Missouri
Department of
Natural Resources

Middle Little Sac River AgNPS SALT Project Final Report

Submitted by Greene County Soil and Water Conservation District

Started in 2001 as a second call, seven-year project, the recently completed Middle Little Sac River SALT area lies in the north-central portion of Greene County and in the south-central portion of Polk County. The approximate size of the watershed is 71,942 acres. The watershed area can be characterized as mainly an agricultural community with influence from two urban sources, Willard (population 2,177) and Springfield (population 150,604).

The Middle Little Sac River watershed has a drainage area of 444 square miles with 79 miles of permanently flowing streams and 5.5 miles of intermittent streams that maintain permanent pools. Within this drainage area, the Missouri Department of Conservation is concerned about federal and state-listed threatened species, which includes Ozarks cavefish, Niangua and Least darters, Neosho mucket and bristly cave crayfish. Geocarpon and Missouri Bladderpod are two threatened plant species that are found on glades principally associated with the Springfield Plain. According to the Missouri Natural Features Inventory of 1989, the Middle Little Sac River watershed contains 20 sites that have populations of Missouri Bladderpod. The habitats that are characteristic of this region have associated plant and animal species. This means that certain species living within a particular habitat are entirely dependent on that particular habitat for survival; they can survive nowhere else.

The majority of the watershed can be described as Goss, Wilderness and Peridge soils. These are deep and well-drained to moderately well-drained soils. These soils have gently sloping to moderately steep slopes on upland and terraces. The watershed is best described as narrow to relatively wide upland ridges, flood plains and terraces. In areas throughout the watershed there are steep, stony or rocky areas and escarpments adjacent to the flood plain and stream terraces. The slope of the major soils ranges from 2 to 20 percent. Limestone bedrock dominates the watershed area. According to the county's soil survey, the area's major limitations are wetness and slope.

The predominant land use in the watershed is agricultural (50% - 35,971 ac.) including: pastureland (24,968 ac.), cropland (1,000 ac.) and hayland (10,000 ac.). Privately owned woodland areas (40% - 25,489 ac.) and riparian corridor areas in the watershed at (5%-3530 ac.) the urban (5% - 3530 ac.) influence are always a concern. Five dairies are in operation in the watershed, with about 480 head of dairy cattle total. There are an estimated 478 beef cattle operations in the watershed area with about 7,500 head of beef cattle. There are also approximately 400 horses in the watershed. Greene County is ranked second in the state in the number of horses.

Sediment, nutrients, and fecal coliforms represent three of the chief contributors of poor water quality in the watershed and are responsible for its section 303d listing. With these issues in mind, the goals of the project included improving and/or maintaining ground and surface water quality and quantity, pasture and grassland health, woodland

health and establishing or improving existing riparian corridors along the streams and rivers in the watershed. The project also focused on providing public information & education support to landowners in the area.

The district achieved 69 percent of its goals over the last six years. The district indicates that 611 acres of seedings on pasture and hayland were completed, saving an estimated 5,497 tons of soil. Furthermore, the district completed 19 grazing systems and 35 water tanks for a total of 2,000 acres of improved pasture management. According to the district's measurement, an estimated 18,603 tons of soil was saved through improved pasture management. Moreover, the project protected over 371 acres of riparian corridor, equaling 19 miles of riparian corridor protection. The district estimates saving 792 tons of soil from eroding into streams within the watershed. The district completed 60 acres of use exclusion totaling 535 tons of soil saving and 195 acres of alternative watering systems with an estimated soil saving of 1,297 tons of sediment. The district estimates that these practices combined have prevented over 26,724 tons of soil erosion from entering and polluting the watershed. In addition, the district indicates that the project protected 454 acres of woodland, plugged six abandoned wells, developed five springs for livestock use and performed 95 acres of prescribed burning. The project has reached out to the community by hosting 14 field days and tours and visiting 41 classrooms and over 1,000 students in area schools to talk about water quality issues in the area.

Currently the project has several landowners finishing up projects that will potentially add an additional 42.6 acres of riparian buffer, 7.4 acres of C050, 93.6 acres of use exclusion, two grazing systems and a well plugging. This would amount to an additional 6.5 percent completion bringing the project total to over 75 percent completion.

By looking at the number of landowners with applications for multiple practices one can attempt to gauge the interest and long term impacts on the watershed. Nearly 50 percent of all applicants were interested in more than one practice. Of those landowners implementing grazing systems, 100 percent were also interested in riparian buffers and filter strips. It could then be expected that with this level of interest and investment these landowners will continue actively and intensively managing their properties long past the end of the SALT project.

With the completion of this project the Greene County SWCD board and the SALT steering committee felt that the amount of interest raised in the public and the number of producers assisted by this project was substantial. The practices installed and the education and information presented to the public will benefit this watershed for many years. This project has also served to point out other sources of water quality problems that were not addressed. This has lead the district board to be proactive in looking for other ways to address these issues, thus ensuring this watershed will be a priority in the county for many years to come.