

Honey Creek

Watershed Implementation Project

The Honey Creek Watershed Implementation Project is a partnership between local landowners, the Delaware County Conservation District, the Oklahoma Conservation Commission (OCC), the NRCS, and the USEPA to address water quality impairments in the project area. Honey Creek is a 79,000 acre subwatershed of Grand Lake, one of Oklahoma's premier reservoirs. Best Management Practices (BMPs) are being installed on a voluntary, cost-share basis to reduce the amount of bacteria, phosphorus, and sediment entering the streams and lake.

Background:

1995: Clean Lakes Study determines that **algae blooms and low dissolved oxygen** in Grand Lake are being caused by **excess phosphorus**. The likely nonpoint sources (NPS) are attributed to agricultural practices and residential development.

2000: USGS study discovers **fecal bacteria in both surface and groundwater** in the Honey Creek watershed. Most bacteria was found to be from horses and cattle, but human and pet wastes were also sources.

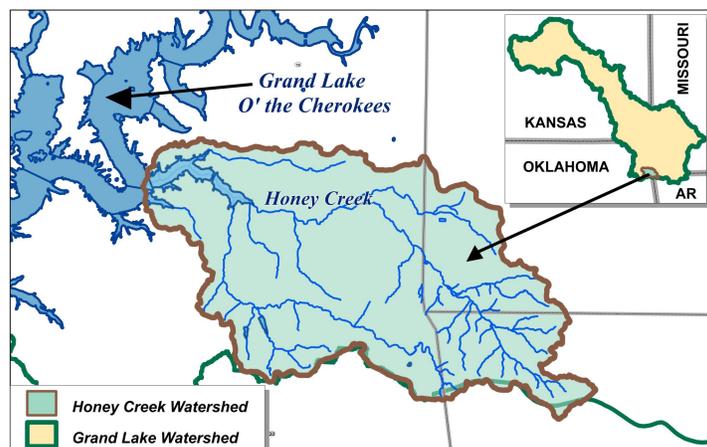
2002: Grand Lake and several streams in the Honey Creek watershed are **placed on the state's list of impaired waters due to pathogens, low dissolved oxygen, sulfate, TDS, chloride, and unknown causes**.

2006: OCC begins a demonstration project in the **Honey creek watershed**. Project will conclude in 2010.



Project Planning:

- ◆ **Objective:** To demonstrate the efficiency and effectiveness of voluntary efforts to improve water quality by installing practices that reduce runoff of bacteria, sediment, and nutrients.
- ◆ **Funded** through an EPA Clean Water Act, Section 319 grant with matching funds from the state and participating landowners. Project funding totals **\$2,333,622 to date**.
- ◆ **Partnered** primarily with the Delaware County Conservation District and the local USDA-Natural Resources Conservation Service (NRCS) to implement the project.
- ◆ **Locally-led** effort: Hired local project staff to coordinate implementation and education efforts.
- ◆ **Practices were targeted** towards the most significant sources or “hotspot” areas based on computer modeling. Cost-share rates were based on the advice of a “watershed advisory group” comprised of major stakeholder groups including citizens, lakeside residents, cattlemen, and poultry growers.



Project Implementation:

- ◆ **Practices being offered** include: Riparian Area Establishment and Management, Buffer Strip Establishment and Streambank Protection, Animal Waste Management, Pasture Establishment and Management, Proper Poultry Waste Utilization, Heavy Use Area Protection, and Septic System Repair / Installation.
- ◆ A total of **\$1,815,828 of practices will be installed** during this four year project. Sources include:
 - \$1,190,040 from Federal 319 and State funds
 - \$489,360 from landowners (27%)

(68% of this amount has been obligated and 45% has been spent as of March 2009)

- ◆ **Project Progress** through early 2009:

65 approved participants, representing 25% of total acreage

Practices Completed:

- ◇ 170 acres of **protected riparian area established**
- ◇ 5 ponds, 23 water tanks, and 11 wells installed for **alternative water supply**
- ◇ 2 **cakeout storage facilities**
- ◇ 7 **feeding / waste storage facilities** built
- ◇ 50 acres of **grass planting to improve pasture**
- ◇ 34,387 feet of **cross-fencing to improve pasture**
- ◇ 31,363 lbs of **poultry litter transported out of the watershed**
- ◇ 10 concrete pads and 19 gravel areas for **heavy use protection**
- ◇ 4 **septic systems** installed

Water tank with heavy use protection to reduce erosion



Feeding and waste storage facility.



Demonstration farm tour.

Public Outreach and Education:

Education is a vital component of this project. **Highlights so far include:**

- ◆ **Farm tours:** A landowner in the watershed established a demonstration farm on his property. Tours of this property allow hands-on examination of installed BMPs and discussion of BMP design and maintenance.
- ◆ **Newsletters and newspaper articles**
- ◆ **Presentations and displays** at local Cattlemen's Association meetings, Farm Fests, Earth Day events, and poultry waste continuing education classes.
- ◆ **Volunteer water quality monitoring trainings** through the Blue Thumb program.

Project Monitoring:

- ◆ **Automated samplers** have been installed to collect continuous, flow-weighted water samples at two sites in the Honey Creek watershed. A control watershed site, Saline Creek, is being monitored in the same way so that the effect of BMP implementation on nutrient loading, particularly phosphorus, can be assessed while accounting for any weather influences.
- ◆ OCC will conduct **routine physico-chemical, biological, and habitat monitoring** at these sites.
- ◆ The Oklahoma Water Resources Board, the Oklahoma Department of Environmental Quality, and the USGS maintain water quality monitoring stations in the Honey Creek Watershed. Data from these stations will also be evaluated to determine whether or not measurable water quality changes have occurred as a result of project efforts.



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