Programmatic Environmental Assessment

Loyalhanna Lake and Conemaugh River Lake Master Plan
Upper Kiskiminetas-Conemaugh River Watershed


Loyalhanna Lake


Conemaugh River Lake

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1. Purpose and Need

1.1 Introduction and Background

The U.S. Army Corps of Engineers (Corps) is responsible for the maintenance, restoration and stewardship of natural resources on the multipurpose reservoir projects it manages. To facilitate the management and use of these lands, the District maintains a Master Plan for each reservoir project. A Master Plan is a strategic land use management document that guides the comprehensive management and development of recreation, natural and cultural resources at Corps reservoirs. The Pittsburgh District is proposing to adopt and implement a revision to the Loyalhanna Lake and Conemaugh River Lake Master Plans.

The original Master Plans for Loyalhanna Lake and Conemaugh River Lake are dated 1950 and 1952 respectively. Changes in Corps regulations and community needs necessitate a revision to these Master Plans. The revised Master Plan will replace the existing 1950's Master Plans and provide a balanced, up to date management plan that follows current Federal laws and Corps regulations while sustaining Loyalhanna Lake's and Conemaugh River Lake's natural resources and providing outdoor recreational experiences.

The revised Master Plan applies changes to the land and water classifications of each project. The Master Plan also lays out future recommendations for management of both recreation and natural resources. Due to the close physical proximity of the two reservoirs and in accordance with EP-1130-2-550 "Recreation Operations and Maintenance Guidance and Procedures" which encourages Master Plans to encompass several projects under either a watershed or regional approach, the two projects will be combined into one unified Master Plan document.

1.2 Project Area

The project area is defined as the land held by the Corps in fee at Loyalhanna Lake and Conemaugh River Lake. Both are located in southwestern Pennsylvania in the Upper Kiskiminetas-Conemaugh River Watershed. Loyalhanna Lake is located on Loyalhanna Creek in Westmoreland County and Conemaugh River Lake is located on the Conemaugh River within Indiana and Westmoreland Counties. A project area map is located in the proposed Master Plan at Appendix A, Plate 1.

1.3 Purpose and Need

The purpose of updating the existing Master Plans is to provide a revised strategic land use management plan that balances the development of recreation features with environmental stewardship practices and natural resource conservation and is in compliance with current regulations, policies and laws governing Master Plans. The original Master Plans focused on construction and development of recreation areas and are now over 60 years old. The revised Master Plan presents current data on existing conditions, anticipated recreational use and types of

facilities needed to service the anticipated use. Since the original Master Plans were developed, the Corps has also updated its policies directing the development and implementation of Master Plans (most notably in EP-1130-2-550 Change 5, dated 30 January 2013) which includes updating the categories of land classifications used to define project lands and waters. In order to meet these new directives and comply with Corps policy requiring regular updates to Master Plans, the District proposes to adopt the revised Loyalhanna Lake and Conemaugh River Lake Master Plan with updated land and water classifications and a revised set of recommendations for future developments and improvements.

This Environmental Assessment (EA) addresses the proposed adoption and implementation of the Loyalhanna Lake and Conemaugh River Lake Master Plan. This EA further analyzes the potential impact that implementing the Master Plan would have on the natural, cultural, and human environment. This document has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended; regulations of the Council on Environmental Quality; and Corps regulations, including Engineer Regulation 200-2-2, Procedures for Implementing NEPA. This EA relies on the attached Loyalhanna Lake and Conemaugh River Lake Master Plan for cross reference.

The typical focus of NEPA compliance consists of environmental impact assessments for individual projects, rather than for long-range plans. However, application of NEPA to broader and more strategic decisions not only meets the CEQ implementing regulations and Corps regulations for implementing NEPA, but also allows the Corps to begin considering the environmental consequences of their actions long before any physical activity is planned. Multiple benefits can be derived from such early consideration. Effective and early NEPA integration with the master planning process can significantly increase the usefulness of the Master Plan to the decision maker, if environmental information can be provided to the correct individuals at the right time and in the right form. If such utility can be realized, organizational outcomes, such as support for the project mission and NEPA compliance can be improved.

Environmental documents prepared concurrently with the Master Plan can influence and modify strategic land use decisions. The intention of the Master Plan is to develop land and water classifications that will guide the sustainable development of resources within the Loyalhanna Lake and Conemaugh River Lake Projects. This EA also takes a programmatic approach to evaluating environmental impacts of proposed future recreation features. However it is not feasible to define the exact nature of the impacts for all potential actions prior to receiving specific project proposals. To ensure future environmental consequences are identified and documented as accurately as possible, additional coordination and documentation will be conducted, as appropriate, for future projects that are the result of this proposed Master Plan. If the District determines it is in the best interest of the public to accept the Master Plan and reclassify Corps-managed lands, the District would perform additional site specific compliance with Section 106 of the National Historic Preservation Act and Section 7 of the Endangered

Species Act and obtain any required permits for specific future projects/actions. A NEPA analysis would also be conducted to identify which actions covered within this EA may be classified as a categorical exclusion and not require another EA and FONSI, and which actions would require additional analysis under a tiered NEPA document.

1.4 Prior NEPA Documentation

Environmental Assessments were prepared for the Operation and Maintenance of Loyalhanna Lake in August 1984 and for the Operation and Maintenance of Conemaugh River Lake in May 1985. The purpose of the EAs was to identify and evaluate environmental impacts that may be reasonably expected as a consequence of the continued operation, maintenance, and management of Loyalhanna and Conemaugh River Lakes. The EAs resulted in Findings of No Significant Impact (FONSIs) and the projects continued their ongoing operations.

2. Alternatives

This EA examines two alternatives; the preferred alternative of adopting the proposed combined Master Plan, and a No Action alternative in which the original Master Plans would continue to guide management of the two projects. The preferred alternative was designed to update existing inventories and plans, while providing a programmatic approach to the future management of the reservoir.

Data collection, public comments, and findings of the Master Plan team revealed that there was only one action alternative that would meet the purpose, need, and objectives of the master planning update process. This alternative is the preferred alternative and is discussed in detail in the following section. The preferred alternative was selected as it would meet the need for sustainable management and conservation of natural resources within the project, while also providing for current and future quality outdoor recreational needs of the public, and providing consistency with updated Corps regulations. As the preferred alternative represents only minor changes from the No Action Alternative, and no larger-scale changes were proposed by the Corps or stakeholders, these two alternatives adequately cover the range of potential alternatives for management of the two projects.

2.1 No Federal Action

Inclusion of the No Action Alternative is prescribed by CEQ regulations and serves as the benchmark against which Federal actions can be evaluated. Under the No Federal Action Alternative, the District would not approve the adoption or implementation of the revised Master Plan and would not meet current regulations or goals to regularly update a master planning document. The original Master Plans would continue to provide the only source of comprehensive management guidance. Information provided in the original plans is out of date and no longer adequately addresses the needs of the District, other management partners, or users

of Loyalhanna Lake and Conemaugh River Lake. Furthermore, the original Master Plans do not include revised land classifications in accordance with current Corps regulations. The original development-focused document would prevent a proactive approach to managing Loyalhanna Lake and Conemaugh River Lake. Future major developments or resource management policies would require approval on a case-by-case basis without the benefit of evaluation in the context of an overall plan.

2.2 Adopt the Revised Loyalhanna Lake and Conemaugh River Lake Master Plan

Adopting the revised, combined Master Plan is the District's preferred alternative. The revision changes the land and water classifications, most notably the addition of sensitive area and water surface classifications. The revised plan also lays out future recommendations for management of both recreation and natural resources.

One element of the Preferred Alternative is the new land classifications that would be applied to all project fee lands. The proposed land classifications are accompanied by Resource Objectives (Master Plan, Chapter 3), Resource Plans (Master Plan, Chapter 5), and ultimately Recommendations (Master Plan, Chapter 8) for future management actions.

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

Loyalhanna Lake

Existing Land Use Class	Existing Land Use Acres	Proposed Land Use Class	Proposed Land Use Acres
Archaeological	14	Environmentally Sensitive Areas	19
Recreation	62	High Density Recreation	64
Agricultural Lands	480	Low Density Recreation	3532
Game Management	1010		
Natural Area	435		
Wild Area	976		
Administrative	13	Operations	14
Total	**2990**	**Total**	**3629**

*Inconsistencies in total acreages are based on the technology used for each plan. Acreages presented are for planning purposes only and not intended for real estate or survey use.

Conemaugh River Lake

Existing Land Use Class	Existing Land Use Acres	Proposed Land Use Class	Proposed Land Use Acres
Archeological	29	Environmentally Sensitive Areas	68
Historical	42		
Blairsville Community Parks	25	High Density Recreation	55
Game Management	2283	Low Density Recreation	7375
Unknown	60		
Wild Area	4237		
Administrative	17	Operations	13
Total	**6693**	**Total**	**7511**

*Inconsistencies in total acreages are based on the technology used for each plan. Acreages presented are for planning purposes only and not intended for real estate or survey use.

The primary change in the land classifications is the way low intensity/undeveloped lands are categorized. Previously, there were four land classifications (Agricultural Lands, Game Management, Natural Area and Wild Area) used to describe different lands that are now consolidated under the Multiple Resource Management Land Classification (Low Density Recreation) in the proposed revised Master Plan. As a result, more of the project lands are classified as Low Density Recreation or Multiple Resource Management (Land classification definitions can be found in Chapter 4 of the Master Plan). Other differences include the renaming of archeological and historical sites as the new land classification of Environmentally

Sensitive areas and the addition of water classifications which did not exist in the original Master Plans.

The following table illustrates how the original land classifications have been converted into the revised land classifications.

Table EA-2. Conversion of Land Classifications

Original	Proposed
Archeological Historical Area	Environmentally Sensitive Areas
Recreation Blairsville Community Park	High Density Recreation
Agricultural Lands Game Management Natural Area Wild Area Unknown	Low Density Recreation
Administrative	Operations
N/A	Water Surface

*Water Surfaces were never previously classified

The following are the District's proposed features of the Preferred Alternative:

- **Addition of Sensitive Area Classification.** In accordance with regulation changes, this classification has been added to the proposed Master Plan and consists of areas where scientific, ecological, cultural, or aesthetic features have been found and identified for protection. Development of public use on lands within this classification is normally prohibited to ensure that the sensitive areas are not adversely impacted.
- **Addition of Water Surface Classifications**. Water was not classified in the original Master Plans. In accordance with current guidance, water surface classifications that have been applied to Loyalhanna Lake and Conemaugh River Lake include: Restricted, Designated No Wake and Open Recreation.
- **Change of Agricultural Lands, Game Management, Natural and Wild Areas to the Multiple Resource Management Lands Classification (Specifically Low Density Recreation).** This classification now indicates these lands are to be used in line with minimal development and/or infrastructure that support passive public recreation use (e.g. primitive camping, fishing, hunting, trails, wildlife viewing, etc).
- **Future Recommendations for Management Actions (Improvements).** Any future recreational improvements are dependent on the constraints of budgets, staffing, safety considerations and other management concerns. The following table includes a summary of recommendations from the Master Plan that seek to address both public and agency needs as well as to implement national goals and policies of the Corps. Also included in

this table is a summary of whether or not additional NEPA documentation and coordination with resource agencies would be required prior to implementation of the recommendations. Many of these recommendations are general in nature at this time and will require development of site specific plans prior to implementation. For the majority of these actions, a Categorical Exclusion (CX) should be appropriate and a Record of Environmental Compliance should be developed prior to implementation which demonstrates compliance with applicable environmental laws and regulations and summarizes any coordination that occurred with resource agencies. For some larger scale actions with the potential for greater impacts, a subsequent EA may be required that evaluates the impacts of the action and determines whether or not preparation of an Environmental Impact Statement (EIS) is warranted. Potential impacts of the recommendations are discussed generally in Section 4 of the EA.

Table EA-3. Future Recommendations for Recreation Improvements

Recommendation	General Description	Location	Additional Analyses Required	Additional Coordination Required?
Vegetation removal	Invasive sepcies removal, maintenance mowing	All Areas	None	No
Interpretive signs	Replacement / addition of interpretive signs and materials	High Density Recreation Areas	None	No
Addition of environmentally sensitive areas	Conversion to ESA land type, planting of native vegetation	Low Density Recreation	Record of Environmental Consideration (CX 9.a)	No
Improvements to existing recreation facilities	Repair, replacement, and rehabilitation of existing facilities; development of trails in previously developed areas	High Density Recreation Areas, New Alexandria Municipal Park	Record of Environmental Consideration (CX 9.a)	No
Revitilization of Black Willow Water Trail	Replacement of interpretive stations, development of new stations	Low Density Recreation, Water Surface	Record of Environmental Consideration (CX 9.a)	Yes
Addition of buildings and facilities to previously developed areas	New playground equipment, additional pavilions, fish cleaning stations, out buildings, restrooms	High Density Recreation Areas	Record of Environmental Consideration (CX 9.a)	Yes
Campsite Electrical and Water Hookups	Primitive Campsites would be converted to those with electrical and water hookups	Loyalhanna Bush Run Recreation Area	Record of Environmental Consideration (CX 9.a)	Yes
Kayak and Non Motorized Boat Launches	Addition of Small Boat Ramps; Rehab of Existing Small Boat Ramps	Conemaugh; Aultmans Run	Record of Environmental Consideration (CX 9.d)	Yes
Trail System Extensions	Development of new hiking trails in previously undeveloped areas	Low Density Recreation Areas, New Alexandria Municipal Park	Record of Environmental Consideration (CX 9.d)	Yes
Development of new unrestricted boat ramp	Clearing for access, placement of new boat ramp	Conemaugh Low Density Recreaction Areas, Virginia Farms	Record of Environmental Consideration (CX 9.d)	Yes
Expansion of Existing Boat Launch	Expansion of boat trailer parking area, improvement of boat ramp	Loyalhanna Bush Recreation Area; Conemaugh Bow Ridge	Environmental Assessmement, Boat Capacity Study	Yes
Conversion of Low Density Recreation Areas to High Density Recreation	Clearing, placement of new recreation facilities	Low Density Recreation Areas	Environmental Assessmement	Yes
Expansion and Development of Blairsville Parks	Unknown	Conemaugh Blairsville Outgrant	Environmental Assessmement	Yes
Dredging to Remove Sediment	Removal of sediment and disposal offsite	Water Surface	Environmental Assessmement, Sedimentation Surveys	Yes

3. Affected Environment

3.1 Physical Environment

Hydrology and Floodplains

Loyalhanna Lake is located within the HUC8 (05010008) Kiskiminetas Watershed. The drainage area impounded by Loyalhanna Dam is 290 square miles with a flood storage capacity of 6.03 inches of runoff. Loyalhanna Creek has its source near Stahlstown, in Westmoreland County from where it flows in generally a northeast direction for ten miles, then changes direction and flows in a generally northwest direction for a distance of 34 miles to its mouth at Saltsburg, where it joins the Conemaugh River to form the Kiskiminetas River.

Conemaugh River Lake is located within the HUC8 (05010007) Conemaugh Watershed. The drainage area impounded by Conemaugh Dam is 1,351 square miles with a flood storage capacity of 3.75 inches of runoff. The head of Conemaugh River is formed by the confluence of the Little Conemaugh River and Stony Creek at Johnstown, where the river flows in a generally westerly direction to Saltsburg where it is joined by the Loyalhanna Creek to form the head of the Kiskiminetas River. The Kiskiminetas River then flows northwestwardly for a distance of 27 miles to its mouth on the Allegheny River in Pool 4, approximately 30 miles above its confluence with the Monongahela River at Pittsburgh. Additional information on hydrology is located in Section 2-2 of the Master Plan. A watershed boundary map is located in Appendix A, Plate 2.

The primary authorized purpose of Loyalhanna Lake and Conemaugh River Lake is flood risk management. The reservoirs are designed to store floodwaters to reduce flood risk downstream. The dams were specifically designed to impede floodwaters. Pool levels fluctuate based on summer and winter storage needs and climatic impacts such as rainfall. Recreation areas can be impacted within the Lake's boundaries at various elevations.

Water Quality

Loyalhanna Lake and Conemaugh River Lake are authorized for water quality control under the general authority of Federal laws, regulations, and Executive Orders that require sustainable management of public resources and compliance with applicable Federal, Tribal, state, and local pollution control standards. However, no storage is allocated for water quality control and there is no water quality regulation at either project.

Of the almost 5,000 stream segments in the Kiskiminetas/Conemaugh watershed, 29 percent are listed by the Environmental Protection Agency as impaired and do not support their designated aquatic life use. The watershed has a long history of coal mining, which left many abandoned mine lands and associated features that contribute mine drainage to surface waters. Of the total

impaired waters in the watershed, 59 percent of all impairments are attributed to acid mine drainage and its impacts (singly or in combination with other sources and causes of pollutants): high levels of metals, low pH, and increased rates of siltation. In addition to mining, past and present, the watershed is also affected by agriculture, malfunctioning septic systems, impoundments, urban runoff, land development, and other sources (Source: EPA Kiskiminetas-Conemaugh TMDL Report 2010).

Although there are still water quality concerns in the basin, much improvement has been made since the 1970's when the Conemaugh River Lake and all its major tributaries were severely degraded by acid mine drainage, and fish kills frequently occurred. Additional information on Water Quality is located in Section 2-4 of the Master Plan.

Air Quality

Loyalhanna Lake and Conemaugh River Lake are located in generally rural areas of Pennsylvania that exhibit fair air quality in comparison to more urbanized areas. The lakes themselves are not sources of air contamination and there are only minor sources of air contamination within the project area, primarily associated with vehicles. The following table provides current air quality standards for six criteria air pollutants, as defined by the Clean Air Act, and their current levels (i.e., "status"), averaged across Westmoreland and Indiana counties. The National Ambient Air Quality Standards (NAAQS) are the concentrations of these criteria pollutants, above which, adverse effects on human health may occur.

Table EA-4. National Ambient Air Quality Standards (NAAQS) and Air Quality Status for Westmoreland and Indiana Counties as of October 2015

Pollutant	NAAQS (standards)	Averaging Time	Status (County) [1]
Carbon Monoxide (as of 2011)	9 ppm (10 mg/m^3)	8-hour	Attainment (Westmoreland & Indiana)
	35 ppm (40 mg/m^3)	1-hour	Attainment (Westmoreland & Indiana)
Lead (as of 2008)	0.15 µg/m^3	Rolling 3-Month Avg	Attainment (Westmoreland & Indiana)
Nitrogen Dioxide (as of 2010)	53 ppb	Annual	Attainment (Westmoreland & Indiana)
	100 ppb	1-hour	Attainment (Westmoreland & Indiana)
Particle pollution (PM_{10} as of 2012)	150 µg/m^3	24-hour	Attainment (Westmoreland & Indiana)
Particle pollution ($PM_{2.5}$ as of 2006)	12.0 µg/m^3	Annual	Maintenance (Westmoreland) [2]
	35 µg/m^3	24-hour	Maintenance (Indiana) [3]
Ozone (as of 2008)	0.070 ppm	8-hour	Nonattainment (Westmoreland)
Sulfur Dioxide (as of 2010)	75 ppb	1-hour	Nonattainment (Indiana)

1. Status obtained from EPA Greenbook (https://www.epa.gov/green-book)
2. Redesignated to Maintenance as of 2 October 2015
3. Redesignated to Maintenance as of 16 July 2015. Partial; Townships of West Wheatfield, Center, East Wheatfield, and Armagh Borough and Homer City Borough

As the above table indicates, Westmoreland and Indiana counties exceed NAAQS in ozone and sulfur dioxide due to effluent from local and up-wind industries. Both counties are also in Maintenance status for particle pollution $PM_{2.5}$ (2006). While air quality has been improving nationally and regionally, Westmoreland County includes at least 22 major sources of pollution, including natural gas transport and compressor stations, with additional pollution carried into the area by prevailing winds from the Monongahela Valley into southwestern Westmoreland County (Source: PADEP 2009 Ambient Air Quality Monitoring and Emission Trends Report).

Criteria air pollutants are used to calculate EPA's air quality index (AQI) average. AQI values range from 0 to 500, with higher AQI values corresponding to greater levels of air pollution and an AQI of 100 corresponding to the national air quality standard for major pollutants. Table EA-5 below includes median AQI from 2005 to 2015 for Westmoreland and Indiana Counties. As of 2015, Westmoreland and Indiana County continue to rank as having some of the worst AQI averages in Pennsylvania (AQI of 44 for Westmoreland County and AQI of 41 for Indiana County) (Source: EPA https://www.epa.gov/outdoor-air-quality-data).

Table EA-5. Median Air Quality Index (AQI) for Westmoreland and Indiana Counties 2005-2015

Year	Median AQI (Westmoreland County)	Median AQI (Indiana County)
2005	47	48
2006	43	41
2007	45	42
2008	43	40
2009	51	35
2010	52	38
2011	50	39
2012	49	42
2013	48	39
2014	44	41
2015	44	41

Climate

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

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

Generally, it is likely that the region's climate will become warmer and more extreme in the future, with longer dry periods and precipitation events of greater intensity. The most significant effects predicted for stream and wetland communities are increased water temperature and increased variability of the water environment. The latter may be reflected in changing seasonal patterns of water levels, reduced stream flows during dry periods, larger floods and longer droughts. Additional information on climate is located in Section 2-6 of the Master Plan.

Table EA-6. Summary of General Projections for Regional Water Resources for 21st Century

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

Source: "Pennsylvania Climate Impact Assessment: Report to the Department of Environmental Protection," 2009.

Geology, Topography and Soils

Loyalhanna Lake and Conemaugh River Lake are both located in the northern part of the unglaciated Allegheny Plateau and the Allegheny Mountain areas of the Appalachian Plateau. The plateau area is characterized by high, rugged, rolling hills, while the mountain area is higher and more deeply dissected. This terrain manifests an orographic influence for abundant precipitation and is conducive to rapid runoff. The Kiskiminetas River valley varies from canyon-like gorges through the ridges to wide valleys with flood plains up to one-half mile or more in width. The surface geology ranges in age from Devonian to Permian and contains several coal and limestone beds.

Mississippian and Pennsylvanian rocks that are exposed in the northwestern portion of the watershed consist primarily of shales (Casselman, Glenshaw, and Mauch Chunk Formations). The rocks exposed in the southeastern portion of the watershed consist primarily of sandstones from the Pennsylvanian (Pottsville Formation and Allegheny Formation), the Mississippian (Burgoon Sandstone), and the Mississippian/Devonian (the Shenango Formation through Oswayo Formation, undivided). Additional information on topography, geology and soils is located in Section 2-7 of the Master Plan.

Noise

The area surrounding Loyalhanna Lake and Conemaugh River Lake is mainly rural and there are no apparent intrusive noise sources from around the lakes. At the lakes themselves, noise sources include water discharge from the outflow, watercraft motors, vehicular traffic, and human voices at areas of concentrated use (for example, day use areas and campgrounds). Noises in the receiving rivers vary as a function of proximity to human noise sources. Portions of the rivers in more populated areas and near railroad tracks or highways run can have substantial noise from those sources.

Hazardous Materials

Due to the large project area and the lack of any defined specific proposals for construction or development, it is difficult to accurately identify all the potential hazardous materials that may exist within or adjacent to the project boundary. Federal law requires site-specific due diligence on a case-by-case basis before development can occur. Hazardous materials are regulated by the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Oil Pollution Act, Toxic Substances Control Act, and related guidelines established by the Corps and the Commonwealth of Pennsylvania. Any change in the storage or use of hazardous materials must comply with these regulations.

3.2 Biological Environment

Fish and Wildlife

The most common species of wildlife within the project area include the white-tailed deer, bobcat, gray squirrel, eastern cottontail rabbit, raccoon, woodchuck, ring-necked pheasant and ruffed grouse. The Pennsylvania Game Commissions manages outgranted project areas in a manner to be of general benefit to small game and white-tailed deer.

The most common species of fish in both lakes include northern pike, musky/tiger musky, smallmouth and largemouth bass, brown/tiger/rainbow trout, walleye, sauger, saugeye, rock bass, carp, garr, drum fish, black crappie, channel catfish and sheep head. Additional information on fish and wildlife resources is located in Section 2.8.1 of the Master Plan.

Terrestrial Vegetation and Land Cover

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

Table EA-7. Terrestrial Vegetation Types

Predominant Vegetation Type	Loyalhanna (Acres)	Conemaugh (Acres)
Annual And Perennial Forb/Grass	518	1387
Deciduous Forest	2293	4941
Deciduous Shrubland	136	297
Evergreen Forest	28	55
Maintained Lawn	39	107
Mixed Deciduous-Evergreen Forest	9	53

Additional information on vegetative resources is located in Section 2.8.2 of the Master Plan.

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

Threatened and Endangered Species

There are many species in the Upper Ohio watershed that are considered either threatened, endangered, or state species of concern. Species become listed for a variety of reasons including over-hunting, over fishing, and habitat loss as a result of human development and pollution; of these, habitat loss is the main contributor that imperils most species. A threatened species is one that is likely to become endangered within the foreseeable future. An endangered species is one in danger of extinction throughout all or a significant portion of its range.

The following table lists the federally-endangered or threatened species possibly found within Westmoreland and Indiana counties. While there have been no confirmed sightings on either Loyalhanna or Conemaugh property, the habitat type exists for most of the below species meaning they could be found within the area or occur as transient species.

Table EA-8. Threatened and Endangered Species and Habitat Requirements

Species	Scientific Name	Class	Federal Status	Habitat
Indiana Myotis	*Myotis sodalis*	Mammal	Endangered	Hibernation sites have stringent requirements, including noticeable airflow and the lowest non-freezing temperatures possible. Primary maternity roosts are trees (often large, dead ones) with ex-foliating bark and sun exposure that results in high temperatures, while males seek cooler roosts. Most roosts are within ¾ mile of water.
Northern Long Eared Bat	*Myotis septentrionalis*	Mammal	Threatened	Spend winter hibernating in caves and mines. During the summer, roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags.

Rayed Bean	*Villosa fabalis*	Mussel	Endangered	Generally lives in smaller, headwater creeks, but they are sometimes found in large rivers and wave-washed areas of glacial lakes, including Lake Erie. They prefer gravel or sand substrates, and are often found in vegetation.
Sheepnose	*Plethobasus cyphyus*	Mussel	Endangered	Larger rivers and streams where they are usually found in shallow areas with moderate to swift currents that flow over coarse sand and gravel. However, they have also been found in areas of mud, cobble and boulders, and in large rivers they may be found in deep runs.
Rabbitsfoot	*Quadrula cylindrica*	Mussel	Candidate	Clear streams with gravel substrate and moderate, stable currents
Fanshell	*Cyprogenia stegaria*	Mussel	Endangered	Medium to large rivers in gravel riffles
Pink Mucket	*Lampsilis abrupta*	Mussel	Endangered	The lower Mississippi and Ohio rivers and their larger tributaries in gravel or sand
Clubshell	*Pleurobema clava*	Mussel	Endangered	Prefers clean, loose sand and gravel in medium to small rivers and streams. This mussel will bury itself in the bottom substrate to depths of up to four inches

Additional information on threatened and endangered species is located in Section 2.8.3. of the Master Plan.

Invasive Species

In accordance with Executive Order (EO) 13112, an invasive species means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species can be microbes, plants, or animals that are non-native to an ecosystem. In contrast, exotic species, as defined by EO 11987, include all plants and animals not naturally occurring, either presently or historically, in any ecosystem of the United States. Invasive species can take over and out compete native species by consuming their food, taking over their territory, and altering the ecosystem in ways that harm native species. Invasive species can be accidentally transported or they can be deliberately introduced because they are thought to be helpful in some way. Invasive species cost local, state, and federal agencies billions of dollars every year.

Loyalhanna and Conemaugh projects are not protected from the spread of invasive species. Exotic and invasive plant species are a part of the existing ecosystem at Loyalhanna Lake and Conemaugh River Lake. These invasive species have the ability to rapidly disrupt land and water resources if not aggressively managed. Over time, native species can be replaced and the ecology altered. Additionally, the interdependence and connectivity between the flora and fauna

will be out of balance, and the fauna may relocate to find habitat required for preferred food, shelter, or habitat structure. Invasive species not only have tremendous consequences on altering ecosystem compositions, but also economically, high costs stem from labor, materials, and equipment to control. The most common species encountered included multiflora rose, autumn olive, bush honeysuckle, and Japanese knotweed. Additional information on invasive species is located in Section 2.8.4 of the Master Plan.

Wetlands

Wetlands were calculated using the National Wetlands Inventory. The mapping of wetlands using the National Wetland Inventory is generalized; therefore, any proposed future actions may require a wetland determination on a site-by-site basis.

Using the National Wetland Inventory, wetland types and approximate acreages found within project boundaries include: Freshwater Emergent Wetland Marsh 108 acres; Freshwater Forested/Shrub Wetland 1138 acres; and Freshwater Pond 2 acres. Additional information on wetlands is located in Section 2.8.6 of the Master Plan.

3.3 Community Setting

Cultural Resources

Approximately 19 acres at Loyalhanna and 69 acres at Conemaugh are classified as parcels containing Archaeological Resources. These sites contain either known or suspected cultural resources, historic properties or items eligible for listing on the National Register of Historic Places. 732 acres have been surveyed at Conemaugh and 1844 acres have been surveyed at Loyalhanna. Additional information can be found in Section 2.9 of the Master Plan.

Socio- Economic Profile

The projects are located within Westmoreland and Indiana Counties. Additionally, neighboring Allegheny County has higher income and education levels than other adjacent counties, resulting in higher recreational demand.

The following tables illustrate current population and growth within the three County Area. Additional information on demographics and economics is located in Section 2.10 and 2.11 of the Master Plan.

Table EA-9. Current Population and Growth Since 1990

State/County	1990	2000	2010	Population Growth 1990-2000 (%)	Population Growth 2000-2010 (%)
Pennsylvania	11,881,643	12,281,054	12,702,884	3.36%	3.43%
Westmoreland County	370,321	370,029	365,169	-0.01%	-1.31%
Indiana County	89,990	89,533	88,891	-0.51%	-0.72%
Allegheny County	1,336,449	1,281,229	1,223,348	-4.13%	-4.52%
Source: Census 2010					

Table EA-10. Annual Population Growth Projections through 2030 for Westmoreland County, Allegheny County, and Pennsylvania

County	April 1, 2000 Census	July 1, 2010 Projection	July 1, 2020 Projection	July 1, 2030 Projection	% Change 2000-2010	% Change 2000-2020	% Change 2000-2030
Pennsylvania	12,281,054	12,540,718	12,871,823	13,190,400	2.1	4.8	7.4
Westmoreland County	369,993	374,002	380,748	380,588	1.1	2.9	2.9
Indiana County	89,605	81,006	72,876	66,095	-9.6	-18.7	-26.2
Allegheny County	1,281,666	1,210,748	1,169,207	1,132,736	-5.5	-8.8	-11.6
Source: Pennsylvania State Data Center							

Recreation

In addition to the lands associated with operation of the dam, the District also provides and manages recreation facilities, including the visitor centers at each project. Additional lands are leased to the Pennsylvania Game Commission, and other local entities. These leases (outgranted lands) specify what types of activities are allowed on Federal lands and all Federal regulations still apply. Additional information on recreation areas is contained in Section 2.12 and Chapter 5 of the Master Plan.

Transportation

Located less than an hour away from downtown Pittsburgh, Loyalhanna Lake and Conemaugh River Lake are crossed and bounded by a number of roads. Route 22 and Route 119 are US Routes that cross project lands. State route crossings include SR217.

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

4. Environmental Consequences

This section describes effects of the No Action alternative and preferred alternative compared to existing conditions. NEPA requires consideration of context, intensity, and duration of adverse and beneficial impacts (direct, indirect, and cumulative) and measures to mitigate for impacts. These elements are considered in the following impact analysis.

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

The following table presents a summarization of potential impacts. Impacts are described in detail in the following sections.

Table EA-11. Summary of Impact Analysis for No Action Plan and Preferred Alternative

	NO ACTION ALTERNATIVE IMPACTS				PREFERRED ALTERNATIVE IMPACTS			
Resource	**No Impact**	**Minimal, Adverse Non Significant**	**Minimal, Beneficial**	**Significant**	**No Impact**	**Minimal, Adverse Non Significant**	**Minimal, Beneficial**	**Significant**
Physical Environment								
Hydrology and Floodplains	X					X		
Water Quality	X					X		
Air Quality		X				X		
Climate	X				X			
Geology, Topography and Soils	X				X			
Noise		X				X		
Hazardous Materials	X				X			
Biological Environment								
Fish and Wildlife		X					X	
Terrestrial Vegetation and Land Cover		X					X	
Threatened and Endangered Species	X				X			
Invasive Species	X						X	
Wetlands	X				X			
Community Setting								
Cultural Resources	X						X	
Socio-Economic Profile	X						X	
Recreation		X					X	
Transportation	X				X			

4.1 Physical Environmental Impacts

Hydrology and Floodplains

Neither the No Action alternative nor the preferred alternative would have any significant impacts to hydrology or floodplains. In order to meet the missions of the Corps and the other management partners, many developed sites and facilities are located within the floodplain. Most of these structures have been designed to withstand and not interfere with the conveyance of floodwaters. This is important, as periodically it becomes necessary for these lands to be flooded to achieve the Corps' flood risk management purpose. All actions occurring within floodplains must be consistent with EO 11988, Floodplain Management, and related Corps policy. Any construction activities associated with the preferred alternative would not be allowed to impede the flood storage capacity of the projects. This would include improvements to existing recreation facilities, addition of buildings/facilities to previously disturbed areas, addition of improvement to boat launches, conversion of low density recreation areas to high density recreation, development at Blairsville parks, and dredging and disposal of sediment. Prior to implementation of these actions, the appropriate subsequent NEPA documentation (see table EA-3) should demonstrate compliance with EO 11988 and discuss any analyses conducted to ensure no significant impacts occur as a result of the proposed action.

Water Quality

Neither the No Action alternative nor the preferred alternative would have any significant impacts to water quality. Under the preferred alternative, some construction activities may have temporary adverse impacts to water quality. However, these impacts would be minimal and done in compliance with an approved erosion and sedimentation plan as needed or Clean Water Act permit, as needed which would be completed when site specific information is obtained and documented in the appropriate subsequent NEPA documentation (CX, EA, or EIS). Removal of invasive species in areas adjacent to bodies of water should only be undertaken using herbicides approved for aquatic use and in approved doses to ensure impacts to water quality are avoided.

Air Quality

Air quality within the project boundary can be influenced by exhaust from motor vehicles and boats, the use of grills and fire pits. The large open area that is created by the reservoir allows for strong breezes to blow through the project area. These breezes can rapidly reduce and/or eliminate any localized air quality concerns caused by these pollutants. Neither the No Action alternative nor the preferred alternative would have significant adverse impacts to air quality. Temporary, non-significant impacts could occur under either alternative due to any construction activities or during peak recreation times from boaters and visitors to the park. Analyses of the potential impacts on air quality due to construction or increased recreational traffic should be

considered prior to implementation of the recommendations and included in subsequent NEPA documentation.

Climate

The No Action alternative will have no impact to climate, (either current or future expected climate conditions). Implementation of the recommended plan will also not have a negative effect on current or future climate.

Geology, Topography and Soils

No impacts will occur to geology, topography or soils from either alternative.

Noise

Construction activities associated with the preferred alternative have the potential to temporarily increase noise levels, however not to the level of a significant adverse impact. The effects of converting lands to high density recreation and improvements leading to increased boat traffic (such as addition of boat ramps or improvement of boater facilities) on noise levels should be analyzed once specific plans are developed and should be included in subsequent NEPA documentation. The No Action alternative would have no significant adverse effect on noise levels.

Hazardous Materials

No impacts are expected from hazardous materials from either alternative. However, recommendations that are part of the preferred alternative will be reviewed once site specific information is available for compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Corps real estate requirements (Environmental Condition of Property/Preliminary Assessment Screening) when ground disturbing activities are proposed. This review will be documented in appropriate subsequent NEPA document.

4.2 Biological Environmental Impacts

Fish and Wildlife

As compared to the No Action alternative, the preferred alternative would improve fish and wildlife resources by analyzing current conditions, resource suitability and fish and wildlife trends and taking proactive steps to improve habitats. Protection and management of sensitive areas will also provide benefits to fish and wildlife. Following the goals and objectives found in Chapter 3 of the Master Plan would benefit fish and wildlife by improving the health of local habitats, and in turn, encouraging wildlife diversity. Prior to any clearing of trees or construction activities, surveys for nesting birds will be conducted and avoided if necessary to ensure

compliance with both the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Terrestrial Vegetation and Land Cover

Under the No Action alternative, there would be little to no change to terrestrial vegetation and land cover. Under the preferred alternative, removal of invasive species and addition of environmentally sensitive areas would improve native terrestrial vegetation within the area. Conversion of areas to high density recreation and the development of new trail systems has the potential to negatively affect existing vegetation, but not likely to a significant extent. Nonetheless, prior to implementation of any clearing, surveys should be conducted to ensure no rare or federally listed plant species would be effected and the extent of the clearing analyzed in the context of similar habitats within the area to determine the potential significance of the proposed action. The results of this will be documented in an appropriate subsequent NEPA document prior to implementation.

Threatened and Endangered Species

Implementation of either the No Action or preferred alternative will have no effect on threatened or endangered species. Recommended development actions will be coordinated with Fish and Wildlife Service under Section 7 of the Endangered Species Act once site specific details are available. The results of this consultation and the potential significance of effects to species in the area will be documented in an appropriate subsequent NEPA document prior to implementation.

Invasive Species

Implementation of either the No Action or preferred alternative will not have a negative effect on invasive species management. The original Master Plans do not address invasive species and are out of date and non-compliant with current laws and regulations. However, the District would continue to implement best management practices with regards to invasive species management. The preferred alternative does address invasive species issues and will follow current District policy by using adaptive and best management practices in prevention, education, early detection, rapid response, and containment in trying to control and manage invasive species. Overall a positive effect with regard to reducing the prevalence of invasive species is anticipated as a result of the preferred alternative.

Wetlands

The No Action and the preferred alternative are not expected to impact wetlands. Wetlands are regulated under Section(s) 401 and 404 of the Clean Water Act. Section 401 Water Quality Certification ensures compliance with water quality standards. Section 404 regulates activities within Waters of the U.S., which includes Loyalhanna Lake and Conemaugh River Lake and

their surrounding tributaries. Further direction is provided by EO11990: Protection of Wetlands and related Corps regulations. Recommendations included within the preferred alternative will need to comply with Clean Water Act regulations and permitting prior to initiation of construction. Prior to implementation, any activities that have the potential to impact wetlands should be analyzed to determine their potential significance and discussed in an appropriate subsequent NEPA document.

4.3 Community Setting Impacts

Cultural Resources

Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations 36 CFR Part 800 require Federal agencies to take into account the effect of an undertaking on historic and archeological resources if that Project is under the direct or indirect jurisdiction of the agency or has been licensed or assisted by that agency. The No Action alternative and the reclassification of lands under the preferred alternative would have "No Effect" on historic or archeological resources. The recreation recommendations contained within the preferred alternative will include site specific coordination in accordance with the Section 106 process. The preferred alternative will also have a beneficial impact on cultural resources in that known archeological sites are now classified as environmentally sensitive areas and will be managed accordingly.

Socio- Economic Profile

The No Action alternative will not impact socioeconomics. Recommendations under the preferred alternative that include enhancements of recreation and partnerships to enhance concessions in the area would likely have a small positive impact on socioeconomics within the region. No significant negative impacts are anticipated as a result of the preferred alternative. None of the alternatives have the potential to adversely affect minority populations, low-income populations or children. No significant impact to socioeconomics and environmental justice are anticipated.

Transportation

The No Action alternative will not impact transportation. Recommendations for improvements and construction projects under the preferred alternative could have a short-term negative impact on transportation within the region due to traffic diversions during construction. However, no significant negative impacts are anticipated as a result of the preferred alternative.

Recreation

Although maintenance of current recreational facilities would continue under the No Action alternative, the existing Master Plans would not accurately reflect the current status of facilities

or existing and future recreational needs which would have an impact on the recreation activities within the project area. The recreational needs of the public would be better accommodated through the implementation of the proposed Master Plan. Recommendations associated with the preferred alternative would have beneficial impacts on recreation, not only from modernizing and upgrading existing facilities but also from increasing the management of natural resources through some of the Resource Plan recommendations. Enhancing the camping experience with modern, upgraded facilities would also complement the existing campsites presently available.

4.4 Cumulative Impacts

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

Past, present, and reasonably foreseeable future actions have and continue to contribute to the cumulative impacts of activities in and around Loyalhanna Lake and Conemaugh River Lake. Past actions include the construction and operation of the reservoirs, the recreation sites surrounding the reservoir, as well as residential, commercial, and industrial facilities throughout the region. All of these developments have had varying levels of adverse impacts on the physical and natural resources in the region. Many of these developments, however, have had beneficial impacts on the region's socioeconomic resources. In addition, many of the historic impacts have been offset throughout the years by the resource stewardship efforts of the District, Pennsylvania Game Commission, and other management partners.

The most significant past action was the construction and development of the Reservoirs themselves. This change created new natural and physical conditions, which, through careful management by the District and other management partners, have created new and successful habitats and other natural resource conditions. The District and the other management partners have also brought a wide variety of high-quality recreational opportunities to the reservoir.

Existing and future actions also contribute to the cumulative impacts in and around the reservoirs. Existing and future actions include the operation of project facilities, upgrades and maintenance of recreation sites, as well as residential, commercial, and industrial development throughout the region. Continued project operations would result in the sustained maintenance and development of recreational facilities. These facilities would enhance the recreational offerings made by the District and other management partners. Such improvements would result in varying levels of impacts to the surrounding resources. Similarly, surrounding residential, commercial, and industrial development could result in varying levels of adverse impacts to many resources. Within the project boundary, adverse impacts would be offset through resource

stewardship efforts. The programmatic approach to project management, included in this EA and attached Master Plan, would allow for future development plans and mitigation responses to be adapted to address any adverse actions. This would allow the District and other management partners to continue to reduce the negative contribution of its activities to regional cumulative impacts through proactive actions and adaptive resource management strategies.

In summary, the preferred alternative would not appear to result in any significant cumulative impacts in the reasonably foreseeable future. The preferred alternative would contribute minor increments to the overall impacts that past, present, and future projects have on the region.

4.5 Compliance with Environmental Statutes

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

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

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

5. Coordination and Public Involvement

Agency and public involvement was initiated in June 2015, when the District published notices announcing plans to revise the Master Plan. This notice was followed by public comment periods, agency meetings, and additional public open houses. These public involvement activities and comments are described in detail in Chapter 7 of the Master Plan and Appendix C, Summary of Public Comments.

The Loyalhanna Lake and Conemaugh River Lake Master Plan and Environmental Assessment will be circulated for a minimum 30 day public review period.

6. Conclusion

The preferred alternative meets currently foreseeable recreation and environmental stewardship needs and addresses environmental issues, with no significant environmental impacts anticipated. The recommended alternative also brings the Master Plan into compliance with updated Corps regulations.