



**US Army Corps
of Engineers**

Philadelphia District

**-DRAFT-
ENVIRONMENTAL ASSESSMENT**

**HYDROLOGIC DEFICIENCY PROJECT
PROMPTON DAM AND LAKE
WAYNE COUNTY, PENNSYLVANIA**

**Prepared By:
Philadelphia District
U.S. Army Corps of Engineers
Philadelphia, Pennsylvania 19107**

JUNE 2005



**-DRAFT-
ENVIRONMENTAL ASSESSMENT**

**HYDROLOGIC DEFICIENCY PROJECT
PROMPTON DAM AND LAKE
WAYNE COUNTY, PENNSYLVANIA**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 PURPOSE AND NEED OF THE PROPOSED ACTION	1
1.1 Property Location	1
1.2 Need for Action	1
1.3 National Environmental Policy Act Documentation	2
2.0 DESCRIPTION OF THE PROPOSED ACTION	4
2.1 Project Components and Expected Outcomes	4
3.0 ALTERNATIVES CONSIDERED	5
4.0 EXISTING ENVIRONMENT	6
4.1 Project Description	6
4.2 Climate	6
4.3 Air Quality	7
4.4 Topography, Geology and Soils	7
4.5 Land Use and Recreation	8
4.6 Hazardous, Toxic and Radioactive Substances	9
4.7 Aquatic Resources and Wetlands	10
4.7.1 Surface Water	10
4.7.2 Groundwater	13
4.7.3 Wetlands	13
4.8 Wild and Scenic Rivers	14
4.9 Vegetation	14
4.10 Wildlife Resources	15
4.11 Finfish and Invertebrate Species	17
4.12 Threatened and Endangered Species	18
4.13 Prime and Unique Farmlands	19
4.14 Cultural Resources	19
4.15 Infrastructure	20
4.16 Socioeconomic Conditions	20
4.17 Environmental Justice	22

5.0 ENVIRONMENTAL EFFECTS	22
5.1 Project Area Description	22
5.2 Climate	22
5.3 Air Quality	22
5.4 Topography, Geology and Soils	22
5.5 Land Use and Recreation	23
5.6 Hazardous, Toxic and Radioactive Substances	23
5.7 Aquatic Resources and Wetlands	23
5.7.1 Surface Water	23
5.7.2 Groundwater	24
5.7.3 Wetlands	24
5.8 Wild and Scenic Rivers	24
5.9 Vegetation	25
5.10 Wildlife Resources	25
5.11 Finfish and Invertebrate Species	25
5.12 Threatened and Endangered Species	26
5.13 Prime and Unique Farmlands	26
5.14 Cultural Resources	26
5.15 Infrastructure	26
5.16 Socioeconomic Conditions	26
5.17 Environmental Justice	27
5.18 Cumulative Impacts	27
5.19 Environmental Permits and Regulatory Compliance	27
6.0 COORDINATION	27
7.0 CONCLUSIONS	28
8.0 LITERATURE CITED	30
APPENDIX A- COORDINATION	
APPENDIX B- AGENCY RESPONSE	
APPENDIX C- 404(b)(1) ANALYSIS	
APPENDIX D- COMPLIANCE WITH ENVIRONMENTAL STATUTES	

**HYDROLOGIC DEFICIENCY PROJECT
PROMPTON DAM AND LAKE
WAYNE COUNTY, PENNSYLVANIA**

**-DRAFT-
ENVIRONMENTAL ASSESSMENT**

1.0 PURPOSE AND NEED OF THE PROPOSED ACTION

1.1 Property Location

Prompton Dam, which is operated by the U.S. Army Corps of Engineers, Philadelphia District (USACE), is located in the Lackawaxen River Basin, Wayne County in Northeastern Pennsylvania. Prompton Dam is one-half mile upstream of the village of Prompton on the West Branch of the Lackawaxen River (Figure 1). The project is 31 miles upstream of the Lackawaxen River's confluence with the Delaware River. The dam is a zoned earth and rock fill embankment, 1230 ft long, and 140 ft high.

Prompton Dam was authorized in House Document 113, 80th Congress, 1st Session, and was completed in 1960 with flood control as its sole purpose. Prompton Dam is part of an integrated reservoir flood control system for the Lackawaxen River. In conjunction with the General Edgar Jadwin Reservoir, the system provides flood protection, in varying degrees, to the boroughs of Prompton, Honesdale, and Hawley and to smaller communities along the Lackawaxen River.

1.2 Need for Action

In the late 1980's, Prompton Dam was analyzed for a modification to convert a portion of its flood control storage volume to water supply storage. The proposed modification never materialized and the study ended. However, as part of the study a new estimate of the Probable Maximum Flood (PMF) was prepared and Prompton Dam was determined to be hydrologically deficient according to current USACE guidance. In the current PMF scenario the dam embankment would be overtopped by 5.5 ft. Any over topping of the embankment would place the dam at high risk of catastrophic failure. This risk means that the dam needs to be re-designed in order to pass the PMF safely and protect the structural integrity of the dam during these large flood events.

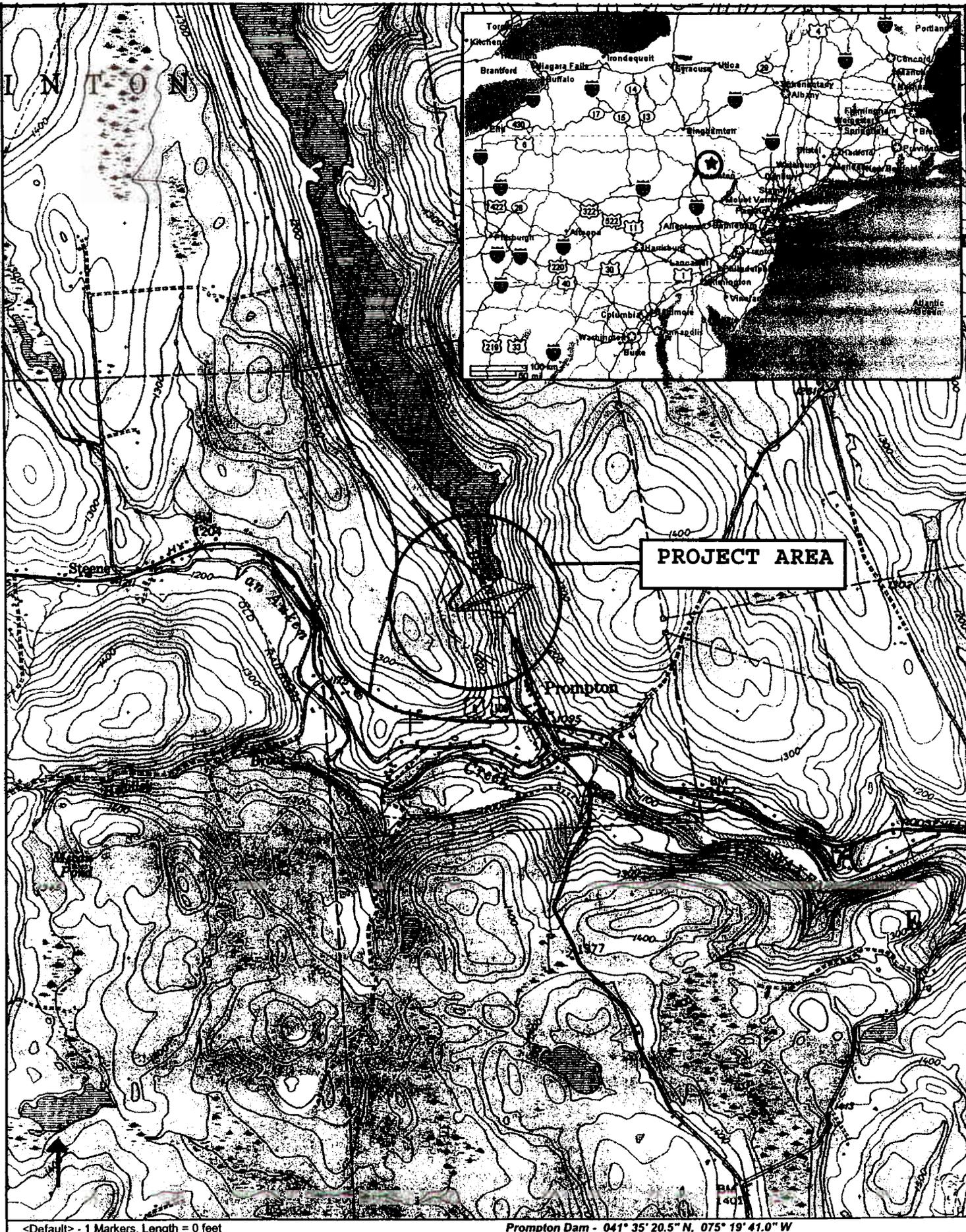
The Hydrologic Deficiency Report, Prompton Dam, West Branch Lackawaxen River, PA, Philadelphia District, U.S. Army Corps of Engineers, Revised December 1993 presented the results of investigations into the potential impacts that a range of floods would have on the hydrologic/hydraulic capability of the project, evaluated both structural and non-structural

solutions to correct the hydrologic deficiency, and presented a selected alternative. The recommend plan in the 1993 report proposed widening the spillway from 50 ft to 130 ft; constructing a spillway retaining wall to prevent erosion of the western abutment of the dam; raising the dam 7 ft with a flood wall on top of the existing dam embankment; and lowering the spillway by 5 ft in combination with a 5-ft. high erodible spillway embankment (fuse plug).

The selected plan presented in the 1993 Hydrologic Deficiency Report was further refined and analyzed in the Hydrologic Deficiency Final Design Documentation Report, Prompton Dam, West Branch Lackawaxen River, PA. Philadelphia District, U.S. Army Corps of Engineers, June 2003. In order to gain a better understanding of the hydraulic impacts to the project from the proposed modification, a physical model was constructed and project performance was evaluated by the Hydraulic Laboratory of the Waterways Experiment Station (WES) from 1999 to 2003. Additions to the 1993 plan from the WES study were a training structure at the upstream entrance to the spillway and the improvement of riprap protection at the outlet works. Other major changes from the 1993 plan were the replacement of the spillway retaining wall with a soil nail wall. The soil nail wall technology eliminates the large excavation needed for the retaining wall. The training structure, which originally was a rock dike in the WES model study, is being replaced with a mechanically stabilized earth (MSE) geogrid-reinforced wall. The MSE wall will provide a smoother transition for flow into the spillway.

1.3 National Environmental Policy Act Documentation

This Environmental Assessment (EA) was prepared in accordance with National Environmental Policy Act (NEPA) regulations. This EA assesses conditions at the project site and evaluates the potential impacts of the Prompton Dam modification project on existing resources in the immediate and surrounding areas to include: physical, chemical, and biological characteristics of the aquatic and terrestrial ecosystem; endangered and threatened species; hazardous and toxic materials; aesthetics and recreation; cultural resources; and the general needs and welfare of the public. The proposed project was coordinated with resource agencies and other interests in an effort to identify any environmental concerns associated with the location and timing of the project (Appendix A).



PROJECT AREA

<Default> - 1 Markers, Length = 0 feet

Prompton Dam - 041° 35' 20.5" N, 075° 19' 41.0" W

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Project Components and Expected Outcomes

In the late 1980's, Prompton Dam was analyzed for a modification to convert flood control storage to water supply storage. Although the proposed conversion never materialized, the Probable Maximum Flood (PMF) was recalculated according to the latest meteorological criteria (HMR-51, June 1978 and HMR-52 August 1982). Based on the revised PMF, Prompton Dam was found to be hydrologically deficient. In 1993, a Hydrologic Deficiency Study was completed that determined Prompton Dam's Base Safety Condition (BSC), i.e., the percentage of the PMF that causes the same economic damage and loss of life with and without failure. The BSC was determined to be 100% of the PMF, because the economic damage and loss of life for any percentage of the PMF was always calculated substantially greater with dam failure. The Hydrologic Deficiency Study also identified the least cost structural modification to safely pass the PMF. The purpose of the 2004 Hydrologic Deficiency Design Documentation Report (DDR) was to refine and analyze the 1993 Selected Plan called for in the 1993 Hydrologic Deficiency Report. A physical model study performed by the Hydraulic Laboratory of the Waterways Experiment Station (WES) aided in the design refinement. The Selected Plan is presented below.

Spillway

The spillway will be widened from the present 50 ft width to 130 ft, extending 105 ft left of the existing spillway center line towards the dam and 25 ft right of the existing spillway center line. The upstream end of the spillway is to be flared following the flare of the existing spillway. The spillway will be modified by excavation to a 5 ft lower depth. At the crest, the spillway will be lowered from elevation 1,205 ft-NGVD to elevation 1,200 ft-NGVD. The new channel bottom will have a +1.67 percent slope upstream and a -3.5 percent slope downstream from the control sill. A concrete control sill will be constructed at the spillway crest at elevation 1,200 ft-NGVD. Rock anchors and drain holes will be provided in the control sill to resist uplift. The sill will be 30 ft wide and extend the full width of the spillway.

The plan incorporates a 5 ft high fuse plug in the spillway. The fuse plug is a gravel filled embankment with an impervious upstream face. Based on the proposed cut of the spillway the fuse plug will be 5 ft high, consisting of processed rock (gravel) and overburden from the spillway excavation. The fuse plug will consist of two zones. The main zone embankment will consist of well-graded gravel. The upstream face of the embankment will be comprised of a four (4) feet thick zone of silty sand. The particle sizes are chosen to minimize permeability until overtopping of the fuse plug embankment. The fuse plug is designed to function as a dam, but will be washed out at a predictable rate when overtopped, to increase the spillway capacity.

A soil nail wall will be constructed along the east side of the spillway to protect the dam, extending 420 ft upstream to 553 ft downstream of the spillway crest. A scour apron will be installed on the east side of the spillway floor in order to protect the base of the soil nail wall in an area of weathered rock.

Embankment

The dam is to be raised to elevation 1,233 ft-NGVD through the use of a 7 ft concrete wall that is to be constructed across the top of the dam. On the west embankment abutment, the wall will tie into the bridge abutment. On the east abutment, the wall will extend approximately 150 ft beyond the dam to the point where it ties in with existing contours.

Stilling Outlet Works

Improved riprap protection at the Outlet Works is planned. Dewatering of the stilling basin and approximately 220 ft of channel downstream will occur to allow placement of the riprap. Riprap of various sizes will be placed from the upstream end of the outlet works to approximately 220 feet downstream. No change in the conduit is planned.

Access to Dam

A new access road is to be constructed to the west of the dam on the excavated material disposal area. The access road will include a bridge crossing the spillway. This access road is to begin near the intersection of Route 170 and the existing access road. It will continue towards the spillway crest and the west abutment of the dam. The bridge will cross the new 130 ft wide spillway and be supported by a pier. The new access road will join the existing access road in the vicinity of the existing maintenance building (to be demolished).

Other Construction

A portion of the existing operations' facilities will be demolished. A new operations/equipment facility and equipment storage yard will be constructed on the excavated material disposal area.

3.0 ALTERNATIVES CONSIDERED

The no-action alternative would not achieve the purpose of ensuring the dam will meet the Probable Maximum Flood as required under the U.S. Army Corps of Engineers, Engineering Regulation (ER) 1110-8-2 (FR) Inflow Design Floods for Dams and Reservoirs, dated 01 March 1991. Any over topping of the embankment would place the dam at high risk of catastrophic failure. This risk means that the dam needs to be modified in order to pass the PMF safely and protect the structural integrity of the dam during these large flood events and subsequently protect downstream communities. Various construction and design alternatives have been developed and evaluated.

The Hydrologic Deficiency Report, Prompton Dam, West Branch Lackawaxen River, PA, Philadelphia District, U.S. Army Corps of Engineers, Revised December 1993 presented the results of investigations into the potential impacts that a range of floods would have on the hydrologic/hydraulic capability of the project, evaluated both structural and non-structural solutions to correct the hydrologic deficiency, and presented a selected alternative. The recommend plan in the 1993 report proposed widening the spillway from 50 ft to 130 ft; constructing a spillway retaining wall to prevent erosion of the western abutment of the dam; raising the dam 7 ft with a flood wall on top of the existing dam embankment; and lowering the spillway by 5 ft in combination with a 5-ft. high erodible spillway embankment (fuse plug).

The selected plan presented in the 1993 Hydrologic Deficiency Report was further refined and analyzed in the Hydrologic Deficiency Final Design Documentation Report, Prompton Dam, West Branch Lackawaxen River, PA Philadelphia District, U.S. Army Corps of Engineers, June 2003. In order to gain a better understanding of the hydraulic impacts to the project from the proposed modification, a physical model was constructed and project performance was evaluated by the Hydraulic Laboratory of the Waterways Experiment Station (WES) from 1999 to 2003. Additions to the 1993 plan from the WES study were a training structure at the upstream entrance to the spillway and the improvement of riprap protection at the outlet works. Other major changes from the 1993 plan were the replacement of the spillway retaining wall with a soil nail wall. The soil nail wall technology eliminates the large excavation needed for the retaining wall. The training structure, which originally was a rock dike in the WES model study, is being replaced with a mechanically stabilized earth (MSE) geogrid-reinforced wall. The MSE wall will provide a smoother transition for flow into the spillway.

4.0 EXISTING ENVIRONMENT

4.1 Project Description

As previously described, Prompton Dam is an earthfill flood control structure with uncontrolled outlet works. It currently extends 1200 feet across the valley and rises to a maximum height of 140 feet above the streambed. The embankment consists of an upstream compacted earth fill zone and a downstream compacted random fill zone, separated by an inclined drainage zone, which is connected to a horizontal drainage blanket. The blanket covers the valley floor under the downstream slope, but does not extend up the abutments. The dam is located in Wayne County in northeastern Pennsylvania approximately 31 miles above the confluence of the Lackawaxen River with the Delaware River at Lackawaxen, Pennsylvania.

The Lackawaxen River drains an area of 588 square miles. The project has a drainage area of 59.6 square miles within the West Branch Lackawaxen River, or approximately 10 percent of the entire Lackawaxen River Basin. The existing dam was constructed for flood control purposes and is designed to hold floodwater for only a short period after a flood. The reservoir contains 20,300 acre-feet of authorized flood control storage and an additional 28,200 acre-feet of excess storage.

4.2 Climate

According to the Soil Survey of Wayne County, Pennsylvania (1985), Wayne County enjoys a temperate northeast Atlantic Coast climate that is characterized by frequent changes in temperature and occasional moderate amounts of precipitation. The area is subject to precipitation from normal rainfall, thunderstorms, snowfall, and heavy rains associated with hurricanes. Average annual precipitation in Wayne County is 38.7 inches with an average annual snowfall of 57.2 inches. The lowest monthly average, 2.6 inches, normally occurs in February, and the highest monthly average, 3.8 inches, normally occurs in June. Wayne County has an average annual daily air temperature of 45° F with an average annual low of 22.9° F in January to an average high of 68° F in July.

4.3 Air Quality

There are six principal pollutants that act as indicators of air quality for the nation. The National Ambient Air Quality Standards are the concentrations of these principal pollutants, above which, adverse effects on human health may occur. Regional areas that consistently stay below these standards are designated "attainment". Areas that persistently exceed these standards are designated "non-attainment". Air quality is monitored in Pennsylvania by the Department of Environmental Protection, Bureau of Air Quality. Air quality monitoring is conducted by placing air monitors within high population density areas within the state. The state has been broken down into six "air regions". Wayne County is located in Region 2. An Air Quality Index (AQI) developed by the U.S. Environmental Protection Agency is published daily for all sites in Pennsylvania as a means of reporting air quality to the general public. The AQI records levels of five common air contaminants: carbon monoxide, sulfur dioxide, particulate matter, ozone and nitrogen dioxide. Air quality is not monitored within the immediate project area via this system, however based on air quality at monitoring sites in Scranton and Wilkes-barre (the closest monitoring sites to the project area) it appears that air quality within the project area is generally good. Limited industry and a generally low population regionally provide the Prompton Dam project area with relatively clean air with minimal contaminants. Other than the one-hour ozone standard, the site is not listed by EPA as a non-attainment area for criteria pollutants. EPA has plans to revoke the one-hour standard effective June 15, 2005. Based on this, air pollution levels do not exceed the national ambient air quality standards in the project area.

4.4 Topography, Geology and Soils

The Lackawaxen River is located and is entrenched between sequences of rounded hills, which rise to 1600 ft above sea level. Relief in the area of the dam is 200 to 300 ft. The Prompton Dam is situated within the Appalachian Plateau physiographic province. Bedrock outcrops on the upper slopes that border the Lackawaxen River, while at lower elevations, morainal, fluvial and lacustrine deposits derived primarily from glacial activity, form the overburden. The entire Prompton Dam area and extending as far south as Allentown, Pennsylvania, was once covered with massive glaciers, which moved southward from the Canadian north within the last half-million years. Of the four known glacial periods, northeastern Pennsylvania, and the Prompton Dam area were covered by at least the last two events, the Illinoian and Wisconsin events, which occurred within the last 75,000 years. The presence and retreat of these glaciers carved the surface features and resulted in the deposition of glacial drift as till or outwash deposits. Along the axis of the dam, the thickness of the glacially derived overburden ranges from 100' on the east abutment, 140' in the mid-valley sections, to 120' on the upper west abutment.

The overburden is made up of lenses and beds of poorly graded material ranging from silt to fine gravel with scattered cobbles and boulders. Prompton Dam is located in an area near the southern end of the great ice sheets, where numerous retreats and re-advances may have occurred resulting in the complex geologic conditions encountered. Gravel generally forms 15 to 20 percent and silt 20 to 50 percent of a given sample. Cyclically deposited silt beds of variable thickness occur below the west side of the valley (west abutment); locally extending eastward, under the river. Bedrock in the dam foundation and existing spillway cut consists of

red-brown and green-gray sandstone, siltstone and shale. These are part of the upper Devonian Catskill Formation according to publications of the Pennsylvania Geological Survey. Sandstones range from very fine to coarse-grained and are conglomeratic in some horizons. In general, the size range of the sandstone is predominantly fine to medium. Shale and siltstone occur as interbedded units varying in thickness from ¼ inch to several feet.

The soil types surrounding the project area can generally be described as stony or channery loams. The soils of Wayne County have been exhaustively studied and catalogued by the U.S. Department of Agriculture, Soil Conservation Service in cooperation with Pennsylvania State University and the Pennsylvania Department of Agriculture. Soil associations identified within the Prompton Dam area are shown in Table 1. Specific soils identified in the Wayne County Soil Surveys and found within the project area are shown in Table 2.

NAME	DESCRIPTION
Holly-Basher-Wyoming Association	Deep, nearly level to sloping, very poorly drained to somewhat excessively drained soils formed in alluvium and glacial outwash
Morris-Wellsboro Association	Deep, nearly level and gently sloping, somewhat poorly drained and moderately well drained soils that formed in reddish glacial till
Wellsboro-Morris-Oquaga Association	Deep and moderately deep, nearly level to sloping, somewhat poorly drained to well drained soils that formed in reddish glacial till

TABLE 1. Prompton Dam Project Area Soil Associations

SYMBOL	DESCRIPTION
WeC	Wellsboro Channery Loam, 8-15% slopes
WeD	Wellsboro Channery Loam, 15-25% slopes
WeB	Wellsboro Channery Loam, 3-8% slopes
MoC	Morris Channery Loam, 8-15% slopes
OxB	Oquaga Extremely Stony Loam, 3-8% slopes
OxD	Oquaga Extremely Stony Loam, 8-15% slopes
OaB	Oquaga Channery Loam, 3-8% slopes
Bh	Basher Silt Loam

TABLE 2. Prompton Dam Project Area Soil Types

4.5 Land Use and Recreation

The existing facilities at Prompton Dam and Lake provide a variety of recreational activities including hiking, snowshoeing, fishing, boating, sightseeing, and hunting. Disc golfing has become a popular sport in the region, and tournaments are held at Prompton several times each year. Recreational benefits at Prompton were calculated in terms of annual visitation by applying the unit day value (UDV) method. Table 3 shows historic annual visitations. The primary recreational reason people visit the dam is for disc golfing, hiking, and fishing. In recent years disc golfing and other general recreational activities account for approximately 60% of all visits. The other 40 percent visited to engage in fishing. A UDV of \$6.94 per visitor-day

is assigned to general recreation; likewise, a UDV of \$7.69 per visitor-day was assigned to fishing/hunting. These values have been updated to current price level and were based on the points and UDV calculated for the Prompton Modification PED study. In 2003, the latest full year of data, 42,308 people visited the Prompton Dam and Lake. Visitation has varied considerably over the years; therefore, it is reasonable to estimate the 5-year average value of 36,921 is representative of the long-term recreational benefit of the dam. The 2003 recreational benefits are approximately \$268,000.

YEAR	VISITATION	YEAR	VISITATION
1962	17,500	1983	40,500
1963	37,800	1984	28,300
1964	38,800	1985	89,000
1965	40,200	1986	59,200
1966	60,200	1987	99,374
1967	41,800	1988	104,965
1968	55,900	1989	111,607
1969	53,300	1990	101,159
1970	74,700	1991	73,809
1971	109,700	1992	119,743
1972	91,500	1993	128,016
1973	87,000	1994	48,184
1974	134,263	1995	86,476
1975	182,230	1996	42,320
1976	107,630	1997	38,852
1977	126,800	1998	38,600
1978	109,300	1999	42,100
1979	93,000	2000	37,836
1980	N/A	2001	33,317
1981	53,000	2002	29,044
1982	52,050	2003	42,308

TABLE 3. VISITATION RECORD Source: Philadelphia District Annual Reports on Water Control Management

Areas surrounding and including portions of Prompton Lake and Dam were part of the Prompton State Park until 1981 when state funding could no longer support the resource. In the late 1990's, a group named Friends of Prompton State Park was formed in an effort to revitalize or restore the project area as a State park. The groups proposed development plans include restoration of the swimming beach area, construction of a handicapped access fishing pier, construction of a picnic pavilion, and development and expansion of the hiking trail system. Efforts to revitalize the project area as a State park are ongoing, such as trail construction. However, the area has not been re-designated a State Park.

4.6 Hazardous, Toxic, and Radioactive Substances

Hazardous, Toxic and Radioactive Wastes (HTRW) include any hazardous substance regulated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Hazardous substances regulated under CERCLA include "hazardous wastes" under the Resource Conservation and Recovery Act (RCRA), "hazardous substances" identified under Section 311, of the Clean Air Act (CAA), "toxic pollutants" designated under Section 307 of the Clean Water Act (CWA), "hazardous air pollutants" designated under Section 112 of the CAA, and eminently hazardous chemical substances or mixtures that EPA has taken action under Section 7 of the Toxic Substances Control Act (TSCA), but does not include petroleum, unless already included in the above categories, or natural gas.

In accordance with the HTRW Guidance for Civil Work Projects, ER 1165-2-132, dated June 26, 1992, a survey was conducted for the Prompton Dam project area. The study area was limited to the spillway, excavation disposal, operations, and stilling basin areas. The survey looked at the historical background of the project area in order to identify any potential sources that may be suspected of introducing hazardous contaminants into the project area. The focus of the research was to find information that indicated whether or not potential sources may once have been located in the area and whether or not such sites may still be present.

There will be various areas of excavation in the project area, which include the crest of the dam, the stilling basin, and the spillway. There will be one area of major fill for this project and this will be located on the western side of the spillway, looking downstream. There have not been any sources of contamination identified in these areas since the completion of the dam in 1960 and with the property being under the supervision of the USACE from that time, the potential for the presence of contamination is low.

Only one underground storage tank (UST) is present at the site, which is used to store fuel oil near the existing operation building. The fuel oil is used to heat the operation building. The age and condition of this UST is not known so there is a potential for some contamination in this area. When the existing operations building is demolished this UST will be removed. In addition to the UST, there is a sewer leach field in the vicinity of the operations building. Even though the sewer leach field is not a HTRW concern, it is likely that this will be properly decommissioned or abandoned in place.

4.7 Aquatic Resources and Wetlands

4.7.1 Surface Waters

The Lackawaxen River drains the east side of the Moosic Mountains, which is the divide between the Delaware and Susquehanna drainage basins. At Prompton Dam the river flows southeast and in the Borough of Prompton turns eastward to Honesdale, where it is joined from the north by Dyberry Creek. From Honesdale it continues in a southeasterly course to the Delaware River.

Waters of the Commonwealth of Pennsylvania are protected by water quality standards based on classified uses of each water body. The Pennsylvania Department of Environmental Protection uses these standards when regulating discharges. Water quality criteria for the West Branch Lackawaxen River watershed was developed based on the protected uses defined in Chapter 93 of the Pennsylvania Water Quality Standards. Classifications for protected uses fall into the categories of aquatic life, water supply, recreation and special protection. Table 4 lists

the State classification categories, symbols and protected uses. The main stem of the West Branch Lackawaxen River from Prompton Dam downstream to the confluence with Dyberry Creek is considered a High Quality Trout Stocked and Migratory Fishery (HQ-TSF, MF). These waters have special protection for the maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna that are indigenous to a coldwater habitat. Pennsylvania's Comprehensive Water Quality Management Plan (COWAMP) study for the Upper Delaware River Basin classified the quality of water in the Lackawaxen watershed as excellent. Agricultural runoff, influenced predominately by dairy herds, is a significant source of nitrogen along the river. The water quality of the lake discharge plays a crucial role in the subsequent water quality downstream of the reservoir in the West Branch Lackawaxen River.

The lake is approximately three miles long and is about 30 feet deep at the face of the dam. The USACE implements a yearly monitoring program at Prompton Reservoir to evaluate potential public health and environmental concerns. In general, the monitoring program emphasizes measuring water quality and sediment contamination. Monitoring results are compared to state and federal standards to evaluate the condition of Prompton Lake. The 2004 monitoring program of Prompton Lake comprised the following major elements:

- 1) Monthly water quality monitoring of physical/chemical parameters at fixed stations from May through September;
- 2) Monthly water quality monitoring of nutrient parameter concentrations, coliform bacteria contaminants from May through September; and
- 3) Sediment priority pollutant monitoring for metals, acid/base neutral extractables, PCBs, pesticides, and volatile organics at a fixed station in the deepest part of the lake.

In 2004, the water quality of Prompton Lake was not in compliance with the PADEP standard for dissolved oxygen (DO) throughout the monitoring period at lake sampling stations. The water quality standard for DO is a minimum concentration of 5 mg/L. Additionally, measures of pH during August at the surface for lake sampling stations were not in compliance with the PADEP criteria for pH. The water quality standard for pH is an acceptable range from 6 to 9. Nutrient levels in Prompton Lake were acceptable during 2004. Measures for total phosphorus with results greater than the detection limit exceeded the EPA guideline in 100% of the samples. However, the minimum detection limit was equal to the EPA guideline. Ammonia, nitrate + nitrite, TDS, and alkalinity were in compliance with state water quality standards throughout the reservoir watershed. The trophic status of Prompton Lake was defined, independently, by Carlson's trophic state index and EPA criteria. Both classifications were based on concentrations of phosphorus, chlorophyll *a* and secchi disk depths. Carlson's trophic state index classifies the lake as highly variable in its trophic condition during 2004. However, EPA guidelines classify Prompton Lake as mesotrophic/eutrophic. Prompton Lake was in compliance with the PADEP water quality standards for bacteria contamination during 2004. The geometric mean among all fecal coliform counts in each month was less than the PADEP water quality standard (200 clns/100 ml). Sediment priority pollutant monitoring was conducted

TABLE 4
PROTECTED WATER USES UNDER PENNSYLVANIA CHAPTER 93
WATER QUALITY STANDARDS

AQUATIC LIFE

- CWF** ***Cold Water Fishes***--Maintenance and/or propagation of fish species including the family Salmonidae and additional flora and fauna that are indigenous to a coldwater habitat.
- WWF** ***Warm Water Fishes***--Maintenance and propagation of fish species and additional flora and fauna that are indigenous to a warm water habitat.
- MF** ***Migratory Fishes***--Passage, maintenance and propagation of anadromous and catadromous fishes and other fishes which ascend to flowing waters to complete their life cycle.
- TSF** ***Trout Stocking***--Maintenance of stocked trout from February 15 to July 31 and maintenance and propagation of fish species and additional flora and fauna which are indigenous to a warm water habitat.

WATER SUPPLY

- PWS** ***Potable Water Supply***--Used by the public as defined by the Federal Safe Drinking Water Act or by other water users that require a permit from DEP under The Pennsylvania Safe Drinking Water Act, after conventional treatment, for drinking, culinary and other domestic purposes, such as inclusion in foods.
- IWS** ***Industrial Water Supply***--Used by industry for inclusion into nonfood products, processing and cooling.
- LWS** ***Livestock Water Supply***--Use by livestock and poultry for drinking and cleansing.
- AWS** ***Wildlife Water Supply***--Use for waterfowl habitat and for drinking and cleansing by wildlife.
- IRS** ***Irrigation***--Used to supplement precipitation for growing crops

RECREATION

- B** ***Boating***--Use of the water for power boating, sail boating canoeing and rowing for recreational purposes when surface water flow or impoundment conditions allow.
- F** ***Fishing***--Use of the water for the legal taking of fish.
- WC** ***Water Contact Sports***--Use of the water for swimming and related activities.
- E** ***Esthetics***--Use of the water as an esthetic setting to recreational pursuits.

SPECIAL PROTECTION

- HQ** ***High Quality Waters***--A stream or watershed which has excellent quality waters and environmental or other features that require special water quality protection.
- EV** ***Exceptional Value Waters***--A stream or watershed which constitutes an outstanding national, State, regional or local resource, such as waters of national, state or county parks or forests, or waters which are used as a source of unfiltered potable water supply, or waters of wildlife refuges or State game lands, or waters which have been characterized by the Fish Commission as "Wilderness Trout Streams," and other waters of substantial recreational or ecological significance.

in the deepest part of the reservoir in 2004. A total of 62 priority pollutant contaminants comprised of PCBs, pesticides, and volatile organics were assayed in bottom sediments. Of the 62 parameters, only three were identified and none of these exceeded screening levels.

Regression analysis of long-term trends suggested that significant water quality changes have occurred in Prompton Lake over the past 30 years. Regression analysis for total nitrogen and total dissolved solids data indicated that average concentrations have significantly decreased since the late 1970s. Significant reductions of total nitrogen have occurred in the Lake at one in-lake station and downstream in the West Branch Lackawaxen for both spring and summer seasons. Total dissolved solids showed a significant reduction downstream during the summer season. Trends computed for individual stations using the Mann-Kendall test indicated significant water quality changes in the reservoir and upstream in the Prompton Lake watershed. Ammonia, total inorganic nitrogen, and TDS appear to be decreasing at these stations.

4.7.2 Groundwater

Groundwater areas that can readily store and transmit useable amounts of water are called aquifers. The groundwater table at Prompton Dam has a generally seasonal variation, but is usually within a few feet of the surface in the lower slopes and valley floor. A zone of artesian pressure is encountered in the coarser soil deposits in the project area, which exhibit hydrostatic pressures ranging up to 25 ft above the existing ground level. The artesian pressure may be due to percolation through the pervious deltaic materials in the reservoir floor and valley wall upstream of the dam. This deltaic material is likely to act as a path of flow under the dam thereby transmitting uplift pressures that will fluctuate with the height of water in the reservoir. To relieve these pressures and assure the stability of the dam foundation, a series of relief wells were installed in the dam, some of which penetrated the artesian strata permitting the drainage of excess hydrostatic pressure beneath the dam. In relation to this artesian pressure condition, it has been noted that one relief well in the east abutment flows steadily even under drought conditions.

4.7.3 Wetlands

Shallow water habitat is limited in the existing lake and consequently, aquatic vegetation is also limited. Three types of wetlands are present in the general area surrounding Prompton Dam and Lake. The most dominant of these is the palustrine emergent wetlands, followed by the palustrine forested and palustrine scrub-shrub, respectively. Two small areas of palustrine emergent wetlands provide nearly all the emergent vegetation on the reservoir. A third palustrine emergent wetland together with a palustrine scrub-shrub wetland is found along a stream at the upper end of the lake.

Wetland areas adjacent to the lake boundaries and within the project area were identified using: Honesdale, PA National Wetlands Inventory Map; 7.5 Minute Quadrangle topographic map; and a site visit performed on 21 April 2004 by representatives of the Philadelphia District Corps Environmental Branch and Regulatory Enforcement Section. The site visit performed on 21 April 2004 confirmed the lack of wetlands present within the modification project limits. In addition, no wetlands were identified within the project area based on the U.S. Fish and Wildlife Service National Wetlands Inventory Map. This wetland mapping identified the West Branch

Lackawaxen River as R30WH (Riverine, Upper Perennial, Fresh. Intermittently Flooded/Temporary, Permanent).

4.8 Wild and Scenic Rivers

A resource information review revealed that no nationally designated wild and scenic rivers or river segments are located within the project area.

4.9 Vegetation

The vegetation of the Lackawaxen River watershed reflects the environmental conditions (geology, climate, and soils) associated with the different physiographic provinces and the disturbance history, both natural and anthropogenic. Vegetation within the Federal properties located in and around Prompton Dam and Lake, in part, reflects the disturbance history of the dam and lake construction. Of Wayne County's 448,536 acres, approximately one-quarter consists of forested land. The northern and southern portions of the County contain a higher forested concentration, while the central section, including the project area, has a greater amount of agricultural land. The highest intensity of forested land occurs within the County's several state-owned lands.

A wide variety of native and introduced species can be found within forested as well as non-forested areas of the Prompton Dam and lake and surrounding areas. The site has been significantly disturbed by human activities in the past. Some common woody and herbaceous vegetation likely to occur within and in the proximity of the project area are listed in Table 5.

<u>TREE SPECIES</u>	<u>SHRUB, VINE & HERBACEOUS SPECIES</u>
Red Maple (<i>Acer rubrum</i>)	Wintergreen Barberry (<i>Berberis julianae</i>)
Sugar Maple (<i>Acer saccharum</i>)	Sweetfern (<i>Comptonia peregrina</i>)
Sweet Birch (<i>Betula lenta</i>)	Common Witchhazel (<i>Hamamelis virginiana</i>)
Yellow Birch (<i>Betula lutea</i>)	Lambkill Kalmia (<i>Kalmia angustifolia</i>)
Grey Birch (<i>Betula populifolia</i>)	Mountain Laurel (<i>Kalmia latifolia</i>)
River Birch (<i>Betula nigra</i>)	Ground Pine (<i>Lycopodium obscurum</i>)
Shagbark Hickory (<i>Carya ovata</i>)	Virginia Creeper (<i>Parthenocissus quinquefolia</i>)
Bitternut Hickory (<i>Carya cordiformis</i>)	Bracken Fern (<i>Pteris Spp.</i>)
Hawthorn (<i>Crataegus Spp.</i>)	Rhododendron (<i>Rhododendron Spp.</i>)
American Beech (<i>Fagus grandifolia</i>)	Staghorn Sumac (<i>Rhus typhina</i>)
White Ash (<i>Fraxinus americana</i>)	Poison ivy (<i>Rhus radicans</i>)
Tulip Tree (<i>Liriodendron tulipifera</i>)	Wild rose (<i>Rosa spp.</i>)
Bigtooth Aspen (<i>Populus grandidentata</i>)	Blackberry (<i>Rubus allegheniensis</i>)
Quaking Aspen (<i>Populus tremuloides</i>)	Meadow Sweet Spirea (<i>Spirea alba</i>)
Black cherry (<i>Prunus serotina</i>)	Lowbush Blueberry (<i>Vaccinium angustifolium</i>)
White oak (<i>Quercus alba</i>)	Highbush Blueberry (<i>Vaccinium corymbosum</i>)
Northern Red Oak (<i>Quercus rubra</i>)	Arrowwood Viburnum (<i>Viburnum dentatum</i>)

Pin Oak (<i>Quercus palustris</i>)	Wild grape (<i>Vitis labrusca</i>)
Black Oak (<i>Quercus velutina</i>)	Manicured Grasses
Sassafras (<i>Sassafra albidum</i>)	
Eastern Hemlock (<i>Tsuga canadensis</i>)	
White Spruce (<i>Picea glauca</i>)	
Scotch Pine (<i>Pinus sylvestris</i>)	
Blue Spruce (<i>Picea pungens</i>)	
Pitch Pine (<i>Pinus rigida</i>)	
White Pine (<i>Pinus strobus</i>)	

4.10 Wildlife Resources

Interspersion of forest cover, brushy areas, cropland, pastures, lake and stream waters and associated wetlands in and around Prompton Dam and Lake provide areas for a variety of wildlife species common to northeastern Pennsylvania. Some common bird, ectothermic and mammal species likely to occur in the proximity of the project area are listed in Tables 6, 7, and 8 respectively.

Red-winged Blackbird (<i>Agelaius phoeniceus</i>)	Baltimore Oriole (<i>Icterus galbula</i>)
Wood Duck (<i>Aix sponsa</i>)	Belted Kingfisher (<i>Megaceryle alcyon</i>)
Mallard (<i>Anas platyrhynchos</i>)	Wild Turkey (<i>Meleagris gallopavo</i>)
Black Duck (<i>Anas rubripes</i>)	Song Sparrow (<i>Melosaiza melodia</i>)
Ruby-throated Hummingbird (<i>Archilochus colubris</i>)	Mockingbird (<i>Mimus polyglottos</i>)
Great Blue Heron (<i>Ardea herodias</i>)	Black-capped Chickadee (<i>Parus atricappilus</i>)
Ruffed Grouse (<i>Bonasa umbellus</i>)	Tufted titmouse (<i>Parus bicolor</i>)
American Bittern (<i>Botaurus lentiginosus</i>)	Rufous-sided Towhee (<i>Pipilo erythrophthalmus</i>)
Canada Geese (<i>Branta canadensis</i>)	House Sparrow (<i>Passer domesticus</i>)
Great Horned Owl (<i>Bubo virginianus</i>)	Ring-necked Pheasant (<i>Phasianus colchicus</i>)
Red-tailed hawk (<i>Buteo jamiacensis borealia</i>)	American Woodcock (<i>Scolopax minor</i>)
Green Heron (<i>Butorides birescens</i>)	Field Sparrow (<i>Spizella pusilla</i>)
Turkey Vulture (<i>Cathartes aura</i>)	Scarlet Tanager (<i>Piranga olivacea</i>)
Snow Goose (<i>Chen caerulescens</i>)	Common Grackle (<i>Quiscalus quiscula</i>)
Common Flicker (<i>Colaptes auratus</i>)	Cardinal (<i>Richmondena cardinalis</i>)
Common Crow (<i>Corvus brachyrhynchos</i>)	American Goldfinch (<i>Spinus tritis</i>)
Bluejay (<i>Cyanocitta cristata</i>)	Starling (<i>Sturnus vulgaris</i>)
Downy Woodpecker (<i>Dendrocopos pubescens</i>)	House Wren (<i>Troglodytes aedon</i>)
Hairy Woodpecker (<i>Dendrocopos villosus</i>)	American Robin (<i>Turdus migratorius</i>)
Yellow Warbler (<i>Dendroica petechia</i>)	Eastern Kingbird (<i>Tyrannus tyrannus</i>)
Catbird (<i>Dumetella carolinensis</i>)	Red-eyed Vireo (<i>Vireo olivaceus</i>)
Least Flycatcher (<i>Empidonax minimus</i>)	Mourning Dove (<i>Zenaidura macroura</i>)

Barn Swallow (<i>Hirundo rustica</i>)	Bald Eagle (<i>Haliaeetus leucocephalus</i>)
American woodcock (<i>Philohela minor</i>)	Osprey (<i>Pandion haliaetus</i>)

**TABLE 7
ECTOTHERMIC SPECIES PROMPTON DAM**

<u>AMPHIBIANS</u>	<u>REPTILES</u>
Spring Peeper (<i>Hyla crucifer</i>)	Northern Ringneck Snake (<i>Diadophis punctatus</i>)
Green Frog (<i>Rana clamitans</i>),	Eastern Box Turtle (<i>Terrapene carolina</i>),
Eastern Hellbender (<i>Cryptobranchus alleganiensis</i>)	Wood Turtle (<i>Clemmys insculpta</i>),
Mudpuppy (<i>Necturus maculosus</i>)	Eastern Garter Snake (<i>Tahmnophis sirtalis</i>),
Jefferson Salamander (<i>Ambystoma jeffersonianum</i>)	Snapping Turtle (<i>Chelydra serpentina</i>)
Spotted Salamander (<i>Ambystoma maculatum</i>)	Eastern Milk Snake (<i>Lampropeltis triangulum</i>)
Marbled Salamander (<i>Ambystoma opacum</i>)	N. Redbelly Snake (<i>Storeria occipitomaculata</i>)
Red-spotted Newt (<i>Notophthalmus viridescens</i>)	Eastern Hognose Snake (<i>Heterodon platyrhinos</i>)
Mt. Dusky Salamander (<i>Desmognathus ochrophaeus</i>)	Northern Black Racer (<i>Coluber constrictor</i>)
Redback Salamander (<i>Plethodon cinereus</i>)	Black Rat Snake (<i>Elapha obsoleta</i>)
Slimy Salamander (<i>Plethodon glutinosus</i>)	Northern Water Snake (<i>Nerodia sipedon</i>)
American Bullfrog (<i>Rana catesbeiana</i>)	Eastern Mud Turtle (<i>Kinosternan subrubrunus</i>)
American Toad (<i>Bufo americanus</i>),	Northern Pine Snake (<i>Pituophis melanoleucus</i>)
Red-bellied Turtle (<i>Pseudemys rubventris</i>)	

**TABLE 8
MAMMAL SPECIES PROMPTON DAM**

Eastern coyote (<i>Canis latrans</i>)	Muskrat (<i>Ondatra zibethicus</i>)
Beaver (<i>Castor canadensis</i>)	White-tailed Deer (<i>Odocoileus virginianus</i>)
Virginia Opossum (<i>Didelphus virginiana</i>)	White-footed Mouse (<i>Peromyscus leucopus</i>)
Big Brown Bat (<i>Eptesicus fuscus</i>)	Raccoon (<i>Procyon lotor</i>)
Porcupine (<i>Erethizon dorsatum</i>)	Norway Rat (<i>Rattus norvegicus</i>)
Black Bear (<i>Euarctos americana</i>)	Eastern Mole (<i>Scalopus aquaticus</i>)
Bobcat (<i>Felis rufus</i>)	Gray Squirrel (<i>Sciurus carolinensis</i>)
N. Flying Squirrel (<i>Glaucomys sabrinus</i>)	Shrews (<i>Soricidae spp.</i>)
Snowshoe Hare (<i>Lepus americanus</i>)	Cottontail Rabbit (<i>Sylvilagus floridanus</i>)
River Otter (<i>Lutra canadensis</i>)	Eastern Chipmunk (<i>Tamias striatus</i>)
Wood Chuck (<i>Marmota monax</i>)	Red Squirrel (<i>Tamiasciurus hudsonicus</i>)
Striped Skunk (<i>Mephitis mephitis</i>)	Moles (<i>Talpidae spp.</i>)
Weasel (<i>mustela frenata</i>)	Gray Fox (<i>Urocyon cinereoargentens</i>)
Eastern Mink (<i>Mustela vison</i>)	Red Fox (<i>Vulpus fulva</i>)
Little Brown Bat (<i>Myotis lucifugus</i>)	
House Mouse (<i>Mus musculus</i>)	

4.11 Finfish and Invertebrate Species

A variety of finfish are found inhabiting aquatic areas encompassing the Prompton Dam and Lake, the West Branch Lackawaxen River and its tributaries. Table 9 provides a general list of fish species that may be present in the lake and West Branch Lackawaxen River areas. The Pennsylvania Fish and Boat Commission historically stocked the lake with warm water species and nearby areas of the West Branch Lackawaxen River downstream of the State Route 6 Bridge with Salmonid species. Stocking at Prompton Lake was discontinued due to previous applications of copper sulfate, which affect fish growth within the lake. Future stocking by the Pennsylvania Fish Commission is a possibility.

The West Branch of the Lackawaxen River provides habitat for a diverse coldwater fishery at the upper end of the reservoir, including native brook trout (*Salvelinus fontinalis*), and provides a coldwater fishery below the dam. The lower end of the Lackawaxen River is used as spawning and nursery habitat by American Shad (*Alosa sapidissima*) and American eel (*Anguilla rostrata*). A Pennsylvania Fish and Boat survey conducted in the 1970's downstream of Prompton Dam identified Fall Fish (*Semotilus corporalis*), Blacknose Dace (*Rhinichthys atratulus*), American eel, Margined Madtom (*Noturus insignis*), Pumpkinseed (*Lepomis gibbosus*), White Sucker (*Catostomus commersoni*), and Longnose Dace (*Rhinichthys cataractae*) as inhabiting the tailrace. The reservoir itself supports a warmwater fishery. Primary species present in the lake are bass (*Micropterus sp.*), sunfishes (*Enneacanthus sp.*), walleye (*Stizostedion vitreum*), black crappie (*Pomoxis nigromaculatus*), yellow perch (*Perca flavescens*), brown bullhead (*Ictalurus nebulosus*), pickerel (*Esox sp.*), and white suckers (*Catostomus commersoni*). The perch and sunfish populations, which serve principally as forage fish, are found to be stunted in sampling surveys.

American eel (<i>Anguilla rostrata</i>)	Pumpkinseed (<i>Lepomis gibbosus</i>)
White sucker (<i>Catostomus commersoni</i>)	Bluegill (<i>Lepomis macrochirus</i>)
Common Carp (<i>Cyprinus carpio</i>)	Largemouth Bass (<i>Micropterus salmoides</i>)
Muskellunge (<i>Esox masquinongy</i>)	Yellow Perch (<i>Perca flavescens</i>)
Chain Pickerel (<i>Esox niger</i>)	Black Crappie (<i>Pomoxis nigromaculatus</i>)
Black Bullhead (<i>Ictalurus melas</i>)	Rainbow Trout (<i>Salmo gairdneri</i>)
Yellow Bullhead (<i>Ictalurus natalis</i>)	Brown Trout (<i>Salmo trutta</i>)
Brown Bullhead (<i>Ictalurus nebulosus</i>)	Brook Trout (<i>Salvelinus fontinalis</i>)
Channel Catfish (<i>Ictalurus punctatus</i>)	Creek Chub (<i>Semotilus atromaculatus</i>)
Longnose Dace (<i>Rhinichthys cataractae</i>)	Blacknose Dace (<i>Rhinichthys atratulus</i>)
Fall Fish (<i>Semotilus corporalis</i>)	Margined Madtom (<i>Noturus insignis</i>)

Invertebrates are present in every conceivable biotic habitat, and in most ecosystems they constitute the groups with greatest species richness. Invertebrates are ecologically involved with virtually every biotic process occurring in natural communities, from pollination, herbivory, and predation to soil formation, disease transmission, nutrient cycling and decomposition to name only a few. A host of aquatic invertebrate species, such as cranefly, caddisfly, mayfly, stonefly,

hellgrammite, beetles, snail, freshwater clams and crayfish can be found within waterways of the region. A benthic invertebrate survey was not available for areas immediately downstream of the dam. An April 2000 Creamton Fly Fishing Club survey conducted at a site upstream of the lake identified 24 taxa (Table 10). This taxa list may reflect the upstream local river system as a whole, but it is anticipated that a lower number of taxa would be present immediately downstream of the lake as a result of deeper water column withdrawal and water quality associated with Prompton Dam releases.

**TABLE 10
INVERTEBRATE TAXA PROMPTON DAM PROJECT AREA**

Ephemeroptera	Trichoptera
Baetidae Baetis	Hydropsychidae Macrostemum
Ephemerillidae Ephemerella	Limnephilidae Goera
Heptageniidae Epeorus	Limnephilidae Pycnopsyche
Heptageniidae Stenonema	Odontoceridae Marilia
Plecoptera	Rhyacophylidae Rhyacophila
Perlidae Acroneuria	Zygoptera
Perlidae Agnetina	Coenagrionidae Enallagma
Perlidae Paragnetina	Megaloptera
Perlodidae Isoperla	Corydalidae Nigronia
Cleoptera	Decapoda
Elmidae Optioservus	Asellidae Caecidotea
Psephenidae Psephenus	Gastropoda
Diptera	Physidae Physella
Chironomidae (Various genera)	Planorbidae Planorbella
Empididae Hemerodromia	Bivalvia
	Sphaeriidae Pisidium

4.12 Threatened and Endangered Species

Endangered species are those whose prospects for survival are in immediate danger because of a loss or change of habitat, over-exploitation, predation, competition or disease. Threatened species are those that may become endangered if conditions surrounding the species begin or continue to deteriorate.

Verbal coordination with the Pennsylvania Fish and Boat Commission has revealed that the project does not conflict with any threatened and endangered species recognized and protected by the Pennsylvania Fish and Boat Commission.

Coordination with the Pennsylvania Game Commission has revealed that the project does not conflict with the boundaries of any State Game Lands. In addition, they have determined that except for occasional transient individuals, the project is not located within an area considered habitat for threatened and endangered bird and mammal species recognized by the Pennsylvania Game Commission. No long-term adverse impacts to critical or unique habitats are expected as a result of the project (Appendix B).

A Pennsylvania Natural Diversity Inventory database search conducted on 09 March 2005 for the project and surrounding areas identified two potential plant species conflicts and one potential land invertebrate conflict (Appendix A). Subsequent coordination with the Western Pennsylvania Conservancy and Pennsylvania Department of Conservation and Natural Resources resulted in a finding of no potential conflict with the three species identified (Appendix B).

At the time of circulation for the Draft EA, the U.S. Fish and Wildlife Service has not provided information on federally threatened and endangered species or their habitat in the project area. It is expected that except for occasional transient species, no federally listed or proposed threatened or endangered species under their jurisdiction are known to occur within the project impact area.

4.13 Prime and Unique Farmlands

Important farmlands, as described in the United States Department of Agriculture's (USDA) Soil Surveys for Counties across the state include:

"Prime Farmland is land best suited for providing food, feed, forage, fiber and oilseed crops, and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not builtup land or water). It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods."

"Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are citrus, olives, cranberries, fruit and vegetables."

At the time of circulation of the Draft EA, the Natural Resources Conservation Service (NRCS) has not provided information on areas within and around the reservoir project boundaries as being mapped Prime Farmland or as Additional Farmland of Statewide Importance. It is anticipated that areas within the limits of the project area do not fall under these guidelines and any areas that may fall under these guidelines have been extensively manipulated during the original construction of the dam and lake.

4.14 Cultural Resources

In 1987 Hunter Research Associates prepared a Phase 1A overview entitled *A Cultural Resources Reconnaissance for the Prompton Lake Modification, West Branch of the Lackawaxen River, Clinton Township and Prompton Borough, Wayne County, Pennsylvania*. This comprehensive report described the prehistoric and historic site potential of the large region which might have been affected by a proposed permanent pool raise. The downstream end of the lake, the current project's area of potential effect, was thought to hold little potential for intact prehistoric cultural resources. Hunter Research noted that there has been extensive land modification in this area in connection with the 1958-60 dam construction. The valley profile has been altered, particularly on the west side of the dam where a spillway has been cut through

the hillside. The river channel has also been straightened and landscaped downstream from the dam, while the construction of the lake's major recreation area, immediately northwest of the dam, took place in the project's major borrow area.

The only area considered archaeologically sensitive was the summit of the 1325-foot high knoll to the west of the dam. With its commanding view of the valley this location may have been used by prehistoric Native Americans. A reconnaissance of the knoll in the spring of 2005 by the District Archaeologist also revealed the potential for prehistoric encampments in those rock shelter areas not impacted by the quarrying for stone needed for the construction of Prompton Dam. Hunter Research also noted that the most suitable environments for prehistoric occupation are now probably submerged beneath the lake. There are very few intact terraces or areas of flat land along the present lake shore where prehistoric camp sites could have been located. The most archaeologically sensitive areas are the small knolls mid-way along the lake on both sides of the valley. There is also a narrow terrace adjoining the south side of a tributary that enters the lake mid-way along its eastern shore, just to the north of these knolls. No surface prehistoric materials were found in 1987 in these locations, but this is not surprising considering the dense vegetation and the lack of intensive subsurface testing.

The major cultural resources at Prompton Lake are Euro-American historic sites but they are all located outside of the present project's area of potential effect. Because Hunter Research was investigating the much larger area that could have been potentially affected by a permanent pool raise, a total of 59 historic sites and standing structures were identified. Twenty eight of these sites were residences or mobile homes less than fifty years old. A further 17 sites had some associated history but were not considered architecturally or archaeologically significant. Among these 17 sites were an assortment of farmsteads and houses, three bridges, and a family burial ground. Eleven sites outside the village of Aldenville were determined potentially significant. They are all historic archaeological resources. The most important of these is the former site of the Delaware and Hudson Canal Company Gravity Railroad. Three of the remaining ten sites are potentially significant sources of information on the history of rural industry in the region. The remaining seven sites include a shoe shop site, a school house site and five farmstead or house sites. Hunter Research noted that some of these sites may have compromised integrity as a result of demolition and land clearance activity by the Corps during dam construction in 1958-60.

4.15 Infrastructure

The project site is located near Prompton, Pennsylvania. The surrounding rural communities consist predominantly of single homes and recreational cabins. Utilities located in the general project area consist of phone lines, electric service lines, as well as other structures that would expect to be found within such a rural setting. Pennsylvania State Highway 170 parallels the present reservoir on the west side. It extends from its intersection with U.S. Route 6, south of the dam and travels north to and beyond Aldenville. Other roads existing in the project area include State Routes 4003, 4004, and 4005 and Township Roads 431, 555, 540, and 460.

4.16 Socioeconomic Conditions

The Lackawaxen River Basin had a population of approximately 27,045 people in 2000. The area is a combination of small, established towns, separated by large rural areas. The

populations for the upstream area and the six major damage center areas follows: Clinton Township (1,926), Prompton (243), Texas (2,501), Honesdale (4,874), Hawley (1,303), Palmyra (4,272), which is in both Wayne and Pike Counties, and Lackawaxen (4,154). The Boroughs of Prompton, and Honesdale have experienced a decline in growth in recent years. However, the population of the Township of Lackawaxen has nearly doubled over the period from 1984 to 2000. The populations of Pike and Wayne counties grew by approximately 65 and 20 percent, respectively, between 1990 and 2000.

According to Census data, the per capita income in Wayne County was \$16,977 in 1999. This figure was only 81.3 percent of the Pennsylvania state per capita income of \$20,880. Pike County per capita income was almost 20 percent higher than Wayne County's at \$20,315, which is 90 percent of the State's per capita income. The per capita money income developed by the Bureau of Census differs from the per capita personal income data developed by the U.S. Bureau of Economic Analysis (BEA). The Census' per capita money income does not include various "lump sum" payments such as capital gains or inheritances that are included in BEA's per capita personal income series. The definition of salary, for personal income, includes wages in kind. This includes, for example, allowances for food, clothing, and lodging paid in kind to employees. These allowances represent income to the employees and a cost to the employer. These types of allowances are not included in the definition of salary for money income.

Honesdale and Prompton are designated distressed municipalities according to the PA Dept. of Community & Economic Development. Wayne County is one of three counties in Pennsylvania designated by HUD as a Non-Metropolitan Difficult Development Area. Table 11 below shows income levels for the local areas compared to the county, state, and the United States.

Location	Income (1999)		
	Median Household Income	Per Capita Money Income	Poverty %
U.S.	\$41,994	\$21,587	12.4%
PA	\$40,106	\$20,880	11.0%
Wayne County	\$34,082	\$16,977	11.3%
Honesdale	\$28,209	\$17,464	14.7%
Prompton	\$24,375	\$15,601	10.8%

Table 11. Median Household Income from the U.S. Census Bureau

The primary sources of income for the residents of Wayne County are service industries, government enterprises, and retail trade. The largest segment of the services jobs is in the health services industry. In Pike County, the industry that provides more than one-third of wages is the government. The next largest percentage is provided by the service industry with 24 percent, which employs more than 2,500 people. The unemployment rates for both Wayne and Pike counties have been consistently higher than the Pennsylvania rate from the 1980s through the mid-1990s, mostly due to displaced manufacturing jobs. The rate for Pike County has been lower than or equal to the Pennsylvania rate since 1996, while the rate for Wayne County has averaged about two percentage points higher than the state during the same period.

Prompton has both flood control and recreational benefits. Flood damages prevented by the Prompton Dam since it went into service in 1960 accrue to approximately \$9,036,000 (October 2003). Applying historic damages as a representative proxy, the average annual flood control benefit for the Prompton Dam is \$210,000. The total annual benefit (flood control and recreation) is \$478,000.

4.17 Environmental Justice

Due to the undeveloped nature of the Prompton Dam and Lake and surrounding areas, no low income and/or minority communities are expected to be located in the immediate vicinity of the dam and modification project boundaries.

5.0 ENVIRONMENTAL EFFECTS

5.1 Project Area Descriptions

During the course of the 1993 Hydrologic Deficiency Report many different modification alternatives were examined. This examination revealed that the safety hazard of the existing dam could be most effectively reduced by lowering the spillway crest by 5 feet, widening the spillway to 130 feet, raising the dam 7 feet, installing a fuse plug at the crest of the spillway, and constructing a stone dike immediately below and parallel to the dam. The stone dike was developed from a physical model developed by the Corps Waterways Experiment Station and is a training structure designed to train the flow into the spillway. In addition, the project operation facilities will be removed and new operation facilities constructed. The implementation of this proposed alternative would have several impacts within the project area. These impacts will be directly associated with the Prompton Dam and associated facilities.

5.2 Climate

Due to the nature of this project and the overall construction requirements, this project is not expected to adversely impact the climate within or around the project areas.

5.3 Air Quality

The project will result in a temporary increase in emissions from construction vehicles at the project site (mobile sources). Minor short-term emissions of nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter and volatile organic compounds (VOC's) from employee vehicles and other equipment are likely. Emissions produced by the project are not expected to exceed ambient air quality standards. The project will result in no significant long-term change in air quality within or around the project area.

5.4 Topography, Geology and Soils

The possibility of soil erosion as a result of the project is considered slight to moderate. An approved sediment and erosion control plan and National Pollution Discharge Elimination System Permit will be secured from the Wayne County Conservation District and the Pennsylvania Department of Environmental Protection prior to construction activities commencing. Appropriate sediment and erosion controls will be utilized to prevent impacts to environmental resources in the area.

Due to the extensive excavation and earth movement activities associated with the project, the geology and topography of the project site will be modified and impacted slightly. These impacts will be limited to the project area footprint and are necessary for the successful completion of the project. As a result, they are considered minor but permanent and are not expected to significantly adversely impact the overall topography and geology of surrounding areas.

5.5 Land Use and Recreation

Land in the area surrounding the project boundaries is predominantly forested. A short-term and minimal impact to some of the recreational facilities in the immediate project area during construction is expected, as a result of the public not being able to access portions of the reservoir shoreline and other recreational facilities such as the disc golf course, picnic day-use area, and other areas typically accessible under present conditions. No significant long-term restriction on access to the reservoir is expected. The public boat launch on the lake and hiking trails will remain open during project construction.

During construction activities within the lake stilling basin on the West Branch Lackawaxen River, recreational anglers will experience a short-term and temporary impact. This will occur during the dewatering and riprap replacement and extension portion of the project. Access to this area for recreational activities will be restricted until completion of the work. The dewatering bypass system will allow flows to be maintained downstream of the work limits.

5.6 Hazardous, Toxic, and Radioactive Substances

There have not been any sources of contamination identified in the project area since the completion of the dam in 1960 and with the property being under the supervision of the USACE from that time, the potential for the presence of contamination is low. One underground storage tank is present at the site, which is used to store fuel oil near the existing operation building. The fuel oil is used to heat the operation building. The age and condition of this UST is not known so there is a potential for some contamination in this area. When the existing operations building is demolished this UST will be removed. In addition, there is a sewer leach field in the vicinity of the operations building. Even though the sewer leach field is not a HTRW concern, it will be properly decommissioned or abandoned in place.

5.7 Aquatic Resources and Wetlands

5.7.1 Surface Water

Aquatic ecosystems concentrate biological and chemical substances such as organic matter, nutrients, heavy metals and toxic chemical compounds in bottom sediments. Adverse impacts to water quality associated with sedimentation to an aquatic system may include oxygen decline and the release of chemical substances, which may then be metabolized by organisms through anaerobic pathways or used in respiratory processes. Overall the impact to aquatic organisms is dependent on the chemical components in the sediment, the length of exposure, and the expanse of the effected area.

Potential impact to the surface water quality of West Branch Lackawaxen River and Prompton Lake exists as a result of extensive land excavation and clearing activities associated

with the project. In addition, direct impact to the West Branch Lackawaxen River exists as a result of work associated with replacing 100 feet of riprap and placing 120 feet of new riprap for a total of 220 linear feet of in-stream impact on the West Branch Lackawaxen River in the stilling basin portion of the project.

Impacts to water quality resulting from the implementation of the proposed project may be increased turbidity and sedimentation due to the suspension of materials due to runoff and surface erosion. Increased turbidity may lower the dissolved oxygen content in the receiving waters; however, this is a short-term impact lasting only until the sediments settle. Instream work shall be conducted in the “dry” through the use of a cofferdam and bypass system around the work area. In addition, several steps will be taken during construction to minimize water quality impacts. In order to minimize the amount of sedimentation, erosion, and increased turbidity, the use of silt fences or other appropriate sediment erosion control devices will be implemented during construction. By utilizing approved sediment and erosion control techniques and methodologies, impacts associated with increased levels of suspended sediment in the West Branch Lackawaxen River and Prompton Lake will be minimized. An approved erosion and sediment control plan and National Pollutant Discharge Elimination System permit will be secured prior to construction activities commencing. In addition, a Water Quality Certification will be secured from the Pennsylvania Department of Environmental Protection.

As a result of this project and in accordance with Pennsylvania Code, Chapter 93; Water Quality Standards, no exceedances of any water quality parameter that may jeopardize the designated waterbodies intended use are expected. All necessary precautionary measures will be implemented to ensure that the West Branch Lackawaxen River and Prompton Lake are protected from harmful discharges that may adversely affect aquatic life, and/or their recreational use.

5.7.2 Groundwater

Impacts to groundwater are not expected to be significant, adverse, or permanent. The only groundwater condition that will be temporarily impacted during the proposed construction will be localized to the area immediately downstream of the stilling basin. In this area, a temporary groundwater dewatering system may be required to lower the groundwater level in order to install the improved riprap protection in this area. The dewatering system will be removed immediately after riprap placement and the groundwater levels will recover to their preexisting condition.

5.7.3 Wetlands

An evaluation of wetlands in the project area has not shown wetlands to be present within the project limits. No impacts to these resources are expected.

5.8 Wild and Scenic Rivers

A resource information review revealed that no nationally designated wild and scenic rivers or river segments are located within the project area. No impacts to these resources are expected.

5.9 Vegetation

The proposed plan will result in the loss of approximately 16.97 acres of trees and small shrubs, which currently exist along the spillway, and in the area of the proposed rock dike. In order to widen the spillway from 50 feet to 130 feet, it will be necessary to remove approximately 14.77 acres of trees and shrubs along the top and slope of the existing spillway. The remaining 2.2 acres will be impacted through the installation of the MSE wall and the placement of rip-rap at the upstream end of the spillway. In addition to the 16.97 acres of trees and shrubs being impacted, 10.0 acres of grassland will be disturbed by the placement of rocks and soil that will be excavated from the spillway. The loss of the grassland, trees and shrubs will eliminate some foraging and nesting habitat, which currently exists for birds and small mammals within the project area. Tree planting efforts following construction will replace some habitat lost. Following final grading many areas will be reseeded with grass with others being allowed to re-vegetate naturally. As a result, impacts to vegetation are expected to be temporary and minor and the project area will not be significantly adversely affected long-term by the project.

5.10 Wildlife Resources

Impacts to wildlife resources in the area are not expected to be significantly adverse. Birds, mammals, reptiles and amphibians are capable of moving, and would be expected to leave the project area and relocate to areas in the immediate vicinity. Species that reside in these adjacent areas may be temporarily impacted by increases in species densities. A temporary reduction in the amount of nesting, feeding, resting and breeding cover in the area for some species, which utilize this habitat, may occur. Some short-term impacts may result from the noise and human activity that would accompany excavation and construction activities. Due to the amount of adjacent nearby habitat, it is expected that no significantly adverse impacts to wildlife resources will occur as a result of this project. Upon completion of the project and following re-vegetation, species displaced during construction are expected to return. Variations in species populations and community composition will likely occur due to changes in plant community and age structure as a result of the project.

5.11 Finfish and Invertebrate Species

Aquatic life in the form of invertebrates, reptiles and finfish inhabit the waters of the West Branch Lackawaxen River, Prompton Lake and surrounding tributaries. Re-placement and placement of new larger sized riprap and diversion of surface water during construction may temporarily impact fisheries and other aquatic organisms downstream of the dam. These impacts will be short-term and are not expected to be significantly adverse. Potential impacts associated with the proposed plan include increased turbidity, which could lower the dissolved oxygen content in the water. In addition, the increased turbidity could clog gill filaments, interfere with the respiratory processes of fish in the vicinity, and decrease visibility thereby affecting sight-dependent feeders. There are no negative appreciable changes in the water temperature regime expected as a result of the project. The application of appropriate and approved sediment erosion control techniques will minimize turbidity during construction. Any timing restrictions and protective measures will be implemented. As a result, no significant or long-term adverse impacts to invertebrate and finfish resources are expected as a result of this project.

Verbal coordination with the Pennsylvania Fish and Boat Commission has revealed that the project does not fall within the areas of the West Branch Lackawaxen designated as a wild trout fishery and is upstream of current trout stocking limits on the West Branch Lackawaxen. No seasonal instream work restrictions are applicable for the project. A recommendation was provided that included minimizing instream work during low flow conditions and monitoring and reporting of any fish stranding as a result of flow changes during the instream construction phase. No adverse impacts are expected from the proposed project.

5.12 Threatened and Endangered Species

As a result of coordination with environmental resource agencies, no threatened or endangered species or their habitat will be adversely impacted by the proposed project. No impacts to these resources are expected.

5.13 Prime and Unique Farmlands

There are no reported prime and unique farmland soils within the project area. The lands in the project area have been previously disturbed during construction of the Prompton Dam, lake and associated facilities. Therefore, there are no expected impacts to these resources as a result of this project.

5.14 Cultural Resources

Section 106 consultation with the Pennsylvania State Historic Preservation Officer (PA SHPO) (Bureau of Historic Preservation, Pennsylvania Historical and Museum Commission) for the current project was initiated by the Philadelphia District in a letter dated March 13, 2005 (Appendix A). The PA SHPO's response dated April 11, 2005 (Appendix B) noted the absence of historic sites in the area of potential effect and concurred with the District Archaeologist's position that an archaeological survey of the current project's area of potential effect should only be conducted in areas not previously disturbed by construction activities. Planning for this survey is now underway and Section 106 coordination pursuant to 36 CFR 800 is ongoing. It is anticipated that no negative impacts to cultural resources will occur as a result of the project.

5.15 Infrastructure

Nearby residents may be inconvenienced during construction activities due to increased vehicle traffic during construction and noise associated with construction equipment; however project activities will be short-term and are not expected to significantly impact existing transportation routes in the area. All construction activities are located on federally owned lands and no direct impact to existing road structure in the area is expected. The new operations facilities will have onsite water and sewer but will be connected to nearby electric utilities. No direct impact to utilities in the area is expected.

5.16 Socioeconomic Conditions

The Prompton Dam project is not expected to adversely impact the economy or social structure near the reservoir or downstream on the West Branch Lackawaxen River. The completed project will ensure that the project meets its flood control objectives and continues to provide flood protection to downstream residents and communities.

5.17 Environmental Justice

This project is not expected to adversely impact any minority or low-income communities in the project area, because none exist.

5.18 Cumulative Impacts

Cumulative impacts are impacts on the environment that result from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of who undertakes these actions. This cumulative impact assessment focuses on the Prompton Dam project and the impact it may or may not have on future activities at the reservoir and on the West Branch Lackawaxen River.

All potential negative and positive impacts associated with the Prompton Dam project have been considered in the development of this environmental assessment. The potential negative impacts of the plan may include minor and temporary changes in water quality, land-use recreation being impeded, and loss of downstream aquatic habitats and terrestrial habitat within the project limits. It is anticipated that any environmental impacts seen as a result of the project will be short-term. Recreational impacts as a result of the construction of the project will also be short-term. Following completion of the project, recreational activities will be similar to pre-project conditions. It has been determined that there will be no long-term negative cumulative impacts as a result of the project.

A long-term positive cumulative impact is expected as a result of the construction of the project. The project will ensure the dam and lake can safely meet flood control objectives associated with the maximum probable flood. As a result, maximum flood control protection will be realized by downstream communities.

5.19 Environmental Permits and Regulatory Compliance

Work in waters of the United States, including wetlands, must be in compliance with Section 404 of the Clean Water Act. Therefore, a review of impacts associated with the potential discharge of fill material has been performed as per Section 404 (b)(1) of the Clean Water Act (Appendix C). The requirements of Executive Order 11990, Protection of Wetlands, are therefore met as a result of minimization of impacts to waters of the United States.

The State of Pennsylvania requires a water quality certification (WQC) for any work, which may affect water or waterways in the state. A water quality certificate for this action will be acquired from the Pennsylvania Department of Environmental Protection. A National Pollutant Elimination System permit and an approved erosion and sediment control plan will be secured from the Pennsylvania Department of Environmental Protection and the Wayne County Conservation District. A summary of project compliance with applicable environmental statutes is given in Appendix D. All necessary permits and compliances will be secured prior to any construction activities.

6.0 COORDINATION

The proposed project has been coordinated with the U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency Region 3, Pennsylvania Department of Environmental

Protection, Pennsylvania Fish and Boat Commission, Pennsylvania Game Commission, and Pennsylvania Department of Conservation and Natural Resources. Copies of correspondence with Federal, State and local interests are provided in Appendix A and B.

7.0 CONCLUSIONS

In the event that Prompton Dam was breached due to a Probable Maximum Flood (PMF) event, substantial environmental impacts would be incurred downstream and within the lake pool boundaries. Portions of the Lackawaxen River basin and Delaware River Basin downstream of Prompton Dam would be impacted by the breach. The area impacted would start just upstream of Prompton Lake and extend to the confluence of the Lackawaxen and Delaware Rivers 31 miles downstream in Lackawaxen Township and likely further downstream on the Delaware River. The environmental impacts associated with the dam breach would include, but not be limited to, severe erosion, loss of in lake and in stream spawning and nursery habitat, loss of trees, loss of the permanent pool (Prompton Lake), wetland loss/damage, infrastructure damage, loss of cultural resources, and much more.

The breaching of Prompton Dam due to a PMF event would cause most of the water in the permanent pool as well as the entire collected flood waters to be released downstream. Due to the fact that this water would be released in large quantities over a very short period of time it will move downstream at a very high velocity. The velocity of this water will most likely be strong enough to destroy most of the environmental features encountered in the downstream area. The water velocity is expected to be greater closer to the dam and therefore damage in this area will be greater than in areas further downstream near the confluence of the Lackawaxen and Delaware Rivers. Some of the expected damage from water velocity includes severe erosion and scouring; the destruction of benthic habitat; the destruction of spawning and nursery habitat for the American eel (Anquilla rostrata), American shad (Alosa sapidissima), and other species; the removal of trees and shrubs; the flooding of wetlands and agricultural land; and the death of many aquatic and terrestrial wildlife species which might get caught in the flood waters. In addition, after the flooding many animal species would be left without homes, food, and shelter as a result of this loss of upland and aquatic habitat.

The loss of the permanent pool (Prompton Lake) would result in the destruction of several hundred acres of warmwater fishery habitat within the lake. Some of the fish species utilizing this habitat include the native brook trout (Salvelinus fontinalis), sunfishes (Enneacanthus sp.), brown bullhead (Ictalurus nebulosus), largemouth bass (Micropterus salmoides) and walleye (Stizostedion vitreum). In addition to this loss of the in-lake fishery habitat, the drainage of the permanent pool will most likely result in the destruction of the palustrine emergent, palustrine forested, and palustrine scrub-shrub wetlands which exist along the edge of the reservoir. Due to the fact that many fish and wildlife species utilize these wetlands as sources of food, shelter, and breeding habitat, the loss of these areas could be extremely detrimental to many area populations.

This Environmental Assessment has evaluated potential environmental impacts associated with constructing the Prompton Dam and Reservoir hydrologic deficiency project. The findings herein have been prepared in accordance with the National Environmental Policy

Act of 1969, as amended. Potential impacts to environmental and cultural resources resulting from the proposed action have been described and evaluated in this document.

8.0 LITERATURE CITED

- Pennsylvania Code, Title 25. *Environmental Protection, Chapter 93 Water Quality Standards*. March 2001 (Revisions). Department of Environmental Protection, Bureau of Watershed Conservation, Division of Water Quality Assessment & Standards.
- United States Army Corps of Engineers. December 1987 (revised July 1988). *A Cultural Resources Reconnaissance for the Prompton Lake Modification, West Branch of the Lackawaxen River, Clinton Township and Prompton Borough, Wayne County, Pennsylvania*. Philadelphia District USACE
- United States Army Corps of Engineers. September 1993. *Prompton Dam, West Branch Lackawaxen River Pennsylvania, Hydrologic Deficiency Report*. Philadelphia District USACE
- United States Army Corps of Engineers. June 2004. *Prompton Dam, Hydrologic Deficiency Final Design Documentation Report*. Philadelphia District USACE
- United States Army Corps of Engineers. June 2004. *Prompton Dam, Hydrologic Deficiency Final Design Documentation Report. Technical Appendix A-C Volume 1*. Philadelphia District USACE
- United States Army Corps of Engineers. June 2004. *Prompton Dam, Hydrologic Deficiency Final Design Documentation Report. Technical Appendix D-F Volume 2*. Philadelphia District USACE
- United States Department of Agriculture. September 1985. *Soil Survey of Wayne County Pennsylvania*.
- New Jersey Department of Environmental Protection. 1984. *Cleanup standards for contaminated sites, N.J.A.C. 7:260*. Revised May 12, 1999. Trenton, N.J.
- Pennsylvania Code, Title 25. *Environmental Protection, Chapter 93 Water Quality Standards*. January 2001 (Revisions). Department of Environmental Protection, Bureau of Watershed Conservation, Division of Water Quality Assessment & Standards.
- Versar, Inc. 2004. *Water Quality Monitoring at Prompton Reservoir during 2004*. Prepared for U.S. Army Corps of Engineers, Philadelphia District.

APPENDIX A
COORDINATION

Environmental Resources Branch

MAR 22 2005

Ms. Carol R. Collier, Executive Director
Delaware River Basin Commission
25 State Police Drive
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Dear Ms. Collier:

The Philadelphia District, U.S. Army Corps of Engineers is preparing an Environmental Assessment (EA) for the Hydrologic Deficiency project at the Prompton Dam and Reservoir. Prompton Dam, which is operated by the U.S. Army Corps of Engineers, Philadelphia District (USACE), is located in the Lackawaxen River Basin, Wayne County, Northeastern Pennsylvania. Prompton Dam is one-half mile upstream of the village of Prompton on the West Branch of the Lackawaxen River (Figures 1-3). Prompton Dam was completed in 1960 with flood control as its sole purpose. The dam is a zoned earth and rock fill embankment, 1230 ft long, and 140 ft high. The spillway is a 50-ft wide perched type with an uncontrolled open channel, which was excavated near the west abutment.

In the late 1980's, Prompton Dam was analyzed for a modification to convert a portion of its flood control storage volume to water supply storage. The proposed modification never materialized and the study ended. However, as part of the study a new estimate of the Probable Maximum Flood (PMF) was prepared and Prompton Dam was determined to be hydrologically deficient according to current USACE guidance. In the current PMF scenario the dam embankment would be overtopped by 5.5 ft. Any over topping of the embankment would place the dam at high risk of catastrophic failure. This risk means that the dam needs to be modified in order to pass the PMF safely and protect the structural integrity of the dam during these large flood events.

The Hydrologic Deficiency Report, Prompton Dam, West Branch Lackawaxen River, PA, Philadelphia District, U.S. Army Corps of Engineers, Revised December 1993 presented the results of investigations into the potential impacts that a range of floods would have on the hydrologic/hydraulic capability of the project, evaluated both structural and non-structural solutions to correct the hydrologic deficiency, and presented a selected alternative. The selected plan presented in the 1993 Hydrologic Deficiency Report was further refined and analyzed in the Hydrologic Deficiency Final Design Documentation Report, Prompton Dam, West Branch Lackawaxen River, PA Philadelphia District, U.S. Army Corps of Engineers, June 2003. The Final Selected Plan is presented below.

Spillway

- The spillway will be widened from the present 50 ft width to 130 ft, extending 105 ft left of the existing spillway center line towards the dam and 25 ft right of the existing spillway center line. The upstream end of the spillway is to be flared following the flare of the existing spillway.
- The spillway will be modified by excavation to a 5 ft lower depth. At the crest, the spillway will be lowered from elevation 1,205 ft-NGVD to elevation 1,200 ft-NGVD. The new channel bottom will have a +1.67 percent slope upstream and a -3.5 percent slope downstream from the control sill.
- A concrete control sill will be constructed at the spillway crest at elevation 1,200 ft-NGVD. Rock anchors and drain holes will be provided in the control sill to resist uplift. The sill will be 30 ft wide and extend the full width of the spillway.
- The plan incorporates a 5 ft high fuse plug in the spillway. The fuse plug is a gravel filled embankment with an impervious upstream face. Based on the proposed cut of the spillway the fuse plug will be 5 ft high, consisting of processed rock (gravel) and overburden from the spillway excavation. The fuse plug will consist of two zones. The main zone embankment will consist of well-graded gravel. The upstream face of the embankment will be comprised of a four (4) feet thick zone of silty sand. The particle sizes are chosen to minimize permeability until overtopping of the fuse plug embankment. The fuse plug is designed to function as a dam, but will be washed out at a predictable rate when overtopped, to increase the spillway capacity.
- A soil nail wall will be constructed along the left side of the spillway to protect the dam, extending 420 ft upstream to 553 ft downstream of the spillway crest. These values are actual lengths of wall and not distance upstream and downstream along the spillway centerline. Extend wall with a mechanically stabilized earth wall at the upstream end and to stabilize the downstream end of the wall with a secant return wall.
- A scour apron will be installed on the east side of the spillway floor in order to protect the base of the soil nail wall in an area of weathered rock.
- Excavation slopes for the rock on the left where there is no retaining wall are 2V to 1H. For the overburden on both sides, the slopes are 1V on 2H.

Embankment

- Top of Dam: The dam is to be raised to elevation 1,233 ft-NGVD through the use of a 7 ft concrete wall that is to be constructed across the top of the dam. On the west embankment abutment, the wall will tie into the bridge abutment. On the east abutment, the wall will extend approximately 150 ft beyond the dam to the point where it ties in with existing contours. There will be no camber in this wall.

Conduit

- No change in the conduit.

Stilling Outlet Works

- Improve riprap protection at Outlet Works.
 - a. Upstream end of Outlet Works to elevation 1120 ft (approx. 20 ft above conduit headwall).
 - b. Around sidewalls of stilling basin. During rock placement the existing geotechnical instrumentation will be protected.
 - c. Outlet channel to receive larger rock to 100 ft downstream of stilling basin.
 - d. Outlet channel to receive a slightly smaller rock size from 100 ft to 220 ft downstream.
 - e. Dewater stilling basin and approximately 220 ft of channel downstream to allow placement of the riprap.

Access to Dam

- A new access road is to be constructed to the west of the dam on the excavated material disposal area. The access road will include a bridge crossing the spillway. This access road is to begin near the intersection of Route 170 and the existing access road. It will continue towards the spillway crest and the west abutment of the dam. The bridge will cross the new 130 ft wide spillway and be supported by a pier. The new access road will join the existing access road in the vicinity of the existing maintenance building (to be demolished).

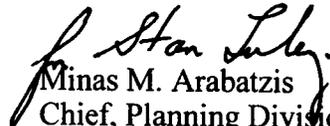
Miscellaneous Construction

- Construct operations/equipment facility and equipment storage yard.
- Existing operations' facilities to be demolished.

An EA is being prepared in accordance with National Environmental Policy Act (NEPA) regulations. The EA will assess existing environmental, cultural, and socio-economic conditions at the project site. To assist us in identifying environmental issues that may be associated with the project at Prompton Dam and Reservoir, please provide written comments concerning interests within your agency's area of responsibility. Specific issues of concern include transportation; infrastructure; cultural resources, including view shed and aesthetic resources; the presence of rare, threatened or endangered species; fish and wildlife resources; jurisdictional wetlands or other critical habitats; wild and scenic rivers; prime and unique farmlands; air and water quality, and /or highly erodible soils at or near the project site.

Your response within 15-days of the date of receipt of this letter will be greatly appreciated. If you have any questions regarding this letter or need additional information, please contact Gregory Wacik of the Environmental Resources Branch at (215) 656-6561.

Sincerely,


Minas M. Arabatzis
Chief, Planning Division

Enclosures

Multiple Letters

Ms. Carol R. Collier, Executive Director
Delaware River Basin Commission
25 State Police Drive
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Mr. Richard Fromuth
Delaware River Basin Commission
25 State Police Drive
P.O. Box 7360
West Trenton, New Jersey 08628-0360

Mr. James Leigey, Environmental Review Coordinator
Division of Environmental Planning and Habitat Protection
Bureau of Land Management
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797

Mr. Tony Ross
Bureau of Wildlife Management
Pennsylvania Game Commission
2001 Elmerton Avenue
Harrisburg, Pennsylvania 17110-9797

Ms. Jamie Davis
U.S. EPA, Region III
3ES30
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Mr. Richard G. Sprenkle, Deputy Secretary
Conservation and Engineering Services
Pennsylvania Department of Conservation and Natural Resources
Rachel State Office Building
P.O. Box 8767
Harrisburg, Pennsylvania 17105-8767

Mr. Jared Brandwein, Supervisor
U.S. Fish and Wildlife Service
315 South Allen Street, Suite 322
State College, Pennsylvania 16801
Ms. Jeanne Harris, Environmental Review Specialist

Pennsylvania Natural Diversity Inventory
Rachel Carson State Office Building
P.O. Box 8552
Harrisburg, Pennsylvania 17105-8552

Ms. Kate Crowley
Water Management Program Manager
Pennsylvania Department of Environmental Protection, NE Office
2 Public Square
Wilkes-Barre, Pennsylvania 18711-0790

Mr. Dennis Dickey, P.E.
PA Department of Environmental Protection
Bureau of Waterways Engineering, Division Dam Safety
PO Box 8460
Harrisburg, Pennsylvania 17105-8460

Ms. Christine Martin, Deputy Secretary
Water Management
16th Floor, Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, Pennsylvania 17105-2063

Mr. Barry Frantz, Soil Conservationist
Natural Resource Conservation Service
One Credit Union Place, Suite 340
Harrisburg, Pennsylvania 17110

Mr. David C. Mitchell, Resource Conservationist
Wayne County Conservation District
Wayne Co. Park Street Complex
648 Park Street
Honesdale, Pennsylvania 18431

Mr. Ron Tibbott
Pennsylvania Fish and Boat Commission
Division of Fisheries Management
450 Robinson Lane
Bellefonte, Pennsylvania 16823-9620

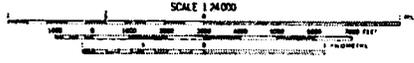
Mr. Joseph D'Onofrio EIT
PA Dept. of Environmental Protection, NE Office
Soils and Waterways Section
NPDES Permitting & PCSM Reviews
2 Public Square
Wilkes-Barre, Pennsylvania 18711-0790



Map made, edited, and published by the Geological Survey
Control by USGS and USCGS

Topography from aerial photographs by modified methods
Aerial photographs taken 1947. Final check 1948
Photographic projection. 1927 North American system
63,000-foot grid based on Pennsylvania coordinate system,
north zone
1,000-metre Universal Transverse Mercator grid ticks,
zone 18 shown in blue

Horizontal scale at average elevation of
1,000 feet is 1:24,000
Area within boundary 12.53 square miles
Map published by the Geological Survey, Reston, Va.
Map projection: UTM
N. 1983 Edition, or latest, should be used



CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1988

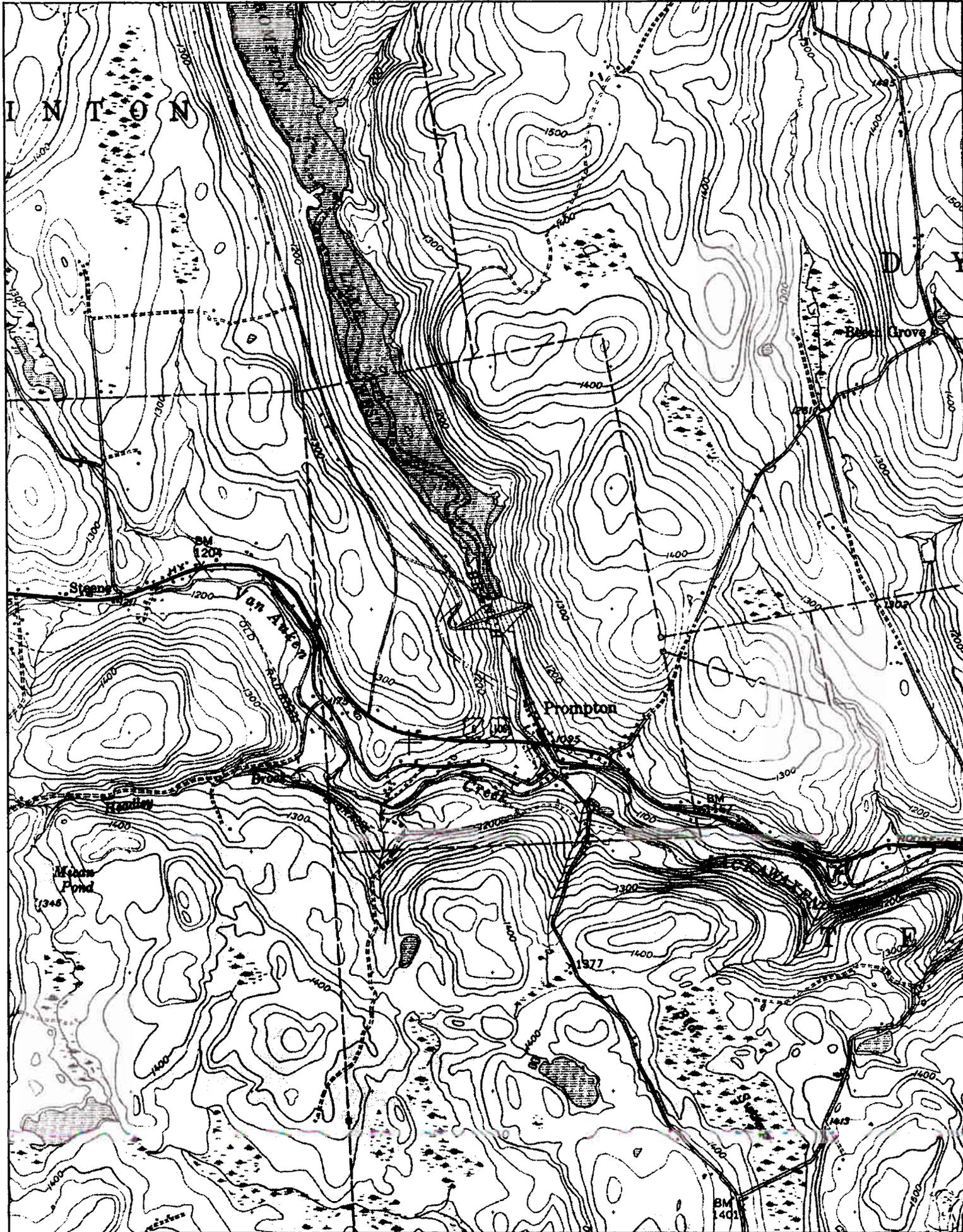
THIS MAP COMPLES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY
DENVER, COLORADO 80263, OR RESTON, VIRGINIA 22090
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



ROAD CLASSIFICATION

Thin surface, all weather roads	Thin weather roads
Heavy duty	Improved dirt
Medium duty	Unimproved dirt
Loose surface, graded, or narrow hard surface	
U. S. Route	State Route

HONESDALE, PA.
430752-2A (7-82)
PUBLISHED BY THE GEOLOGICAL SURVEY
1948
FIRST EDITION 1948
GPO: 1987 O-58-56185-7



<Default> - 1 Markers, Length = 0 feet

Prompton Dam - 041° 35' 20.5" N, 075° 19' 41.0" W

Copyright (C) 1997, Maptech, Inc.

FIGURE 2

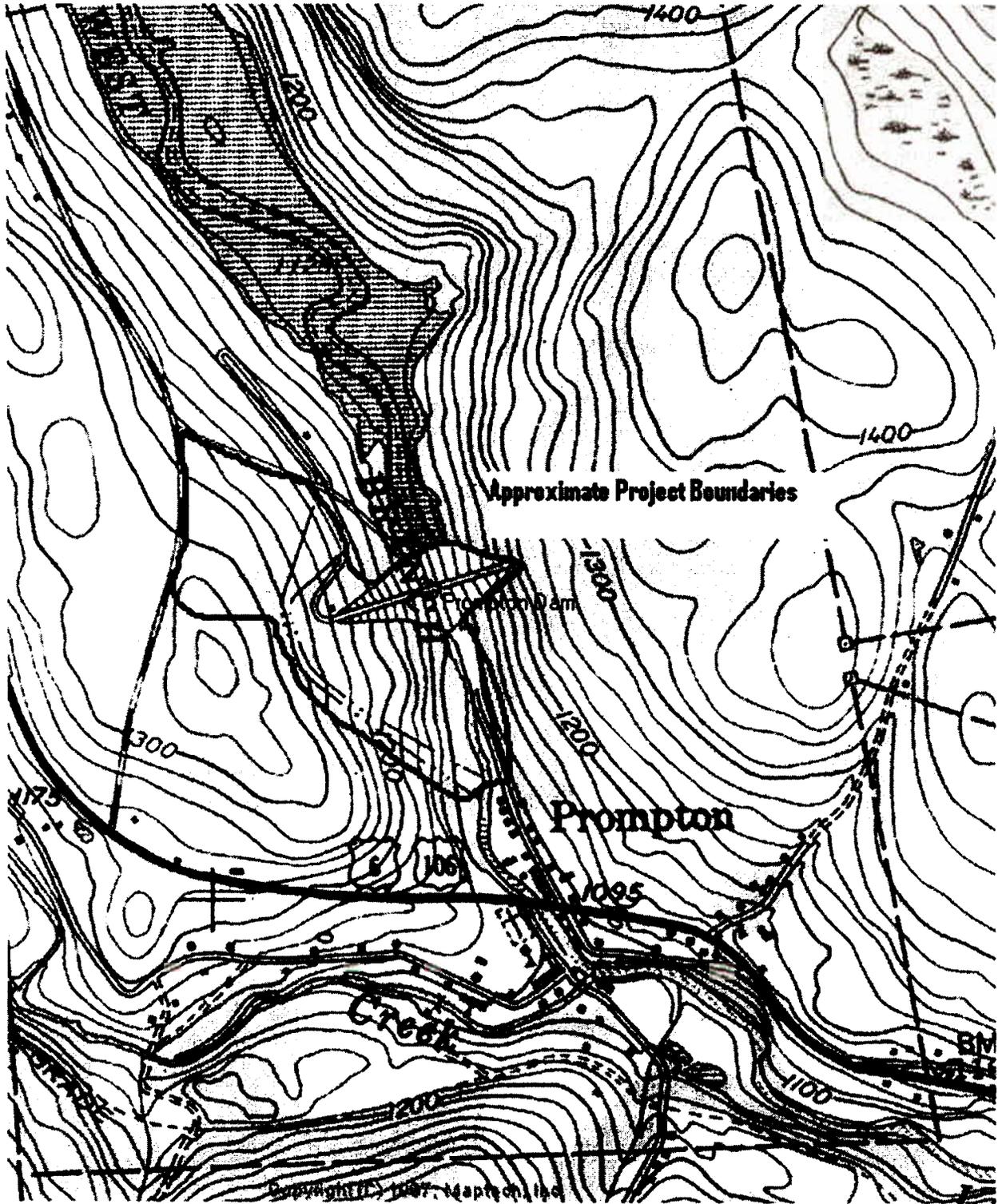


FIGURE 3

PNDI Internet Database Search Results

PNDI Search Number: N168803
Search Results For Elaine.J.Moyer@usace.army.mil
Search Performed By: Elaine Moyer On 3/9/05 2:35:38 PM
Agency/Organization: US Army Corps of Engineers
Phone Number: 570-842-1046
Search Parameters: Quad - 417553 - HONESDALE; Acres - 150
Project location center (Latitude): 41deg. 35min. 30sec.
Project location center (Longitude): 75deg. 19min. 42sec.
Project Type: Other\USACOE

Print this page using your Internet browser's print function and keep it as a record of your search.

Instructions for DCNR Bureau of Forestry personnel only:

When instructed below to contact the PA Fish and Boat Commission, the US Fish and Wildlife Service or the PA Game Commission, Bureau of Forestry personnel should instead contact Merlin Benner for districts 9-16, 19, 20 or Aura Stauffer for districts 1-8, 17, 18, who will coordinate resolution with those agencies. When instructed to contact Justin Newell, they should do so.

DEP and Conservation Districts should follow the instructions below when potential conflicts are indicated.

When details are displayed as part of the search result, the element's Scientific Name, Common Name, State Status, Proposed State Status and Number of Occurrences within the Search Area are listed.

Due to the sensitive nature of certain endangered species, species names are not displayed for species under the jurisdiction of the Pennsylvania Fish & Boat Commission and the U.S. Fish & Wildlife Service.

PNDI records indicate the following potential conflicts with ecological resources of special concern within the specified search area:

2 potential Plant conflicts:

Andromeda polifolia - Bog-rosemary - PR - PR (1)
Gaultheria hispidula - Creeping Snowberry - PR - PR (1)

The person conducting this search should FAX this Receipt, Supplement #1 (if applicable), USGS Topo, and **project narrative** to:

Ellen Shultzabarger
Department of Conservation and Natural Resources
Bureau of Forestry
P.O. Box 8552

Harrisburg, PA 17105-8552
FAX number: (717) 772-0271

1 potential Land Invertebrate conflicts:

Lycaena epixanthe - Bog Copper - - (1)

Please Contact the following office regarding these potential conflicts:

Ryan Evans or Charles Bier
Natural Heritage Program
Western Pennsylvania Conservancy
209 Fourth Avenue
Pittsburgh, PA 15222
(412) 288-2777
Fax (412) 281-1792

PNDI is a site specific information system, which describes significant natural resources of Pennsylvania. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy. This response represents the most up-to-date summary of the PNDI data files and is valid for 1 year. An absence of recorded information does not necessarily imply actual conditions on-site. A field site survey may reveal previously unreported populations of rare species, their critical habitats, or other unique natural resources.

Legal authority for Pennsylvania's biological resources resides with three administrative agencies. The handout entitled Pennsylvania Biological Resource Management Agencies, outlines which species groups are managed by these agencies. Feel free to contact our office if you have questions concerning this response or the PNDI system, and please refer to the PNDI Search Number at the top of this page in future correspondence concerning this project.

APPENDIX B

AGENCY RESPONSE



Pennsylvania Department of Environmental Protection

2 Public Square
Wilkes-Barre, PA 18711-0790
March 31, 2005

Northeast Regional Office

570-826-2511
Fax 570-830-3016

Mr. Minas M. Arabatzis
Chief, Planning Division
Department of the Army
Philadelphia District, Corps of Engineers
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Arabatzis:

This letter is in response to your correspondence received on March 24, 2005, requesting comments on the Prompton Dam Modification Project's proposed environmental assessment submittal.

According to our State regulations, Chapter 93, lists the West Branch Lackawaxen River as High Quality (HQ) Cold Water Fishery (CWF), Migratory Fishery (MF) and the Lackawaxen River as HQ-TSF (Trout Stocked Fishery), MF. These listings are special protection waters in the Commonwealth and the existing uses shall be maintained and protected.

The Environmental Assessment (EA) should address how water quality will be protected and include all the issues you mentioned, plus discussions about any stream habitat loss, aquatic community effects, channel morphology changes, and any plans to prevent a pollution event (i.e.; erosion and sediment control plans, etc.) during the modifications.

We look forward to reviewing the final EA that will be submitted to our office. Should you have any questions regarding this correspondence, please do not hesitate to contact Carl DeLuca of my staff at the above-referenced number.

Sincerely,

Kate Crowley
Program Manager
Water Management Program





COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

April 26, 2005

Mr. Minas M. Arabatzis
Department of The Army
Philadelphia District
Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Re: Prompton Dam Environmental Assessment
West Branch Lackawaxen River

Dear Mr. Arabatzis:

This is our response to your letter dated March 22, 2005, requesting information on the above referenced project.

We have completed an office review of the proposed project and determined that it is not located within the boundary line of any State Game Lands. Also, we have determined that except for occasional transient individuals, the proposed project is not located within an area, which is the habitat of an endangered or threatened species of bird or mammal recognized by the Pennsylvania Game Commission. Furthermore, we do not anticipate any long-term adverse impacts to any critical or unique habitats as a direct result of this project.

If project plans change or if additional information becomes available on endangered or threatened species, or impacts to critical or unique habitats, this determination may be reconsidered.

If you have any questions, please contact me at (717) 783-5957.

Very truly yours,

Jeffrey J. Kost
Division of Environmental Planning
And Habitat Protection
Bureau of Land Management

JJK/pfb

Cc: File

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US

AN EQUAL OPPORTUNITY EMPLOYER



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION

2001 ELMERTON AVENUE, HARRISBURG, PA 17110-9797

June 3, 2005

Minas M. Arabatzis
Planning Division
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

In re: Prompton Dam and Reservoir Project
West Branch Lackawaxen River
Wayne County, PA

Dear Minas Arabatzis:

This is in response to your request concerning endangered and threatened species of birds and mammals as related to this project.

Our office review has determined that no state listed endangered or threatened species are known to occur within the proposed project area. Also, no State Game Lands are expected to be impacted by the proposed project. Should project plans extend beyond the present study area, or if additional information becomes available on endangered or threatened species of birds or mammals or State Game Lands, this review may be reconsidered.

This reply relates only to endangered and threatened species of birds and mammals recognized by the Pennsylvania Game Commission and State Game Lands. If you have any questions, please contact me at (717) 783-5957.

Very truly yours,


James R. Leigey
Wildlife Impact Review Coordinator
Division of Environmental
Planning and Habitat Protection
Bureau of Land Management

JRL/pfb

Cc: File

ADMINISTRATIVE BUREAUS:

PERSONNEL: 717-787-7836 ADMINISTRATION: 717-787-5670 AUTOMOTIVE AND PROCUREMENT DIVISION: 717-787-6594
LICENSE DIVISION: 717-787-2084 WILDLIFE MANAGEMENT: 717-787-5529 INFORMATION & EDUCATION: 717-787-6286 LAW ENFORCEMENT: 717-787-5740
LAND MANAGEMENT: 717-787-6818 REAL ESTATE DIVISION: 717-787-6568 AUTOMATED TECHNOLOGY SYSTEMS: 717-787-4076 FAX: 717-772-2411

WWW.PGC.STATE.PA.US

AN EQUAL OPPORTUNITY EMPLOYER



Pennsylvania Natural Heritage Program

Date: March 14, 2005

Client: Gregory Wacik
US Army Corps of Engineers, Philadelphia District
100 Penn Square East
Philadelphia, PA 19107-3390

Re: PNDI Search Number N168803
Project Name: Prompton Dam project

Species Conflict(s): *Lycaena epixanthe* (bog copper butterfly)

Dear Mr. Wacik,

After reviewing our data, it does not appear that the PNDI special concern terrestrial invertebrate animal species in question would be adversely affected by the scope of your project. Thus, we do not believe there is a potential conflict and are not making further recommendations. This letter will serve as your formal clearance for PNDI terrestrial invertebrate conflicts in your project.

Feel free to contact me if you have any more questions.

Sincerely,

Ryan Evans
Zoologist
PA Natural Heritage Program/
Western Pennsylvania Conservancy
412-586-2332
revans@paconserve.org



Pennsylvania Natural Heritage Program

Pennsylvania Natural Diversity Inventory (PNDI)



"Potential Conflict" Response Form

This Form Applies to PLANTS and NATURAL COMMUNITIES Only

PNDI Search #	N168803
Search performed by	Elaine Moyer
Search Agency	US Army Corp of Engineers
Project Name	Hydrologic Deficiency project at Prompton Dam and Reservoir
County	Wayne
Municipality/Twp	
Applicant	US Army Corps of Engineers—Gregory Wacik

X NO IMPACT ON PLANTS OR NATURAL COMMUNITIES ANTICIPATED

The PNDI internet database screening revealed hits on species of special concern. However, based on the information submitted to us concerning the site we determined that there would be no impact on the species of special concern identified during the screening. This response represents the most up-to-date summary of the PNDI data files and is applicable for one year. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered. This review is valid for one year from the date on this response.

POTENTIAL PLANT OR NATURAL COMMUNITY OCCURRENCE - UNDER FURTHER REVIEW

Based on our PNDI map review we determined a potential impact to species of special concern that may or may not have been identified during the screening. This project has been passed on to our botany committee for further review. The committee will contact the applicant/consultant directly if more information is needed to assess the project's potential impacts. Response time is typically less than a month after the date on this notification.

Comments:

Ellen M. Shultzabarger, Environmental Review Specialist, PNDI, PA Natural Heritage Program
DCNR/BOF/PNDI, PO Box 8552, Harrisburg, PA 17105
Ph: 717-772-0258 ~ F: 717-772-0271 ~ c-eshultza@state.pa.us

Signature: _____

Date: April 1, 2005

The Pennsylvania Natural Heritage Program (including PNDI) is a partnership between The Western Pennsylvania Conservancy, The Department of Conservation and Natural Resources, and The Nature Conservancy
<http://www.dcnr.state.pa.us/forestry/pndi/index.aspx>



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093
www.phmc.state.pa.us

11 April 2005

Minas M. Arabatzis
US Army Corps of Engineers
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: ER# 05-1509-127-A
COE: Prompton Dame Hydrologic Deficiency
Report, West Branch Lackawaxen River, Prompton
Township, Wayne County, Pennsylvania

Dear Mr. Arabatzis:

The Bureau for Historic Preservation (the State Historic Preservation Office) has reviewed the above named project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980 and 1992, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation as revised in 1999. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

There is a high probability that prehistoric and historic archaeological resources are located in undisturbed portions of this project area as described in a previously conducted Phase IA report entitled A Cultural Resources Reconnaissance for the Prompton Lake Modification, West Branch of the Lackawaxen River, Clinton Township and Prompton Borough, Wayne County, Pennsylvania (Hunter Research Associates, December, 1987, revised July, 1988). A Phase IB archaeological survey is required to determine the presence or absence of archaeological resources if these areas will be affected. Archaeological survey is not necessary in areas determined to have been previously disturbed.

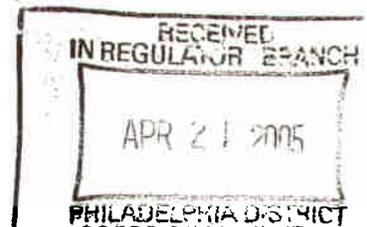
In our opinion no evaluation of historic structures will be necessary for this project area.

If you need further information in this matter please consult Steven McDougal at (717) 772-0923.

Sincerely,

Douglas C. McLearn, Chief
Division of Archaeology &
Protection

DCM/srm





COMMONWEALTH OF PENNSYLVANIA
 PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION
 BUREAU FOR HISTORIC PRESERVATION
 BOX 1026
 HARRISBURG, PENNSYLVANIA 17108-1026

May 16, 1988

Ms. Jan Ferguson
 U.S. Army Corps of Engineers
 Philadelphia District
 U.S. Custom House
 Second & Chestnut Streets
 Philadelphia, PA 19106-2991

Re: File No. ER 82-0051-127-E;
 Prompton Lake Modification/COE
 Cultural Resource Reconnaissance
 Level Report; Clinton Township &
 Prompton Borough, Wayne County

Dear Ms. Ferguson:

The above named project has been reviewed by the Bureau for Historic Preservation (the State Historic Preservation Office) in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1980, and the regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation. These requirements include consideration of the project's potential effect upon both historic and archaeological resources.

The report entitled "A Cultural Resources Reconnaissance for the Prompton Lake Modification" by Hunter Research Associates is thorough and well prepared. Consisting of background research and a visual field inspection it constitutes the first half of a Phase I survey of the project area and will be followed by the second half consisting of subsurface testing of identified high probability areas.

Pennsylvania's principal outline of the state's historic period resources, "Pennsylvania: A Regional Geography" by Raymond and Marion Murphy identifies the chief economic basis of Wayne County as dairy farming, dairy products, lumbering, and tanning. The project area contains examples of resources associated with these activities plus the glass industry, another industry important in the region. Archaeological investigations of farmsteads to be impacted by the proposed project should yield information on changes in standard of living and economic relationships, and other consumer choices as the farms shifted from subsistence agriculture to dairy agriculture supplying growing urban markets.

The project area should produce information on tannery technology from sites including what was once the fifth largest tannery in the county which led the nation in leather production. The site of the pressed glass factory, a rare site type, is of exceptional interest. The project area can also produce information on some secondary rural industries such as blacksmithing.

Page Two
Ms. Ferguson, COE
May 16, 1988

It is likely that the village of Aldenville constitutes an archaeological district with the surviving early buildings contributing significant information to research (Criteria D). We concur in the selection of sites for testing outside Aldenville and with the selection of loci for testing within Aldenville. In addition, if the Pratt & Alden Boarding House (Site A17) and Bowen House 2 - Pratt & Alden Structure Site (Site A18) will be demolished or moved they should be tested. Also, the research design and research topics implied in the report should be made explicit, as they were in recent reports for Corps of Engineers projects at Cowanesque and Lock Haven. This will assist managers in evaluating the significance of the resources and data requiring recovery.

It is also our opinion that only the Aldenville Baptist Church and the Aldenville Methodist Church and associated dining hall and privy appear to meet the criteria for listing in the National Register (Criteria C), based on their exterior appearance, and that the rest of the proposed Aldenville Historic District does not appear to meet National Register Criteria A through C. For Site 47, Lackawaxen Turnpike Bridge, we are unable to evaluate the resource without a photograph.

With regard to prehistoric resources, we concur in the proposed testing strategy. Could you please provide a more detailed justification of why streams along the eastern edge of the proposed lake are not defined as high probability areas?

If you have any questions, please contact this office at (717) 783-8947.

Sincerely,



Brenda Barrett
Director

cc: Geoffrey Gyrisco
Susan Zacher

BB:GG:jk

APPENDIX C

404(b)(1) ANALYSIS

EVALUATION OF THE DISCHARGE OF DREDGED OR FILL MATERIAL
 INTO THE WATERS OF THE UNITED STATES IN ACCORDANCE
 WITH GUIDELINES PROMULGATED BY THE ADMINISTRATOR
 OF THE ENVIRONMENTAL PROTECTION AGENCY, PURSUANT
 TO SECTION 404 (b)(1) OF THE CLEAN WATER ACT
 (40 CFR 230, DATED 24 DEC 1980)

Activity Being Evaluated: Prompton Dam Hydrologic Deficiency Modification Project

Date of Site Inspection: 04/21/04 Wetland and stream assessment (if none, so state)

A. Restrictions on Discharges:

- | | <u>Yes</u> | <u>No</u> |
|---|------------|-----------|
| 1. Alternatives: | | |
| a. Will there be a discharge into a special aquatic site?
If yes, can project be constructed out of aquatic site? (40 CFR 230.10(a)(3)) | (X) | () |
| b. Additional information is required to evaluate practicable discharge alternatives.
Does a practicable alternative as defined in 40 CFR 230.1(a) exist which will
Accomplish project goals with lessened adverse environmental impacts?
If so, specify: <u>The project alternative requires in-stream work for replacement of riprap in the
reservoir stilling basin. All necessary permits will be secured for this work and all required
methodologies to minimize discharge to the West Branch Lackawaxen River will be adhered to.</u> | () | (X) |

2. Water Quality Standards:

- | | | |
|---|-----|-------|
| a. Has a Water Quality Certificate been denied?
Is it suspected that a Water Quality Certificate will be denied? | () | (X) |
| b. Will the discharge violate toxic effluent standards pursuant to Section 307 of
the Clean Water Act?
If yes, list suspected contaminants: _____ | () | (X) |
| c. Will the discharge jeopardize the continued existence of any threatened or
endangered species?
If yes, specify: _____ | () | (X) |
| d. Will the discharge violate the protection of a marine sanctuary?
If yes, name the sanctuary: _____ | () | (X) |

3. Factual Determinations:

- | | <u>Major</u>
+ - | <u>Minor</u>
+ - | <u>None</u> |
|---|--------------------------|------------------------------------|---|
| a. The substrate | | | |
| (1) has particle shapes, sizes and compactions different from discharged
material. | <input type="checkbox"/> | <input type="checkbox" value="-"/> | <input type="checkbox"/> |
| (2) will be affected adversely by changes in contours based on method,
volume, location, or rate of discharge. | <input type="checkbox"/> | <input type="checkbox" value="-"/> | <input type="checkbox"/> |
| b. Will there be a <u>significant</u> change in the hydrologic regime due to: | | | |
| (1) current patterns | <input type="checkbox"/> | <input type="checkbox" value="-"/> | <input type="checkbox"/> |
| (2) circulation | <input type="checkbox"/> | <input type="checkbox"/> | <input style="background-color: black; color: black;" type="checkbox"/> |
| (3) downstream flows (Only during construction. Not permanent) | <input type="checkbox"/> | <input type="checkbox" value="-"/> | <input type="checkbox"/> |

- (4) normal fluctuation
- (5) water chemistry
- c. Will suspended particulates have an adverse effect based upon
- (1) grain and plume size and shape
- (2) the volume, method, location or rate of discharge
- d. Will the discharge increase or replace contaminants?
If so, how and to what degree? _____

-
- e. Will the discharge have an adverse effect on aquatic organisms including
benthos (other than temporary construction impacts)?
- f. Is the mixing zone of the smallest practicable size?
Yes No
(X) ()
- g. Will there be adverse cumulative impacts associated with this discharge?
If so, what are they? _____

-
- h. Are there adverse secondary impacts associated with the discharge?
If yes, specify: _____

-
4. Have all appropriate and practicable steps been taken to minimize the potential
adverse impacts of the proposed discharge on the aquatic ecosystem? Yes No
(X) ()

 Approved erosion and sedimentation control measures will be in place during construction activities. A National Pollutant Discharge Elimination System permit shall be in place prior to the commencement of construction activities. All other requirements outlined in the State 401 Water Quality Certificate and permit will be adhered to. _____

NOTE: plus (+) equals beneficial impact --- minus (-) equals adverse impact

B. Results of Testing

 The project involves the modification of the existing dam and spillway to meet hydrologic design deficiencies. No testing of substrate has been performed for the in-stream work. Work will be conducted in the "dry". Any substrate materials excavated to get to needed elevations for large riprap placement will be removed from the site. The substrate is predominately large and medium sized cobble with intermixed fines of various sizes. An approved erosion and sediment control measures shall be in place during construction activities. _____

Are the test results sufficient to complete the evaluation?

Yes No
(X) ()

If no, specify additional testing: _____

C. Finding of Compliance or Non-Compliance with the Restrictions on Discharges:

Based on the evaluation and/or analyses in accordance with the guideline promulgated by the Administrator of the Environmental Protection Agency pursuant to Section 404(b)(1) of the Clean Water Act (40 CFR 230) the proposed site for the discharge of dredged or fill material:

Complies with the guidelines.

Complies with the guidelines with the inclusion of practicable discharge conditions.

Fails to comply with the requirements of the guidelines. (See 40 CFR 230.12(a)(3)(i-iv))



Signature of Evaluator

Signature of Reviewing Official

Signature of Approving Official

APPENDIX D

COMPLIANCE WITH ENVIRONMENTAL STATUTES

REGULATORY COMPLIANCE REQUIREMENTS

<u>Federal Statutes</u>	<u>Level of Compliance</u>
Anadromous Fish Conservation Act	N/A
Archeological and Historic Preservation	OGC
Clean Air Act	FULL
Clean Water Act	PARTIAL/OGC
Coastal Barriers Resources Act	N/A
Coastal Zone Management Act	N/A
Comprehensive Environmental Response, Compensation and Liability Act	FULL
Endangered Species Act	PARTIAL
Estuary Protection Act	N/A
Federal Water Project Recreation Act	N/A
Fish and Wildlife Coordination Act	PARTIAL/OGC
Land and Water Conservation Fund Act	N/A
Marine Mammal Protection Act	N/A
National Historic Preservation Act	PARTIAL/OGC
National Environmental Policy Act	PARTIAL
Resource Conservation and Recovery Act	N/A
Rivers and Harbors Act	N/A
Watershed Protection and Flood Prevention Act	N/A
Wild and Scenic Rivers Act	FULL
 <u>Executive Orders, Memoranda, etc.</u>	
Protection and Enhancement of Cultural Environment (E.O. 11593)	OGC
Floodplain Management (E.O. 11988)	N/A
Protection of Wetlands (E.O. 11990)	FULL
Prime and Unique Farmlands (CEQ Memorandum, 11 Aug 80)	OGC
Environmental Justice in Minority and Low Income Populations (E.O. 12898)	N/A

Note:

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

Partial Compliance (Partial): Not having met some of the requirements that normally are met in the current stage of planning.

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

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

On Going Coordination (OGC): Currently coordinating to meet the requirements for this stage of planning.

