



NRCS Assisted Watershed Dams in Texas

In the mid-1930s, Congress began looking at ways to complement the downstream flood control program of the Corps of Engineers. It passed flood control acts in 1936, 1944, and 1954 and assigned responsibility of the Watershed Protection and Flood Prevention Program to the USDA Soil Conservation Service, now the Natural Resources Conservation Service (NRCS).

Since that time, the NRCS has assisted watershed sponsors in construction of nearly 2,000 floodwater retarding structures (dams) in 145 watershed projects across Texas. In addition, the NRCS has assisted watershed sponsors with the installation of land treatment practices, channel improvements, and dikes for watershed protection.

Texas watershed projects provide over **\$150 million** in annual benefits. Besides flood protection, **6,200 bridges** are protected, as well as numerous county, state, and federal highways. Over 11 million tons of sediment is stored annually, therefore preserving over **10,000 ac-ft of storage** in downstream reservoirs and water supplies. These dams also provide an additional **60,000 acres** of created, enhanced, or restored wetlands, as well as numerous other social benefits.

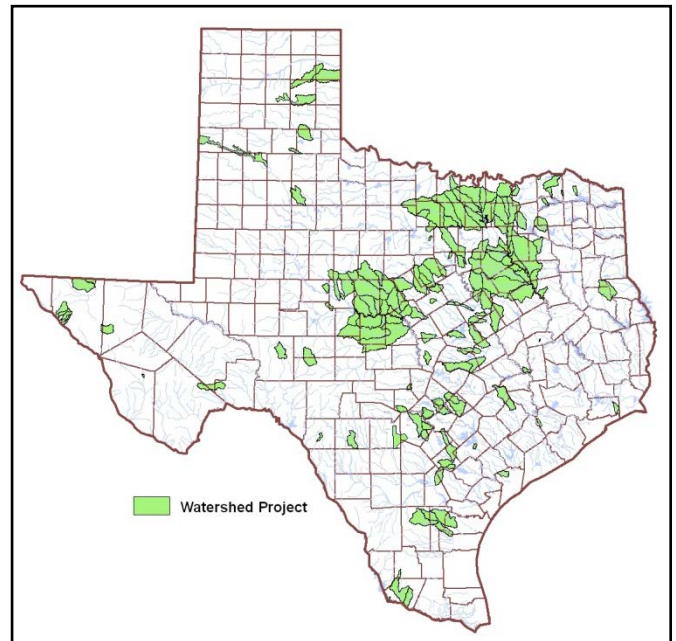
*Floodwater retarding dams built by local watershed sponsors successfully protected many Texas communities from catastrophic damage during the spring storms of 2009. Floodwater retarding dams in five watershed projects located within Cooke and Montague Counties reduced flood damages by **\$8.2 million** for one storm event, with rainfall totals exceeding 10 inches in 24 hours in some locations.*

Based on upstream flood loss data for Texas, there is a real need to continue watershed projects for flood control and water quality.

Operation and Maintenance of Watershed Projects

The annual Operation and Maintenance (O&M) of dams and their components is the major responsibility of project sponsors (local units of government, usually conservation districts, city and county governments, and special purpose districts).

Texas Watershed Sponsors include 106 Soil and Water Conservation Districts, 86 Counties, 50 Cities, 20 Water Control and Improvement Districts, 6 Watershed Authorities and Associations, 1 River Authority, 1 State Recreation Area, and 14 Other Special Purpose Districts.



Maintenance work includes clearing trees from dams and spillways, repairing soil erosion damage, repairing damages after heavy storm events, and keeping the principal spillway inlet clear of debris. Repairs should be made in a timely manner to protect the structural integrity of the existing structures.

Operation and Maintenance of this important public infrastructure is critical to keep them safe and to assure they will continue to provide the benefits for which they were planned and designed. Many of these dams need attention now to address O&M needs and repair of storm damage.

While the sponsors are ready and willing to perform the needed O&M, some of them lack the financial resources.

Currently, at least 193 dams need repair in order to continue to function properly. Estimated total cost for these repairs is \$48 million.



The recently completed Elm Fork Watershed Multiple Purpose Structure 19 will provide flood prevention, additional water supply for the City of Muenster, and opportunity for public recreation development.

Rehabilitation of Aging Dams

NRCS assistance is available to rehabilitate aging watershed dams. A typical candidate site for rehabilitation was constructed between the late 1950's to the middle 1960's, and no longer meets current safety criteria.

There are 642 dams in Texas that will meet or exceed 50 years of age in 2012 and have the potential need for rehabilitation.

The majority of this area was in a rural setting when the watershed projects were planned. Conversion from agricultural to urban land use has taken place and is intensifying.

Many dams originally constructed as low hazard are now classified as high hazard, or will soon be high hazard as a result of downstream urbanization.

Rehabilitation of these dams is needed to protect lives and downstream property. Dams are classified according to their potential to impact human lives and public infrastructure should a failure occur. Failure of a high hazard dam has the potential to cause significant damage to urban infrastructure, as well as the potential to cause loss of life.

*There are currently **393 high hazard** watershed dams in Texas. At least 280 of these dams need to be upgraded to meet high hazard criteria at an estimated cost of \$558 million, including the watershed sponsor's share of \$145 million. Fourteen dams have been renovated to date, and eight dams are currently in the design or construction phase.*

Rehabilitation costs are shared 65 percent federal and 35 percent local watershed sponsors.



Downstream Development encroaching on Martinez Creek Watershed Site 5 in Bexar County. This dam was rehabilitated in 2005.

Information about watershed projects and other conservation programs is available at local conservation district or NRCS offices. For further information refer to the Texas NRCS website located at:

www.nrcs.usda.gov/wps/portal/nrcs/main/tx/programs/planning/wpfp