

Cedar Creek Watershed Dam No. 87A Kaufman County, Texas

Cedar Creek Watershed Dam No. 87A is a multi-purpose dam located on the north side of Elmo, Texas, six miles east of Terrell.

The dam was originally constructed in 1955 as a water supply reservoir for the City of Terrell. In 1969 it was modified with the assistance of the USDA Natural Resources Conservation Service (NRCS) under the authority of Public Law 78-534 (Flood Control Act of 1944) to provide flood control benefits.



The dam is 66 years old and does not meet current safety standards for a high hazard dam, it is currently being rehabilitated to ensure it remains safe and continues to provide flood control and water supply benefits.

Rehabilitation Details

Major project work includes raising the height of the dam crest by four feet; filling and flattening the downstream slope with general fill and lime-treated fill to a 3H:1V slope ratio; replacement of the upstream stone riprap; construction of a new principal spillway tower and a 54-inch conduit; construction of an impact basin; replacement of the existing structural spillway; widening and improvements to the auxiliary spillway; construction of a new raw water pipeline; and the installation of internal drainage piping along the dam toe and structures.

Project Partners:

- Kaufman-Van Zandt-Rockwall Soil and Water Conservation District
- Kaufman County Commissioners Court
- Texas State Soil and Water Conservation Board
- City of Terrell
- USDA NRCS

Cottonwood Creek Watershed Dam No. 54 Logan County, Oklahoma

The Cottonwood Creek Watershed Dam was constructed in 1973 as a significant hazard dam.

The dam is one of 16 flood control dams in the Cottonwood Creek Watershed Project in Logan and Kingfisher Counties. The dam was constructed by the Logan County Conservation District with the assistance of the Natural Resources Conservation Service (NRCS) Watershed Program and the Oklahoma Conservation Commission.



A new concrete inlet tower and concrete conduit was installed during the rehabilitation project.

The dam was designed and constructed as a significant hazard dam, but after being reclassified as a high hazard dam due to homes constructed downstream in the breach zone it no longer met current dam safety standards.

The dam was nearing its 50-year design life and rehabilitation ensured that it will remain safe and extend its flood protection for at least another 100 years.

Rehabilitation included the installation of a new principal spillway conduit and inlet structure, lowering the principal spillway crest elevation 4.3 feet, lowering the auxiliary spillway crest elevation 2.5 feet, and maintaining the existing dam height to safely pass the probable maximum flood.

Project Partners:

- Logan County Conservation District
- Oklahoma Conservation Commission
- USDA NRCS

Watershed Rehabilitation Progress Report February 2023

The Watershed Program: Providing Multiple Benefits to Communities for 79 Years

Congress established the Watershed Program by enacting the Flood Control Act of 1944 (Public Law 78-534) and the Watershed Protection and Flood Prevention Act of 1954 (Public Law 83-566).

Under these authorizations, the USDA Natural Resources Conservation Service (NRCS) has assisted watershed project sponsors in the construction of more than 11,845 flood control dams in 1,271 watersheds in 47 States since 1948.

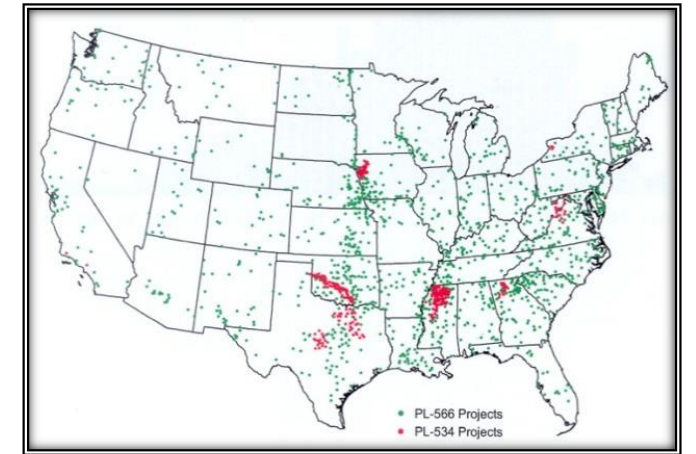
These projects provide an estimated \$2.2 billion in annual benefits in reduced flooding and erosion damages, recreation, water supplies and wildlife habitat.

Time Has Taken Its Toll on Dams

Many dams today are in a far different setting than when they were constructed. Population has increased; residential and commercial development has occurred upstream and downstream from the dams; land uses have changed; sediment pools have filled; and concrete and metal components have deteriorated.

Many dams do not meet current State dam safety standards that have more stringent requirements than when the dams were built.

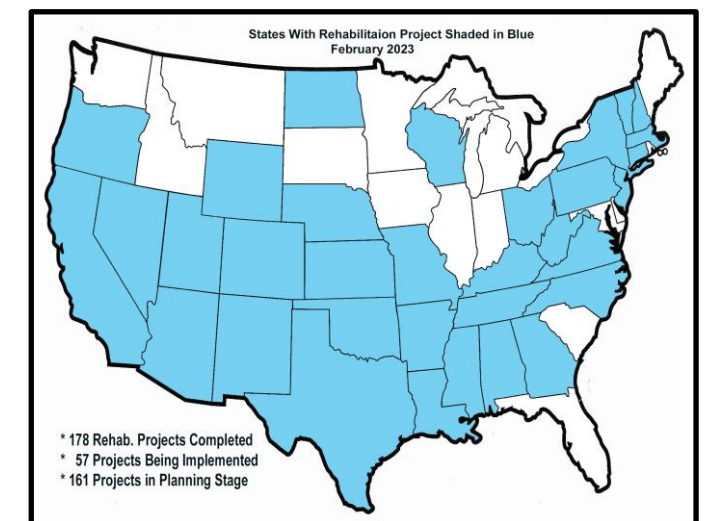
Many of these dams are also nearing the end of their planned service life of 50 years. Some of these dams need rehabilitating to ensure they remain safe, continue to function as designed and continue providing benefits. In some cases, additional new benefits such as adding water supply storage and recreation areas are a part of rehabilitation projects.



Flood control dams have been constructed in 1,271 watersheds in 47 States.

Status of Rehabilitation Projects

As of February 2023, there are 269 approved (authorized) rehabilitation projects in 27 States. One hundred and seventy-eight of these projects in 22 States have been completed; 57 projects in 16 States are being implemented (either in design or construction phase) and 161 projects in 30 States are in the planning stage.



Watershed Rehabilitation Amendments of 2000

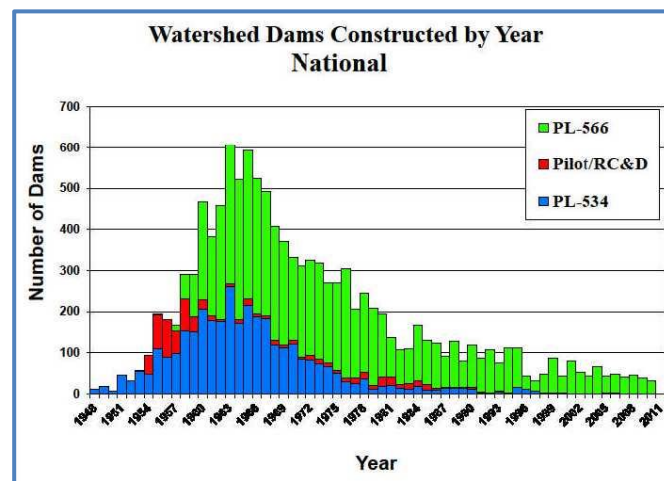
Congress passed the Watershed Rehabilitation Amendments of 2000 which amended the Watershed Protection and Flood Prevention Act (Public Law 83-566) to authorize the NRCS to provide technical and financial assistance to watershed project sponsors in rehabilitating their aging dams.

The purpose of rehabilitation is to extend the service life of the dams and bring them into compliance with applicable safety and performance standards or to decommission the dams so they no longer pose a threat to life and property.

NRCS provides technical assistance and 65 percent cost share on approved rehabilitation projects. Funding for projects comes from Congressional appropriations.

Funds for rehabilitation are authorized in the Farm Bills and are appropriated annually by Congress. Discretionary and Commodity Credit Corporation (CCC) funding has been authorized. The 2014 Farm Bill authorized \$250 million in CCC funds.

Congress appropriated \$1 million in discretionary funding for fiscal year 2022 and \$118 million in Bipartisan Infrastructure funding was made available for the Watershed Rehabilitation Program.



Many of the 11,845 flood control dams were built in the 1960s-70s and now are 50 to 60 plus years old. Most were designed for a 50-year service life.

Local Sources of Cost-Share Funds

Local watershed project sponsors provide 35 percent of the cost of a rehabilitation project and obtain needed land rights and permits. The source of these funds varies from state to state.

Some of the methods that states utilized to obtain funding for rehabilitation include:

- Bonds,
- County budgets
- State park division
- State appropriations
- Municipal taxing authority
- Watershed taxing authority
- In-kind technical services

National NRCS Watershed Rehabilitation Contact:

Ralph Smith
Acting Branch Chief Watershed Program
Natural Resources Conservation Service
Washington DC 2025
Email: ralph.smith@usda.gov

Included in this publication are examples of rehabilitation projects in four states. Fact sheets with more details on these and other rehabilitation projects are available on the National Watershed Coalition website: www.watershedcoalition.org

Buckeye Flood Retarding Structure No. 1 Maricopa County, Arizona

The Buckeye No. 1 Flood Retarding Structure (FRS) was originally constructed by local watershed project sponsors with the assistance of the USDA Natural Resources Conservation Service (NRCS) Watershed Program in 1975. It is currently operated and maintained by the Flood Control District of Maricopa County.



Phase 2A requires the rehabilitation of five miles of an embankment dam located just north of Interstate 10 in Buckeye, AZ.

The project includes raising the dam height, construction of a reinforced concrete auxiliary spillway, installation of a central filter and a concrete riser for the principal spillway. In addition new ramps and maintenance roads will be constructed for future maintenance. Rehabilitation of the dam will cost an estimated \$47.6 million.

The NRCS is providing technical assistance in the planning and design of the project and 65 percent of the construction cost. Federal funding is provided through the NRCS Watershed Rehabilitation Program.

- **Project Partners:**
- Flood Control District of Maricopa County
- Agua Fria-New River Natural Resource Conservation District
- Buckeye Valley Natural Resource Conservation District
- USDA NRCS

Noonday Watershed Dam No. 17 Cobb County, Georgia

Noonday Watershed Dam No. 17 is an earthen embankment located on Tate Creek, a tributary of Noonday Creek in Cobb County, Georgia.

The dam was constructed by the Cobb County Soil and Water Conservation District in 1956 with the assistance of the USDA Natural Resources Conservation Service (NRCS) Watershed Program.



Before

After

Significant urban development has occurred upstream of the dam, resulting in increased runoff and reduced time of concentration. Similar development downstream has resulted in many structures within the breach zone.

Development downstream of the dam resulted in the reclassification of the dam from a low hazard dam to a high hazard dam and it no longer met current NRCS or Georgia Safe Dams Program performance criteria for a high hazard potential dam.

Rehabilitation will bring the dam up to current dam safety criteria and extend its life for another 100 years. The project involves upgrades to the existing earthen dam including, construction of a roller compacted concrete (RCC) chute spillway, reinforced concrete stilling basin, cutoff wall, and training walls with under drains. It also includes construction of subsurface drainage systems, rock excavation and on-site earth fill.

Rehabilitation of this dam will provide flood protection for 156 downstream residents, 13 homes, two stables, a neighborhood recreation facility, one local road, Interstate 575, and many public utilities and infrastructure.