

Keeping Dams Safe

Protecting People, Property and Natural Resources

Santa Cruz River Watershed A Pilot Rehabilitation Project

The Santa Cruz River Watershed Project Dam Number 3A is one of four flood control dams in New Mexico to be included in national rehabilitation projects. These dams will be rehabilitated to ensure they remain safe and continue to protect people, property, and natural resources in the watershed.

Experience and information gained from these projects will be valuable as other dams across the nation are rehabilitated.

Situation:

Dam 3A's concrete auxiliary spillway is deteriorating. Cracking and loss of strength of the concrete will in time result in failure and collapse of the spillway sides.



View from top of dam with the auxiliary spillway in foreground and homes downstream.



The concrete in the auxiliary spillway is experiencing severe cracking and is not expected to last much longer.

New Mexico



Why Action is Needed:

The dam provides flood protection and sediment reduction. Failure of the dam could mean damage to homes and other buildings and possible loss of lives.



Ninety-five families live downstream from the dam.

Action:

The cracked and damaged concrete will be removed and replaced with high quality concrete and the exposed concrete surfaces and joints will be sealed with a moisture barrier.

- ◆ Rehabilitation Project Estimated Cost: \$460,000
- ◆ 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 Appropriation 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.

Background

Dam 3A was built in 1972 and is one of seven dams in the watershed project. The high-hazard earth-fill dam was built to reduce downstream flood and sediment damages from 100-year storm events from the Arroyos de la Cuesta de los Vaqueros and de los Ajuelos. Both arroyos are tributaries to the Santa Cruz River.

Watershed Project Sponsor:
Santa Fe-Pojoaque Soil and Water
Conservation District

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Santa Cruz River Watershed

- ◆ Size: 117,180 acres
- ◆ Number of dams: 7
- ◆ Primary Project Purpose: Reduce flooding and trap sediment.

The Watershed Project Protects:

- ◆ 10,000 individuals
- ◆ 5,000 homes
- ◆ 100 businesses,
- ◆ 19 public facilities,
- ◆ 100 miles of roads
- ◆ 130 bridges or culverts
- ◆ 2,500 farms.

The dams also reduces sediment deposition by over 44,000 tons per year.

History of the Watershed:

The dams were built through the Watershed Protection and Flood Control Act of 1953 (Public Law 83-566) by the USDA Natural Resources Conservation Service, assisting the Santa Fe-Pojoaque Soil and Water Conservation District. The district assumed operation and maintenance for the dams after construction.

Six dams were built in 1962. In 1972 Dam 3 was rebuilt and enlarged and Dam No. 3A was constructed.

Six of the seven dams were constructed as high hazard dams because of homes, businesses and other development downstream.

National Rehabilitation Needs



Location of dams 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 receiving USDA funds and assistance in 2001 to rehabilitate over 1,400 dams.

New Mexico Rehabilitation Needs

New Mexico has 32 small watershed projects, with 71 flood control dams and 41 miles of diversions constructed since 1957.

- ◆ Twenty dams will reach or surpass their design life by 2010 and many will need rehabilitation to extend their life and benefits.
- ◆ Eight dams currently need attention to address structural deterioration, excess sediment accumulation and other problems.
- ◆ Nine dams need to be upgraded to meet current state dam safety laws. There has been significant downstream development and improvements since construction of these dams.
- ◆ At stake is the protection of 40,000 people, property, agricultural production and water quality.
- ◆ The dams provide \$9 million in annual benefits.

For additional information about this rehabilitation project contact the USDA Natural Resources Conservation Service office, 6200 Jefferson St. NE, Albuquerque, New Mexico 87109-3734. Phone: (505) 761-4430.

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). Click on Aging Watersheds.

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