Texas Water Resources Institute, Buck Creek Watershed Partnership

TEEA 2013 Winner: Agriculture

In the Texas Panhandle, a small creek meanders through the agricultural landscape of Childress, Collingsworth, and Donley counties. Yet after years of impact from the same rural community its waters support, Buck Creek was added in 2000 to a federal list of impaired water bodies for its E. Coli bacterial contamination. Beginning in 2004, researchers from Texas A&M AgriLife's Texas Water Resources Institute launched a campaign in collaboration with other governmental resources and local landowners to identify and implement projects that would decrease bacterial contamination and improve water quality in the watershed.

A number of potential sources were identified that may have contributed to the high E. coli levels: livestock, wildlife, and human sources among them. Researchers monitored Buck Creek over a number of years and integrated unique bacterial source tracking technology to pinpoint sources and locations of greatest contamination. Combining modeling and tracking data with the input and feedback of landowners led to the development of the Buck Creek Watershed Protection Plan in 2006.

Through more than 20 meetings and educational events, stakeholders were able to make informed decisions on the resources needed for future water quality goals. Local residents voluntarily implemented a number of projects outlined in the plan including best management practices for grazing management. They also worked with USDA Wildlife Services for control of feral hogs on tens of thousands of acres.

In 2010, the projects received validation when testing of Buck Creek demonstrated close to 90 percent reduction in bacterial levels, which allowed the TCEQ to remove the 28-mile Texas stretch of Buck Creek from impaired status. Stakeholder engagements continue to maintain environmental

benefits—conversations between parties keep landowners informed of the water quality and continued guidance on new management techniques that will sustain and further protect the health of Buck Creek for years to come.