

Core Creek Dam (PA-620)

Rehabilitation Planning Study Fact Sheet

Neshaminy Creek Watershed

Core Creek Dam's Short Story

The Bucks County Board of Commissioners and the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), in cooperation with other state and local partners, completed the Neshaminy Creek Watershed Work Plan in May 1966 to address the prevalent needs for flood prevention, water supply and recreation through various actions including planned construction of ten flood control dams. Of the ten planned flood control dams and recreation facilities, eight dams including two multipurpose structures were eventually completed. Core Creek Dam (PA-620), located on Core Creek in Middletown Township, is approximately 1¼ miles north of Langhorne Borough upstream of Route 413 and Bridgetown Pike. Core Creek Dam (PA-620) was built in 1976 to provide flood control, recreation, and public water supply. The dam is owned and operated by Bucks County Board of Commissioners.

Multiple storm events have occurred since construction of the Core Creek Dam. In each case, the dam detained millions of gallons of runoff that would otherwise contribute to downstream flooding. Core Creek Dam also provides a 150-acre reservoir for recreational use, to provide water supply and to retain sediment loads from the upstream drainage area.

Core Creek Dam was designed to meet the dam safety engineering standards in place at the time of its construction. Recent advances in dam safety engineering have resulted in increased design standards above and beyond those used for the Core Creek Dam. Other aspects of the Core Creek Dam have been identified that could improve the structural and operational safety of the dam throughout its service life. Bucks County Board of Commissioners requested assistance from NRCS to evaluate these components and potential alternatives for rehabilitating the Core Creek Dam.

Rehabilitation Planning Process

The Watershed Protection and Flood Prevention Act (PL-566) was amended in 2000, to provide NRCS authorization to assist communities with rehabilitation of their aging dams. The legislation authorizes NRCS to work with local communities and watershed project sponsors to address public health and safety concerns and potential environmental impacts of aging dams. NRCS provides technical and financial assistance in planning, designing, and implementing watershed rehabilitation projects. The Planning Study for Core Creek Dam is currently underway to evaluate needs, objectives, and alternatives for potential rehabilitation of the dam.

Rehabilitation projects may be cost shared between the federal government and local sponsors. NRCS may provide 65 percent of the total construction cost of the rehabilitation project. Local sponsors can provide the remaining 35 percent in cash or through "in kind" costs for the value of new land rights, local project administration, and other planning and implementation costs associated with the project. Federal funds cannot be used for operation and maintenance activities.

Project Need

The Dam was originally constructed in 1976 with a 100-year service life and to meet the design standards in place at that time. Both NRCS and the Pennsylvania Department of Environmental Protection, Bureau of Waterways Engineering, have classified Core Creek Dam as a High Hazard Class dam. This hazard classification is based on the prevalence of population, bridges, roads and buildings located within the downstream dam breach inundation zone that would be exposed to flood loss and potential loss of life in the unlikely event of dam failure. Dam safety design standards for high hazard dams have increased since completion of this dam. Thus, the Project Need is to continue providing and improving flood damage reduction downstream from the dam and address applicable NRCS and Commonwealth of Pennsylvania standards and design criteria for public health and safety to reduce the risks of loss of human life and property damage.

Project Objectives

The project objectives are to:

- Meet or exceed state and federal dam safety criteria.
- Maintain or enhance the current level of flood protection provided by Core Creek Dam.
- Maintain or enhance the current recreational values, and aquatic and terrestrial wildlife habitat values provided by Lake Luxembourg and its adjoining riparian lands.
- Maintain water supply availability provided by Core Creek Dam and Lake Luxembourg.

Project Facts

Size of Reservoir	150 acres
Drainage Area	9.57 square miles
Maximum Depth	31 feet
Height of Dam	47 feet
Length of Dam	822 feet
Floodwater Storage Capacity	2,086 acre feet
Water Supply Storage Capacity	1,215 acre feet
Conservation (Sediment) Storage Capacity	261 acre feet

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Project Schedule

Planning Phase	Start Date	Anticipated Completion Date
Collection and Analysis of Information	7/24/2015	2/19/2016
Formulation and Evaluation of Alternatives	1/20/2016	7/18/2016
Preparation of Supplemental Watershed Plan and Environmental Evaluation	6/18/2016	12/29/2016

Project Location

