

# Keeping Dams Safe

## Protecting People, Property and Natural Resources

### Hubbard and Murphree Creeks Watershed A Pilot Rehabilitation Project

### Mississippi



**T**hree flood control dams in the Hubbard and Murphree Creeks Watershed have been selected as part of a national pilot rehabilitation project. These dams will be rehabilitated to ensure they remain safe and continue to protect people, property and natural resources.

The experience and information gained in these pilot projects will be used as other dams across the nation are rehabilitated.

#### **Situation:**

Three flood control dams were built in the watershed in 1963. The dams were designed as medium hazard dams. However, after the dams were built urban development increased downstream. Now there is a threat of loss of life if any of the dams fail. One dam has a crack in the concrete principal spillway riser.



Homes, public facilities and campgrounds are protected by the dams and would be threatened by dam failure.

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

Failure of the dams could mean loss of lives and damage to homes, camp grounds, public buildings, roads, and other structures downstream. A Boy Scout camp is located only a few hundred feet downstream from the dam.



Dam Number Y-17-74 is one of three dams being rehabilitated.

#### **Action:**

All three dams in the watershed are being upgraded to high-hazard dam criteria.

- ◆ The top of the dams are being raised to increase flood storage.
- ◆ The embankment side slopes are being flattened to make the embankment more stable.
- ◆ The principal spillway risers are being raised to increase flood storage.
- ◆ The auxiliary spillways are being enlarged to increase capacity during large storm events.
- ◆ The auxiliary spillway on one dam will be reinforced with a geo-synthetic material to add stability.
- ◆ Rehabilitation Costs: \$2,000,000
- ◆ Funding: Sixty-five percent of the project construction cost and technical assistance will be provided by the USDA Natural Resources Conservation Service through the 2000 Agricultural Appropriations Act. This Act authorized and funded pilot rehabilitation projects in Wisconsin, New Mexico, Mississippi and Ohio. Local sponsors are responsible for 35 percent of the cost and the landrights, and easements.

#### **Watershed Project Sponsors:**

Hubbard-Murphree Watershed District,  
Tallahatchie County Board of Supervisors, and  
Tallahatchie Soil and Water Conservation District.

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Watershed sponsors and community leaders showed their support for the project at a ground breaking ceremony.

### Rehabilitation Planning Process

The local watershed sponsors provided the leadership to conduct the resource and community needs inventory in the watershed. The Natural Resources Conservation Service developed a supplement to the original work plan and conducted an environmental assessment as part of the planning process.

Alternatives were considered including taking no action, removal of the dams and several rehabilitation options.

### Hubbard-Murphree Creeks Watershed

- ◆ Size: 4,729 acres ( 7.38 square miles)
- ◆ Number of dams: 3
- ◆ Primary Project Purpose: Flood control

The dams were built by the USDA Natural Resources Conservation Service, assisting local sponsors, through the Flood Control Act of 1944 (PL78-534).

For additional information about this rehabilitation project contact the USDA Natural Resources Conservation Service office, 607 Highland Colony Parkway, Suite 100, Ridgeland, MS. 39157. (601) 965-4597.

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 to Aging Watersheds.

### 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.

### Mississippi Rehabilitation Needs

- ◆ Mississippi has 793 small flood control dams.
- ◆ Over 30 percent of the dams were designed for a 50-year life span.
- ◆ More than one-half of the dams are over 30 years old.
- ◆ 103 dams will reach the end of their planned life span in the next five years, with many needing rehabilitation.

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