

# Keeping Dams Safe

## Protecting People, Property and Natural Resources

### Plum Creek Watershed A Pilot Rehabilitation Project

Wisconsin



**P**lum Creek Watershed Dam No. 19 was selected and funded in 2000 as part of a national pilot rehabilitation project. This dam will be rehabilitated to ensure it remains safe and continues to provide protection for property and natural resources in the watershed. Experience and information gained from this pilot project will be used as other dams are rehabilitated across the nation.

#### **Situation:**

The dam, built in 1969, has developed serious problems in the principal spillway pipe that goes through the dam. Dam failure could result if the pipe wasn't repaired. Considerable siltation has occurred in the lake over the years reducing flood-water storage.

#### **Why Action is Needed:**

This dam provides flood protection for agricultural lands. It prevents severe gully erosion and reduces the sediment load downstream that helps protect the water quality in trout streams.



Watershed surveys in the 1940's found no game fish in Plum Creek. It is now a trout stream, due in part to the Plum Creek Dam No. 19.

#### **Rehabilitation Planning Process:**

Several alternatives were considered by watershed project sponsors including taking no action, removal of the dam and different kinds of rehabilitation. Public meetings were held to get local input and an environmental assessment was conducted. Once the sponsors selected an alternative the USDA Natural Resources Conservation Service developed a supplement to the watershed work plan.



Dam 19 has stopped the advance of a gully that was causing severe erosion and provides valuable flood protection to agricultural land, roads and other property downstream.

#### **Action:**

The principal spillway will be repaired and sediment will be removed to ensure that the dam will continue to provide benefits for another 50 years.

- ◆ Rehabilitation Project cost: \$122,000.
- ◆ Funding: Sixty-five percent of the project construction cost and technical assistance will be provided by the USDA Natural Resources Conservation Service as authorized by the 2000 Agricultural Appropriations Act. This Act authorized and funded pilot rehabilitation projects in Ohio, Wisconsin, New Mexico, and Mississippi.

The watershed project sponsor, is responsible for thirty-five percent of the funding, landrights and easements.

**Watershed Project Sponsor:**  
Pierce County Land Conservation Commission

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### Plum Creek Watershed

- ◆ Size: 61,055 acres
- ◆ Dams: 4
- ◆ Project Primary Purpose: watershed protection, flood control and recreational benefits to the community.
- ◆ History: Dams number 12 and 19 were built in 1969 and were designed for a 50-year life. Dams 2 and 3 were built in 1974 and were designed for a 100-year life. Dam 2 is a multiple purpose flood control and recreation structure. The dams provide flood and erosion control for agricultural land and flood control for the community of Plum City.

### National Rehabilitation Needs



Location of dams that are over 30 years old.

- ◆ Since 1948 over 11,000 small flood control dams have been built in 2,000 watersheds in 47 states.
- ◆ Many of these earlier constructed dams were designed for a 50-year life expectancy. Over one-half of the dams are over 30 years old.
- ◆ Today, many of these older dams need rehabilitation. Concrete and metal used in the principal spillways have deteriorated and in some situations public safety and health are at risk.
- ◆ Over 400 watershed project sponsors in 36 states indicated an interest in USDA funds and assistance in 2001 to rehabilitate over 1,400 dams.

### Wisconsin Watershed Program

Eighty-seven small flood control dams have been built in Wisconsin through the Watershed Protection and Flood Control Act of 1953 (Public Law 83-566). Most of these dams were built from the mid-1950's through the 1980's. These dams provide flood control to prime farmland, highways, and communities. They are an integral part of the communities and benefit people's lives every day.

### Rehabilitation Needs

- ◆ Over thirteen dams in the state have deteriorating components, including pipe separations or cracked concrete pipe supports.
- ◆ Over 20 dams are known to be built in rock formations that have fractured bedrock, a condition that led to a failure of a dam in 1978.
- ◆ Increased hazards have been created downstream from more than 20 dams due to home development in or near the floodplains.
- ◆ Structural components like slide gates and principal spillway pipes have deteriorated.
- ◆ Sedimentation has reduced flood storage capacity in some structures.

For additional information about this rehabilitation project contact the USDA Natural Resources Conservation Service office, 6515 Watts Road, Suite 200, Madison, Wisconsin, 53719, (608) 276-8732.

Information about pilot rehabilitation projects in other states and about other issues related to aging watershed dams is available at the NRCS national web site ([www.nrcs.usda.gov](http://www.nrcs.usda.gov)). Click on Aging Watersheds.

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