



What's the Plan?

Groups tackling water quality problems on Lake Granbury

The lake glistens, fish jump, and people swim. But not if the water quality of Lake Granbury—a popular tourist attraction and critical water supply to some 250,000 people in 15 cities—continues to decline.

In recent years, toxic blooms of golden algae have caused fish kills, and *Escherichia coli* bacteria have invaded some of the lake's coves, limiting their recreational use.

After meeting with the area's stakeholders, State Sen. Kip Averitt and U.S. Rep. Chet Edwards both solicited federal funds to help correct the problems. Now federal, state and local entities are working together on two projects to ensure the lake retains its water quality and its recreational appeal.

(Above Left) Lake Granbury and the communities around it have flourished since the lake was completed in 1969. The population on or near Lake Granbury is increasing 16 percent every year.

(Above Right) Lake Granbury serves as the critical water supply in North Central Texas, providing water for more than 250,000 people in more than 15 cities.

For one project Sen. Averitt obtained \$1.4 million from the U.S. Environmental Protection Agency for Brazos River Authority (BRA) and Texas Commission on Environmental Quality (TCEQ) to develop the watershed protection plan, focusing on the *E. coli* found in the lake.

Monitoring studies conducted by the BRA have shown that some of Lake Granbury's coves—shallow bodies of water with little interaction with the main lake—are contaminated with *E. coli*.

“A possible source (of the *E. coli* contamination) is the large population of septic systems,” said Tiffany Morgan with the BRA. Unincorporated subdivisions that rely on septic systems make up a large part of the developed area around the lake. Some contamination, Morgan said, may also be coming from wildlife in the area. Research is needed to positively determine the source, she said.

Morgan, manager for BRA's project, said the first step is identifying the sources of the *E. coli* contamination and then identifying solutions to the problem.

BRA's project will estimate the decrease in bacteria concentrations expected through identified best management strategies and will develop criteria that can be used to determine if progress is being made.

Morgan said the river authority will seek public input through stakeholder participation meetings to help develop the watershed protection plan. Stakeholder participation is key to the success of the implementation of the plan, she said.

Edwards obtained \$500,000 in the 2006 federal budget for a consortium to develop water quality education for local stakeholders and conduct research on control of golden algae. The Texas Water Resources Institute is teaming with Texas Agricultural Experiment Station, Texas Cooperative Extension, BRA, TCEQ and local stakeholders to work on this project.

Extension, led by Dr. Bruce Lesikar, Extension specialist in the Department of Biological and Agricultural Engineering, will conduct water quality education programs for adults and schoolchildren to help minimize the impacts on water quality of bacteria, golden algae, nutrients, pesticides and stormwater.

The golden algae study is led by Dr. Daniel Roelke from Texas A&M University, and team members include scientists from Baylor University, University of Texas-Arlington and U.S. Geological Survey. The research will determine how golden algae blooms are affected by inorganic nutrients, dissolved organic

matter and microbes, including *E. coli*. Scientists will use high-resolution spatial mapping and water sampling to identify sources of inorganic nutrients and dissolved organic matter, and to predict the impacts of best management practices on golden algae blooms.

Both Edwards and Averitt are pleased these two projects will help solve the lake's problems.

“Lake Granbury is a tremendous asset for the city of Granbury and for all of Hood County, and I believe protecting the quality of water in the lake is an important investment in the future of the area,” said Rep. Edwards. “I am gratified that we now have significant funding for the Texas Water Resources Institute and other state agencies to work with local officials in planning how to best protect Lake Granbury for years to come.”

Sen. Averitt agreed. “Lake Granbury is crucial to Hood County and its citizens,” said Averitt. “Our area relies on the lake for its drinking water, industry and recreation. I look forward to working with stakeholders to protect and improve the quality of this valuable resource.”



(Below Left) In recent years, *Escherichia coli* bacteria have been found in the coves and canals of the lake. Faulty septic systems, found in unincorporated subdivisions around the lake, are a potential source of the *E. coli*.

(Below Right) Lake Granbury and the town of Granbury with its historic buildings including the town's courthouse have grown into a popular tour destination.

