

US EPA ARCHIVE DOCUMENT



2005 Targeted Watersheds Grants: Tuttle Creek Lake

Nebraska and Kansas

WHY IS THIS WATERSHED SPECIAL?

Tuttle Creek Lake is a 14,000-acre impoundment built in 1962 by the U.S. Army Corps of Engineers for flood control, irrigation, water supply, recreation, fish and wildlife management, and flow augmentation. Tuttle Creek Lake provides up to 50 percent of the flow of the Kansas River, which serves as a public drinking water source for Kansas City and several other cities. The watershed covers 9,628 square miles in southeast Nebraska and northeast Kansas. Tuttle Creek Lake is located in Manhattan, Kansas at the lower end of the Big Blue River; however, three-quarters of the watershed area is in Nebraska.

ENVIRONMENTAL CHALLENGES

- Land use in the Tuttle Creek Lake Watershed is over 70 percent row crop agriculture, including corn and grain sorghum. With such extensive agricultural uses, water quality problems have resulted from runoff of nutrients and herbicides.
- In the critical sub-watersheds, slopes often exceed 10 percent, leading to excessive sediment runoff. Large loads of suspended solids have caused a 30 percent reduction in the volume of the reservoir's conservation pool.
- About 10 percent of the watershed is pastureland. Livestock waste is believed to be the primary source of bacteria loadings.

RESTORATION ACTIVITIES

Kansas and Nebraska are working together to address multi-jurisdictional water quality problems resulting from non-point sources. EPA Targeted Watersheds Grant funds will be used to advance the goals of the Tuttle Creek Lake Watershed Partners and to implement existing watershed management plans, including Total Maximum Daily Loads (TMDLs). Specifically, partners will:

- Target and implement Best Management Practices (BMPs) for agriculture in critical sub-watersheds.
- Install continuous no-till farming systems to reduce sediment and nutrient loading.
- Establish riparian buffer strips and filter strips.
- Enhance educational efforts, including development of nutrient and herbicide plans and field demonstrations about conservation practices.
- Utilize market-based incentives to encourage and support landowner adoption of BMPs, including cost-share assistance for planting specialty forest products in riparian buffer strips.
- Conduct water quality monitoring to inventory reductions in sediment, nutrient, herbicide, and bacteria runoff due to installation of BMPs.



One of the highest priority conservation practices in the watershed is shown - continuous no-till farming. Corn stalks are left after harvest to protect against water and wind erosion.



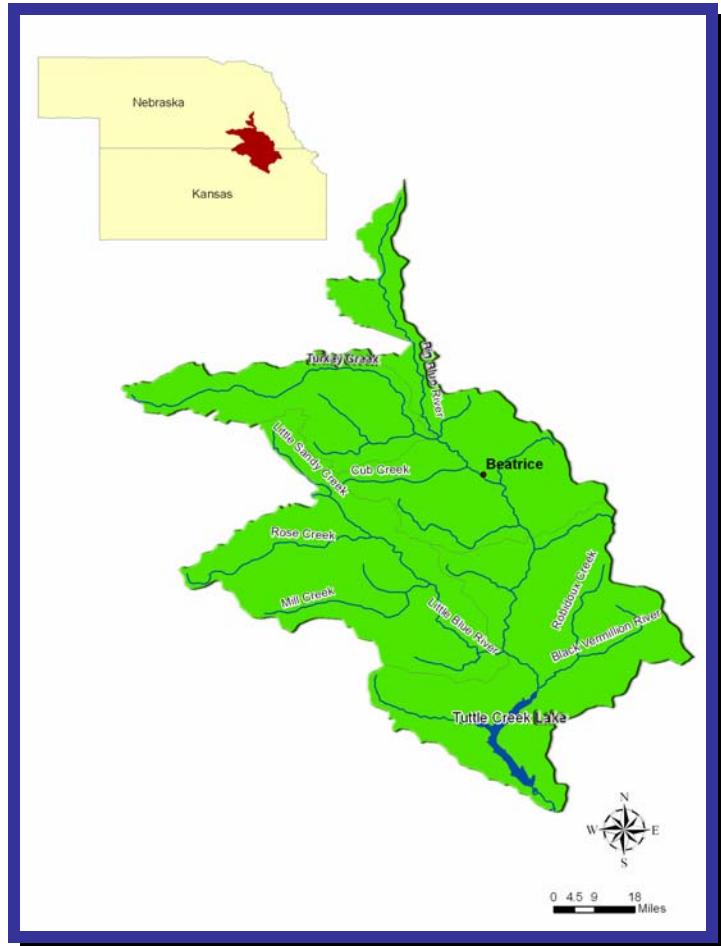
A STRONG PARTNERSHIP FOR CHANGE

This project will build upon the excellent working relationships between environmental and agricultural organizations in Nebraska and Kansas. Led by the Nebraska Department of Environmental Quality, the Tuttle Creek Lake Watershed Partners are comprised of a broad range of diverse partners in both Nebraska and Kansas, which include:

- Nebraska Department of Environmental Quality and Kansas Department of Health and Environment;
- Nebraska Department of Agriculture and Kansas Department of Agriculture;
- U.S. Department of Agriculture -Natural Resources Conservation Service;
- Little Blue, Lower Big Blue, and Upper Big Blue Natural Resources Districts in Nebraska;
- Nebraska Grain Sorghum Board and the Kansas Grain Sorghum Producers Association;
- The Groundwater Foundation;
- University of Nebraska – Lincoln and Kansas State University;
- Kansas Cooperative Council;
- Nebraska Corn Growers Association and Kansas Corn Growers Association;
- Kansas Farm Bureau;
- Kansas Natural Resources Sub-cabinet;
- Kansas Water Office;
- Kansas State Conservation Commission;
- Nebraska Game and Parks Commission;
- Nebraska Chapter Soil and Water Conservation Society;
- Nebraska Department of Natural Resources; and
- National Park Service – Homestead National Monument of America.



Riparian buffer strips installed between agricultural land and a stream.



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EPA's Targeted Watersheds Grants

EPA's Targeted Watersheds Grant program is a competitive grant program designed to encourage collaborative, community-driven approaches to meet clean water goals.