

## Floodwater Retention Dams Prevent Additional Damage from Disastrous Flooding in Texas

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*By Donnie Lunsford, NRCS Public Affairs Specialist*

With a very dry summer, building rain clouds are normally a welcoming sight. Unfortunately, on September 21 that wasn't the case. On that day, significant amounts of rain fell across watersheds that drain into areas of the city of Sonora causing devastating flooding with more than 200 homes affected by flood waters. Some areas received more than 10 inches of rain in less than a four-hour period. To make matters worse, this deluge of rain followed a week earlier rain that left flooding and a saturated landscape in its wake.

Fortunately, no loss of life occurred. The outcome for Sonora could have been much worse if not for the floodwater retention structures, also known as dams and water channels, upstream in the watershed above the city. The USDA-Natural Resources Conservation Service (NRCS) with assistance from the Edwards Plateau Soil and Water Conservation District (SWCD) and the Sutton County Commissioners Court were three of six project sponsors who constructed floodwater retention structures throughout Sutton County in the late 1950s and early 1960s through the Watershed Protection and Flood Prevention Act. NRCS provided nearly \$2.1 million to construct the 13 dams in the Dry Devils River and Lowrey Draw watersheds, which cover approximately 233 square miles, or 149,120 acres, in Sutton and Schleicher Counties.

During a flood event, these structures are designed to release the water at a safer velocity through the primary spillway and auxiliary spillway, if necessary. Despite the torrential floodwaters, all 13 of these sites functioned properly, reducing damage to roads, rangeland, fences and other property.

“These sites performed as they were designed to do. Without these structures, it could have been very deadly and more catastrophic had they not been there and functioned properly,” explained Tom Payton, retired NRCS district conservationist who now works for the Edwards Plateau SWCD. “This was unprecedented rainfall in such a short amount of time, so flooding was certain. However, the primary spillways were able to release the water at a safer velocity even in locations where the water was more than some of these sites could hold and water flowed over the auxiliary spillways on sites 4, 7, and possibly 8.”

Payton added “As far as I know or remember in my 38 years in Sonora, this is the first time the auxiliary spillways have ever functioned on these three sites and it is the worse we have seen. But, thanks to good planning and foresight, we have these protecting our community.”

Historic devastating flood damages to Sonora and the surrounding area in the 1930s and 1950s prompted the Edwards Plateau SWCD, Sutton County Commissioners Court, City of Sonora, Eldorado Divide SWCD and Schleicher County Commissioners Court to seek technical and financial assistance from the NRCS to develop a water retention and drainage system that would provide safety for local citizens.

“The NRCS will continue to work with the site sponsors to ensure that all floodwater retention sites are inspected to work properly in events like this to save human life,” said Alfredo Muñoz, NRCS district conservationist in Sonora.

These 13 structures are located on agriculture land. The watershed operation and maintenance of each structure falls upon the local sponsoring agency, in this case, the Sutton County Commissioners Court. Each year the Sutton County Commissioners Court conducts inspections to determine needed maintenance. Based upon inspection findings, the Sutton County Commissioners Court allocates funding for any required maintenance.

Over the last 60 years, local project sponsors with the assistance of the NRCS, built over 2,000 floodwater retention dams throughout Texas as part of the Watershed Protection and Flood Prevention Program to protect lives, homes, businesses, roads and infrastructure from surging flood waters that can decimate areas during storms.

For more information on the Watershed Protection and Flood Prevention Program, conservation planning, or other resources available to you, visit [www.tx.nrcs.usda.gov](http://www.tx.nrcs.usda.gov) to find your local USDA service center.