Project that would impact water quality. None of the proposed land use classifications would adversely impact water quality; erosion and sediment BMPs would be used to prevent sedimentation.
- Endangered Species Act of 1973, as amended – Current lists of threatened or endangered species were compiled for the EA. There would be no adverse impact on threatened or endangered species resulting from the 2019 Master Plan.
- Farmland Protection Policy Act (FPPA) of 1980 and 1995 – The FPPA's purpose is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. None of the future master planning projects would adversely affect prime farmland soils.
- Fish and Wildlife Coordination Act of 1958, as amended – Information provided by USFWS and state agencies on fish and wildlife resources has been utilized in the development of this assessment.
- Migratory Bird Treaty Act (MBTA) – The MBTA of 1918 extends federal protection to migratory bird species. The nonregulated "take" of migratory birds is prohibited under this act in a manner similar to the prohibition of "take" of threatened and endangered species under the ESA. The timing of resource management activities and construction of future master planning projects would be coordinated to avoid impacts on migratory and nesting birds.
- National Environmental Policy Act of 1969 – This EA analyzes the potential impacts of implementing the 2019 Master Plan, fulfilling the requirements of the Act. This included public and agency involvement and a 30-day review of the Draft EA.
- National Historic Preservation Act (NHPA) of 1966, as amended – Compliance with the NHPA of 1966, as amended, requires identification of all properties in the Project listed in, or eligible for

listing in, the NRHP. The 2019 Master Plan land classifications would not adversely affect cultural resources. USACE would evaluate future master planning projects contained within the 2019 Master Plan and compliance with the NHPA on an individual basis during the design process as projects become funded.

- Noise Control Act of 1972 – Changes to land use classifications in the 2019 Master Plan would not change the existing noise environment.
- Watershed Protection and Flood Prevention Act – The 2019 Master Plan would serve to further prevent erosion, floodwater, and sediment damages in the watersheds. Implementation would not increase overall erosion and sediment within waters and no impacts would occur to floodwaters controlled by the Project.
- EO 11514 (Protection and Enhancement of Environmental Quality) – EO 11514 requires federal agencies provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life. The 2019 Master Plan would improve natural resource management and recreational opportunities.
- EO 11593 (Protection and Enhancement of Cultural Environment) – EO 11593 requires federal agencies to administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations. There are no known historic structures or archaeological sites in the Project boundary. USACE would evaluate future master planning projects contained within the 2019 Master Plan and compliance with the AHPA and NHPA on an individual basis during the design process as projects become funded.
- EO 11990, Protection of Wetlands – EO 11990 requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in executing federal projects. The Proposed Action complies with EO 11990. None of the proposed land use classifications would adversely impact wetlands; erosion and sediment BMPs would be used to prevent sedimentation into wetland areas.
- EO 11988, Floodplain Management – This EO directs federal agencies to evaluate the potential impacts of proposed actions in floodplains. The operation and management of the existing project complies with EO 11988. Proposed land use classifications would comply with EO 11988.
- EO 12898, Environmental Justice – This EO directs federal agencies to achieve environmental justice to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review. Agencies are required to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The 2019 Master Plan would not result in a disproportionate adverse impact on minority or low-income population groups.
- EO 13045, Protection of Children from Health Risks & Safety Risks – This EO directs federal agencies to evaluate environmental health or safety risks that may disproportionately affect children. The 2019 Master Plan would not result environmental health or safety risks to children.
- EO 13112, Invasive Species – This EO directs federal agencies to evaluate the occurrence of invasive species, the prevention for the introduction of invasive species, and measures for their control to minimize the economic, ecological, and human health impacts. The 2019 Master Plan would not result in an introduction or increase of invasive species. Land use classification would serve for management of vegetation and high-use areas more prone to invasive species.
- EO 13186, Migratory Bird Habitat Protection – Sections 3a and 3e of EO 13186 direct federal agencies to evaluate the impacts of their actions on migratory birds, with emphasis on species of

concern, and inform the USFWS of potential negative impacts on migratory birds. The 2019 Master Plan would not result in adverse impacts on migratory bird habitat. USACE would evaluate future master planning projects contained within the 2019 Master Plan on an individual basis during the design process as projects become funded.

- EO 13508, Chesapeake Bay Protection and Restoration – This EO directs federal agencies to protect and restore the health, heritage, natural resources, and social and economic value of the Chesapeake Bay. The 2019 Master Plan would not adversely affect the resources within the Chesapeake Bay region.
- CEQ Memorandum dated August 11, 1980, Prime or Unique Farmlands – Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. None of the future master planning projects would adversely affect prime farmland soils.

Table 5-1. Compliance of the Proposed Action with Environmental Protection Statutes and Other Environmental Requirements

Federal Statutes	Level of Compliance^a
Anadromous Fish Conservation Act	Full
Archeological and Historic Preservation Act	Full
Clean Air Act	Full
Clean Water Act	Full
Coastal Barrier Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	N/A
Endangered Species Act	In-Progress
Estuary Protection Act	N/A
Farmland Protection Policy Act	Full
Federal Water Project Recreation Act	N/A
Fish and Wildlife Coordination Act	In-Progress
Land and Water Conservation Fund Act	N/A
Magnuson-Stevens Act	N/A
Marine Mammal Protection Act	N/A
Marine Protection, Research and Sanctuaries Act	N/A
Migratory Bird Treaty Act	Full
National Environmental Policy Act	Full
National Historic Preservation Act	Full
Noise Control Act	Full
Resource Conservation and Recovery Act	N/A
Rivers and Harbors Act	N/A
Safe Drinking Water Act	N/A
Solid Waste Disposal Act	N/A
Toxic Substances Control Act	N/A

Table 5-1. Compliance of the Proposed Action with Environmental Protection Statutes and Other Environmental Requirements

Federal Statutes	Level of Compliance^a
Water Resources Planning Act	N/A
Watershed Protection and Flood Prevention Act	Full
Wetlands Conservation Act	N/A
Wild and Scenic Rivers Act	N/A
Executive Orders, Memoranda, etc.	
Protection and Enhancement of Environmental Quality (EO 11514)	Full
Protection and Enhancement of Cultural Environment (EO 11593)	Full
Floodplain Management (EO 11988)	Full
Protection of Wetlands (EO 11990)	Full
Environmental Justice in Minority and Low-Income Populations (EO 12898)	Full
Protection of Children from Health Risks & Safety Risks (EO 13045)	Full
Indian Sacred Sites (EO 13007)	N/A
Invasive Species (EO 13112)	Full
Migratory Bird (EO 13186)	Full
Facilitation of Cooperative Conservation (EO 13352)	N/A
Chesapeake Bay Protection and Restoration (EO 13508)	Full
Stewardship of the Oceans, Our Coasts and the Great Lakes (EO 13547)	N/A
Streamlining Service Delivery and Improving Customer Service (EO 13571)	N/A
Prime and Unique Farmlands (CEQ Memorandum, 11 Aug 80)	Full

^aLevel of Compliance:

Full Compliance (Full): Having met all requirements of the statute, EO, or other environmental requirements for the current stage of planning.

Non-Compliance (NC): Violation of a requirement of the statute, EO, or other environmental requirement.

Not Applicable (N/A): No requirements for the statute, EO, or other environmental requirement for the current stage of planning.

In Progress: USACE is currently coordinating with agency to achieve full compliance.

CHAPTER 6 IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

NEPA requires that federal agencies identify “any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented” (42 U.S. Code § 4332). An irreversible commitment of resources occurs when the primary or secondary impacts of an action result in the loss of future options for a resource. Usually, this is when the action affects the use of a nonrenewable resource or it affects a renewable resource that takes a long time to renew. The impacts for this project from the reclassification of land or future master planning projects centered on recreation enhancement and development would not be considered an irreversible commitment because much of the land could be converted back to prior use at a future date. An irretrievable commitment of resources is typically associated with the loss of productivity or use of a natural resource (e.g., loss of production or harvest). No irreversible or irretrievable impacts on federally protected species or their habitat is anticipated from implementing the 2019 Master Plan.

CHAPTER 7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 7-1 presents a summary of the environmental consequences by alternative analyzed in this EA. As discussed in Chapter 4, selection of the Proposed Action Alternative would not be anticipated to cause cumulative adverse impacts. Table 7-2 presents conservation measures recommended within Chapter 3.

Table 7-1. Summary of Potential Environmental Effects

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

Table 7-2. Conservation Measures for Future Master Planning Projects

Measure	Resource Protected
Construction and operations of future master planning projects would use BMPs associated with prevention of erosion and control of stormwater runoff.	Water and Soil Resources
Construction and operations of these projects would use BMPs associated with prevention of impacts to sensitive species, including removal of vegetation outside of nesting seasons for bird species (April 28 – September 10).	Biological Resources
Areas proposed for disturbance would be surveyed for wetlands within 300 feet of the proposed construction footprint. Wetlands areas identified would be assessed for suitable bog turtle habitat by a qualified surveyor prior to disturbance and activities coordinated with the USFWS.	Biological Resources
USACE would evaluate future master planning projects contained within the 2019 Master Plan and compliance with the NHPA on an individual basis during the design process as projects become funded. Sites with the potential for archaeological resources (e.g., undisturbed locations) would be surveyed for cultural resources and the USACE would consult with the Pennsylvania State Historic Preservation Office for Section 106 concurrence.	Cultural Resources

BMP = best management practice; NHPA = National Historic Preservation Act; USACE = U.S. Army Corps of Engineers

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CHAPTER 8 REFERENCES

- Engineering ToolBox, (2003). *Outdoor Ambient Sound Levels*. Available at: https://www.engineeringtoolbox.com/outdoor-noise-d_62.html. Accessed November 6, 2018.
- Federal Emergency Management Agency (FEMA). 2019. Flood Insurance Rate Map 42113C0336F. Available at: <https://msc.fema.gov/portal/search?AddressQuery=indian%20rock%20dam%2C%20pa#searchresultsanchor>. Accessed February 12, 2019.
- FEMA. 2018. Flood Zones. Available at: <https://www.fema.gov/flood-zones>. Accessed November 6, 2018.
- FEMA. 2015. National Flood Hazard Layer - York County, Pennsylvania (NFLH_42133CC). Effective Date: 012/16/2015. Federal Emergency Management Agency. Accessed online February 8, 2019 at <https://msc.fema.gov/portal/home>.
- Pennsylvania Department of Environmental Protection (PADEP). 2019. Chapter 93 Water Quality Standards. Available at: <https://www.pacode.com/secure/data/025/chapter93/chap93toc.html>. Accessed February 12, 2019.
- PADEP. 2016 Final Pennsylvania Integrated Water Quality Monitoring and Assessment Report Clean Water Act Section 305(b) Report and 303(d) List.
- Pennsylvania Natural Heritage Program (PANHP). 2019. Conservation Mapper. Available at: <http://conservationexplorer.dcnr.pa.gov/content/map>. Accessed February 13, 2019.
- U.S. Army Corps of Engineers (USACE). 2019. Indian Rock Dam Project Website. Available at: <https://www.nab.usace.army.mil/Missions/Dams-Recreation/Indian-Rock-Dam-Codorus-Creek/>. Accessed February 8, 2019.
- USACE. 2018. Draft Environmental Assessment Indian Rock Dam/Codorus Creek Flood Risk Management Rehabilitation Project York County, Pennsylvania. August 2018.
- U.S. Climate Data. 2019. Climate York – Pennsylvania. <https://www.usclimatedata.com/climate/york/pennsylvania/united-states/uspa1834>. Accessed February 8, 2019.
- USGS. 2016. GAP/LANDFIRE National Terrestrial Ecosystems 2011 (Version 3). Gap Analysis Program. US Geological Survey. Accessed online February 8, 2019 at <https://gapanalysis.usgs.gov/gaplandcover/data/download/>.
- USDA NRCS. 2019. Soil Survey for York County Pennsylvania. Available at: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed February 12, 2019.
- USDA NRCS. 2018. Soil Survey Geographic (SSURGO) Dataset for York County, Pennsylvania. US Department of Agriculture, Natural Resources Conservation Service. Fort Worth, Texas. Accessed online February 8, 2019 at <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.

U.S. Environmental Protection Agency (USEPA). 2019. EnviroMapper. <http://www.epa.gov/emefdata/em4ef.home>. Accessed February 11, 2019.

USEPA. 2018. Nonattainment areas for criteria pollutants (green book). August 23, 2018. <https://www.epa.gov/green-book>.

USFWS. 2018. National Wetlands Inventory - Version 2 - Surface Waters and Wetlands Inventory for Pennsylvania. Accessed online February 8, 2019 at <https://www.fws.gov/wetlands/data/data-download.html>.

USFWS. 2019. IPaC Information for Planning and Consultation. Available at: <https://ecos.fws.gov/ipac/>. Accessed January 29, 2019.

USGS. 2016. National Hydrography Data. Accessed online on February 8, 2019 at <https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View>.

York County Conservation District. 2007. Codorus Creek Nonpoint Source Pollution Control Watershed Implementation Plan, York County, Pennsylvania.

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Appendix A

Public and Agency Correspondence

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A.1 Public Notice



**US Army Corps
of Engineers**
Baltimore District

Planning Division
Public Notice

Indian Rock Dam Project Master Plan Revision and Environmental Assessment

All Interested Parties: The U.S. Army Corps of Engineers, Baltimore District (USACE-Baltimore) is in the process of updating the Master Plan for the Indian Rock Dam Project (IRD) located in York County, Pennsylvania. USACE is preparing an environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969, as amended, to assess the impact of the Master Plan Revision to the human and natural environment.

The IRD was authorized by the Flood Control Act of 1936, and was constructed, and is managed, by USACE for the purposes of flood risk management and environmental stewardship. This Master Plan considers all USACE-managed and maintained portions of land at Indian Rock Dam. It does not consider specific future development opportunities for leased areas, including the Fraternal Order of Police Firing Range and land maintained by the Pennsylvania State Gaming Commission.

The draft EA is expected to be publicly released in spring 2019. The purpose of this notice is to inform the public of the initiation of the preparation of an EA for the IRD Project Master Plan. We request that federal and state agencies provide information concerning interests within your organization's area of responsibility or expertise, and the public provide information that may be pertinent to this assessment. Comments or information that may be pertinent to this assessment may be provided to the address listed below until January 30, 2019. A timely review of the enclosed map and a written response will be greatly appreciated and will assist us with preparation of the EA.

A public meeting will be held after the initial public comment period, ending January 30, 2019, to allow opportunity for the public to submit ideas, comments, and feedback on the Draft Master Plan and Draft EA. This public meeting will occur in May 2019. A Public Notice will be posted, for interested parties, on the project's website and social media, and sent out via individual mailings, in advance of the meeting, indicating the location and time of the event. All updates regarding the Master Plan Update and public meetings may be found on the following site:
<https://www.nab.usace.army.mil/IRD-Master-Plan-Revision/>.

If you would like to request a public scoping meeting before the formulation of the Draft Master Plan and Draft EA to discuss the scope and intent of this project please do so by December 31, 2019 OR if you have any questions, please contact Major Terrence Harrington at (410) 962-1846 or at Terrence.G.Harrington@usace.army.mil. Additionally, questions can be mailed to U.S. Army Corps of Engineers, Planning Division, Subject: Indian Rock Dam Project, 2 Hopkins Plaza, Baltimore, MD 21201.

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

[PLACEHOLDER FOR DRAFT EA NOTIFICATIONS]

A.2 USFWS Coordination



United States Department of the Interior

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



In Reply Refer To:
Consultation Code: 05E2PA00-2019-SLI-0322
Event Code: 05E2PA00-2019-E-01660
Project Name: Indian Rock Dam Master Plan Update

January 30, 2019

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

Attachment(s):

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

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Official Species List

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

This species list is provided by:

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

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Project Summary

Consultation Code: 05E2PA00-2019-SLI-0322

Event Code: 05E2PA00-2019-E-01660

Project Name: Indian Rock Dam Master Plan Update

Project Type: LAND - MANAGEMENT PLANS

Project Description: The U.S. Army Corps of Engineers (USACE) Baltimore District is proposing to update their Master Plan for East Sidney Lake and associated changes in land management in compliance with USACE regulations and guidance. The Master Plan is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years, which reflects changes in outdoor recreation trends, regional land use, population, legislative requirements, USACE management policy, and wildlife habitat that have occurred since 1959 at Indian Rock Dam. Proposed classifications include: Project Operations to reflect lands associated with the dam and spillway structures that are operated and maintained for fulfilling the flood risk management mission of Indian Rock Dam; High-Density Recreation to reflect lands that are currently developed for intensive recreational activities; low-density recreation to support low-impact recreational opportunities such as bank fishing, hiking, and wildlife viewing; and vegetative management to include an ecosystem-based management approach and is designated for stewardship of forest, prairie, and other native vegetative cover. As part of this effort, USACE is preparing an Environmental Assessment (EA). Alternatives considered within the EA focus on the proposed land use classifications as presented in the Master Plan and the types of future development projects that could occur within the land use classifications. The EA does not consider implementation of specific projects identified within the Master Plan during the master planning process as these projects are conceptual in nature. The USACE would conduct further analysis on projects identified within the Master Plan and resources affected once funding is available and detailed project planning and design occur. USACE is requesting information on protected species at the project for consideration in the Master Plan and any conservation measures USFWS recommends for the protection of species at the project.

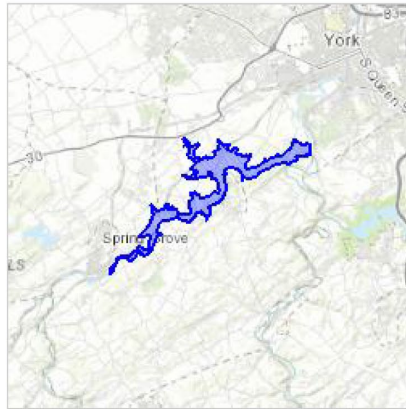
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.9003086954999N76.81075674102779W>

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Event Code: 05E2PA00-2019-E-01660

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Counties: York, PA

01/30/2019

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Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Reptiles

NAME	STATUS
Bog Turtle <i>Clemmys muhlenbergii</i> Population: Wherever found, except GA, NC, SC, TN, VA No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6962	Threatened

Critical habitats

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

01/30/2019

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USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

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



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

Planning Division

February 19, 2019

Sonja Jahrsdoerfer
Project Supervisor
U.S. Fish and Wildlife Service
Pennsylvania Ecological Services Field Office
110 Radnor Rd, Suite 101
State College, PA 16801

Dear Ms. Jahrsdoerfer:

The U.S. Army Corps of Engineers (USACE) Baltimore District is proposing to update the Master Plan for Indian Rock Dam and associated changes in land management in compliance with USACE regulations and guidance. Project lands (including the lake and surrounding property) occupy approximately 1,740.9 acres (see Figure 1). In conjunction with the Master Plan, USACE is preparing an environmental assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, to evaluate the potential effects of proposed Master Plan revisions.

The purpose of this letter is to initiate consultation with the U.S. Fish and Wildlife Service's Pennsylvania Field Office regarding information on any federally-listed species or critical habitat within the vicinity of the proposed project. USACE is requesting information on protected species at the project for consideration in the Master Plan and any conservation measures USFWS recommends for the protection of species at the project.

Initial search of USFWS records indicates the potential for three federally-protected species, the northern long-eared bat, Indiana bat, and the bog turtle. The following Information for Planning and Consultation (IPaC) report was generated for your reference under the "Indian Rock Dam Master Plan Update" project name:

- Consultation Code: 05E2PA00-2019-SLI-0322 Event Code: 05E2PA00-2019-E-01660

The Master Plan is intended to serve as a comprehensive land and recreation management plan for the next 15 to 25 years, which reflects changes in outdoor recreation trends, regional land use, population, legislative requirements, USACE management policy, and wildlife habitat that have occurred since the 1959 Master Plan at Indian Rock Dam. Proposed classifications include: Project Operations to reflect lands associated with the dam and spillway structures that are operated and maintained for fulfilling the flood risk management mission of Indian Rock

Dam; Low-Density Recreation to support low-impact recreational opportunities; Vegetative Management to include an ecosystem-based management approach designated for stewardship of forest, prairie, and other native vegetative cover along with passive recreation such as bank fishing, hiking, wildlife viewing, and for access to the shoreline; and Wildlife Management to include habitat restoration areas managed by the Pennsylvania Game Commission. Alternatives considered within the EA focus on the proposed land use classifications as presented in the Master Plan and the types of future development projects that could occur within the land use classifications. The EA does not consider implementation of specific projects identified within the Master Plan during the master planning process as these projects are conceptual in nature. The USACE would conduct further analysis on projects identified within the Master Plan and resources affected once funding is available and detailed project planning and design occur.

We respectfully ask that you provide any information or comments within 30 days to enable us to complete this phase of the project within the scheduled timeframe to Major Terrence Harrington at (410) 962-1846 or Terrence.G.Harrington@usace.army.mil. Additionally, questions can be mailed to U.S. Army Corps of Engineers, Planning Division, Subject: Indian Rock Dam Project, 2 Hopkins Plaza, Baltimore, MD 21201.

If you have any questions or require additional information, please do not hesitate to call or email. Thank you for your assistance in this matter.

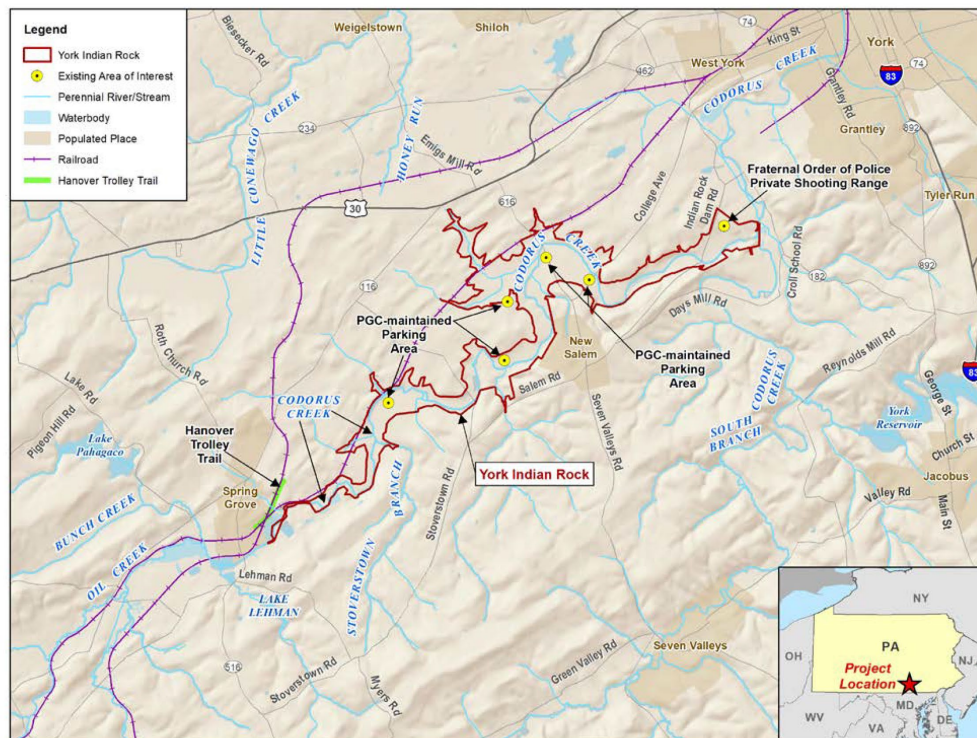
Sincerely,



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

Enclosure

Enclosure 1. Project location map.





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850



March 28, 2019

Major Terrence Harrington
Daniel M. Bierly
U.S Army Corps of Engineers
Baltimore District
2 Hopkins Plaza
Baltimore, MD 21201

RE: Indian Rock Dam Project 2
USFWS Project #2019-0322
PNDI Receipt #660028, 660035, 660042, 660046, 660050, 661055

Dear Major Harrington:

This responds to your letter of February 19, 2019, requesting information about federally listed and proposed endangered and threatened species within the area affected by the proposed Indian Rock Master Plan updates. Indian Rock Dam is located in Jackson, North Codorus, and West Manchester Townships, York County, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

No federally listed or proposed endangered or threatened species under our jurisdiction are known to occur on the subject property. However, survey information for most species of special concern is incomplete, and a field investigation of any site may reveal previously unknown occurrences of species of special concern.

The subject property is within the known range of the bog turtle (*Clemmys muhlenbergii*), a species that is federally listed as threatened. The northern population of the bog turtle occurs in the States of Connecticut, New York, Pennsylvania, Maryland, New Jersey, Delaware and Massachusetts. Bog turtles inhabit shallow, spring-fed fens, sphagnum bogs, swamps, marshy meadows, and pastures characterized by soft, muddy bottoms; clear, cool, slow-flowing water, often forming a network of rivulets; high humidity; and an open canopy. Bog turtles usually occur in small, discrete populations occupying suitable wetland habitat dispersed along a watershed. The occupied "intermediate successional stage" wetland habitat is usually a mosaic of micro-habitats ranging from dry pockets, to areas that are saturated with water, to areas that are periodically flooded. Some wetlands occupied by bog turtles are located in agricultural areas and are subject to grazing by livestock.

To determine the potential effects of the proposed project on bog turtles and their habitat, begin by identifying all wetlands in, and within 300 feet of the project area. The project area includes all areas that will be permanently or temporarily affected by any and all project features, including buildings, roads, staging areas, utility lines, outfall and intake structures, wells, stormwater retention or detention basins, parking lots, driveways, lawns, laydown areas, staging areas, etc. The area of investigation should be expanded when project effects might extend more than 300 feet from the project footprint. For example, the hydrological effects of some projects (e.g., large residential or commercial developments; golf courses; community water supply wells) might extend well beyond the project footprint due to the effects that impervious surfaces or groundwater pumping may have on the hydrology of nearby groundwater-dependent wetlands. Wetlands should be included on a map showing existing as well as proposed project features.

If someone qualified to identify and delineate wetlands has, through a field investigation, determined that no wetlands are located in or within 300 feet of the project area (or within the expanded investigation area, as described above), it is not likely that your project will adversely affect the bog turtle. If this is the case, no further consultation with the Fish and Wildlife Service is necessary, although we would appreciate receiving a courtesy copy of the wetland investigator's findings for our files.

If wetlands have been identified in or within 300 feet of the project area (or in an expanded investigation area, as described above), assess their potential suitability as bog turtle habitat, as described under "*Bog Turtle Habitat Survey*" (Phase 1 survey) of the *Guidelines for Bog Turtle Surveys*¹ (revised April 2006) (<https://www.fws.gov/northeast/pafo/endangered/species/surveys.html>). Survey results should be submitted to the Service for review and concurrence. The survey guidelines, as well as a Phase 1 field form and report template, are available from the Service upon request.

Due to the skill required to correctly identify potential bog turtle habitat, we recommend that the Phase 1 survey be done by a qualified surveyor (<https://www.fws.gov/northeast/pafo/endangeredspecies/surveys.html>). If the Phase 1 survey is done by someone who is not on this list, it is likely that a site visit by a Fish and Wildlife Service biologist will be necessary to verify their findings. Current staffing shortages preclude our ability to conduct field visits to confirm determinations regarding habitat conditions. Use of a qualified surveyor will expedite our review of the survey results.

If potential bog turtle habitat is found in or near the project area, efforts should be made to avoid any direct or indirect impacts to those wetlands (see the following link: *Bog Turtle Conservation Zones* <https://www.fws.gov/northeast/nyfo/es/btconszone.pdf>). Avoidance of direct and indirect effects means no disturbance to or encroachment into the wetlands (e.g., filling, ditching or draining) for any project-associated features or activities. Adverse effects may also be

¹ When suitable habitat for a listed species is present and effects to the species are reasonably foreseeable, the Service recommends species surveys to enable fact-specific analysis of effects and fact-specific development of conservation measures. Rather than conduct habitat and/or species surveys, a project proponent and action agency may choose to assume presence of the species. However, assuming presence usually makes the analysis of effects significantly more difficult (because the specific nature of the species' presence is not known) and can lead to the incorporation of conservation measures that might otherwise not be needed if surveys were to be conducted and the species were not to be found.

anticipated to occur when lot lines include portions of the wetland; when an adequate upland buffer is not retained around the wetland (see *Bog Turtle Conservation Zones*); or when roads, stormwater/sedimentation basins, impervious surfaces, or wells affect the hydrology of the wetland.

If potential habitat is found, submit (along with your Phase 1 survey results) a detailed project description and detailed project plans documenting how direct and indirect impacts to the wetlands will be avoided. If adverse effects to these wetlands cannot be avoided, a more detailed and thorough survey should be done, as described under “*Bog Turtle Survey*” (Phase 2 survey) of the *Guidelines*. The Phase 2 survey should be conducted by a qualified biologist with bog turtle field survey experience (<https://www.fws.gov/northeast/pafo/endangered/species/surveys.html>). Please submit survey results to the Service for review and concurrence.


In cases where adverse effects to federally listed species cannot be avoided, further consultation with the Service would be necessary to avoid potential violations of section 9 (prohibiting “take” of listed species) and/or section 7 (requiring Federal agencies to consult) of the Endangered Species Act. Information about the section 7 and section 10 consultation processes (for Federal and non-Federal actions, respectively) can be obtained by contacting this office or accessing the Service’s Endangered Species Home Page (<http://endangered.fws.gov>).

This response relates only to endangered and threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

Please contact Jennifer Kagel of my staff at 814-234-4090 if you have any questions or require further assistance regarding this matter.

Sincerely,


For Sonja Jahrsdoerfer
Project Leader

A.3 Pennsylvania Department of Conservation and Natural Resources Coordination
[PLACEHOLDER FOR EA COORDINATION LETTER]

A.4 Pennsylvania Game Commission Coordination

[PLACEHOLDER FOR EA COORDINATION LETTER]

A.3 Pennsylvania Fish and Boat Commission Coordination

[PLACEHOLDER FOR EA COORDINATION LETTER]