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

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1. Introduction

1.1 Project Authorization

The construction of Loyalhanna Lake and Conemaugh River Lake (Lakes) was authorized by the Flood Control Act of 1936, as amended by the Flood Control Act of 1938. Authorizations subsequent to construction listed in Table 1-1 provided for incidental benefits including water quality improvement, fish and wildlife management, and recreational uses of the impoundments and project lands.

Table 1-1. Project Purposes and Authorities for Loyalhanna Lake and Conemaugh River Lake

Operating Purpose	Authority	Citation
Flood Control	Flood Control Acts of 1936 and 1938	PL 74-738, PL 75-761
Water Quality	Federal Water Pollution Control Act of 1972	PL 92-500
Fish and Wildlife	Fish and Wildlife Coordination Act of 1934 (as amended)	16 USC 661-664
Recreation	Flood Control Act of 1944	PL 78-534

1.2 Project Purpose

The Lakes are multi-purpose dams operated jointly as a storage system providing flood risk management in the Loyalhanna, lower Conemaugh, and Kiskiminetas Rivers. Plate 1 in Appendix A shows the project area.

1.3 Purpose and Scope of Master Plan

This Master Plan presents updated land use categories, management objectives, resource plans, and recommendations for management of project lands to meet current and future needs. It is a vital tool for the responsible stewardship of project resources for the benefit of present and future generations. The goal is to guide comprehensive management and development of the natural, cultural, and man-made resources at the Lakes.

This joint Master Plan for Loyalhanna and Conemaugh River Lakes responds to regional and local needs, resource capabilities, suitability, and expressed public interests consistent with authorized project purposes, pertinent legislation, and applicable regulations. It provides a District-level policy consistent with national objectives and other State and regional goals and programs. The Master Plan is distinct from the project-level implementation emphasis of the Operational Management Plan (OMP). Policies in the Master Plan are guidelines implemented through provisions of the OMP, specific Design Memorandums (Appendix D) and the Annual Work Plan. This Master Plan supersedes the previous Loyalhanna Lake and Conemaugh River Lake Master Plans.

1.4 Watershed and Project Descriptions

The Upper Kiskiminetas-Conemaugh River Watershed includes some of the most scenic areas of Pennsylvania. The watershed drains high mountain ridges and has created deep river gorges. Within this area of the unglaciated Appalachian Plateau province are a remarkable variety of natural, cultural, and recreational resources. The headwaters are in the Allegheny Front Section and receive the highest average annual precipitation in the Ohio River watershed. The drainage continues with a northwestern flow through the Allegheny Mountain Section until the confluence of the Conemaugh River and Loyalhanna Creek forms the mainstem Kiskiminetas River in the Pittsburgh Low Plateau Section. The major tributaries include Blacklick Creek, Stonycreek River/Little Conemaugh River, Loyalhanna Creek, and Conemaugh River. The total area of the Lakes facilities in this watershed, including fee land title and easement is 11,717 acres. This is just over 1 percent of the total watershed area. See Appendix A, Plate 1 Project Area Map and Plate 2 Watershed Boundary Map.

Overall, forested land and agricultural land uses predominate in the watershed. Land use generally varies from east to west, with larger percentages of forested land in the eastern mountain areas, while residential and urban lands show larger percentages in the western low hill country with the larger communities located in river and stream valleys.

Aside from the dam, project offices and maintenance facilities, the Lakes recreational assets include five Corps-managed recreation areas with camping, showers, boat ramps, fishing facilities, picnic areas, pavilions, playgrounds, restroom facilities, and trails for visitors to use.

1.5 Listing of Prior Design Memorandums

A listing of relevant prior design memorandums are provided in a table listing in Appendix D, are considered incorporated into this document.

1.6 Listing of Pertinent Project Information

Although the Master Plan is focused on management of land and water surface related to project purposes, the following tables are provided to aid in understanding pertinent project information regarding water storage levels and project construction. Further details can be found in the Water Control Manuals for each Lake.

Table 1-2. Loyalhanna Dam and Conemaugh Dam Information

	Loyalhanna Lake	Conemaugh River Lake
Avg. Ann. Rainfall	3.42 in.	3.42 in.
Drainage Area above dam	290 sq. miles	1,351 sq. miles
Construction Completed	1950	1961
Operation Start	1942	1952
Dam Type	Concrete Gravity	Concrete Gravity
Dam Length	760 feet	1,096 feet

	Loyalhanna Lake	Conemaugh River Lake
Dam Height	114 ft. above stream bed el. 868.5	137 ft. above stream bed el. 848.7
Base Width	88.5 ft.	128 ft.
Outlet Works	5 conduits, 8 gates - 5.67' x 7', (1) 24" gate valve	13 sluices, 26 gates - 5.67' x 10'
Spillway	5, 29' x 30' crest gates	14, 30'x 30' crest gates
Highest Inflows Recorded	27,500 cfs, June 1972	193,800 cfs, July 1977
Highest Outflows Recorded	6,700 cfs, June 1970	34,000 cfs, January 1952
Highest Elevation (NAVD 88)	966.93 m.s.l., June 1972	968.67 m.s.l., June 1972

Table 1-3. Loyalhanna Reservoir Information

Pool	Elevation (NAVD 88)	Storage (ac/ft.)	Surface Area (acres)	Backwater (main stream miles)	Outflow (c.f.s.)
Minimum	909.5 m.s.l.	549	210	6.5	
General Operating	917.5-923.5 m.s.l.	1,547 – 3,652	350	varies	115
Full	974.5 m.s.l.	91,331	3,280	22.3	115,600

Table 1-4. Conemaugh Reservoir Information

Pool	Elevation (NAVD 88)	Storage (ac/ft.)	Surface Area (acres)	Backwater (main stream miles)	Outflow (c.f.s.)
Minimum	899.2 m.s.l.	5,142	800	8.6	
General Operating	901.2 – 904.2 m.s.l	6,870 – 9,942	1,010	varies	600
Full	974.2 m.s.l.	262,688	6,770	20.9	371,800

2. Project Setting and Factors Influencing Management and Development

2.1 Description of Reservoirs

The Lakes are located in the Laurel Highlands region of west-central Pennsylvania. This region is a popular area for hiking, mountain biking, hunting, trout fishing, wildlife viewing, and skiing. With 11,717 acres of land and up to 10,050 acres of water surface at full pool, the recreation areas, trails, and water of the Lakes add to the attractiveness, vitality, and appreciation for the outdoors in the area.

The topography is diverse, ranging from cliffs in places where tributaries have cut through shale and sandstone formations, to nearly flat alluvial plains near the main streams. Terrestrial habitat adjacent to the Lakes is dominated by mature (>40 years old) deciduous forest comprised of mesophytic forest in more upland areas and silver maple-green ash-sycamore floodplain forest in flatter, low-lying areas that experience frequent flooding.

2.2 Hydrology

The Lakes serve as the major flood damage reduction feature in the Upper Kiskiminetas-Conemaugh Watershed. The Lakes are situated on Loyalhanna Creek and the Conemaugh River as their names imply. Loyalhanna Creek drains 298 square miles of Westmoreland County and joins with the Conemaugh River at Saltsburg to form the Kiskiminetas River. The stream flows generally northwestward for 40.7 miles from its headwaters on Laurel Ridge. The Conemaugh River flows northwestward for 52.4 miles between Johnstown and Saltsburg, where it joins with Loyalhanna Creek to form the Kiskiminetas River. The overall drainage area of the Conemaugh River, including the Stonycreek, Little Conemaugh, and Blacklick Creek watersheds, is 1,375 square miles. The area of direct drainage to the Conemaugh, excluding these watersheds, is 297 square miles.

2.3 Sedimentation and Shoreline Erosion

The most recent sedimentation survey for Loyalhanna Lake was conducted in 1997 and was the fourth since operation of the dam commenced. It noted a total storage capacity decrease of 4.2%, a total surface area decrease of 0.23% and a total pool length decrease of 14.2%, at maximum pool of 974 feet. Both staff and visitors report increasing amounts of sedimentation that are impacting the surface water use by reducing the total useable area for boating as well as constricting lake channels. The loss of boating area, while demand stays constant, is creating safety concerns that could result in the boat horsepower limitations being implemented to curtail speed and the number of boats on Loyalhanna Lake. The sediment deposits are predominately precipitates from mine drainage, as opposed to particles eroded from the land surface, and may pose environmental issues due to their composition. The 1997 survey recommended a fifth survey on or about 2017.

Conemaugh River Lake has had four sedimentation surveys and one dredging project. The most recent survey, completed in 2016, calculated a 7.4%% decrease in reservoir capacity and total accumulation of 14,104 acre-feet of sediment since 1952. The average sedimentation rate was determined to be 288 acre-feet/year. Additionally, this survey showed that the railroad bridges, relocated prior to reservoir construction, appear to be accumulating sediment behind them, with one showing an evident scour hole downstream.

Project staff have also highlighted concerns that affect the Corps' ability to manage flood risk and present potential environmental concerns given the unknown makeup of the sedimentation deposits. Additional details on sedimentation at the Lakes can be found in the project reports listed in Appendix D.

2.4 Water Quality

The Upper Kiskiminetas-Conemaugh River watershed has been subjected to extensive mineral extraction activities (primarily coal mining) resulting in adverse effects by acid mine drainage (AMD) in the region (for further details see section 2.8). As a result of this impairment, water quality conditions were degraded at the Lakes, which resulted in a loss of aquatic life in some locations for prolonged periods of time. This impairment continues today, albeit to a lesser degree, as the stream reaches in the Upper Kiskiminetas-Conemaugh River watershed are included on Pennsylvania's Section 303(d) of impaired waters for various constituents, including metals, pH, and sediment.

Another water quality concern with the potential to affect the future development of the Lakes is the waste product associated with the extraction of natural gas occurring in the watershed. Brine is a saline solution that accompanies the oil and gas in the bedrock. As the gas or oil is extracted, various amounts of brine are also brought to the surface where it is separated from the gas or oil and stored in large lined pits or storage tanks. If storage areas fail, surface water and groundwater sources can become contaminated by the salty, degraded brine solution. Environmental issues also arise as natural gas wells no longer provide an economic gain to the owner or client and are abandoned.

Through current mitigation efforts, state agencies, and local watershed associations have reduced the impacts of AMD, resulting in more favorable water quality conditions at the Lakes, which have allowed the fisheries in those water bodies to recover (see section 2.9.1). Nonetheless, AMD impacts are still observed. Emerging challenges, such as increased development, sewage discharges, and non-conventional shale gas wastewater treatment, constitute water quality concerns that will need to be monitored in the future. The PA State Water Plan identifies specific recommendations for additional study and areas of concern. While water quality is an important component of the operation of the Lakes, since the construction of these projects, the benefits of the improved water quality have been realized regionally.

2.5 Project Access

Loyalhanna Lake is located approximately 28 road miles east of Pittsburgh. The reservoir is between the cities of Saltsburg and Latrobe in a north-east alignment. The dam is on Loyalhanna Creek, 4.5 river miles above its junction with the Conemaugh River at Saltsburg, PA. The physical address of the project office is: 440 Loyalhanna Dam Road, Saltsburg, PA 15681. Easiest access to the project is via PA-981 to Loyalhanna Dam Road. From the south, Conemaugh Dam is approximately 6 road miles further east of Loyalhanna Dam. Conemaugh River Lake is 7.3 river miles upstream from where the Conemaugh River and Loyalhanna Creek meet to form the Kiskiminetas River at Saltsburg, approximately 27 river miles above the confluence of the Kiskiminetas with the Allegheny River at Freeport, PA. The physical address of the project office is: 1665 Auen Road, Ste. A, Saltsburg, PA 15681. Similarly, easiest road access to the project is via PA-981 to Tunnelton Road coming from the north or Pump Station Road to Tunnelton Road coming from the south. For both Loyalhanna Lake and Conemaugh River Lake there are a variety of state routes that provide access to PA-981 from north to south. U.S. 22 and U.S. 119 provide 4-lane access to PA-981for those accessing the project from southerly areas.

2.6 Climate

The Lakes are located in the temperate continental climatic zone, a region of seasonally varying temperatures and moderate year-round precipitation, increasing slightly during the warmer months. Precipitation has averaged 33.95 inches annually from 2000-2014. Measurable precipitation has been recorded 76 days annually on average, with the heaviest precipitation occurring April through August. Further details are included in the Water Control Manuals for the Lakes.

Due to the potential for effects on numerous aspects of the environment, especially those related to water resources, climate change is an issue of increasing concern. For the northeastern region of the country, the U.S. Global Change Research Program notes that since 1970, several related-climate changes have taken place that have affected rates of precipitation, agricultural seasons, and the timing of seasonal transitions, such as snowmelt and river flows. Specific forecasted events that are anticipated to occur, pertinent to inland areas, include:

- Increases in the number days over 90°F, extended summer season and reduction of the winter snow season to approximately 3-4 weeks in southwestern Pennsylvania.
- Increases in the frequency of heavy downpours, leading to greater flood risk, particularly in valleys where people, infrastructure and agriculture are concentrated.
- Increases in winter and spring precipitation amounts, with wet springs affecting agricultural activity (e.g., delayed planting and harvests).
- Increases in seasonal drought, during summer and fall, affecting agricultural activity (e.g., reduced yield, milk production).

- Migration of maple, beech, and birch tree species toward the New England States, impacting current hardwood forest composition in southwestern Pennsylvania.
- Significantly less winter recreation for snowmobiling, skiing, skating, ice fishing, etc. Currently, the skiing industry in southwestern Pennsylvania is considered vulnerable now increasing to non-viable by 2040.

Specific project consequences may include higher pool elevations and greater sedimentation due to increased rainfall and less snow; longer use of warm weather recreation facilities and assets with less time for repair; strained warm weather recreation facilities and staff as funding is not expected to increase; and less healthy/robust forests that have already been weakened by invasive species.

2.7 Topography, Geology, and Soils

The Lakes are located within Pittsburgh Low Plateau Section in west-central Pennsylvania. Topography is diverse, ranging from cliffs in places where fluvial processes have cut through shale and sandstone formations, to nearly flat alluvial plains nearest to the streams. The geology of the Lakes impose no unusual restraints on construction. All of the rock is sedimentary in origin and consists of thin sequences of shale, limestone, sandstone, and coal. The soils are nearly evenly divided between two types: residual types, formed on uplands from acid shale, siltstone, and sandstone parent material; and alluvial types, formed out of material deposited by water along, originally washed from the acid-soil uplands.

Mineral resources in the basin are abundant and have aided the region's development. Coal is by far the most important historically. Several coal seams have been mined within the watershed. Both the Upper and Lower Freeport seams, ranging from two to four feet in thickness, have been deep mined throughout the area. The Freeport seams outcrop only in the Allegheny Mountain Section of the watershed. Approximately 700 feet above the Upper and Lower Freeport coal is the Pittsburgh Coal seam. This seam is usually over six-feet thick and is economically the most valuable coal in the region. Pittsburgh coal has been deep mined from south of Blairsville, to New Alexandria, to Delmont and is found in synclinal folds. Strip mining at the edges of the coal outcrops is prevalent throughout the basin. Oil and gas production also occurs in the Kiski-Conemaugh Basin, mostly in Indiana, Westmoreland and Armstrong Counties with the Devonian Marcellus Shale the predominant gas reservoir exploited since about 2006.

Land capability classification is comprised of 8 main classes based on the soils capability of producing crops or plants over the long term. Loyalhanna Lake’s soils have 6 of 8 capability characteristics with a predominance (52.6%) of class 2 soils exhibiting moderate limitations restricting the choice of plants or that require moderate conservation practices to be employed. Conemaugh River Lake has a greater proportion of class 1 soils, with slight limitations that restrict uses, compared to Loyalhanna, 9.0% and 2.9%, respectively. Neither project’s soils have class 5 or 8. Further information on land capability classification can be found at the Natural

Resources Conservation Service website: http://www.nrcs.usda.gov/. A map of soil land capability classifications is located in Appendix A, Plate 3.

2.8 Resource Analysis

Operational civil works projects administered by the Corps are required, with few exceptions, to prepare an inventory of natural resources. The basic inventory required is referred to within Corps regulations (ER and EP 1130-2-540) as a Level One Inventory. This inventory includes the following: vegetation in accordance with the National Vegetation Classification System through the sub-class level; assessment of the potential presence of special status species including but not limited to federal and state listed endangered and threatened species, migratory species, and birds of conservation concern listed by the U.S. Fish and Wildlife Service (USFWS); land (soils) capability classes in accordance with the Natural Resource Conservation Service (NRCS) criteria; and wetlands in accordance with the USFWS' Classification of Wetlands and Deepwater Habitats of the United States. This basic inventory information is used in preparing project master plans and Operation Management Plans (OMP). The OMP is a five-year management plan setting forth detailed information required to implement the concepts set forth in the master plan. An overview of the natural resources and related management actions at the project is provided in the following sections and paragraphs.

2.8.1 Fish and Wildlife Resources

The initial water quality condition of the Lakes was so poor that monitoring and stocking fish was not worthwhile. However, since the 1990's, growth of fish populations and the diversity of game fish species have been documented. Loyalhanna has had good quality largemouth bass and catfish populations since the 1990's and efforts have been made to increase muskellunge, tiger muskellunge, and channel catfish populations by stocking the lake with these fingerlings (PFBC 2005). Conemaugh River Lake's fish populations have also reestablished after a substantial period of decline. Populations of largemouth bass, black crappie, and sunfish have increased throughout the Lake and the bays of Aultmans Run and Spruce Run Bay, while yellow perch have thrived in these bays but have yet to establish in the main body of the lake. Although sauger were stocked in the late 1990's in an attempt to have them establish in upstream tributaries, none have been captured during subsequent surveys in 2004 and 2013. As a result of improved water quality conditions in Conemaugh River Lake, the Pennsylvania Fish and Boat Commission (PFBC) changed the lake's management designation from a "recovering fishery" to a "managed fishery".

Currently, the PFBC is the agency primarily responsible for managing the Lake's fisheries and are focused on popular game species, including largemouth bass, smallmouth bass, black and white crappie, bluegill, and catfish. Moreover, ongoing efforts by the Corps and the PFBC at the Lakes are in alignment with the PFBC's Strategic Plan's Conservation Goal: "to protect, conserve and enhance aquatic resources and habitats." The primary concerns for the future

include water quality, adequate habitat structure, sustaining a productive sport fishery, and facilitating successful spawning through pool elevation changes.

Wildlife management is targeted primarily at white-tailed deer, eastern wild turkey, wood ducks, and ring-necked pheasant. Management typically focuses on mowing to maintain early successional habitats, treating areas with dense stands of invasive vegetation (most notably multiflora rose), and installing wood duck nest boxes. Additionally, non-game wildlife species, such as migratory songbirds, bats, small mammals, reptiles, and amphibians, benefit from the conservation of extensive mature riparian forests that comprise the majority of habitat on fee owned property at Loyalhanna Lake and Conemaugh River Lake. Due to intensive agricultural land use within the region, these projects serve as important sources of riparian forest habitat. Riparian forest habitat is a conservation priority action in the 2015 Pennsylvania Wildlife Action Plan because it serves as habitat for several species of high concern, such as the cerulean warbler, bald eagle, and summer tanager.

The Pennsylvania Game Commission (PAGC) manages 10,000 acres at the Lakes under a lease agreement to facilitate stewardship and dispersed outdoor recreation activities. Recreational hunting opportunities have been a priority at the Lakes, including deer hunter access and pheasant stocking areas. Each year the PAGC releases ring-necked pheasant at multiple designated areas on Corps lands.

The Pennsylvania Wildlife Action Plan's top priority is to take proactive measures to prevent species of concern from becoming threatened and endangered species in Pennsylvania. Specific PAGC goals that are aligned with the Corps' environmental sustainability programs include: the maintenance and improvement of wildlife populations for recreational value; expanding and improving environmental education and interpretation for public awareness and understanding of wildlife resource management; protecting hunting heritage; and protecting, maintaining and enhancing an array of habitats on public lands.

2.8.2 Vegetative and Timber Resources

The entire property acquired for the Lakes was subject to repeated timber harvesting and subsequent grazing and farming prior to its acquisition by the Corps. Since then, most of the area surrounding the Lakes has developed into mature forest. The remaining land is a combination of field/pasture, shrubland, wetlands, with minor areas of maintained lawn. Appendix A, Plate 4 shows the vegetative resources of the Lakes.

The Lakes support the overarching goal of forest sustainability detailed in the Pennsylvania Department of Conservation and Natural Resources (DCNR) Forest Resource Management Plan. Forest sustainability encompasses the continued existence and use of forests to meet human physical, economic, and social needs; the desire to preserve the health of forest ecosystems in perpetuity; and the preservation of options for future generations while meeting the needs of the

present. The forest management plans for the Lakes contain further details including resource inventories and harvesting procedures.

2.8.3 Threatened and Endangered Species

There are no confirmed federally threatened and endangered resident species at the Lakes. However, many federally and state-listed species of concern occur in Westmoreland and Indiana Counties and may use the area transiently (See Table 2-1). Periodic surveys should be conducted through coordination with local conservation groups, Colleges and Universities, and the Pennsylvania Natural Heritage Program to identify occurrences of these species.

Table 2-1. Federal and State Endangered, Threatened, and Sensitive Species Occurring within Westmoreland and Indiana Counties

Species	Scientific Name	Class	Federal Status	State Status
Allegheny Woodrat	*Neotoma magister*	Mammal		Threatened
Appalachian Blue Violet	*Viola appalachiensis*	Plant		Threatened
Bald Eagle	*Haliaeetus leucocephalus*	Bird		Threatened
Balsam Poplar	*Populus balsamifera*	Plant		Endangered
Bicknells Hoary RockRose	*Helianthemum bicknellii*	Plant		Endangered
Black Bullhead	*Ameiurus melas*	Fish		Endangered
Blue Monkshood	*Aconitum uncinatum*	Plant		Threatened
Bog Bluegrass	*Poa paludigena*	Plant		Threatened
Buffalo Nut	*Pyrularia pubera*	Plant		Rare
Bushy St Johns Wort	*Hypericum densiflorum*	Plant		Threatened
Clubshell	*Pleurobema clava*	Mussel	Endangered	Endangered
Dickcissel	*Spiza americana*	Bird		Endangered
Eastern Small-footed Myotis	*Myotis leibii*	Mammal		Threatened
False Gromwell	*Onosmodium molle var. hispidissimum*	Plant		Endangered
Fanshell	*Cyprogenia stegaria*	Mussel	Endangered	
Golden Club	*Orontium aquaticum*	Plant		Rare
Golden-fruited Sedge	*Carex aurea*	Plant		Endangered
Golden-Seal	*Hydrastis canadensis*	Plant		Vulnerable
Gravel Chub	*Erimystax x-punctatus*	Fish		Endangered
Harbinger of Spring	*Erigenia bulbosa*	Plant		Threatened
Indiana Myotis	*Myotis sodalis*	Mammal	Endangered	Endangered
Kirtlands Snake	*Clonophis kirtlandii*	Reptile		Endangered
Least Brook Lamprey	*Lampetra aepyptera*	Fish		Candidate
Least Shrew	*Cryptotis parva*	Mammal		Endangered
Lupine	*Lupinus perennis*	Plant		Rare
Mountain bugbane	*Actaea podocarpa*	Plant		Threatened
Osprey	*Pandion haliaetus*	Bird		Threatened
Passion Flower	*Passiflora lutea*	Plant		Endangered
Peregrine Falcon	*Falco peregrinus*	Bird		Endangered
Pink Mucket	*Lampsilis abrupta*	Mussel	Endangered	
Purple Rocket	*Iodanthus pinnatifidus*	Plant		Endangered

Species	Scientific Name	Class	Federal Status	State Status
Rabbitsfoot	*Quadrula cylindrica*	Mussel	Candidate	Endangered
Sheepnose	*Plethobasus cyphyus*	Mussel	Endangered	Threatened
Small Yellow Lady's Slipper	*Cypripedium calceolus var. parviflorum*	Plant		Endangered
Snow Trillium	*Trillium nivale*	Plant		Rare
Southern Redbelly Dace	*Phoxinus erythrogaster*	Fish		Threatened
Southern Water Shrew	*Sorex palustris punctulatus*	Mammal		Threatened
Tall Larkspur	*Delphinium exaltatum*	Plant		Endangered
Thick-leaved Meadow-rue	*Thalictrum coriaceum*	Plant		Endangered
Timber Rattlesnake	*Crotalus horridus*	Reptile		Candidate
Torrey's Rush	*Juncus torreyi*	Plant		Threatened
Upland Sandpiper	*Bartramia longicauda*	Bird		Threatened

2.8.4 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. Increasing urbanization and forest fragmentation at the Lakes have created conditions that foster the establishment of non-native invasive species. Recent surveys conducted at the Lakes determined that invasive species are prevalent and widespread, showing up in over 80% of randomly selected sites. The most common species encountered included multiflora rose, autumn olive, bush honeysuckle, and Japanese knotweed. When changing climatic conditions are also considered, it is clear that the Lakes are under direct threat from these organisms and are at risk of losing many of the natural assets that make them valuable to the region. Left unchecked, invasive plant species will undermine the regenerative capacity of the forestland and ultimately produce a degraded resource that fails to meet many of the key objectives desired of the Lakes.

2.8.5 Ecological Setting

The purpose of ecological land classification is to provide information for research, assessment, monitoring, and management of ecosystem components. The Natural Resource Management mission statement (ER 1130-2-550) directly supports this paradigm.

The ecoregion in which the Lakes fall under is the Western Allegheny Plateau. This region covers most of the central Appalachian Plateau and includes southwestern Pennsylvania, southeastern Ohio, northwestern West Virginia, and a small portion of the Bluegrass Region of Kentucky. The hilly and wooded terrain of the Western Allegheny Plateau was not subject to glaciation and is more rugged than the plains of the Erie Drift Plain and the Eastern Corn Belt Plains to the north and west. White-tailed deer, cottontail rabbit, groundhog, and wild turkey are prevalent. The forest area is mostly mixed oak and mixed temperate forests, and, today, most of its rounded hills remain in forest, dairy, livestock, and general farms as well as residential developments, concentrated in the valleys. Horizontally-bedded sedimentary rock underlying the region has been mined for bituminous coal.

2.8.6 Wetlands

Approximately 5,784 acres and 869 acres of wetlands occur on fee owned property at the Lakes. Wetland types include: riverine, emergent vegetation wetlands, shrub wetlands, and vernal pools. Wetlands serve important water quality and wildlife habitat functions. Particular conservation interest should be given to these features. A map depicting wetland and water resources is located in Appendix A, Plate 5.

2.9 Cultural Resources

Prehistoric sites have been found throughout both of the Lakes. Since the Lakes have not yet implemented a Cultural Resources Management Plan and there has never been a comprehensive survey, it is clear that only a small fraction of the potential prehistoric sites are known. Previous studies conducted at the Lakes have shown that there is generally a very high potential for archaeological deposits within the intact floodplain and terrace deposits, particularly along Blacklick Creek. These deposits can be found under recent flood sediments and are often eight to nine feet below the surface. There is also high potential to encounter shallower archaeological deposits at slightly higher elevations within the drier terrace landforms along the major waterways, typically around the base of the foot slope within close proximity to springs and seeps. Steep slopes, standing wetlands, and disturbed or eroded areas are generally considered to exhibit very low potential.

Increasingly at the Lakes, recreational resources are being tied to historical areas and resources to provide a multiplicity of opportunities for outdoor recreation, while enjoying the region's historical heritage. This is particularly the case with Conemaugh River Lake. Adjacent to the Damsite Recreation Area, historical development is currently underway with the construction of the Trail of Transportation History and the Tunnel View Historic Site. The riverside trail follows the towpath that runs along the Main Line Canal that once connected Philadelphia with Pittsburgh (1834-1854). Overlooks along the trail provide views of the historical canal and railroad structures, a canal and tunnel and aqueduct dating from 1830, two railroad tunnels and three stone arch railroad bridges. The Conemaugh Dam Trail is a 3.3 mile recreational non-motorized hiking and biking trail that follows portions of an abandoned Pennsylvania Railroad

line that operated along the corridor in the early 1900's and portions of the historic Pennsylvania Main Line Canal that operated in the 1800's and is now registered on the National Register of Historic places.

2.10 Demographics

2.10.1 Market Area

The projects receive visitors from neighboring counties and although they are well suited to provide overnight accommodations for cross-country trips, the majority of visitors are local. Westmoreland and Allegheny Counties have higher income and education levels than other adjacent counties, resulting in higher recreational demand for those populations. Furthermore, since Conemaugh River Lake is also located on the Westmoreland and Indiana county borders, it is likely to attract users in Indiana County as well. As such, the market area for this analysis is focused on those three counties.

2.10.2 Population

Westmoreland County, Indiana County, and Allegheny County were identified for demographic analysis due to the size of the project, its geographic setting, and data collected about the surrounding counties. Westmoreland County has an area of 1,027.55 square miles with a population density of 355.4 persons per square mile and is the county in which Loyalhanna Lake is located. Indiana County has an area of 827.03 square miles with a population density of 107.5 people per square mile and is the county in which Conemaugh River Lake is half located. Allegheny County has an area of 730.08 square miles with a population density of 1,675.6 persons per square mile, the highest density among the 7 counties in closest proximity to the project. The other counties surrounding Loyalhanna Lake and Conemaugh River Lake are more sparsely populated with Cambria County having a population density of 208.7 persons per square mile and the others having fewer than that.

While the total population of Pennsylvania has grown 3.43 percent since 2000, the populations in Westmoreland County, Indiana County and Allegheny County have declined slightly (Table 2-2). Population growth within the state over the past decade has primarily occurred in the eastern and southern counties. The slight decline in population for Westmoreland County, Indiana County, and Allegheny County is characteristic of the region. Of the 25 westernmost counties in Pennsylvania, only Forest County has experienced growth in the last 10 years. Despite this regional population decline, Allegheny County is still a major urban center for the state and outdoor recreation continues to be in high demand for the region as a whole. Loyalhanna Lake and Conemaugh River Lake are two of many outdoor recreation locations available to the residents from this highly urbanized area.

Table 2-2. 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					

The population of Westmoreland County is projected to grow by approximately 4.2 percent by the year 2030 (Table 2-3). The population of Indiana County is projected to continue declining by a total of 25.6 percent by the year 2030. Allegheny County is also projected to continue shrinking by a total of 7.4 percent by the year 2030. This is consistent with Allegheny County's drop in population from 2000 to 2010 by 4.52 percent, but shows an accelerated decline in population for Indiana County which saw a drop in population of 0.72 percent from 2000 to 2012. Westmoreland County also saw a drop in population from 2000 to 2010 but by 1.31 percent, making a slight increase in population over the next 20 years feasible.

Table 2-3. 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							

The racial and ethnic makeup of Westmoreland County, Indiana County, and Allegheny County is primarily White at 95.2 percent, 95.1 percent, and 81.3 percent, respectively, with Black representing the largest minority group at 2.5 percent, 2.7 percent, and 13.3 percent of the population, respectively. Reflecting national trends, the Hispanic population is growing faster than other racial and ethnic populations. The Asian population is also growing at a fast rate, albeit not as fast as the Hispanic population.

The median age is 46.3 years old in Westmoreland County, 36.2 in Indiana County, and 41.0 in Allegheny County. The proportions of males to females in Westmoreland County, Indiana County, and Allegheny County are nearly the same as Pennsylvania at 51.1 percent female population, with 51.2 percent, 50.2 percent, and 51.8 percent female population in each county, respectively.

2.11 Economics

2.11.1 Income and Poverty Status

For the period of 2009 - 2013 the median household income in Westmoreland County was $50,736 with 10.2 percent of the population recorded below the poverty line. The median household income in Indiana County was $43,997, with 17.7 percent of the population recorded below the poverty line. The median household income in Allegheny County was $51,366, with 12.9 percent of the population recorded below the poverty line. Westmoreland County and Allegheny County are only slightly poorer than the state's average median household income of $52,548, but they have lower than the state's 13.3 percent of the population recorded below the poverty line. Indiana County is further from the state's average median household income and has a higher percentage of its population recorded below the poverty line.

2.11.2 Area Industries

Westmoreland County and Allegheny County are fairly similar with regards to primary industries of employment. The health care and social assistance industry is the largest employer in both Westmoreland Allegheny Counties followed by the retail trade industry. In Indiana County, the health care and social assistance industry comes second to the retail trade industry for largest employer. This can be partially attributed to the growing health programs at universities in Allegheny County. The following tables list the major industries and employment numbers for each County.

Table 2-4. Employment and Wages by Industry in Westmoreland County (for Persons Over the Age of 16) (2013 Average Annual Values)

NAICS Industry Sector	Employer Units	Employment	County Wage	PA Wage
Total , All Industries (Private, Federal, State, Local Government)	9,178	132,095	$39,502	$49,077
Agriculture, Forestry, Fishing and Hunting	38	319	$27,042	$30,760
Mining	37	782	$82,558	$78,194
Utilities	8	323	$85,264	$103,368
Construction	900	6,782	$47,865	$56,834
Manufacturing	551	17,782	$53,262	$56,703
Wholesale Trade	431	6,353	$51,493	$72,528
Retail Trade	1,189	18,327	$25,126	$25,767
Transportation and Warehousing	231	7,482	$39,114	$41,323

NAICS Industry Sector	Employer Units	Employment	County Wage	PA Wage
Information	77	1,255	$44,405	$69,170
Finance and Insurance	487	3,019	$49,807	$80,733
Real Estate and Rental and Leasing	244	1,109	$36,034	$51,219
Professional and Technical Services	695	5,198	$61,503	$82,864
Management of Companies and Enterprises	64	2,175	$106,251	$115,092
Admin/Support, Waste Mgmt/Remediation Srvs	403	5,283	$31,514	$32,307
Educational Services	79	1,668	$42,312	$53,338
Health Care and Social Assistance	1,497	19,246	$36,939	$45,099
Arts, Entertainment, and Recreation	147	2,086	$17,928	$29,964
Accommodation and Food Services	753	12,676	$12,918	$16,235
Other Services, except Public Administration	892	4,957	$22,691	$29,246
Unclassified	0	0	$0	$0
Federal Government	95	797	$56,726	$68,134
State Government	35	2,560	$56,420	$54,668
Local Government	327	11,918	$43,399	$46,453

Table 2-5. Employment and Wages by Industry in Indiana County (for Persons Over the Age of 16) (2013 Average Annual Values)

NAICS Industry Sector	Employer Units	Employment	County Wage	PA Wage
Total , All Industries (Private, Federal, State, Local Government)	2,056	32,732	$42,360	$49,077
Agriculture, Forestry, Fishing and Hunting	28	277	$26,707	$30,760
Mining	104	2,983	$65,924	$78,194
Utilities	14	885	$100,663	$103,368
Construction	178	1,836	$56,535	$56,834
Manufacturing	82	2,128	$43,433	$56,703
Wholesale Trade	94	1,022	$47,554	$72,528
Retail Trade	271	4,793	$24,367	$25,767
Transportation and Warehousing	51	767	$28,495	$41,323
Information	18	351	$40,793	$69,170
Finance and Insurance	101	964	$49,209	$80,733
Real Estate and Rental and Leasing	46	217	$26,236	$51,219
Professional and Technical Services	118	664	$44,118	$82,864
Management of Companies and Enterprises	24	816	$75,113	$115,092
Admin/Support, Waste Mgmt/Remediation Srvs	65	659	$30,331	$32,307
Educational Services	20	276	$39,074	$53,338
Health Care and Social Assistance	330	4,397	$36,333	$45,099
Arts, Entertainment, and Recreation	22	192	$14,905	$29,964
Accommodation and Food Services	160	2,693	$11,818	$16,235
Other Services, except Public Administration	181	1,325	$32,279	$29,246

NAICS Industry Sector	Employer Units	Employment	County Wage	PA Wage
Unclassified	0	0	$0	$0
Federal Government	44	200	$48457	$68134
State Government	22	2,532	$64,025	$54,668
Local Government	85	2,756	$40,668	$46,453

Table. 2-6. Employment and Wages by Industry in Allegheny County (for Persons Over the Age of 16) (2013 Average Annual Values)

NAICS Industry Sector	Employer Units	Employment	County Wage	PA Wage
Total , All Industries (Private, Federal, State, Local Government)	34,376	684,281	$54,003	$49,077
Agriculture, Forestry, Fishing and Hunting	23	138	$16,522	$30,760
Mining	73	2,349	$122,446	$78,194
Utilities	48	2,461	$100,777	$103,368
Construction	2,614	27,197	$58,086	$56,834
Manufacturing	1,153	36,644	$61,851	$56,703
Wholesale Trade	1,964	21,614	$68,836	$72,528
Retail Trade	4,157	72,391	$27,917	$25,767
Transportation and Warehousing	602	17,314	$44,917	$41,323
Information	521	12,522	$73,154	$69,170
Finance and Insurance	2,067	46,662	$76,363	$80,733
Real Estate and Rental and Leasing	1,192	9,062	$50,334	$51,219
Professional and Technical Services	4,058	55,734	$81,570	$82,864
Management of Companies and Enterprises	392	28,785	$127,286	$115,092
Admin/Support, Waste Mgmt/Remediation Srvs	1,700	36,545	$33,084	$32,307
Educational Services	449	34,427	$54,889	$53,338
Health Care and Social Assistance	5,092	121,441	$50,816	$45,099
Arts, Entertainment, and Recreation	530	13,748	$45,816	$29,964
Accommodation and Food Services	3,129	56,406	$16,729	$16,235
Other Services, except Public Administration	3,752	24,017	$30,996	$29,246
Unclassified	0	0	$0	$0
Federal Government	164	12,495	$72,072	$68,134
State Government	41	4,819	$50,954	$54,668
Local Government	658	47,512	$50,581	$46,453

2.11.3 Economic Impact of Recreation Related Spending

The Corps provides water-based recreation opportunities throughout the country, providing economic benefits to the local and regional communities in which Corps projects exist. To estimate the economic impact from the recreation-related spending at these projects, the Corps' Institute for Water Resources, in collaboration with the Louis Berger Group and Michigan State University, have developed a regional economic impact modeling tool called RECONS

(Regional ECONomic System). This modeling tool automates calculations and generates estimates of jobs and other economic measures, such as income and sales associated with the Corps' ARRA and Civil Works program spending and secondary effects for Ports, Inland Water Way, FUSRAP, and Recreation. This is done by extracting multipliers and other economic measures from more than 1,500 regional economic models that were built specifically for Corps project locations. For 2015, RECONS shows an estimated 184,321 visits (person-trips) at Loyalhanna Lake, which resulted in direct benefits to the region of $1.78M in sales, $594,000 in labor income, $935,000 in economic value added, and 21.4 jobs supported. Likewise, at Conemaugh River Lake 83,957 visits (person-trips) resulted in direct benefits to the region of $803,000 in sales, $280,000 in labor income, $444,000 in economic value added, and 12.8 jobs supported in the region.

2.12 Recreation Facilities, Activities and Needs

The Lakes offer a wide variety of facilities including a campground, day use and picnic areas, boat ramps, information center, and multi-use trails provided by the Corps and partners. The Lakes have been providing facilities for water-based recreation, such as boating and kayaking, and multi-use trail users, such as cyclists and hikers.

2.12.1 Zones of Influence

The primary area of influence encompasses the Greater Pittsburgh Metropolitan and Indiana Micropolitan areas. This region has been utilized as the basis in summarizing the population of the Lakes. The Greater Pittsburgh Metropolitan Area, in which Loyalhanna Lake and half of Conemaugh River Lake is located, had a total population of 2,356,285 in the 2010 census and accounted for 18.5% of Pennsylvania's total population. This area saw a -3.1% decline in population since the 2000 census continuing the regional decline that has been ongoing since the 1940s. The Indiana Micropolitan Area, which coincides with Conemaugh River Lake's northern half, has experienced approximately 11% in growth since the 1940s and a minor decline of -0.8 percent in population from 2000 (89,605) to 2010 (88,880), accounting for 0.7% of the total State population.

2.12.2 Visitation Profile

The Lakes are recreational destinations for visitors within and around Allegheny, Armstrong, Westmoreland and Indiana Counties. The majority of visitors have typically come from within a 30-mile radius. However, the distance visitors are traveling to the Lakes is increasing due to the growing popularity of both paddle craft activities (i.e. canoeing, kayaking, paddle boarding, etc.) and biking. Table 2-7 shows the recreational activity by visitation for the Lakes.

Table 2-8. Recreational Activity by Visitation

Recreational Activity*	Loyalhanna Lake	Conemaugh River Lake
Picnicking	4.4%	7.2%
Camping	1.3	0.0%

Water Skiing	0.6%	0.0%
Boating	6.9%	4.4%
Sightseeing	15.3%	21.8%
Fishing	22.5%	25.8%
Hunting	37.0%	35.3%
Other Activity	19.7%	32.5%

*Recreational activity percentages will total above 100% to accommodate those visitors that participate in multiple activities per visit

Loyalhanna Lake hosts the typical, traditional recreational visitor that may utilize pavilions for picnicking, an unrestricted-horsepower designated lake for boating, Bush Recreation Area for camping, and other day use activities. Conversely, Conemaugh Lake has developed more specialized recreational activities such as regional mountain biking/hiking trails and paddle craft, handicap-only hunting, and powered boating that complement traditional recreational activities which also can provide for greater visitation to both lakes.

2.12.3 Recreation Analysis

While visitation in recreation areas remains robust, there are indications that there is new demand for upgraded facilities and non-traditional recreation opportunities. Recreation has modernized since the Bush Recreation Area Campground at Loyalhanna Lake was constructed. Campers have transitioned from primitive campsites to sewer, water and 50 amp electrical service hookups, concrete sites, wireless internet, and more. Bush Recreation Area features 44 sites of which 28 sites are primitive, 12 have water and electrical hookup, and 4 electrical-only sites with a mixture of 30 or 50 amp service. Conemaugh River Lake has a single car-top boat launch for non-motorized boats. According to the Pennsylvania State Comprehensive Outdoor Recreation Plan (SCORP), the popularity of rental cabins/all-season shelters, on-road bike lanes, natural and wild areas, dog parks, bicycle paths, rail trails, and wildlife viewing areas are growing. While the Lakes offer a few of these desired activities (Conemaugh River Lake's West Penn Trail and Bow Ridge Recreation Area), the rest are recreational demands not met by the Lakes.

Comment cards and verbal opinions expressed to staff indicate that the District-wide recreating public place a higher priority on the operation and maintenance of pre-existing recreational features and assets. Facilities and recreation demands have become more upscale than the facilities typically found in Corps-operated parks. There is also an increasing demand for water related recreation activities. Increased sedimentation, degraded water quality, and decreasing air quality have the potential to make conditions unsustainable and undesirable for water related recreation the Lakes.

2.12.4 Recreational Carrying Capacity

Carrying capacity, which includes both an environmental dimension (how much use can the resource support without being compromised) and a social dimension (how much use can occur before the quality of visitor experience is diminished), is currently balanced at the Lakes. However, there are rare occasions each year when the demand for boating activities exceeds the

capacity of parking at Loyalhanna Lake's Bush Recreation Area. Furthermore, ongoing sedimentation of Loyalhanna Lake is contributing to reduced water surface available for safe boating. Lastly, demand for reserved pavilion space often exceeds available supply and may result in turning away recreational visitors. The construction of additional pavilions will alleviate the constricted supply of these assets while also providing greater opportunity for more visitors to picnic and participate in additional recreational activities. Plans and studies may be required to account for sedimentation changes, balancing recreational diversity, and accommodating new demands within a developed footprint in a manner that is environmentally and economically sustainable.

2.13 Related Recreational, Historical and Cultural Areas

The Lakes are located in the Laurel Highlands region of the Allegheny Mountains and are in close proximity to a multitude of outdoor recreation opportunities. Regional recreation resources in the region include the Corps' Crooked Creek Lake, Keystone, Galitzin, Laurel Hill and Yellow Creek State Parks, Roaring Run Natural Area, Forbes State Forest and PA Gamelands 79, 42, 248, 185, 276 and 153. Additionally, there are many county, local and municipal parks within a 30 mile radius of both lakes.

There are several dozen trails within Westmoreland and Indiana counties that were developed for ADA access, ATVs, biking, cross country skiing, equestrian, off-road vehicles, hiking, snowmobiling, paddling, and educational purposes. These trails are a major recreational feature for the region and three are designated National Recreation Trails (NRT) by the Department of the Interior: the Roaring Run Trail (NRT) is approximately 5.5 miles in length (including a 1 mile spur) and was at first a canal towpath converted to a railway corridor and runs adjacent to the Kiskiminetas River with remnants of canal lock Number 15 and a destroyed dam due to an 1866 flood; the West Penn Trail (NRT) is a 5-section, 17-mile rail trail that crosses over Conemaugh River Lake, Bow Ridge and Conemaugh Recreation Areas. The West Penn Trail is operated and maintained by the Conemaugh Valley Conservancy and is a portion of the 320-mile Pittsburgh-to-Harrisburg Main Line Canal Greenway. The Conemaugh River Lake section (4.5 miles) provides passage over the lake via four stone arch railroad bridges dating back to the early 1900s. The Bow Ridge section (2 miles) offers a challenging switchback steep topography for hikers and bikers while passing two historic railway tunnels and a hydroelectric plant. The Dick Mayer section (2.2 miles) runs adjacent to Conemaugh Dam and through the Conemaugh Recreation Area and also features challenging topography for users; and the Kiski-Conemaugh Water Trail (NRT) features an upper section from Johnstown, PA to Blairsville, PA and a lower section from Blairsville, PA to Freeport, PA providing a total of 86 river miles from start to finish. The Kiski-Conemaugh Water Trail is a key portion in the Pittsburgh-to-Harrisburg Main Line Canal Greenway as well. Lastly, the Loyalhanna Creek Water Trail that runs from Ligonier, PA to Saltsburg, PA for 36 miles of both flat and whitewater through scenic ravines to Loyalhanna Lake offering open views for birds and wildlife. More information on NRTs can be found at www.americantrails.org.

2.14 Real Estate and Acquisition Policy

The total project real estate at the Lakes encompass 12,659 acres (3,704 acres at Loyalhanna Lake and 8,955 acres at Conemaugh River Lake), of which 11,135 acres (3,624 and 7,511) are fee land title and the remaining acres are in easements to the United States, predominately flowage easements with some road and access easements. There are no known mineral tracts at Loyalhanna Lake, however multiple mineral tracts were acquired for Conemaugh River Lake, which are administered by the U.S. Bureau of Land Management.

During project construction, the purchase of fee property was calculated based on the projected total storage elevation. Both projects utilized the 975 feet NGVD29 elevation point for this, with an additional two feet added at Conemaugh River Lake. Although properties were originally acquired to the banks of Loyalhanna Creek, research shows that Loyalhanna Creek is non-navigable, and the title to each tract would go to the centerline of the original creek, which increases the acreage from the original acquisition totals by approximately 375 acres.

3. Resource Objectives

The Corps' vision for the future management of the land, water and recreational resources of the Lakes is to protect, conserve and sustain natural and cultural resources, particularly environmentally sensitive resources, and provide quality outdoor recreation opportunities that complement project resources for the benefit of present and future generations. This vision relies heavily upon the wealth of federal, state, and regional plans that detail resource-specific management objectives and goals for the Upper Kiskiminetas-Conemaugh River watershed and its natural resources.

This vision is supported by the following broad management goals:

- Practice environmental stewardship of the Corps lands and waters consistent with the primary authorized purpose of flood risk management;
- Identify and protect environmentally sensitive species, habitats, and landscapes;
- Identify and protect important cultural resources;
- Improve water quality in the Lakes;
- Identify outdoor recreation needs and provide those that complement the natural resources;
- Manage public use areas to provide safe and enjoyable opportunities;
- Collaborate with community leaders;
- Maintain open communication with the public; and
- Create partnerships to leverage fiscal resources.

These goals are further refined below, using clear statements that set forth measurable and attainable, current and future, management and development activities supported by the EOPs, and applicable national performance measures. Each management and development activity (MDA) has a current and future component. The current component is the near-term focus of the current Master Plan and should be the impetus of efforts of this review cycle (i.e. five years). The future component is the long-term focus to be addressed in subsequent reviews (i.e. 5+ years).

3.1 Environmental Stewardship

There are a number of priorities within the Environmental Stewardship Program (ENS) to ensure success: Priority 1 is to comply with all pertinent laws, regulations and policies including the Endangered Species Act, Clean Water Act, National Historic Preservation Act, National Environmental Policy Act, and other related environmental laws and regulations. Priority 2 is to inform environmental management decisions by collecting additional data through surveys, inventories and monitoring. Priority 3 is to develop flora and fauna survey protocols and an inventory program. Priority 4 is to improve proactively the quality of the environment within the project area, including water quality and habitat quantity, quality and connectivity. However, if

information becomes available about where habitat quality improvements should be focused, then this objective's priority is to be raised to priority 2 until improvements are completed.

ENS MDA 1: Monitor lands for invasive and exotic species and take action to prevent and/or reduce the spread of these species; species of concern include autumn olive, multiflora rose, Japanese honeysuckle, Bell's honeysuckle, and Japanese knotweed.

Current	Future
Monitoring; develop methodology for sustainable treatment	Employ sustainable treatment methods for in-house/contract or partnerships to treat identified areas of concern

ENS MDA 2: Protect and/or restore important native vegetation associations such as riparian vegetation, bottomland hardwoods, and wetlands where they occur, or historically occurred, on Project lands.

Current	Future
Annual restoration of natural communities; develop plan/methodology for sustainable natural development	Employ sustainable natural development methods for in-house/contract or partnership to treat identified areas of concern
Carefully evaluate land use requests such as road and utility easements, including rights of way requests for gas pipelines, to avoid unnecessary resource damage or negative effects on public use; ensure that all alternatives are considered	Analyze/study corridors for pipeline development to effectively avoid, minimize, and compensate for impacts to Corps-managed resources and their values, services, and functions.
Establish and implement flora and fauna survey protocols	Utilize survey data and best available scientific data to make informed natural resource management decisions

ENS MDA 3: Identify and protect environmentally sensitive species, habitats, and landscapes. Proactively manage habitats to protect Special Status Species which include: Federal and State listed endangered and threatened species, bald and golden eagles, migratory species, birds listed by the U.S. Fish and Wildlife Service (USFWS) as Birds of Conservation Concern, and other species and their habitats identified in listings compiled by state natural heritage programs as declining or potentially endangered.

Current	Future
Monitor and identify significant/unique natural and cultural resources	Utilize data to establish natural and cultural resources interpretation programs
Continue water quality improvement in the Lakes by monitoring for shoreline erosion and sedimentation	Pursue sustainable reservoir sediment-management plans; revegetate or place rip-rap in areas of serious shoreline erosion

Provide/promote education and interpretation of natural and cultural resource assets	Utilize academic resources to identify unknown cultural resources and determine significance/uniqueness; complete/update Cultural Resource Management Plans; coordinate/utilize academic resources to design interpretive programming for educational use/awareness for visitors and community
Identify and assess all current encroachments and trespassing issues at lakes.	Eliminate encroachments and trespassing by maintaining an easily recognized Federal property boundary line

3.2 Recreation

Priorities for recreation-related objectives are focused primarily on maintaining existing facilities and ensuring public safety. A unique aspect of this focus is the unofficial recreation that occurs at the Lakes. Some areas have developed a regional reputation for certain activities that are not designated by the Corps or the Master Plan. A second priority is to improve existing facilities to modernize them and address user needs. The third priority is expanding recreation opportunities to include development of new facilities and provide additional recreation opportunities within the project area if demanded. The expansion of recreation opportunities does not preclude the removal of other recreational assets and facilities if the demand for pre-existing recreational assets is reduced.

Recreation MDA 1: Address current recreational deficiencies and provide opportunity for future improvement in areas of public/regional interest.

Current	**Future**
Identify unique outdoor recreation needs that complement the natural resources and existing recreational amenities	Develop complementing and unique recreational opportunities with focus on winter/off-season to increase visitation
Manage public use areas to provide safe and enjoyable opportunities; maintain and refresh water safety program	Conduct safety inspection/study of all recreation assets, determine deficiencies according to EM 385-1-1 and EM 1110-1-400 and meet compliance
Investigate the placement of shoal buoys where appropriate	Conduct study for boat carrying capacity, sedimentation control/removal; implementation of boating restrictions if current conditions prevail
Maintain and improve current, existing recreational facilities and assets	Upgrade/modernize facilities; improve and expand opportunities for low-impact recreation (hiking, birding, nature study) by developing trails and wildlife viewing stations; create a public boat launch for motorized and non-motorized craft at

	Conemaugh, expand boat launch at Bush Rec Area at Loyalhanna; develop Bow Ridge into a day-use area as planned in 1952 MP
Study and determine accessibility deficiencies and improvements to meet universal accessibility needs for all ages, ethnicities and physical needs	Provide universal access for all recreation assets minimally to meet EM 1110-2-410
Identify ongoing "unofficial" recreational activities (fishing spots, swimming area, etc.)	Supplement the Master Plan to recognize the significant areas identified and ensure they receive consideration during future development

3.3 Partnerships and Strategic Communication

Partnering and worthwhile communication has become increasingly necessary in maximizing the use of funding sources and completing projects. The main priority is moving toward a future climate of collaboration between not only public entities, but also non-profit groups and private companies. This will be vital to maintaining and improving the management of land, water, and recreational resources of the Lakes.

Partnership MDA 1: Become involved in regional/district activities and decision-making with the purpose of becoming an integral asset to all.

Current	**Future**
Communicate with community leaders regarding agency missions and activities	Collaborate with community leaders on shared activities, plans (such as trails) that make Conemaugh/Loyalhanna part of the regional destination; organize an annual public open house event
Create partnerships to leverage fiscal resources and expertise - working with federal and state agencies to supplement programs and in-house knowledge, with environmental, tourism, recreational, educational and community organizations, non-profit and private groups	Organize annual meetings with project partners or regional project meetings with partners leading to collaborative efforts; provide leveraged resources for future work
Participate in watershed management efforts and manage ground-disturbing activities on project lands to improve water quality	Work with Water Quality Section to set new water quality standards (quantitative measurement) and assist state agencies in meeting their plan objectives
Partner with local emergency management agencies and volunteer fire departments water rescue teams in mock rescue exercises (including special exemptions for utilizing motorized rescue craft at Conemaugh Lake)	Continue coordination and partnership with local emergency management and volunteer fire departments to ensure open communication during disaster events, sponsor additional training and mock exercise scenarios

4. Land Allocation, Land Classification, Water Surface and Project Easement Lands

This Master Plan is to guide the comprehensive management and development of recreation, natural, and cultural resources at the Lakes and define the Corps' responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop lands, waters, and resources. An important aspect in managing these goals is properly defining the appropriate use for lands and water surface consistent with their congressionally authorized purpose.

4.1 Land Allocation

In accordance with Engineer Pamphlet (EP) 1130-2-550 land allocations identify the authorized purposes for which Corps lands were acquired. There are four categories of allocation:

- Operations: These are the lands acquired for the congressionally authorized purpose of constructing and operating the project. All land at the Lakes are included in this allocation.

- Recreation: These lands were acquired specifically for the congressionally authorized purpose of recreation. These lands are referred to as separable recreation lands. Lands in this allocation can only be given a land classification of "Recreation".

- Fish and Wildlife: These lands were acquired specifically for the congressionally authorized purpose of fish and wildlife management. These lands are referred to as separable fish and wildlife lands. Lands in this allocation can only be given a land classification of "Wildlife Management".

- Mitigation: These lands were acquired specifically for the congressionally authorized purpose of offsetting losses associated with development of the project. These lands are referred to as separable mitigation lands. Lands in this allocation can only be given a land classification of "Mitigation".

4.2 Land Classification

The guidance further defines land classifications to provide for development and resource management consistent with authorized purposes and other Federal laws. The previous Master Plan uses an obsolete classification scheme that has been rectified in this document to meet current standards. Currently, there are six categories of classification identified as:

- Project Operations
- High Density Recreation
- Mitigation
- Environmentally Sensitive Areas
- Multiple Resource Managed Lands
- Water Surface

The classification process refines the land allocations to fully utilize project lands and considers public desires, legislative authority, regional and project specific resource requirements, and suitability. Land classification indicates the primary use for which project lands are managed. The Lakes manage lands according to five of the above six classifications. There have been no changes to land management activities, however the system for classification has been realigned to meet current standards. Appendix A, Plates 6 and 7 illustrate the land classifications for the Lakes.

4.2.1 Project Operations

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

Acreage: Loyalhanna: 14; Conemaugh: 13

4.2.2 High Density Recreation

These lands are designated for intensive levels of recreational use to accommodate and support the recreational needs and desires of visitors. They include lands on which existing or planned major recreational facilities are located and allow for developed public recreation facilities, concession development, and high-density or high-impact recreational use. In general, any uses of these lands that interfere with public enjoyment of recreation opportunities are prohibited. Low-density recreation and wildlife management activities compatible with intensive recreation use are acceptable, especially on an interim basis. No agricultural uses are permitted on those lands except on an interim basis for maintenance of scenic or open space values. Permits, licenses, and easements are not issued for non-compatible manmade intrusions such as pipelines; overhead transmission lines; and non-project roads, except where warranted by the public interest and where no viable alternative area or route is available. Appendix A, Plates 8 and 9 show the recreation features at both Projects.

Acreage: Loyalhanna: 64; Conemaugh: 55

4.2.3 Environmentally Sensitive Areas

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

Acreage: Loyalhanna: 19; Conemaugh: 68

4.2.4 Multiple Resource Management Lands

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

- **Low Density Recreation.** These lands are designated for dispersed and/or low- impact recreation use. Development of facilities on these lands is limited. Emphasis is on providing opportunities for non-motorized activities such as walking, fishing, hunting, or nature study. Site-specific, low-impact activities such as primitive camping and picnicking are allowed. Facilities may include boat ramps, boat docks, trails, parking areas and vehicle controls, vault toilets, picnic tables, and fire rings. Manmade intrusions, including power lines, non-project roads, and water and sewer pipelines, may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management, including agricultural activities that do not greatly alter the natural character of the environment, are permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Hunting and fishing are allowed pursuant to tribal or state fish and wildlife management regulations where these activities are not in conflict with the safety of visitors and project personnel.

  Acreage: Loyalhanna: 3,532; Conemaugh: 7,375

- **Future or Inactive Recreation Areas.** This sub-classification consists of lands for which recreation areas are planned for the future or lands that contain existing recreation areas that have been temporarily closed

  Acreage: Loyalhanna: 0; Conemaugh: 0

4.2.5 Water Surface

There are four possible sub-classifications. See Appendix A, Plates 8 and 9 which displays water surface classifications.

- **Restricted.** Water areas restricted for project operations, safety, and security purposes.

  Acreage: Loyalhanna: 4; Conemaugh: 20

- **Designated No-Wake.** To protect environmentally sensitive shoreline areas, recreational water access areas from disturbance, and/or public safety.

  Acreage: Loyalhanna: 26; Conemaugh: 0

- **Fish and Wildlife Sanctuary.** Annual or seasonal restrictions on areas to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning.
  Acreage: Loyalhanna: 0; Conemaugh: 0

- **Open Recreation.** Those waters available for year-round or seasonal water-based recreational use.

  Acreage: Loyalhanna: 501; Conemaugh: 1,328

4.3 Easement Lands

These are lands on which easement interests are held but no fee title ownership was acquired. There are 79 acres of easement lands at Loyalhanna Lake and 498 acres at Conemaugh River Lake; these consist of flowage easements and road easements.

4.3.1 Flowage Easement

These are easements purchased by the Corps which grants the right to temporarily flood private land during flood risk management operations. The purpose of these easements is to provide adequate storage for flood waters.

4.3.2 Roadway Easement

Generally, roadway easements allow the government to operate and maintain roadways and associated parallel utility lines to allow government and public access to Corps-managed lands. In certain situations it may be in the interest of the government to acquire roadway easements as fee owned lands so that the Corps can more effectively manage access to government lands.

4.3.3 Outgrants

The Corps leases Federally-owned lands at Loyalhanna Lake and Conemaugh River Lake to state and local agencies for recreational purposes. These leases, often referred to as "outgrants," specify what types of activities are allowed on Federal lands. When the Corps utilizes one of these lease mechanisms (including real estate licenses and easements) all Federal regulations still apply. Outgranted lands can provide additional recreational opportunities to the general public. Examples of outgranted recreational lands include: Conemaugh River Lake's Virginia Farms which is managed through an outgrant with the PAGC.

5. Resource Plan

The resource plan describes, in broad terms, how project lands will be managed according to the established land classifications. Each classification is discussed in terms of anticipated public use and resource stewardship needs.

5.1 Classification and Justification

The Lakes land classifications are:

- **Project Operations.** Lands required for the dam, spillway and other areas that are used solely for operation of the projects.
- **High Density Recreation.** Lands developed for intensive recreational activities
- **Environmentally Sensitive Areas.** Areas including scientific, ecological or cultural features such as those protected under ESA, NHPA or other laws.
- **Multiple Resource Managed Lands.** Includes areas of low density recreation, wildlife management, vegetative management, and future/inactive recreation areas.
- **Water Surface.** Water surface areas restricted for project operations, no-wake zones, used for open recreation, or restricted for fish and wildlife sanctuary.

Further details for managing these lands will be included in the Operational Management Plans (OMP) for each project, as revised. Management tasks described in the OMP will support the resource objectives, land classifications, and resource plan set forth in this Master Plan. While the following sections address specific plans for the land classifications listed above, at all project lands the Corps will strive to meet universal project goals which include taking proactive measures to enhance universal access to lands and facilities, improvement of safety for visitors, and identification and elimination of encroachments and trespassing. In addition, the Corps will seek to identify important "unofficial" recreation activities and sites such as undeveloped shoreline fishing areas, swimming areas outside of developed beaches, or other favorite areas used by recreationists. As development occurs in the future, the Corps will seek to protect these areas and may require mitigation for development actions that would negatively impact these sites. As these sites are identified, they will be included in future updates to the joint Master Plan and may also be included in OMPs.

5.1.1 Project Operations

This category includes those lands required for operation of the dam, spillway, and outlet works at the Lakes. The management plan for these areas is to continue providing physical security necessary to insure continued operations of the dam and related facilities. Public access to these areas is often restricted. Mooring private vessels and / or modification of land and vegetation within this area is prohibited without explicit permission. These areas may at times be used for compatible recreation activities and wildlife management as long as the proposed activities do not negatively impact project operations. Requests for a permit for a compatible use within an

area designated for project operations will be evaluated on a case-by-case basis and a decision will be made as to whether or not the proposed activity will be permitted based on the potential impacts to operations.

5.1.2 High Density Recreation

Lands developed for intensive recreational activities for the public are considered as high density recreation including day use areas, campgrounds, commercial concessions (marinas, restaurants, etc), and quasi-public development (see Table 5-1). The facilities in these areas will accommodate the recreation needs of visitors in concentrated numbers, while also offering open space lands for the purpose of providing more complete and attractive recreation areas. Maintaining existing park and recreation facilities was the top priority of respondents noted in the Pennsylvania SCORP. The maintenance of Corps park and recreation facilities is a challenge for a multi-mission national agency. If maintenance funding was increased or available from other sources (such as contributed funds and/or jointly managed with an external partner), the modernization of park and recreation facilities would be a top priority for many assets that have surpassed their useful lifetime and efficiency. The modernization of campsites and recreation facilities is anticipated to occur on a funds-available basis. Modernization may include hardening/leveling campsites, upgrading electrical and plumbing infrastructure, adding or upgrading restroom and shower facilities, and adding or expanding roads and parking lots to provide better access and accommodate additional visitors. Future possibilities for expansion of these areas include expansion of trail systems, development of designated boat and jet-ski parking, conversion of primitive campsites to sites with electric and water hook-ups for RVs, and expansion of additional park features. Requests for permits to conduct concessions, rentals, or conducting any other business in these areas will be reviewed on a case-by-case basis and will involve real estate agreements and fee payment to the Corps.

Given the difficulty of maintaining current facilities, the development of modern facilities demanded by recreational visitors will likely include partnering with stakeholders to share in the cost, operation and maintenance of any such asset.

There have also been public requests for a new boat ramp with unrestricted access at Conemaugh. To meet this request, the Corps would have to change the conditions of the two pre-existing launches or find a location elsewhere within the fee boundary. However, those locations would require working with partners to either lease with or at a minimum share the cost of development, operation and maintenance of a new boat launch. The most promising alternative would be access and development of a boat launch via Newport Road (S.R. 3009) at a PAGC hunting/land access point. However, the entire area outside the boundary of the road is operated and maintained for hunting purposes only. This presents safety challenges that would have to be reviewed and solved by resolving competing uses of the area. The second location is primarily used for underground natural gas pipeline transmission. The point of access is also on Newport Road nearly a mile south of the PAGC hunting/land access point. As alluded to, this

area is operated and maintained for the transmission of natural gas. However, the Corps, via real estate in-kind contribution authority, may be able to partner with the gas pipeline owner to develop a public boat launch in lieu of more typical real estate transactions. Again, it would require dovetailing competing interests for a common good.

Table 5-1. High Density Recreation Areas at Loyalhanna Lake and Conemaugh River Lake

Loyalhanna Lake		Conemaugh River Lake	
Recreation Area	**Acres**	**Recreation Area**	**Acres**
Cardinal Park	12	Dam Site Recreation Area	15
Kiski Group Camp Site	1	Blairsville Parks*	253
Bush Recreation Area	19		
Gray Wing Park	29		
Dam Picnic Area	3		
TOTAL	64	TOTAL	55

Cardinal Park. Approximately 12 acres of project lands are in use as a recreational area serving Latrobe's North Side district. This area is currently under lease to Latrobe-Unity Parks and Recreation. This site currently features a parking area, walking paths, basketball courts, soccer fields, concession stands, and a large mowed area used for community events.

Kiski Group Camp Site. This is a 1 acre primitive group campground adjacent to Bush Recreation Area that is available to organized groups. Approximately 1 acre is mowed and contains fire rings, picnic tables, and hand-carved benches. The site is secluded and sees usage from organized groups (such as Boy Scouts) approximately 6 weekends throughout the year. The site does not have a shelter, running water, or bathroom facilities. In the near future the site is anticipated to remain primitive, unless a contributed funds partner is found.

Bush Recreation Area. This park contains approximately 18 acres and includes tent and RV camping facilities, a pavilion, a boat launch, and boat trailer parking. Project staff facilitated high-efficiency, self-composting restroom upgrades in the Bush Recreation Area that has reduced the operations and maintenance costs associated with the rental of portable restrooms and disposal of waste while creating safe, useable compost for general use. The site includes 44 campsites, 12 of which have water and electricity, and 4 of which have electricity only. However, the campsite water and electrical hookups are nearing or have exceeded their useful life. One of the most frequent suggestions from campground visitors is the request to have water and electrical hookups at all campsites. Restructuring camping options by increasing RV

campsites, adding cabins and reducing the number of tent campsites could meet user needs and result in enhanced utilization of the recreation area. However, an upgrade to the utilities and service entrance would be required in order to expand the number of sites with hookups.

In addition, this area sees heavy usage by boaters and high demand on the weekends for boat trailer parking. There is likely sufficient demand to consider expansion of the boat trailer parking area at this site, however, this would likely increase the number of recreational boaters on the site and cause concern for the safety of visitors. An additional concern regarding expansion of the recreational boat facilities is sedimentation within the lake. As sedimentation continues to accrue in the lake, it diminishes the area of water surface available for safe boating lanes and the number of total boats using the lake. Furthermore, sedimentation of the lake also reduces the volume the lake can hold thus lessening the project's flood risk management mission and capability. An additional tangential impact to the boat launch and parking lot are planned repairs to the Loyalhanna Dam service bridge which will have to utilize portions of the Bush Recreation Area and boat launch in which to launch work boats, store supplies and provide an area for temporary construction offices. While this effort may impact the full public use of the Bush Recreation Area temporarily, the Corps may be able to dovetail the end product to include expanded parking capacity for the boat launch. Additionally, a revitalization of the Black Willow Water Trail located on Loyalhanna Lake, and/or an incorporation of it into the Loyalhanna Water Trail with new interpretive brochure and stations for the boating public could enhance existing recreation at this site. Prior to any actions to expand these facilities, a boat capacity study to determine lake-boat density given demand (as well as lake sedimentation issues) should be undertaken. The boat capacity study could result in additional restrictions on recreational usage, motor horsepower limitations, etc., which may in turn reduce overall demand for those facilities.

Other safety concerns include campers utilizing the access roads through the campground for walking and biking activities. This may be alleviated by the development of a 1-mile or less walking/biking loop around the perimeter of the recreation area. There is also a possibility of developing a new trail that would connect Bush Recreation Area to the Gray Wing Park. This trail would likely be between 3 and 5 miles long depending on the path. Addition of playground facilities to the Bush Recreation Area is frequently requested by visitors and may be an area to target for future development. Outstanding maintenance needs at this site include replacement of the existing pavilion roof.

Gray Wing Park. This area is leased to the Borough of New Alexandria for use as a municipal park. The lease area is approximately 29 acres, 2 acres of which is mowed area and used for community festivals. On this parcel, the Borough also maintains a paved canoe/kayak launch. Plans exist to add a concrete slab to the boat access, add a hiking trail that connects to Keystone

State Park, and construct a pavilion for recreation. Preliminary, ongoing discussions with stakeholders have also suggested a hiking trail from this area to the Bush Recreation Area via lands leased to the PAGC. However, any additional development potential for this compartment may be restricted by slope, hydric soils, and periodic reservoir inundation.

Loyalhanna Dam Picnic Area. Approximately 3 acres at this site are used for high density recreation which includes facilities for parking, a playground, a rustic pavilion, picnic tables, charcoal grills, restroom facilities, a gazebo overlooking the dam, and an outflow fishing area. The pavilion is in need of total replacement or replacement of supporting timbers and new cedar shingles to maintain the current style of the structure. Electrical and water hookups may make increase the demand for its use or reservation, however, first-come usage seems to be most popular with users. The restroom is adequately functional but is nearing the end of its useful life. At a minimum, the restroom needs façade and aesthetic improvements to extend its lifetime. Similarly to Conemaugh's playground, the project staff is making piecemeal upgrades to the playground and this expected to continue until completion. The Fishermen's Trail and outflow fishing area has basic amenities to allow fishing activities to take place. Ideally, those engaging in the activity would like to see a restroom located closer to the area; fish cleaning station(s) are a possibility as well. Additionally, the existing trail could be improved to enhance recreation.

Conemaugh Damsite Recreation Area. Approximately 15 acres at this site are used for high density recreation. This day use area adjacent to the Dam is operated by the Corps and includes parking, picnic tables, reservable pavilions, restrooms, a playground, a ball field, a nature trail, and portions of the Bow Ridge and Dick Mayer sections of the West Penn National Recreation Trail. The information center at Conemaugh River Lake, while basically adequate for the dissemination of interpretive information on the Corps' mission and the Conemaugh River Lake project, is in need of updating using recent interpretation techniques and technology. The two pavilions, Livermore and Social Hall, provide electricity, water, grills and tables for public use. Visitors can either rent them thus securing a specific date or when not reserved, use them on a first-come basis. The only significant maintenance needed for these assets are new roofs. However, adding an additional pavilion at this site may be warranted in the future and should be considered based on usage. The playground at the Conemaugh Recreation Area is a mixture of older wooden playground pieces as well as newer plastic and metal playground components. As the wooden portions continue to age, it has become necessary to replace them with newer playground sections that are low or no maintenance. Lastly, the concessionaire building which currently provides storage for cleaning supplies and the recreation area's restrooms are minimally in need of façade and aesthetic upgrades. Ideally if an interested partner can be found to lease the concessions aspect of the building, they could modernize the facility for their business needs.

Blairsville Parks. This 253 acre allotment is under lease to the borough of Blairsville. This area includes baseball fields, concessions, undeveloped woodlands, and the Blairsville River Trail. While only a portion of this area is currently developed, the remaining areas within the allotment (which are currently comprised of woodlands) may be further developed in the future to accommodate additional recreational features.

5.1.3 Environmentally Sensitive Areas

Defining sensitive areas as part of the Master Plan process assists in the protection of valuable resources. These sites are mapped and managed by the Corps. The maps include locations of threatened and endangered species and cultural sites not available to the public. Many factors contribute to identifying sensitive areas. The degree of sensitivity varies by location and by contributing factors to sensitivity. An area may be available to construct a properly designed hiking trail, or may be actively managed by forest practices like timber stand improvement without negatively impacting the site's sensitivity. Other sites can be very sensitive to human disturbance and need adequate protection from development. Examples of this degree of sensitivity would involve eagle nests, osprey nests and heron rookeries. These animals are threatened by human activities especially during active breeding seasons.

The following occurrences on the landscape can contribute to areas being classified as sensitive. Oftentimes, multiple contributors to sensitivity exist on one area.

- Known or discovered cultural sites
- Large tract woodlands
- Mature woodlands
- Reforestations
- Wetlands identified in the National Wetlands Inventory
- Lands possessing unique wildlife value by diversity or conservative species
- Steep slope
- Aesthetic quality or aesthetic views (scenic)
- Corridors between habitats that protect connectivity (e.g. riverine woodlands)

Areas designated as sensitive can change over time and continued monitoring through programs like MSIM provide valuable information to keep identified sensitive areas current. Through the use of Geographic Information System (GIS) databases maintained with separated layers, the dynamic nature of sensitivity can be managed in an up-to-date program. Some areas may be highly sensitive to change; other areas need prescribed management to remain viable. The goal of sensitive area management is to protect and preserve known areas that contribute to the diversity and health of the project area. While the only Environmentally Sensitive Areas that currently exist at these two Projects are those containing archaeological resources, additional parcels may be added if resources of concern are identified through surveys or based on the results of a MSIM.

Approximately 19 acres at Loyalhanna Lake and 69 acres at Conemaugh River Lake 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. Archaeological sites at Loyalhanna Lake include the Loyalhanna Rock Shelter, Shieldsburg Site, New Alexandria Site, and Spring Site. Sites at Conemaugh include Tunnelview Historic Site, Bairdstown, Womweg Bridge, Fort Wallace, Cokeville, Isabella Furnace Company and LaMantia Stone Barn. These sites will be managed to protect these resources in accordance with the provisions of applicable laws including the Archaeological Resources Protection Act, National Historic Preservation Act, and Native American Graves Protection and Repatriation Act. Areas will continue to be surveyed for the presence of archeological resources when development activities are proposed to ensure that utilities placement, mining, installation of recreation features and other actions do not impact unknown resources. If additional resources are discovered, these parcels would be converted to this management category and additional protections would be afforded to ensure compliance with applicable laws.

5.1.4 Multiple Resource Managed Lands

This category includes areas where the predominant use is for game and wildlife management or dispersed recreation. However, there are other compatible uses which may occur on these lands without impacting the predominant use. These lands can be divided into four sub-categories for the purposes of this Master Plan. These categories are; Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. At Loyalhanna Lake and Conemaugh River Lake, all lands in this category are designated for Low Density Recreation. In the future, some of these areas may be converted to Wildlife Management, Vegetation Management, or High Density recreation. While no known areas are currently proposed for wildlife or vegetation management, areas may be designated for stewardship of fish, wildlife, forest, or other native vegetation cover in the future. This could include planting of non-game food plots or targeted restoration plantings. If these areas are developed in the future, the Corps should work with partners including state resource agencies to establish relevant survey protocol and utilize both survey data and available scientific data to manage these lands to maximize their biodiversity and the utility for native fauna including state and federal species of concern. Conversion to High Density recreation may occur based on future recreation needs within the project area. As discussed further in Section 6.1, the Corps must continue to carefully evaluate land use requests in these areas to include road and utility easements, rights of way for pipelines, resource mining activities, and other potential ground and resource disturbing activities and to ensure that these actions do not negatively impact the environment in a significant manner.

5.1.4.1 Low Density Recreation

Low density refers to lands with minimal development or infrastructure that support passive public recreational use (e.g. primitive camping, fishing, hunting, trails, wildlife viewing, etc.).

There are 3,532 acres of land at Loyalhanna Lake and 7,373 acres of land at Conemaugh River Lake that fall under this category. In these areas, natural conditions preclude intensive public use development because extensive alteration of natural systems would be required. Difficult access also is a factor indicating low-density use as most appropriate for these lands.

Private or long-term exclusive group use of these lands will not be permitted. Management practices leading to habitat improvements for the benefit of wildlife are encouraged. No licenses, permits, or easements will be issued for non-compatible manmade intrusion, such as underground or exposed pipelines, cables, overhead transmission lines, or non-project roads. Exceptions to this restriction may be made where necessary to serve a demonstrated public need only in those instances where no reasonable alternative is available. Agricultural uses are permitted on this land. The focus for areas under the Low Density Recreation classification is on a balance of low-impact recreational activities along with conservation of natural areas and native species. Management of invasive species is also a priority for these areas to prevent their spread throughout the project area. Hunting is permitted in most areas under this classification and is managed by the Pennsylvania Game Commission to promote healthy populations of game species. This includes multiple Game Management areas at each of the project sites.

One notable low density recreation area at Conemaugh River Lake is Bow Ridge Recreation Area. This 168 acre recreation area is located just upstream from the dam and provides walk-in and handicap-accessible recreation areas for hunting, fishing, boating and hiking. The area is gated but disabled users can apply for an annual access pass. The area includes 10 shooting lanes for disabled hunters and connects to the West Penn Trail. Access to the site is via the abandoned Pennsylvania railroad double track, and across the old Bow Railroad Bridge. While Bow Ridge is largely maintained in its natural state, the general management of the area consists of: a gravel access road maintained throughout the area (cleared of fallen trees, underbrush, and overgrowth); seven maintained (mowed parking area, cleared of fallen trees and underbrush) disabled hunting sites; and a series of wildlife feed plots that are mowed and planted with a standard feed mix of grasses and clovers. Additionally, the Bow Ridge Section of the West Penn Trail was leased to the CVC for development of the two-mile portion which offers challenging hiking and biking due to the steep topography of the area. This site features a boat ramp which is only available to visitors with a disability who have applied for and received a permit. This boat launch can handle both electric motorized and non-motorized watercraft. However, the access road is unimproved which presents safety considerations. Moreover, there is limited space for boat and trailer parking in the gravel lot above the launch to accommodate the level of demand for access. The availability of space that is most suitable for parking lot expansion would only be available by bringing in moderate amounts of fill material to level the surrounding terrain. Finally, this boat launch too is susceptible to high pool elevation in that the boat launch and access road(s) are submersed in high pool events. Future improvements may be warranted to include expanding and paving the parking lot and improving the boat ramp in order to ensure safety and improve accessibility. Due to constrained budgets, the Corps would likely need to

work with regional or local conservation groups to implement any improvements at this site or develop any new recreational opportunities at the Bow Ridge site. The Corps will continue to work with communities to explore options for mutually beneficial development opportunities.

Another low density site at Conemaugh is Aultman's Run. This 7 acre area provides carry-in access for canoes and kayaks. Aultman's Run Boat Launch was completed in 2011 by the Pennsylvania Department of Transportation as a mitigation project for reconstruction of U.S. Route 22. The boat launch provides non-motorized boat access to Conemaugh River Lake via Clarksburg Road (S.R. 3007) and gravel, one-way access roads with a gravel parking lot. The boater then has to carry their canoe, kayak, paddleboard, etc., approximately 30 yards (dependent on pool elevation) to the shoreline to put into the lake. After a few years of operation, this water access point has been found by the public to be generally lacking due to the overall area's operability from fluctuating pool elevation, i.e., if the pool elevation is too high the area may be closed temporarily, the parking lot may be reduced and/or shoreline vegetation, forbs and trees need to be navigated through to reach the lake. Conversely, when the pool elevation is too low, the amount of loose sedimentation has been described by the public as akin to "quicksand" and not safe for traversing. Lastly, while this launch is open to the public without restriction, there is no developed boat launch for electric motorized boaters or boats larger than canoe/kayak. In the future, this boat ramp may be updated to address these concerns (contingent upon funding availability and/or contributed funds partnership). Improvements could include hardening the existing boat ramp, extending the boat ramp farther and hardening access routes to this area.

Low density recreation areas have the potential to be converted to high density recreation through the development of new trail systems, campgrounds, boat launches, or other recreational features. These areas also have the potential to be used for utility lines, timber sales, or mining activities if a third-party makes a request for such an activity. However, these actions would require additional study and would be approved on a case-by-case basis based on the anticipated impacts associated. The Non-Recreational Outgrant Policy, which reflects nationwide guidance developed in 2009, will be used to evaluate requests for use of Corps lands and waters. Future non-recreational outgrant requests may be granted if one of the following two conditions is met:

- There is no viable alternative to the activity or structure being placed on Corps lands
- There is a direct benefit to Loyalhanna Lake or Conemaugh River Lake and their respective authorized missions

5.1.4.2 Future Recreation Areas

These areas have site characteristics compatible either with future recreational development or recreation areas that are closed. Until there is an opportunity to develop or reopen these areas, they will be managed for multiple resources. There are no locations at Loyalhanna Lake or Conemaugh River Lake that are currently designated for such action.

5.1.5 Water Surface

There are three Water Surface categories at Loyalhanna Lake and Conemaugh River Lake: Restricted, Designated No-Wake, and Open Recreation that make up the 531 acres at Loyalhanna Lake and the 1,348 acres at Conemaugh River Lake that are within the reservoirs' conservation pools. As part of managing the water surface areas at the project, the Corps will seek to maintain and, if possible, improve water quality and fisheries habitat structure to support a productive sport fishery and maintain healthy populations of native fish species. Water quality monitoring at established stations should continue throughout the Lakes' property and watershed, as the data gathered aids in conservation of the projects aquatic resources. A related issue is sedimentation within the reservoirs (further discussed in Section 6). The Corps will evaluate all plans and proposals to ensure that planned or permitted activities are not contributing to the sedimentation problem and ensure that Best Management Practices are adhered to in order to prevent excessive erosion. In the future, sustainable reservoir sediment management plans should be developed to address long-term efforts to address sedimentation.

5.1.5.1 Restricted

Restricted areas include those portions of the reservoir pool where public access is prohibited due to project operations, security concerns or to promote public safety. This includes the areas between the trash booms and the upstream portion of the dam, the area immediately downstream of the dam, and shoaling areas that are shallow and may cause boats to run aground. There are 4 acres at Loyalhanna Lake and 20 acres at Conemaugh River Lake that fall under this category.

5.1.5.2 Designated No-Wake

Designated no-wake zones are marked with buoys to protect environmentally sensitive shorelines areas, recreational areas (such as boat ramps and docks), and for public safety. Boats are required to slow down in these areas to prevent waves from impacting these areas. There are 26 acres at Loyalhanna Lake and 0 acres at Conemaugh River Lake that fall under this category.

5.1.5.3 Open Recreation

Open recreation areas are waters that are available year-round or seasonally for water-based recreational use. At Loyalhanna Lake there are no horsepower restrictions on aquatic craft. At Conemaugh River Lake, only electric motors are allowed to operate in these areas. There are 501 acres at Loyalhanna Lake and 1,328 acres at Conemaugh River Lake that fall under this category.

6. Special Considerations Affecting Natural Resources

During the development of this Master Plan, several issues were identified that could affect or are affecting the stewardship and management potential of the lands and waters of the Lakes.

6.1 Oil and Gas Development

Since the construction of the Lakes, and particularly in recent years, there has been a regional increase in the amount of oil and gas related activities being proposed and requested on Corps land. The activities consist mostly of sections of gas gathering pipelines and waterline right of way easement requests, at times culminating in a non-recreational outgrant, utility line right of ways, and general site access easements/requests. These proposals are most often for the connection of portions of much more expansive oil and gas networks, related to much larger overall oil and gas gathering systems. Proponents of these types of projects are seeking to construct and/or connect portions of a larger overall project, which are related to and/or dependent on other phases of the project which had been previously authorized, or constructed off Corps property. In essence the Corps land crossings and right of way requests serve as network connections. In general these larger networks/systems typically include: gathering lines, water lines, compressor stations, road crossings, fresh water impoundments, water intakes/outfalls that were previously constructed, or proposed in areas adjacent to Corps land.

While air quality has been improving nation- and region-wide, 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 and beyond. When all principle air pollutants are considered using the EPA's air quality index 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), Westmoreland County, as a whole, continues to be ranked as having some of the worst AQI averages in Pennsylvania (AQI = 48), which remains worse than Indiana County (AQI = 40). Decreasing air quality in the area of the Lakes could impact outdoor recreation opportunities by degrading the overall experience for visitors sensitive to pollutants.

Recognizing that the increase in linear type projects on Corps land, in the region, and in Pennsylvania overall are a result of the recent shale gas exploration and development boom, Corps staff have proactively facilitated numerous meetings with individual oil and gas companies. Working with companies seeking to utilize federal land, Corps staff members have an opportunity not only to gather information on the proposed activity, but to stress the importance of how the Corps works to conserve valuable natural resources on public lands. It is the Corps' responsibility to weigh the effects of increasing necessary energy infrastructure development against potential effects to managed natural and public resources. Corps staff at the

Lakes continue to work and meet with members of the oil and gas industry and partner with other State and Federal resource agencies, to assure that the review process related to these projects takes into account potential detrimental effects to managed resources. The Corps will require that any proposed unavoidable effects are appropriately mitigated; thereby, meeting the goals of the authorized project purposes, while conducting business regionally, and not neglecting the Corps commitment to conservation of natural and public resources.

6.2 Water Quality

Although, as mentioned in section 2.5, the water quality conditions in the Kiskimentitas-Conemaugh watershed have improved since the Lakes were constructed, several recent trends have the potential to impact the future conditions of the Lakes. Impacts from future development, sewage outflows and sedimentation remain the most concerning. As an interim solution, the Corps will evaluate each future action on a cumulative impact basis to the water quality and environmental stewardship of the Lakes and act accordingly.

6.3 Sedimentation

Of lingering concern is sedimentation buildup from mine drainage, agricultural runoff, and other sources that can impact the storage capacity of the dam, the water recreational experience, and the ecological quality of aquatic habitat. Conemaugh River Lake has already undertaken a sediment removal project for a large area behind the dam in the late 1990's and as detailed in section 2.3, further investigation is recommended for both of the Lakes.

One possible means to address this issue is through the implementation of sustainable reservoir sediment-management plans, as recommended by the Advisory Committee on Water Information. The Advisory Committee on Water Information, Subcommittee on Sedimentation, approved a resolution in August 2014 that encourages all Federal agencies to develop long-term reservoir sediment-management plans for the reservoirs that they own or manage by 2030. These management plans should include either the implementation of sustainable sediment-management practices or eventual retirement of the reservoir. Sustainable reservoir sediment-management practices are practices that enable continued reservoir function by reducing reservoir sedimentation and/or removing sediments through mechanisms that are functionally, environmentally, and economically feasible. The costs for implementing either sustainable sediment management practices or retirement plans are likely to be substantial, and sustainable methods to pay for these activities should also be identified.

Federal agencies are encouraged to start developing sustainable reservoir sediment-management plans now for one or two reservoirs per year on a pilot basis. From this experience, interagency technical guidelines will be developed for preparing sustainable reservoir-sedimentation plans.

6.4 Indiana Bat and Northern Long-Eared Bat

Currently listed as federally endangered, the Indiana Bat (*Myotis sodalist*) is a small dull grayish chestnut colored bat that hibernates in caves and abandoned mines during winter months

(starting mid-September into November) and roosts under peeling bark of trees during warmer months (starting mid-April into May). The total body length of an adult Indiana bat is 3.5 to 5.5 inches and its wingspan is 9.5 to 10.5 inches. Populations have been declining since the 1960's, largely due to disturbance of winter cave hibernacula. The Northern Long-Eared Bat (*Myotis septentrionalis)* is also currently listed as federally threatened, is a medium-sized bat with a body length of 3 to 3.7 inches but a wingspan of 9 to 10 inches. Their fur color can be medium to dark brown on the back and pale-brown on the underside distinguished by its long ears. The Northern Long-Eared Bat, shares a similar make up, habitat, and range as the Indiana Bat.

While no known hibernacula exist on Loyalhanna Lake or Conemaugh River Lake properties, there is sufficient potential summer roosting habitat present in and amongst the forested components of these Projects. At present there is no current management or survey plan in effect at these Projects; however, the USFWS has adopted regional seasonal cutting/disturbance restrictions. Generally, tree-cutting activities should be carried out from mid-November through the end of March during which time bats are hibernating. If any tree-cutting is necessary from the beginning of April to mid-November, trees greater than or equal to five inches in diameter at breast height should not be cut or physically disturbed in order to avoid potentially killing or injuring roosting bats. Further, the following general guidelines apply to tree characteristics indicative of potential bat habitat: 1) dead or dying trees and snags (with exfoliating bark); 2) live trees (such as shagbark and shellbark hickory) which have exfoliating or defoliating bark in the trunk or branches; and 3) trees or snags that have characteristics typical of roost sites for bats (i.e., have exfoliating or defoliating bark, or contain cracks, crevices, or holes that could be used by the species as a potential roost).

Currently, though no known occurrence of these bats has been reported or observed at Conemaugh River and Loyalhanna Lakes, staff are aware of and abide by the cutting/disturbance restrictions. Corps staff at the projects will continue to work with members of the USFWS and partner with other State and Federal resource agencies, to assure that potential detrimental effects to managed resources is minimized, and will continue to conserve the valuable natural resources on public lands entrusted to the Corps.

7. Agency and Public Coordination

7.1 Stakeholder and Public Scoping Meetings June 2015

Throughout the scoping process, the Corps involved the public and coordinated with tribes, federal, state, local agencies, and private and non-profit organizations.

Public and agency scoping was first initiated in June 2015. The first outreach meeting focused on the Corps' intent to revise the Master Plans, purpose and need for revision, the Corps' mission, and concerns of partners. A stakeholder meeting, which included federal and state environmental agencies, local businesses and colleges, and local governmental agencies was conducted on June 3, 2015. A public meeting was held two weeks later on June 17, 2015. See Appendix C for a summary of the meetings and the public notice.

The following outreach efforts were conducted to notify the public, stakeholders, and agencies of the opportunities for input and to solicit input into the planning process, including:

- Agency and Stakeholder Letters: Letters were sent directly to agencies and stakeholders inviting them to attend the scheduled meetings and to send any comments or concerns to the Corps.
- Public Notices: An advertisement of the public meetings was sent to all concerned municipal governments to be read at the monthly council meetings and posted on bulletin boards.
- News Releases: Sent to local media a week prior and the day before the public meetings.
- Facebook Posts: Facebook posts were made on the Loyalhanna Lake and Conemaugh River Lake Facebook pages advertising the Stakeholder and Public Draft Release Meeting
- Radio Spot Announcement: A one-minute radio interview spot was recorded with a local news station to promote the public meetings.
- Website: A dedicated website was developed to describe the Master Plan process, changes in the Master Plan, and recommendations resulting from the Master Plan Revision as well as provide an avenue for additional comments to be submitted- http://www.lrp.usace.army.mil/Missions/Planning-Programs-Project-Management/Loyalhanna-Conemaugh-Master-Plan/

Comments were received on a variety of topics, including:

- Lack of access to the lake section of the Conemaugh for boating/kayaking.
- Recreational/safety concerns with mud at the Aultman Run boat launch.
- Extended time for boat launch usage beyond May-November.
- Hiking and mountain biking trail on top of Bow Ridge and around Conemaugh Township.
- Access/use of ramps at the dam should not be restricted to only the disabled.

- Federal and local agencies need to do more protection for cultural resources.
- Safety issues pertaining to pool elevations, trapped debris and refuse behind bridges, and low lake levels with high outflows.

See Appendix C for the compilation of the comments collected during the Scoping and Draft Release meetings.

7.2 Stakeholder and Public Draft Release Meeting March 2017

A second stakeholder and a second public meeting were both held on March 30, 2017. The purpose of the second set of meetings was to unveil the final recommendations and final land use classification proposals and to elicit any remaining feedback on the proposed updates to the Master Plan and accompanying Environmental Assessment. Corps personnel set up displays to depict the project areas and the proposed changes resulting from the Master Plan revision. See Appendix C for a summary of the meetings and the public notice.

8. Summary of Recommendations

This master plan conceptually establishes and guides the orderly development, administration, maintenance, conservation, enhancement, and management of all natural, cultural, and recreational resources at the Lakes. The master plan is a land use management document and does not address water management operations, associated prime facilities (dam, spillway etc), or shoreline management as those operations are outlined in separate documents. This master plan is stewardship-driven and seeks to balance recreational development and use with the goal of conservation of natural and cultural resources.

Throughout this master plan process, the focus has been on the natural resources aspects possessed at Conemaugh River and Loyalhanna Lakes. As a result of this updated master plan, no new recreation areas or changes to the normal operation of these Projects are being proposed. Although no new proposals are being made, the Corps remains diligently committed to resource conservation in accordance with Engineering Regulation 1130-2-540 and Engineering Pamphlet 550. Recognizing that competing recreational demands and natural resources extraction activities have the potential to affect the resources, management decisions, and land use at the Projects, the following sections are focal points within this document that will assist Corps management in facing contemporary challenges well into the future.

8.1 Coordination and Partnerships

An overarching goal at both Loyalhanna Lake and Conemaugh River Lake is to create partnerships to leverage fiscal resources and continue to involve local communities and stakeholders in operations and management decisions. This includes working with federal and state agencies to leverage resources for complimentary natural resources management, with recreation service providers to improve user experiences, with environmental groups to improve habitat, and with educational and community groups to encourage volunteer activities that are mutually beneficial. To encourage participation and outreach, the Corps will seek to hold meetings annually, if not more frequently, with partners and stakeholders to foster collaboration. The Corps will seek to foster universal accessibility of lands and facilities that are in concert with Resource Plans. In addition, the Corps will seek to identify and eliminate any encroachments and trespassing by working with responsible parties.

8.2 Facility Modernization

It is the goal of the Corps at Loyalhanna Lake and Conemaugh River Lake is to continue to modernize current facilities within existing footprints of recreation areas where funding is available. Hardening campsites, upgrading electrical and plumbing infrastructure, restrooms, boat ramps, trails, roads, and parking lots will be the first priority of recreational maintenance management moving forward. Secondary potential improvements include those mentioned in recreation portions of this master plan as well as any adopted from the public input process.

Specific potential improvements recommended if resourcing and/or a successful partnership becomes available at Conemaugh River Lake include: an additional pavilion at the Conemaugh Recreation Area; an unrestricted public boat launch recommended to be located off Newport Road via leased land to the PAGC (Virginia Farms); a lease to a concessionaire for weekend operations of the concession building; continued replacement of playground equipment until complete; and informational signs and a pamphlet for the Western Division of the Pennsylvania Canal remnants that are present on project lands.

Specific potential improvements recommended if resourcing and/or a successful partnership becomes available at Loyalhanna Lake include: a boating capacity study with and without sedimentation issues; expansion and paving of the Bush Recreation Area parking lot; a concessionaire contingent on the outcomes of a boating capacity study; replacement of the pavilion roof; modernization and leveling of all Bush Campground campsites; a walking/biking loop around the Bush Recreation Area; a Loyalhanna Lake trail developed from Bush Recreation Area to New Alexandria; revival and/or incorporation of the Black Willow Water Trail into the Loyalhanna Water Trail and submitting a nomination for the Loyalhanna Water Trail as a National Recreation Trail; repair of the pavilion at the Dam Site Recreation Area; and

improvements to the Fishermen's Trail and outflow fishing area with the assistance of volunteers and civic organizations.

8.3 Land Classification Changes

The primary change in the master plan, the previous four Land Classifications (Agricultural Lands, Game Management, Natural Area and Wild Area) are now consolidated under the Multiple Resource Management Land Classification (Low Density Recreation) in this revised Master Plan. As a result, more of the project lands are classified as Low Density Recreation or Multiple Resource Management.

The land use classification changes discussed in this document and evaluated in the attached Environmental Assessment represent the changes in land use, management strategies, and guidance concerning naming conventions that have occurred since the original master plans for these projects were developed in the early 1950's. While these land use classifications may be updated in the future, those described in this document represent the most current and relevant uses of various project lands. Additional details of the uses and management goals for individual project site areas (PSAs) will be provided in forthcoming operational management plans for the individual projects.

Other updates to this Master Plan 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. Updating and highlighting naming conventions and/or classifications as part of the Master Plan will ensure the conservation of valuable resources continues uninhibited.

8.4 Development Requests

Increased urbanization, population, and development surrounding Loyalhanna Lake and Conemaugh River Lake result in numerous requests for utility easements on Corps-owned land. This document highlights where the Corps has allowed utilities to cross government land at Loyalhanna Lake and Conemaugh River Lake. By highlighting these utility corridors, this document will provide areas of potential impact which will better instruct how to best protect Corps lands from negative impacts of fragmentation, erosion, wildlife value, and aesthetic quality decline. In addition, the Corps will seek to protect any "unofficial" recreation sites that could be negatively impacted by proposed development activities.

The Non-Recreational Outgrant Policy reflects nationwide guidance developed in 2009 to evaluate requests for use of Corps lands and waters. The purpose of this policy is to provide guidance to evaluate non-recreational real estate outgrant requests. The primary rationale for authorizing any future non-recreational outgrants request will be for one of two stated reasons; there is no viable alternative to the activity or structure being placed on Corps lands; or there is a

direct benefit to Conemaugh River and Loyalhanna Lakes and their respective authorized missions.

Recognizing that there has been increase in linear type projects being proposed or non-recreational outgrants being requested on Corps land, Corps staff should continue to act proactively to facilitate meetings with oil and gas companies and partner with natural resource agencies responsible for oil and gas regulation. Working with these companies and partnering agencies to better utilize Corps public land, Corps staff have an opportunity not only to make more informed decisions of how best to manage Corps land, but to stress the importance of how the Corps works to conserve valuable natural resources on public lands. In doing so, the Corps will continue meeting the goals of the authorized project purposes, while conducting business regionally, and not neglecting the Corps commitment to conservation of natural and public resources.

8.5 Water Quality & Sedimentation

Due in large part to stricter environmental regulation water quality has become an important component of the operation of Loyalhanna Lake and Conemaugh River Lake. The benefits of the improved water quality have been realized, utilized, and are being managed; and the improved fishery is a direct result and evidence of this fact. While the previous discharges from inactive coal mines and other anthropogenic factors caused a decline in water quality, monitoring and effective management practices employed in the reservoirs, outflows, and tail waters of the dams have not only aided in the improvement of water quality, but have gone to highlight the potential that this valuable natural resource has to offer from a flood risk, environmental and recreational perspectives.

The Corps should continue to partner with the Pennsylvania Fish and Boat Commission in the coordination and implementation of fisheries management plans. Maintaining the general primary concerns as 1) water quality, 2) adequate habitat structure, 3) sustaining a productive sport fishery, 4) facilitating successful spawning through pool elevation manipulations. Water quality monitoring at established stations should continue throughout Loyalhanna Lake and Conemaugh River Lake property and watershed, as the data gathered aids in conservation of the projects aquatic resources.

Secondly, it is recommended that the Corps should continue to request funding for sedimentation surveys in accordance with earlier study recommendations for timeliness, composition of sediments to determine pollution and/or mineral content and load, adequate mapping to determine locations of severe sedimentation and dredging of such sediment to allow successful completion of the Corps' flood risk management, recreation and environmental sustainability missions. This could be potentially accomplished through development of sustainable reservoir sediment-management plans.

8.6 Wildlife Management and Environmentally Sensitive Areas

The Corps lands at Loyalhanna Lake and Conemaugh River Lake represent a significantly sized riparian corridor of valuable wildlife lands. These lands are vulnerable to change by human disturbance. Therefore, large portions of these lands are outgranted to other agencies whose primary purpose is wildlife management with secondary use being recreation. While some areas of Conemaugh River and Loyalhanna Lakes have developed recreation areas, a large portion of land acreage remains in an undeveloped natural state, being heavily forested and rich in riverine habitat including wetlands. The goal is to continue coordination with resource agency partners, continue to successfully manage these lands for the use and enjoyment of our visitors, and the conservation of our valuable natural resources. In the future, the Corps should develop survey methods to identify sensitive habitats, possibly using a MSIM, and use the results to designate additional environmentally sensitive areas which would be converted from multiple resource managed lands. These lands should be protected from human disturbance and development activities to the extent possible and ensure compliance with all applicable laws and regulations. If development activities are proposed for these areas, the Corps will work with partners to minimize the disturbance or mitigate the impacts. The Corps will also consider proactive steps to enhance natural areas for sensitive species and to restore sensitive habitats through native vegetation plantings, removal of invasive species, or other efforts targeted at non-game species habitat. In addition, the Corps will continue to protect cultural resources in existing environmentally sensitive areas and promote education related to these resources.

The development and current state of the Bow Ridge Recreation Area is in line with the above overall premise. This area is vulnerable to change by human disturbance; however, this area is functioning as a wildlife management area with secondary use being recreation. There is the improved access across the old Bow Railroad Bridge, a loop trail that runs along the edge of a bluff overlooking the lake; a disabled accessible area for disabled hunters; and a car-top boat launching area for disabled access only. This area should continue to be maintained as a dual mission, which emphasizes developing recreational opportunities while conserving natural and cultural resources for future generations, unless other future options based on public and environmental need, prove more beneficial to the area. The Corps should continue to partner with complementary resource management agencies and regional/local conservation groups on the management of the Bow Ridge Recreation Area.

As this relates to potential issues involving the Indian Bat and Northern Long-Eared Bat, it may benefit the Corps to coordinate with the USFWS to develop a management and survey plan for bats on fee property. Though no known occurrence of these bats currently has been reported or observed at Conemaugh River or Loyalhanna Lakes, establishing protocol, or even opening dialog between the agencies on this topic would be beneficial from a joint wildlife management perspective.

8.7 Summary

The operation of the Lakes began 65 years ago. Over this period, the dams continue to provide their primary function, flood risk management, without fail. However, both projects face increasing infrastructure challenges as they age such that the Corps continues to monitor the current state of both projects through a variety of inspection processes prior to any issue becoming a problem.

During this same period, a greater demand for varied and/or niche recreational activities in concert with burgeoning rural recreation economies has come to the forefront of the recreational mission for both lakes. From an environmental perspective, increasingly better water quality conditions have prevailed such that most fish species found in the Allegheny River watershed can now be found in both lakes. However, sedimentation of the lakes continues to pose current and future challenges on the water quality gains made to this point. Leveraging Corps resources with external sources will be key in overcoming these present and forthcoming trials.

Since the construction of Conemaugh River and Loyalhanna Lakes, the local and surrounding region has seen a natural progression of commercial, industrial, and residential growth. The growth has resulted in conversion of agricultural lands and woodlands into residential and commercial developments, with associated impacts on a range of environmental amenities including loss of wetlands and terrestrial habitat for wildlife, increased traffic congestion, fluctuation in air and water quality, and ambient noise levels. These development trends are expected to continue into the foreseeable future and will be the principal driver of potential adverse impacts on the environmental attributes for this area.

Public and agency participation is critical in the Master Plan revision process. To the maximum extent practicable, the Corps utilized many forms of outreach including: surveys, stakeholder meetings, and public meetings to solicit and obtain valuable comments from all those who wish to utilize and recognize the benefits of the public land entrusted to the Corps at Conemaugh River and Loyalhanna Lakes. Public comment was sought and received to provide guidance in the development of this document.

This Master Plan will provide direction in development of the way ahead in a changing and challenging environment to conserve and protect the natural resources and the quality of outdoor recreation experience at Conemaugh River and Loyalhanna lakes.

9. Bibliography

2014-2019 Pennsylvania Outdoor Recreation Plan (SCORP) website. Accessed at: http://www.paoutdoorrecplan.com/

Conemaugh Lake Summary of Pertinent Data (30 September 1988) F/C16; Real Estate Segment Maps showing 975' contour elevation; Boundary mapping showing 977 contours.

Executive Order No. 13112. Invasive Species. 3 February 1999.

Executive Order No. 11987. Exotic Organisms. 24 May 1977.

Loyalhanna Lake Summary of Pertinent Data (30 September 1988) F/C17; Real Estate Segment Maps showing 975' contour elevation; Boundary mapping showing 975 contours.

Navigable Waterways Pittsburgh District (Regulatory) Notice #12-2, 11 January 2012; PADEP List of Streams Subject to Submerged Lands License Program, September 2003; Pennsylvania Navigable Water Compilation list, Knud Hermansen

Pennsylvania Department of Conservation & Natural Resources, ExplorePAtrails.com website. Accessed at: http://www.explorepatrails.com/

Pennsylvania Fish & Boat Commission Strategic Plan. (2010). *Pennsylvania Fish & Boat Commission Strategic Plan*. Pennsylvania Fish & Boat Commission Strategic Plan. http://www.fish.state.pa.us/stplan_2010_2015.pdf. Accessed 2015

Reinhart, N., & Depew, M. (2014). Biologist Report: Conemaugh River Lake - Indiana County, May 2013 Night Time Electrofishing & Trap Net Survey. Retrieved 2015, from http://fishandboat.com/images/reports/2014bio/8x12_23conemaugh.pdf

Smith, G. (2005, July). Biologist Report: Loyalhanna Lake - Westmoreland County, April 4-7, 2005. Retrieved 2015, from http://fishandboat.com/images/fisheries/afm/2005/8x06_01loyalhanna.htm

Tetra Tech Inc. (2010). TMDLs for Streams Impaired by Acid Mine Drainage in the Kiskiminetas-Conemaugh River Watersheds, Pennsylvania. Retrieved 2015, from http://www.epa.gov/reg3wapd/tmdl/pa_tmdl/kiskiminetas/kiskireport.pdf

U.S.A. National Recreation Trails website. Accessed at: http://www.americantrails.org/ee/index.php/nationalrecreationtrails

U.S.A.C.E., Regional Economic System website. Accessed at: http://www.iwr.usace.army.mil/Missions/Economics/RegionalEconomicSystem%28RECONS%29.aspx

U.S.A.C.E. Value to the Nation, Recreation Economic Impacts website. Accessed at: http://www.corpsresults.us/recreation/receconomic.cfm

U.S. Census Bureau, Metropolitan and Micropolitan website. Accessed at: https://www.census.gov/population/metro/data/masrp.html

Warner, N., Christie, C., Jackson, R., & Vengosh, A. (2013). Impacts of Shale Gas Wastewater Disposal on Water Quality in Western Pennsylvania. Environmental Science &Amp; Technology, 2013(47), 11849–11857. http://doi.org/10.1021

APPENDIX B

APPLICABLE PUBLIC LAWS AND

FEDERAL STATUTES

The following public laws (PL) are applicable to Loyalhanna Lake and Conemaugh River Lake.

A.1 PL59-209, Antiquities Act of 1906: The first Federal law established to protect what are now known as "cultural resources" on public lands. It provides a permit procedure for investigating "antiquities" and consists of two parts: An act for the Preservation of American Antiquities, and Uniform Rules and Regulations.

A.2 PL74-292, Historic Sites Act of 1935: Declares it to be a national policy to preserve for (in contrast to protecting from) the public, historic (including prehistoric) sites, buildings, and objects of national significance. This act provides both authorization and a directive for the Secretary of the Interior, through the National Park Service, to assume a position of national leadership in the area of protecting, recovering, and interpreting national archeological historic resources. It also establishes an "Advisory Board on National Parks; Historic Sites, Buildings, and Monuments, a committee of eleven experts appointed by the Secretary to recommend policies to the Department of the Interior".

A.3 PL78-534, Flood Control Act of 1944: Section 4 of the act as last amended in 1962 by Section
207 of PL87-874 authorizes the Corps to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to Federal, State or local governmental agencies.

A.4 PL85-500, River and Harbor Act of 1958: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.

A.5 PL85-624, Fish and Wildlife Coordination Act 1934: This act, as amended, sets down the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources and adverse effects on these resources shall be examined along with other purposes which might be served by water resources development.

A.6 PL86-717, Forest Conservation: This act provides for the protection of forest cover for reservoir areas under this jurisdiction of the Secretary of the Army and the Chief of Engineers.

A.7 PL87-874, Rivers and Harbors Act of 1962: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.

A.8 PL88-578, Land and Water Conservation Fund Act of 1965: This act established a fund from which Congress can make –appropriations for outdoor recreation. Section 2(2) makes entrance and user fees at reservoirs possible by deleting the words "without charge" from Section 4 of the 1944
Flood Control Act as amended.

A.9 PL89-72, Federal Water Project Recreation Act of 1965: This act requires that not less than one-half the separable costs of· developing recreational facilities and all operation and maintenance costs at Federal reservoir projects shall be borne by a non-Federal public body. An OCE/OMB implementation policy made these provisions applicable to projects completed prior to 1965.

A.10 PL89-90, Water Resources Planning Act (1965): This act established the Water Resources Council and gives it the responsibility to encourage the development, conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis.

A.11 PL89-272, Solid Waste Disposal Act, as amended by PL 94-580, dated October 21, 1976: This act authorized a research and development program with respect to solid-waste disposal. It proposes (1) to initiate and accelerate a national research and development program for new and improved methods of proper and economic solid-waste disposal, including studies directed toward the conservation of national resources by reducing the amount of waste and unsalvageable materials and by recovery and utilization of potential resources in solid waste; and (2) to provide technical and financial assistance to State and local governments and interstate agencies in the planning, development, and conduct of solid-waste disposal programs.

A.12 PL89-665, National Historic Preservation Act of 1966: This act provides for: (1) an expanded National Register of significant sites and objects; (2) matching grants to states undertaking historic and archeological resource inventories; and (3) a program of grants-in aid to the National Trust for Historic Preservation; and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places.

A.13 PL90-483, River and Harbor and Flood Control Act of 1968, Mitigation of Shore Damages: Section 210 restricted collection of entrance fee at Corps lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.

A.14 PL91-190, National Environmental Policy Act of 1969 (NEPA): NEPA declared it a national policy to encourage productive and enjoyable harmony between man and his environment, and for other purposes. Specifically, it declared a "continuing policy of the Federal Government… to use all practicable means and measures...to foster and promote the

general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be interpreted and administered in accordance with the policies of the Act.

A.15 PL91-611, River and Harbor and Flood Control Act of 1970: Section 234 provides that persons designated by the Chief of Engineers shall have authority to issue a citation for violations of regulations and rules of the Secretary of the Army, published in the Code of Federal Regulations.

A.16 PL92-463, Federal Advisory Committee Act: The Federal Advisory Committee Act became law in 1972 and is the legal foundation defining how federal advisory committees operate. The law has special emphasis on open meetings, chartering, public involvement, and reporting.

A.17 PL92-500, Federal Water Pollution Control Act Amendments of 1972: The Federal Water Pollution Control Act of 1948 (PL 845, 80th Congress), as amended in 1956, 1961, 1965 and 1970 (PL 91- 224), established the basic tenet of uniform State standards for water quality. PL92-500 strongly affirms the Federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."

A.18 PL92-516, Federal Environmental Pesticide Control Act of 1972: This act completely revises the Federal Insecticide, Fungicide and Rodenticide Act. It provides for complete regulation of pesticides to include regulation, restrictions on use, actions within a single State, and strengthened enforcement.

A.19 PL93-81, Collection of Fees for Use of Certain Outdoor Recreation Facilities: This act amends Section 4 of the Land and Water Conservation Act of 1965, as amended to require each Federal agency to collect special recreation use fees for the use of sites, facilities, equipment, or services furnished at Federal expense.

A.20 PL93-251, Water Resources Development Act of 1974: Section 107 of this law establishes a broad Federal policy which makes it possible to participate with local governmental entities in the costs of sewage treatment plan installations.

A.21 PL93-291, Archeological Conservation Act of 1974: The Secretary of the Interior shall coordinate all Federal survey and recovery activities authorized under this expansion of the 1960 act. The Federal Construction agency may transfer up to 1percent of project funds to the Secretary with such transferred funds considered non-reimbursable project costs.

A.22 PL93-303, Recreation Use Fees: This act amends Section 4 of the Land and Water Conservation Act of 1965, as amended, to establish less restricted criteria under which

Federal agencies may charge fees for the use of campgrounds developed and operated at Federal areas under their control.

A.23 PL93-523, Safe Drinking Water Act: The act assures that water supply systems serving the public meet minimum national standards for protection of public health. The act (1) authorizes the Environmental Protection Agency to establish Federal standards for protection from all harmful contaminants, which standards would be applicable to all public water systems, and (2) establishes a joint Federal-State system for assuring compliance with these standards and for protecting underground sources of drinking water.

A.24 PL94-422, Amendment of the Land and Water Conservation Fund Act of 1965: Expands the role of the Advisory Council. Title 2 - Section 102a amends Section 106 of the Historical Preservation Act of 1966 to say that the Council can comment on activities which will have an adverse effect on sites either included in or eligible for inclusion in the National Register of Historic Places.

A.25 PL98-63, Supplemental Appropriations Act of 1983: The act authorized the Corps of Engineer Volunteer Program. The United States Army Chief of Engineers may accept the services of volunteers and provide for their incidental expenses to carry out any activity of the Army Corps of Engineers except policy making or law or regulatory enforcement.

A.26 PL99-662, The Water Resources Development Act of 1986: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.27 PL99-88, Supplemental Appropriations Act of 1985: The act authorized the partnership of local and Federal government and private interests to develop ecosystem improvements and recreational opportunities in the Des Moines River Corridor.

A.28 PL101-640, Water Resource Development Act of 1990: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.29 PL101-646, Coastal Wetlands Planning, Protection, & Restoration Act of 1990: Provides authorization to carry out projects for the protection, restoration, or enhancement of aquatic and associated ecosystems, including projects for the protection, restoration, or creation of wetlands and coastal ecosystems.

A.30 PL101-676, Water Resource Development Act of 1988: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.31 PL102-580, Water Resource Development Act of 1992: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.32 PL104-303, Water Resource Development Act of 1996: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.33 PL106-53, Water Resource Development Act of 1999: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.34 PL106-541, Water Resource Development Act of 2000: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.35 PL109-58, Energy Policy Act of 2005: Directed the Secretaries of Agriculture, Commerce, Defense Energy and Interior to identify corridors for oil, gas, and hydrogen pipelines and electrical transmission and distribution facilities on Federal lands and to schedule prompt action to identify, designate, and incorporate the corridors into the applicable land use plans.

A.36 PL110-114, Water Resource Development Act of 2007: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

A.37 PL113-121, The Water Resources Reform and Development Act of 2014: This act authorizes the U.S. Army Corps of Engineers to carry out missions to develop, maintain, and support the nations vital ports and waterways infrastructure needs and support effective and targeted flood protection and restoration needs.

A.38 16 U.S.C. 668-668d, Bald and Golden Eagle Protection Act of 1940 as amended: Prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles (Haliaeetus leucocephalus), including their nests or eggs.

A.39 16 U.S. C. 1531-1544, Endangered Species Act of 1973: Provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend.

A.40 16 U.S.C. 703-712, Migratory Bird Treaty Act of 1918: Makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations.

APPENDIX C

Summary of Agency, Stakeholder and Public Comments and Meeting Notices

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**

Pittsburgh District
Public Affairs Office
1000 Liberty Avenue
22nd Floor
Pittsburgh, PA 15222-4186

FOR IMMEDIATE RELEASE
June 10, 2015
Release No. NR15-168
Contact: Public Affairs
Phone 412-395-7500/01/02
Fax: 412-395-7503
CELRP-PA@usace.army.mil

Loyalhanna, Conemaugh Lakes Seek Public Input on Master Plan Update

Who: US Army Corps of Engineers, Pittsburgh

What: The U.S. Army Corps of Engineers (USACE), Pittsburgh District, is revisiting the master plans (MPs) for Loyalhanna and Conemaugh Lakes which were last updated in 1952.

Where: UPDATED LOCATION
Saltsburg River Hall
313 Salt Street
Saltsburg, PA 15681

When: Wednesday June 17, 2015, 11 a.m. – 3 p.m. and 5 – 9 p.m.
Informational Presentations at 12:30 p.m. and 6:30 p.m.

Why: Public input is critical in the MP update and we invite the public to attend our final public meeting to review the progress made to this point. An open-house-style meeting will be held to answer questions and seek public input with a conceptual poster and a draft MP document for review and comment.

The purpose of the MPs revision is to consolidate them into a single document and update them to be in compliance with current USACE policies and regulations, identify management opportunities and constraints, user needs and characteristics, and to balance these factors while protecting natural resources and providing stewardship for the future.

An MP is a document that conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of a USACE water project. The MP does not address water-level management. Water levels are managed in accordance with a separate water regulation manual. The primary benefit of revising the current MPs is to reflect changes in recreational facilities, the surrounding environment, socioeconomic conditions, and visitation patterns.

For additional information, please contact Bruce Kish, 412.395.7205, Bruce.Kish@usace.army.mil

Stakeholder Meeting Participant Comments (June 2015)

What is the role of the Corps in recreation management? Is it taking on the role of park management similar to the Park Service?

USACE response: The Corps is not a mission agency like the NPS or Forest Service. It has several different business lines, of which navigation and flood risk management are primary. Recreation and water supply are secondary missions. The Corps manages recreation at 500 lakes nationally. It creates a lot of challenges due to limited funding, budgets are built in three-year cycles. Funding for recreation has declined from $5.5 million in 2004-05 to $3.7 million this cycle. Loyalhanna funding decreased from $180K to $130K. Conemaugh went down from $120K to $7K. On the visitation side, Loyalhanna gets $190K on average per year and Conemaugh 83K. Budgets are driven by visitation. That's why we want to reach out to the out grants.

Is the master plan specific to the recreational areas?

USACE response: It's project wide, to include the dams.

These two projects (Conemaugh and Loyalhanna) handle flood management and recreation?

USACE response: That's correct. Their primary mission is FRM, manage high water. Secondary to that is recreation and water quality. We manage by watershed. The Pittsburgh District monitors the entire Allegheny Watershed and the Upper Ohio, along with the Beaver. And we do have dams – Tygart,WV – that have both a FRM and a navigation mission to provide augmentation flows into the Mon to ensure a navigable channel.

How visitors to the projects are accounted must be modernized.

USACE response: In prior years we would use a combination of car counts as well as hard counts in order to derive some level of confidence what our visitation numbers are for the summer season. Where we're located geographically, the bulk of our visitation is from late spring to early fall as opposed to other Corps projects to the south and west that generally have recreation all year round. One of the things I'd like to see us do collectively is to try to do something in that offseason, some kind of winter recreation if we can but it's very difficult where we're at, an area that sometimes gets snow and sometimes doesn't. That's a challenge in itself. Now, in the visitation modernization effort, the reason we're doing this is to be able to report more robust numbers for the project. We're looking to get better technology – counters, infrared scopes – things that measure people as they pass by in vehicle, bike, ATV, or on foot. It would accurately capture what level we are. Now, we still will continue to do statistical sampling and slope factors, meaning, if a car passes, on average there are, maybe, 1.2 or 2.3

visitors per car load. That's going to be a multi-year effort because of the sheer size of our project and some of the intricacies of different rec areas.

There is a need to distinguish recreation types at the two projects boating (motor/non-motor boats), camping, and fishing and who gets what. At what level of the hierarchy are policy decisions made?

USACE responce: For the motor boats, that's decided by the PA Fish & Boat Commission. The recreation area and camping area are based on future conveyance.

Is there a Pittsburgh District meeting to assess the recreation portion of the project and to create a list of objectives?

USACE response: That's determined in large part by Congress, such as at the dams. How much recreation there is, is based on budget. Now, for recent budgets, we haven't had room to expand recreation. What we're doing right now is to see what other funding are available and go in a different direction.

There are different recreational at both sites even through both are close. There could be some commonalities.

USACE response: There very well could be. We are working to have one set of recreational activities at Conemaugh and another at Loyalhanna. It's going slowly, but we are trying to do better marketing and outreach.

How are water levels for dams determined? There are impacts to kayaking below Route 903 when the water levels drop off after June 1.

USACE response: Water levels are determined by water control manuals that cover operations and water quality issues. We are not authorized to the project for recreation at the expense of primary purposes, such as hydropower.

Rivers need to be marked with bigger signs, especially at access points.

Cultural resources need greater protection.

USACE response: The entire property hasn't been surveyed but we have many recorded sites that are protected. We take this into account when planning recreational areas.

Barb Frederick (PHMC): The Corps also needs to consider the landscape, dam, and other structures for Section 110 eligibility.

What is the role of the Corps in recreation management? Is it taking on the role of park management similar to the Park Service?

USACE response: The Corps is not a mission agency like the NPS or Forest Service. It has several different business lines, of which navigation and flood risk management are primary. Recreation and water supply are secondary missions. The Corps manages recreation at 500 lakes nationally. It creates a lot of challenges due to limited funding, budgets are built in two-year cycles. Funding for recreation has declined from $5.5 million in 2004-05 to $3.7 million this cycle. Loyalhanna funding decreased from $180K to $130K. Conemaugh went down from $120K to $7K. On the visitation side, Loyalhanna gets $190K on average per year and Conemaugh 83K. Budgets are driven by visitation. That's why we want to reach out to the out grants.

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How visitors to the projects are accounted must be modernized.

Chris Baker (Park Manager, Keystone State Park):

* There is a possibility that the Corps bottom four goals will be hit in two years.

* Keystone tied into municipal sewer and a rails-to-trails project was recently revived – visitors will cross Corps property to use it, increasing the Corps' visitation numbers.

* Keystone property attendance is at 600,000 and will increase in coming years, with overflow using Corps property.

* Just recently installed four new kayak launches.

* Water quality improvement opportunities exist at Crabtree Run.

* The Corps needs to open up facilities for greater accessibility.

* The Corps has unique fishing opportunities, but doesn't publicize them.

USACE response: We have identified areas for kayaking and certain water sports, but we're not Raystown Lake, which is entirely recreational and their pool doesn't fluctuate. We have some challenges they don't have. We're somewhat limited with the water levels. We agree, though, that there are opportunities for partnerships. Where the Corps is now, financially, a lot of the proposed recreation activities will have to be done through partnerships. We are striving to make partnerships lake, by lake, by lake. Raystown Lake had $1 million earmarked from Congress to get established, but our budgets have been declining.

How much recreational growth should be permitted? Consider crowded facilities and traffic.

USACE response: We're identifying areas where there could be growth. What we want to get out of this not just a sense of what we want to do down the road, but to maintain flexibility for what to do if funding does become available or if there is other (outside) development in the area.

Another participant's concerns:

* Sedimentation is a huge issue on the Conemaugh River.

* Bigger boats are starting to come on. Consider raising the pool.

* More, bigger signage is needed. Open up all launches. Indicate parking areas.

* There is a public perception that Conemaugh is unboatable.

* Loyalhanna signage is unreadable.

* Elderly and handicapped access is limited due to sediment and a lack of a ramp.

The Corps needs to harness public/private/business resources to build launches. A ramp at Keystone had partnerships with 12 different organizations and businesses.

Conemaugh needs cleanup of garbage coming from Johnstown.

IUP: The Corps needs to notify potential partner groups when opportunities exist. It needs to identify wants and needs before establishing networks. The Corps needs to improve marketing and outreach.

USACE response: Agreed. We're trying to strengthen our public engagement. We need to identify what resources are out there who can assist. We hope we can improve our partnerships.

Part of it has also been a lack of communication on our part. The Corps needs to show its existing master plans to highlight to the public what we have in mind.

DEPARTMENT OF THE ARMY
PITTSBURGH DISTRICT, CORPS OF ENGINEERS
WILLIAM S. MOORHEAD FEDERAL BUILDING
1000 LIBERTY AVENUE
PITTSBURGH, PA 15222-4186

REPLY TO
ATTENTION OF

March 7, 2017

Environmental and Cultural Resources Section

Dear Interested Stakeholder:

The U.S. Army Corps of Engineers, Pittsburgh District (Corps) is in the process of updating the Master Plan for Loyalhanna Lake and Conemaugh River Lake. As an attendee or invitee of our initial scoping meeting in June 2015, you are now invited to attend a follow-up stakeholder meeting to learn more about how your comments were incorporated into the updated Master Plan and accompanying Environmental Assessment and to provide feedback on the final recommendations within the Master Plan. The stakeholder meeting will be held from 2:00-3:30 PM on March 30th at Saltsburg River Hall (313 Salt Street, Saltsburg, PA 15681). If you plan to attend the stakeholder meeting, please RSVP to Ashley.Hickenboth@usace.army.mil by March 27th, 2017. Should you not be able to attend the stakeholder meeting, we will also be holding an open house style public meeting at the same venue from 4:00-7:30 PM.

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 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. Enclosed is a fact sheet which provides additional information on the recommendations contained within the updated Master Plan.

If you are unable to attend the stakeholder or public session, you may submit comments on the Master Plan and Environmental Assessment until April 28th, 2017. The Master Plan and Environmental Assessment can be located at the following website: http://www.lrp.usace.army.mil/Missions/Planning-Programs-Project-Management/Loyalhanna-Conemaugh-Master-Plan/. Comments may be submitted via this website.

Thank you in advance for your participation and interest in the updated Master Plan for Loyalhanna Lake and Conemaugh River Lake; your input is valuable to this effort. If you have any questions regarding the Master Plan, Environmental Assessment, or the stakeholder or public meeting, please feel free to contact Ashley Hickenboth at (412) 395-7312 or by e-mail at Ashley.Hickenboth@usace.army.mil.

Sincerely,

Ryan Fisher
Chief, Environmental and Cultural Resources Section

Enclosure

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS — BUILDING STRONG®

Pittsburgh District
Public Affairs Office
1000 Liberty Avenue
22nd Floor
Pittsburgh, PA 15222-4186

FOR IMMEDIATE RELEASE
March 16, 2017
Release No. NR17-0xx
Contact: Jeff Hawk
Phone 412-395-7500/01/02
CELRP-PA@usace.army.mil

Corps to unveil revised Loyalhanna Lake and Conemaugh River Lake Master Plan

PITTSBURGH – The U.S. Army Corps of Engineers, Pittsburgh District is in the process of updating the master plan for Loyalhanna Lake and Conemaugh River Lake. You are invited to attend the public meeting for the unveiling of the revised Loyalhanna Lake and Conemaugh River Lake Master Plan.

The meeting is scheduled for Thursday, March 30 from 4 p.m. to 7:30 p.m. at Saltsburg River Hall - 313 Salt St, Saltsburg, Pennsylvania 15681. A short presentation will be given at both 5 p.m. and 6:30 p.m.

Representatives from the Corps will be available to answer questions and maps will be shown to provide an overview of the revision. If you are unable to attend public information session, you may submit comments on the Master Plan and Environmental Assessment until April 28. The master plan can be located at the following website: http://www.lrp.usace.army.mil/Missions/Planning-Programs-Project-Management/Loyalhanna-Conemaugh-Master-Plan/. Comments can be submitted using this website.

This will be the final public outreach engagement for the Loyalhanna Lake and Conemaugh River Lake Master Plan revision process.

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 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 the master plans.

-30-

For media inquiries, contact the Public Affairs Office at 412-395-7500 or email: celrp-pa@usace.army.mil.

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STAKEHOLDER MEETING
LOYALHANNA LAKE & CONEMAUGH RIVER LAKE
MASTER PLAN UPDATE

Thursday, March 30th, 2017
2:00 PM – 3:30 PM
Saltsburg River Hall - 313 Salt St, Saltsburg, PA 15681

When the meeting is over:
Participants will leave with an understanding of:

- The proposed changes to the Master Plan
- The comments made during the scoping period and how incorporated
- How to comment on proposed changes to the Master Plan

US Army Corps of Engineers Pittsburgh District will leave with:

- Feedback from the stakeholders on the proposed changes to the Master Plan
- Input for how we can improve process for future Master Plans

AGENDA

2:00 PM WELCOME

Overview of Meeting Objectives

Introductions

Presentation of Master Plan Process & Proposed Changes

Clarification Questions & Answers

Group Discussion & Feedback on Master Plan Changes

Group Discussion & Feedback on Master Plan Engagement Process

3:30 ADJOURN

The Public Open House will then take place from 4:00-7:30 PM.

NOTES

What we'd love to hear today:

1. How certain objectives connects to your interests.
2. Ways we could, through partnerships, achieve both yours and ours objectives.

Questions and Responses:

Q: Are the land use classifications just a proposed change in terminology or are there actually changes in how the land can be used?
A: For the most part, there was simply some lumping of what used to be different land use classes into broader categories. Only a few land use classification designations also changed how a parcel of land can be used. The 'lumping' of land use classifications also loosened some restrictions that may have existed on the prior land use categories. Now, with many different prior land use categories, lumped into larger categories, you'll find that more opportunities have been created for more passive recreation throughout. (For example, game management can now be used for low density recreation; whereas before land designated for game management could only be used for game management.)

Q: What can be done in these Environmentally Sensitive Area? Can we do education programs?
A: Environmentally Sensitive Area means there is limited or no development, but there certainly could be opportunities for education programs in those areas.

Q: Can people ride ATVs on any of these lands?
A: No, ATVs are not permitted to be ridden on any of Corps, granted and outreach lands. Prohibited by Title 36, property leased also restricts ATV usage.

Q: Where does the Conemaugh River go?
A: The Conemaugh River flows and forms the Kiskiminetas River, when which then flows into the Allegheny and then Ohio.

Q: Can the Corps with the Master Plan do a bit of forward thinking so that you've already assessed where certain types of projects may go with minimal impact? Could having done this pre-work could USACE then expedite a study/EA when a request does come in?
A: Projects that are covered under the Programmatic Environmental Assessment and FONSI for this Master Plan can be expedited through the NEPA process.. The Summary of Recommendations, found on our website and shared at the public meeting, indicates which of these projects would likely require additional analysis. There are, however, at least 18 other Federal laws and executive orders that must be considered for all requests. These other Federal compliance requirements cannot be waived and often have designated timelines built into the law. In the case of the Endangered Species Act, for example, the U.S. Fish and Wildlife Service is legally allowed to take up to 10 weeks to provide a response. Early coordination with the Corps on requests is welcomed and will ensure timely completion of proposed projects. The Corps is able to provide a written determination that the request is feasible for location on Federal land, a list of compliance requirements, and cost estimate even if construction isn't planned for several years.

Q: How will sedimentation be addressed? Whose responsibility? If this is an action others can/should take on - Will the plan articulate those opportunities (i.e. which actions will need an outside project/partner or where further studies are required)?
A: Sedimentation is not directly addressed with the Master Plan Effort. An updated sedimentation study/survey was just completed in the early CY 2017. The results of the survey will be used to determine impact on storage capacity and water management. Budget packages for sedimentation removal will also be developed for future O&M budgets.

Q: What are the increases in acres between existing and proposed attributed to? Are any of the increases in acreage show in the tables provided indicative of physical increases in the amount of acres being used for a particular purpose?

A: The difference in total acreages is due to the change in mapping technology. The initial acreage measurements are products of inaccurate mapping in the past.

Q: Are you proposing any significant changes in the land use classifications?
No, based on the feedback we received during the public engagement process, we heard that the public wanted to better maintain what we have rather than change to new use or add additional facilities in new locations.

Q: What does 'additional coordination required' mean on the summary of recommendations table?
A: The slide being referenced is related to NEPA documentation and shows individual activities discussed in the Environmental Assessment. Additional coordination means that dependent upon the activity, additional coordination and documentation will be conducted, as appropriate, for future projects that are the result of this revised Master Plan. The District or partner requesting the new activity/project 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 the Master Plan 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.

Q: Are they stocking any streams in the Portage area?
A: Portage, PA is located approximately (35) miles upstream of Conemaugh Lake. Streams stocked with trout near Conemaugh Lake include Tom's Run and McGee Run, both located near Blairsville, PA.

Q: Have you had comments about wanting increased access to Conemaugh River Lake?
A: We've received comments about access at Aultman's Run and Bow Ridge. We'd like to improve access at that area. However, the only way we can do it is with a partner. We've approached potential partners but haven't found the right partner yet to do that.

Q: You've likely had comments and requests for improvements needed to the Bow Ridge Area (currently only for handicap only). Would you consider making changes to that area?
A: At this point, Bow Ridge is accessible by foot traffic to the public but the boat launch and vehicular access are only available to visitors with a disability who have applied for and received a permit. There is room in the Master Plan for changes to making this area open to vehicular traffic for the general public, however the capability to make those improvements is dependent upon the cost of capital improvements (namely road ways and safety concerns). At this point, the Corps is not proceeding with implementing changes to this area but the Corps will continue to work with communities to explore options for mutually beneficial development opportunities at Bow Ridge.

Comments from Attendees:
DCNR:
There is a disconnect and delay between Corps process and most granting & planning processes. Project can't be planned for until the grant funding is obtained. Unfortunately, when the grant money is obtained, it often has to be used within a certain time frame and the Corps' environmental and real estate process takes too long, resulting in that grant money no longer being able to be used.

Corps' Response:
The Corps is open to considering project requests at any time and can provide a tentative approval and compliance requirements upfront. These considerations can be used in the planning process and completed when grant funding is obtained.

Comment:
Gibson Thomas

A proposed trail and sewer line falls in the middle of the Environmentally Sensitive Area. They've asked the Corps to review the plans for the trail, but it's taking too long to receive Corps approval and accomplish the trail project.

Corps' Response:
This proposal has several complicating factors to address including a conflict with another land use request. The nature and timing of the request adds time to the review process. Note: Discussions at the Stakeholder Meeting with Gibson Thomas provided an opportunity to discuss those complicating factors not disclosed here.

Comment:
Main Line Canal Greenway
Large concern with sedimentation and its effect on boating in the area. In some areas, kayakers cannot even get out without being a foot or two in sediment.

Corps' Response:
Sedimentation is not directly addressed with the Master Plan Effort, but recent efforts, including a sedimentation study/survey will allow us to inform the creation of Budget packages for sedimentation removal for future O&M budgets.

Breakout Group Discussions:
Land Use Classifications

- The proposed sewer/trail project will realize improved benefits to water quality in the area
- Conemaugh – has non-motorized rules, however local EMS need to practice rescue missions using motorized craft. Can this be added into master plans? Note: Practice rescue operation missions already being done*
- Concern – with the way low density recreation areas are currently described, people might think primitive camping is allowed anywhere. How will you manage/clarify that?
- Virginia Farms – disposal area? What to do with garbage?
    - Idea: Launch volunteer programs
    - Idea: Can be brought to dumpsters
- Removing the unlimited horsepower allowance could be a good idea to change for safety concerns (Loyalhanna woodlands)
    - *Corps' Response:* We currently limit horsepower in particular areas around the lake with buoys. Results of a study on the limiting horse power and number of boats study was completed which will guide the appropriate implementation of horsepower guidelines for the lake.

Specific Projects to Discuss

- Loop @ Indiana Co. Park – Conemaugh WPT access; Bike Safety Signage

Things We Missed

- Be mindful of West Penn Bridge and how the sediment affects the trail. The bridge was JUST resurfaced and then the Corps allowed the water to go over it and wash it out.
    - *Corps' Response:* We will work to see if there are any solutions that aren't Operations and water management focused but might be addressed within the Master Plan and land use management. In particular, we will be looking at the safety requirements to see whether another type of trail barrier may be used that does not catch debris during the high pool, causing destruction to the bridge.
- New Alexandria Park has been officially renamed as 'Gray Wing Park'. We need to make sure this is reflected in any maps or mentions of the park in our materials.
    - *Corps' Response*: We will update our maps and any other Master Plan materials that mention the New Alexandria Park.

RESULTING ACTIONS BASED OFF QUESTION & COMMENTS:

Based on the comments received above, the tasks below will be further pursued by the Corps. Many of the other suggestions and questions above provided feedback on which items need to be clarified or expanded upon within the Master Plan.

- Look at the timeline for Real Estate to form a better estimate of time and effort it will take for particular kinds of projects. Work to establish clear requirements that fit most cases, so interested partners can prepare ahead of time.
- USACE should work to have real estate staff engaged in the discussion at these project meetings so that they are better informed.
- Better coordination with Partners at the Lake Manager level. For example at Loyalhanna Lake & Conemaugh River Lake, if Paul is kept in the loop, he can give Real Estate a heads-up that particular parcels or analyses need to be looked at. This could help jump start the process.
- Work to outline proposed initiatives/where particular kinds of projects might be allowed and where not allowed. So that when proposal comes in, USACE and those writing the proposal know what can or cannot be done and where. (Suggestion by DCNR)
- Our lands are not well marked, consider marking our lands better so visitors know when entering them.
- It would be worth asking permission of the Pittsburgh District again or also exploring the possibility of posting live camera information on the conditional and level of the lake to the Project Facebook page rather than the website.
- If we're to prioritize projects at Loyalhanna Lake and Conemaugh River Lake, it's clear that building and connecting trails are of large interest to our stakeholders.
- Look at Breakout Group Discussion Notes (above), including:
    - Clarify within Master Plan where primitive camping is or is not allowed. Could assume from the way described that primitive camping would be allowed throughout the low density recreation areas.
    - Address Safety Concerns
    - Talk more with contacts interested in protecting the West Penn Bridge to see if there are any solutions that aren't Operations focused but might be addressed within the Master Plan and land use management.
    - New Alexandria Park has been officially renamed as 'Gray Wing Park'. We need to make sure this is reflected in any maps or mentions of the park in our materials.
    - Add ongoing cooperation between local EMS and Lake Manager for mock rescue missions to ensure that this can be continued in the future
- Launch more frequent stakeholder groups meetings as proposed at the Stakeholder Meeting. It was requested (by the Coast Guard) that the attendees at the Stakeholder meeting be provided a list of contact information for all of the other attendees at the meeting. The continuation of periodic meetings was also requested by Derry Township Municipal Authority.

APPENDIX D

Design Memorandums/Studies/Contracted Work

DM#	Design Memorandums/Studies/Contracted Work Related to Conemaugh Dam
	GENERAL ARIMS File Number 11-2-240a1
1	General - Borough of Blairsville
2	General - Outside Interests (1941)
	ENVIRONMENT ARIMS File Number 11-2-240a1
3	General (1999)
4	Environmental Assessment (1983)
5	Environment - License for Environmental Sampling in the Property Adjacent to the Westinghouse Specialty Metals Plant, Blairsville, PA (Feb 1996)
	GEOTECH ARIMS File Number 11-2-240a1
6	General -(1939-1992)
7	General -(1993)
8	Damage to Rt 22 at Blairsville, PA (1994)
9	Fd Exploration & Uplift Cell Installation at Loyalhanna & Fd Exploration & Drain Hole Reaming at Conemaugh DA-88-C-0002, See Loyalhanna - Fd & Mat
10	Results of Laboratory Testing of Soil Samples (ORD)- 15 Jan 1987
11	Results of Lab Testing of 4" & 6" Diameter Rock Core - Nov 1988
12	Sediment Sample Drilling - Drilling Logs, As-Builts for DACW59-83-C-0034 - Pa Drilling Co - 15 Sept 1989
13	Drilling Logs (Inspectors) by Hydro-Group, Inc 1/20/88
14	Drilling Logs by Geo-Mechanics, Inc - 29 July 1986
15	Upstream Right Abutment Erosion MFR (Investigation) – 6 Jun 2014
	HYDROLOGY ARIMS File Number 11-2-240a1
36	Hydrology (1985)
	LAND ARIMS File Number 11-2-240a1
37	Land - PART II (Mar 1980)
38	Land - PART III (Jan 1987)
39	Land - Annual Mgt Plan (1984)
40	Land - Utilization Inspection Reports
	OPERATION & MAINTENANCE ARIMS File Number 11-2-240a1
41	Operation & Maintenance (1943)
42	Operation & Maintenance - Dam Safety - Flood Emergency Plan
43	Operation & Maintenance Manual 1954
44	Operation & Maintenance Manual (Revised) Apr 1993
45	Operation & Maintenance Manual Update (1991)

DM#	Design Memorandums/Studies/Contracted Work Related to Conemaugh Dam
46	Periodic Inspection - Corres. (Incl. Bow Ridge Bridge)
47	Periodic Inspection Reports (1st, 2nd & 3rd) (1971-1980)
48	Periodic Inspection Reports - (4th) -June 1985
49	Periodic Inspection Reports - (5th) - June 1990
50	Periodic Inspection Reports - (6th) -May 1995
51	Periodic Inspection Reports 7th – May 2000
52	Periodic Inspection Report 8th – May 2005
53	Periodic Inspection Reports - Bow Ridge Bridge
54	1st Periodic Bridge Inspection Report – 1996
55	2nd Periodic Bridge Inspection Report – 1997
	PERMITS ARIMS File Number 11-2-240a1
56	Permits (1996)
57	Sediment Removal Project – NPDES Permit Application - Jun 1996
	POLLUTION ARIMS File Number 11-2-240a1
58	Pollution - Report - Acid Mine Drainage, Pollution Abatement and Fishery Restoration - 1991
59	Pollution - Report - Acid Mine Drainage, Pollution Abatement and Fishery Restoration - Corres (1992)
	RECREATION & LAND USE ARIMS File Number 11-2-240a1
60	Historical General Public (1951-1968)
61	Government Agencies (1990)
62	Master Land Use Plan (1952)
63	Master Land Use Plan-Forest, Fish & Wildlife Mgt Plan (DRAFT)Pa Game Commission
64	Draft Operational Management Plan (DRAFT) (1989)
65	Conservation Pool Study (2000)
66	Stone Arch Bridge (2002)
67	Forest, Fish and Wildlife Management Plan (1977)
	SEDIMENTATION & SILTING ARIMS File Number 11-2-240a1
74	Sedimentation & Silting - Corres (1949)
75	Report of Sedimentation Survey - Aug 1967 & Oct 1982
76	Report - Sediment Removal Study - May 1994
	SURVEY DATA ARIMS File Number 11-2-240a1
77	General (1995)
78	Water Supply & Water Quality (1943)
	REMOVAL OF DEBRIS
84	SEDIMENT SAMPLE DRILLING - Penna Drilling Co -DA-89-C-0034

DM#	Design Memorandums/Studies/Contracted Work Related to Conemaugh Dam
86	CONSTRUCTION OF RETENTION DIKE - BOW RIDGE DISPOSAL SITE Herve Cody Contractors -DACW59-96-C-0036
87	DREDGING AND DISPOSAL Herve Cody Contractors -DACW59-97-C-0010
	General 11-2-240a1 – Box 1
1	General (1939)
2	General - Info. Pamphlets 1956
3	General - Permanent Markings & Signs 1951-52
4	General - Pertinent Data 1949
5	Cooperative Procedure 1940
6	Analysis of Design **(1945) (1951-1953)**
	GEOTECH - FOUNDATION REPORTS & INFO 11-2-240a1 – Box 3
1	Foundation Reports - Files 1 thru 5
	GEOTECH - FOUNDATION REPORTS & INFO 11-2-240a1 – Box 4
1	Foundation Field Books
2	Foundation Field books - Spillway Fault
	HIGHWAYS, ROADS & RELOCATIONS 11-2-240a1 – Box 6
1	Indiana Co. Contr. Co. - **DA 2357** (Twp. Roads 440, 596, 574 &Access Rd. F-522)
2	Thomas Maiole - **DA 2670** (Twp. Road 968)
	HYDRAULICS
3	Hydraulics **(1958)**
	HYDROLOGY
4	Hydrology **(1940-1982)**
5	Report on Drainage Basin as Related to Spillway Requirements **(1942)**
	LAND
6	Land - PART I **(Apr 1936 - Nov 1979)**
7	Bulky encl. To ORPED-G CMT to BASIC dated 26MAR84
	OPERATION & MAINTENANCE
8	Blairsville Dike
9	Operation Schedules & Flood Warning 1952-54
10	Piezometer Reports 1950-69
11	Regulation Manual - **May 1955**
12	Reservoir Regulation Manual - **Dec 1978**
13	Uplift Pressures & Leakage **(1955-1968)**
14	Uplift Pressures & Leakage **(1955-1967)**
15	Bulky encl. To DF Operations 12APR71
16	Foundation Uplift Pressures (tabulated) **(1955-1967)**
	RECREATION & LAND USE
10	General 1946-81

DM#	Design Memorandums/Studies/Contracted Work Related to Conemaugh Dam
11	General Public **(1951-1968)**
12	Government Agencies **(1947-1952)**
13	Pa Game Commission 1950-83
14	Prelim. Report on Need for Public Demand for Development of Recr Facility (1951)
15	Conservation Pool Study 1951
	REPORTS 11-2-240a1 – Box 8
1	Alternate Plan - Kiski River Dam **(1939)**
2	Definite Project Report - **24 June 1939**
3	Definite Project Report - **20 Oct 1939**
4	Definite Project Report - **1 Dec 1939**
5	Definite Project Report - **1 Feb 1941**
6	Definite Project Report - **1 Nov 1943**
7	Post War Project Statement - **Aug 1945**
	SURVEY DATA
8	General 1973-83
	UTILITIES
9	General 1945; 1944-86
	A/E SPECS
10	L. Robert Kimball - Boundary Surveys & Markings - **73-C-0127**
11	Univ. of Pittsburgh - Mosquito Survey - **80-C-0022**
	SPECIFICATIONS & DRAWINGS
12	Dam - Savin Const. Corp. - **W-2476** - File #1 - Final Report
13	Dam - Savin Const. Corp. - **W-2476** - File #2
	Construction of Dam 11-2-240a1 – Box 9
1	Dam - Savin Const. Corp. - **W-2476**
2	Dam - Drawings - Cofferdams
3	- Doors, Windows & Hardware
4	- Electrical System
5	- Elevator
6	- Misc. Masonry
7	- Misc. Metal Details
8	- Piping - Hydraulic System & Sump Pump
9	- Reinforcing Steel
10	- Service Bridge
11	- Standby Unit
12	- Tunnels
	CONSTRUCTION SPECS – MSC 11-2-240a1 – Box 10
1	Dam Tenders Dwellings & Public Sanitary Bldg. - Peter Bonianino - DA 2262

DM#	Design Memorandums/Studies/Contracted Work Related to Conemaugh Dam
2	Drawings
3	Lakeside Bridge & steel Co. - **DA-1349**
4	Drawings
5	Gantry Cranes - Painting - Arthur Painting Co. - Contr **65-159 Pd - Dec 1965**
6	Gantry Cranes - Painting - Keystone Painting Co - **DA-78-C-0109**
	CONSTRUCTION SPECS - MSC 11-2-240a1 – Box 11
1	Access Road - Thos. Maiole - **DA-56-47**
2	Resurfacing Access Rd. (**DA-69-0061**) **Pd. Sept. 69**
3	Resurfacing Access Rds. & Parking Area - Russell Standard Corp - DA-74-C-0107
4	Landscaping (Hired Labor)
5	Parking Areas & Roadway & Installing Chain Link Fence Donegal Constr Co - DA-82-C-0092
6	Radio & Antenna
7	Rat Extermination - Blairsville Dump - American Exterminating Co - PO 78285 (Specs)
8	Slide Gates, Embedded Metal, Bulkhead, etc. (Koppers Co. W-2394) (Treadwell - W-2395) (Mountain State - W-2396)
9	Slide Material Removal & Rock Protection - Adam Eidemiller,Inc - DA-2936
10	Water System Pump & Iron & Hardness Removal Equipment
11	Drawings
	BLAIRSVILLE DIKE 11-2-240a1 – Box 12
1	Blairsville Dike - I. T. Miller - **DA-2672**
2	Drawings
3	Clearing to Elev. 885 - Vipond & Vipond - **DA-1481**
4	Clearing Between Elev. 885 & 977 - Frank Bryan - **DA-230**
5	Crest Gates - American Bridge Co - **DA-1428**
6	Drawings

DM#	Design Memorandums/Studies/Contracted Work Related to Loyalhanna Dam
	GENERAL ARIMS File Number 11-2-240a1
1	General (1990)
2	General - Outside Interests - (1985)
3	Master Plan - D.M. #1 - (DRAFT) – 1988
4	Master Plan – Corres (1985)
5	Environmental Assessment - (1982)
	GEOTECH ARIMS File Number 11-2-240a1
6	General (1990)
7	Foundation Exploration & Uplift Cell Installation and Foundation Exploration & Drain Hole Reaming, Conemaugh DA-88-C-0002 - International Water Corp. - TRANSMITTALS
8	Drilling Logs - Dam - Inspectors (1987)
9	Recon Report - Dam Safety Assurance Program - Stability Analysis - Apr 1986
10	Condition Inspection & Requirements Package-Final Report DACW59-00-D-0003 D.O.0001 –Inca Engineers (29 Sep 2000)
11	Loyalhanna Bridge Seat Repairs – Summary Report – Evaluation of Concrete Bridge Seats – Nov 2007
	HYDRAULICS ARIMS File Number 11-2-240a1
12	Model Tests on Stilling Basin & Outlet Works - Oct. 1939
13	Hydroelectric Power (1939)
14	Hydrology (1939)
15	Land - (1939-1989)
16	Land - Annual Mgt Plan (1984)
17	Dept. of Agriculture Lease w/Dr. Frank Perrone
18	Utilization of Inspection Reports
19	Operation & Maintenance (1945)
20	Dam Safety - Flood Emergency Plan
21	Operation & Maintenance Manual (Jan 1950)
22	Periodic Inspections - Corres (1970)
23	1st, 2nd & 3rd Periodic Inspection Reports (1970 -1980)
24	4th Periodic Inspection Report (Jun 1985)
25	5th Periodic Inspection Report - (June 1990)
26	6th Periodic Inspection Report (May 1995)
27	7th Periodic Inspection Report (May 2000)
28	1st Periodic Bridge Inspection (April 1996)
29	Intermediate Inspection Report – Nov 2013
30	2014 Loyalhanna Dam Intermediate Inspection Report – 8 Jul 2014
31	Pollution (1990)

DM#	Design Memorandums/Studies/Contracted Work Related to Loyalhanna Dam
	RECREATION & LAND USE ARIMS File Number 11-2-240a1
32	Archeological Studies - Cultural & Historical (1978)
33	Conservation Pool Study & Public Forum re: Master Plan Update (1968)
34	State Agencies - TABBED
35	Master Land Use Plan - (1950) - Incl Suppl #1 - 25 Jan 1988
36	Hiking Trail - Proposal for (1989Nat'l Recreation Trails - Black Willow Water Trail - Oct 1980
37	Archeological Reconnaisance of Selected Sites at Loyalhanna
38	Forest, Fish, and Wildlife ManagementPlan (1977)
39	Reservoir Sedimentation Data
40	Sedimentation Survey Report (Apr 1997)
41	Survey Data - (1984)
42	Water Quality - (1986)
	SPECS - A/E ARIMS File Number 11-2-240a1
43	A/E - Environmental Planning & Design Partnership DA-79-C-0042 - Room 1924 - Preparation of Master Plan
	GENERAL 11-2-240a1 - Box 1
1	General - Information Pamphlet
2	General - Outside Interests
3	General - Authorizing Document - House Document No. 383
6	Cooperative Procedure
	GEOTECH - GAS, OIL & COAL MINES (cont) 11-2-240a1 – Box 4
1	Keystone Coal Co. - Appraisal Reports - E.M. Merrill
2	Keystone Coal Co. - Mooween Mine Seal Dams - **W-4948**
3	Keystone Coal Co. - Mooween Mine Negatives
4	Gates, Machinery & Equipment
	LAND
10	Oil & Gas Leases
11	Operation & Maintenance Manual
12	Piezometers
13	Reservoir Regulation Manual
14	Pollution **(1942-1968)**
15	Publicity
16	Pa. RR - Agreement - **W-5786** - Relocation Alexandria & Dundale Bridge
	RAILROADS & RELOCATIONS (cont) 11-2-240a1 – Box 5
1	Removal Slag & Cinders Abandoned RR R/W
2	Geo. Vang - **W-5629** - Relocation Pa. RR
	RECREATION & LAND USE

DM#	Design Memorandums/Studies/Contracted Work Related to Loyalhanna Dam
3	General
4	General Public
5	Federal Agencies
6	Tresspass & Encroachments
7	Nat'l Recreation Trails - Black Willow Water Trail -10/1/1980
	REPORTS
8	Definite Project Report - **Dec 1936**
9	Definite Project Report - Revised **May 1939**
10	Post War Project Statement - **Feb 1945**
11	Safety
12	Survey Data
13	Project & Index Maps
	SPECS - A/E 11-2-240a1 – Box 6
1	A/E - Gwin, Dobson & Foreman, Inc - **DA-79-C-0066** Boundary Monumentation & Mapping - DA-83-M-0820
2	A/E - Carnegie Museum of Natural History -Cultural Resources Invest. DA-83-M-0820
3	Construction of Dam - Great Lakes Dredge & Dock - **W-4390**

APPENDIX E

ENGINEER REGULATIONS, PAMPHLETS, AND MANUALS

D.1 Engineer Regulation (ER) 200-1-5, Environmental Quality – Policy for Implementation and Integrated Application of the U.S. Army Corps of Engineers Environmental Operating Principles and Doctrine, 30 Oct 2003

D.2 ER 200-2-2, Environmental Quality – Procedures for Implementing the National Environmental Policy Act, 4 Mar 1988

D.3 ER 1105-2-100, Planning Guidance, 22 April 2000 (with Appendices D and G revised Jun 2004 and Appendix F revised Jan 2006)

D.4 ER 1130-2-406, Shoreline Management at Civil Works Projects, 31 Oct 1990

D.5 ER 1130-2-520, Navigation and Dredging Operations and Maintenance Policies, 29 Nov 1996

D.6 ER 1130-2-540, Environmental Stewardship Operations and Maintenance Policies, 4 Nov 2002

D.7 ER 1130-2-550, Project Operations – Recreation Operations and Maintenance Guidance and Procedures, 15 Nov 1996 (with changes 1 Oct 1999, 1 Mar 2002, 15 Aug 2002, 30 Aug 2008, 30 Mar 2009, 30 Jan 2013, and 30 Sep 2013)

D.8 Engineer Pamphlet (EP) 1130-2-540, Project Operations – Environmental Stewardship and Maintenance Guidance and Procedures, 15 Nov 1996

D.9 EP 1130-2-550, Project Operations – Recreation Operations and Maintenance Guidance and Procedures, 15 Nov 1996

D.10 EP 1165-2-316, Rules and Regulations Governing Public Use of Corps of Engineers Water Resource Development Projects, 1 May 2000

D.11 Engineer Manual 1110-1-400, Engineering and Design – Recreation Facility and Customer Service Standards, 1 Nov 2004