

## **Integrated Assessment of the Sources and Impacts of Nutrients Derived from Agricultural Land-Use Practices in the Fort Cobb Watershed, Oklahoma.**

The Fort Cobb Reservoir basin is identified as a priority watershed under the Conservation Effects Assessment Project (CEAP) for the Agricultural Research Service (ARS) and the Natural Resources Conservation Service. This CEAP program is designed to quantify the environmental benefits of conservation practices implemented on agricultural lands.

U.S. Geological Survey (USGS) is initiating a new 2-year integrated science assessment on the sources and impacts of nutrients derived from agricultural land-use practices in the Fort Cobb Watershed. The project is funded by the USGS Central Region Integrated Science Partnership program. Project tasks include:

- Compile existing information regarding the source, fate, and effects of nutrients in the water resources in the Fort Cobb Watershed.
- Compile various GIS layers including those from the ARS that will aid in spatial analysis.
- Collect precipitation samples and analyze for nutrients. Measure streamflow in 3 major tributaries of the Fort Cobb Reservoir.
- Collect additional water-quality and biological data regarding the trophic status of the Fort Cobb Reservoir.
- Combine biological data from the reservoir with contemporaneous spectral imagery to map phytoplankton in the reservoir.
- Map riparian and agricultural land cover in the Fort Cobb Watershed.
- Assess the influence of various physical, chemical, and biological factors that influence current (2005) eutrophic reservoir condition.

The results from this science integrated project will be disseminated in two formats. The newer water-quality, biological, remote sensing data will be described in a USGS Scientific Investigations Report. Accompanying the report will be a digital data atlas of the Fort Cobb Reservoir. The data atlas will include sampling locations and data tables containing over 95 years of environmental data, as well as GIS base layers of hydrography, hypsography, land use, census, roads, precipitation, temperature, soils, weather station, stream gages, ecological and many other spatial data sets from the ARS that will enhance decision making process in the Fort Cobb Watershed.

For more information about this project please contact:

Jason Masoner  
U.S. Geological Survey  
202 NW 66<sup>th</sup> St., Bldg. 7  
Oklahoma City, OK 73116  
jmasoner@usgs.gov