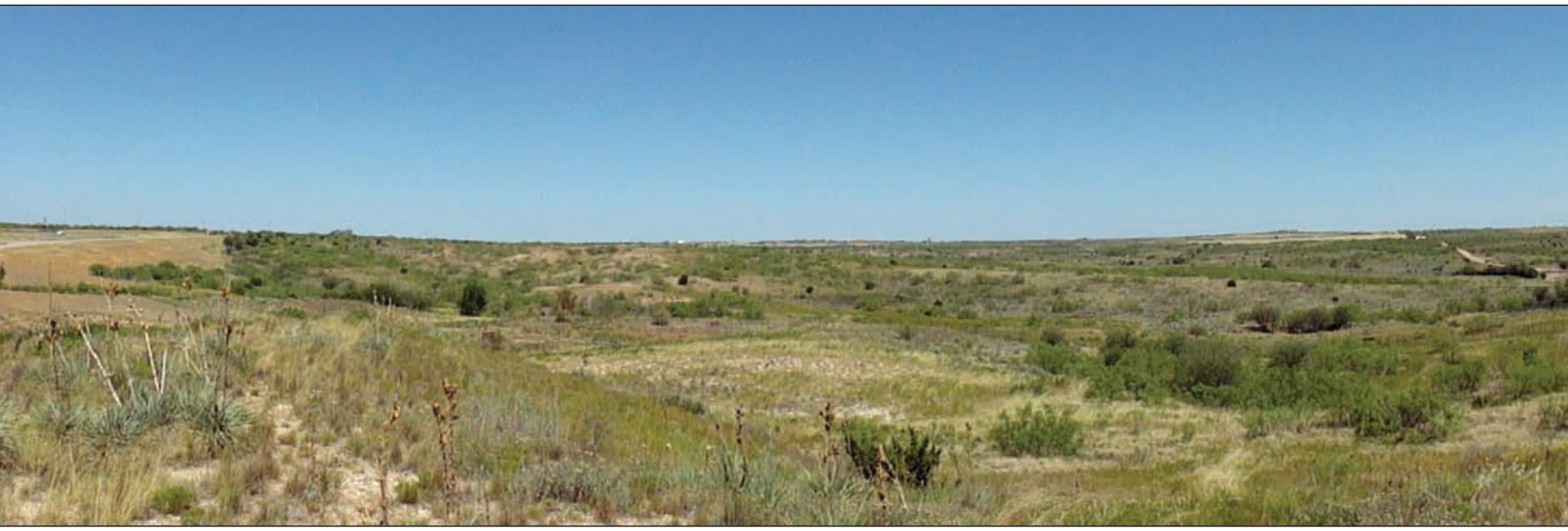
Story by Kathryn S. Boutwell



LANDOWNERS LEAD SUCCESSFUL BUCK CREEK RESTORATION

Landowners in the Buck Creek watershed in the Texas Panhandle were the driving force behind the successful restoration of the watershed and its removal from the Texas Commission on Environmental Quality's list of impaired water bodies, according to Texas A&M AgriLife Research and Texas A&M AgriLife Extension Service staff involved in the restoration efforts.

The U.S. Environmental Protection Agency (EPA) recently highlighted the Buck Creek watershed as Texas' fifth water quality restoration success story.

"The removal of Buck Creek from the impaired list is a direct result of the efforts of local landowners," said Phyllis Dyer, research associate at the Texas A&M AgriLife Research and Extension Center at Vernon and the Buck Creek watershed coordinator.

"As a result of voluntary implementation of conservation practices by landowners that were based on data collection, analysis, education and outreach delivered in the watershed, *E. coli* levels in Buck Creek have dropped below impairment levels," she said.

"This success story for Buck Creek and the state of Texas attests to the power of dedication and cooperation of all involved," said Dr. John Sweeten, resident director and professor at the Vernon center. "It was a coordinated effort by local landowners, soil and water conservation districts (SWCDs), AgriLife Research scientists, AgriLife Extension associates and county Extension agents."

Located in the Texas Panhandle counties of Donley, Collingsworth and Childress, Buck Creek was originally listed as being impaired for elevated bacteria levels in 2000.

Lucas Gregory, the Texas Water Resources Institute's (TWRI) project manager for Buck Creek, said that in 2002, landowners took the initiative to secure the scientific information needed to better evaluate both water quality in the creek as well as potential sources of bacteria across the watershed. Using funding secured from the Texas State Soil and Water Conservation Board's Clean Water Act provided by the EPA, the Buck Creek restoration effort began.

Initially, AgriLife staff collected water quality data and conducted a source survey of the watershed, according to Dr. John Sij, retired agronomist and former project leader at the Vernon center.

"This effort verified that bacteria levels periodically reach problematic levels," he said.

Buck Creek watershed in the Texas Panhandle has been delisted from the Texas Commission on Environmental Quality's impaired water list after efforts of landowners. Photo by Phyllis Dyer.

Dr. Paul DeLaune, an environmental soil scientist at the Vernon center, continued water-quality monitoring efforts. He partnered with others to bring scientific information to the landowners, as well.

Water samples were processed using bacterial source tracking (BST) under the direction of Dr. George D. DiGiovanni, who, at the time, was professor of environmental microbiology at the Texas A&M AgriLife Research Center at El Paso.

"Using BST, we determined what the general sources of bacteria were in the creek," Di Giovanni said.

Dr. R. Karthikeyan, professor in Texas A&M's Biological and Agricultural Engineering Department, developed a watershed model for Buck Creek that estimates the potential pollutant contributions for catchments within the watershed.

"This tool provided useful information for planning and implementation of management practices so that we could achieve the most pollutant reduction for the dollar spent," Karthikeyan said.

"Combined, these efforts provided information to the landowners that they needed to make informed management decisions," DeLaune said.

As research progressed, information was delivered to watershed stakeholders through an extensive series of public meetings and workshops, Gregory said.

"Landowners were led by TWRI and AgriLife Research personnel from the Vernon center in developing a watershed protection plan designed to restore Buck Creek," he said.

Even before the plan was completed, landowners began implementing conservation practices across the watershed, DeLaune said.

"Landowners used information provided to them through workshops and field days hosted by AgriLife Research and Extension and supported by the U.S. Department of Agriculture Natural Resource Conservation Service (NRCS), local SWCDs and TPWD personnel," he said.

Gregory said that some landowners used their own money while others used assistance programs such as those offered by NRCS, local SWCDs, TPWD or USDA Wildlife Services.

Burl Brim, a local landowner, said landowners learned some important things through this process. "Getting involved with local water issues is an opportunity to learn," he said. "It's important to find out what other folks are doing to protect the environment and how you can help."

For more information on the efforts to restore water quality in Buck Creek and to read the complete water quality success story from EPA, visit *buckcreek.tamu.edu*.