Texas Commission on Environmental Quality

Surface Water Quality Monitoring Program

PROJECT SUMMARY — FEBRUARY 2008

EPA NATIONAL LAKES ASSESSMENT—TEXAS

EPA's National Lakes Assessment

The EPA's national monitoring studies are designed to report on the condition of the nation's lakes, streams, rivers, wetlands, and coastal waters. During the summer of 2007, the TCEQ participated in the National Lakes Assessment (NLA).

The NLA is a statistical survey of the condition of lakes, ponds, and reservoirs on a national scale.

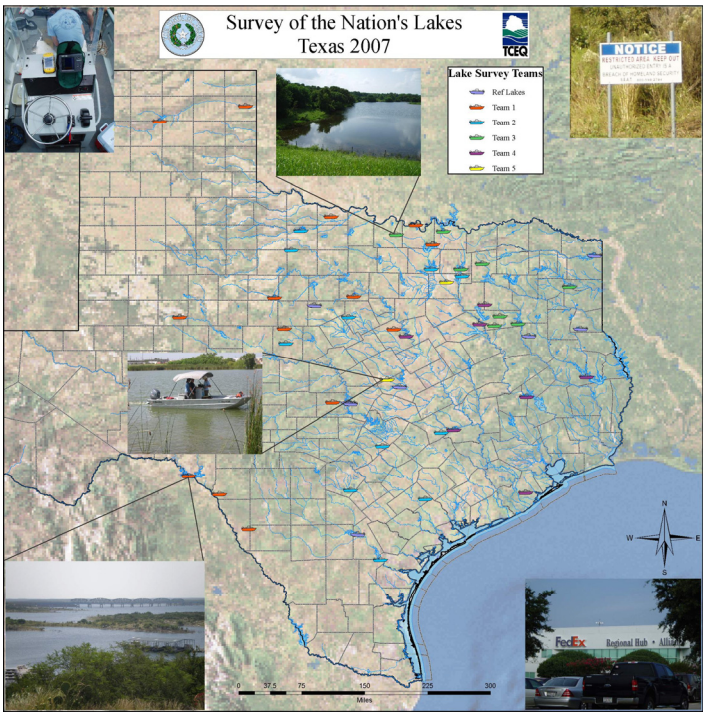
The goal of the NLA is to address two key questions:

What percentage of the nation's lakes are in good, fair, or poor condition for the key indicators of trophic state, ecological health, and recreation?

What is the relative importance of key stressors such as nutrients and pathogens?

EPA's NLA in Texas

The EPA assigned Texas 30 NLA sites sampled by TCEQ staff during the summer of 2007. Texas added an additional 17 sites to get a statistically valid data set at the state level.



NLA Sites in Texas

What Data Was Collected?

To answer these questions, the following data was collected:

- Index Site
  - Profile mesaurements
  - Secchi depth
  - Water chemistry
  - Chlorophyll-*a*
  - Phytoplankton and zooplankton
  - Microcystin
  - Sediment core for diatoms and mercury
- Shoreline
  - Physical habitat
  - Benthic macroinvertebrates
  - Enterococcus

Plankton Tows

Sediment Cores

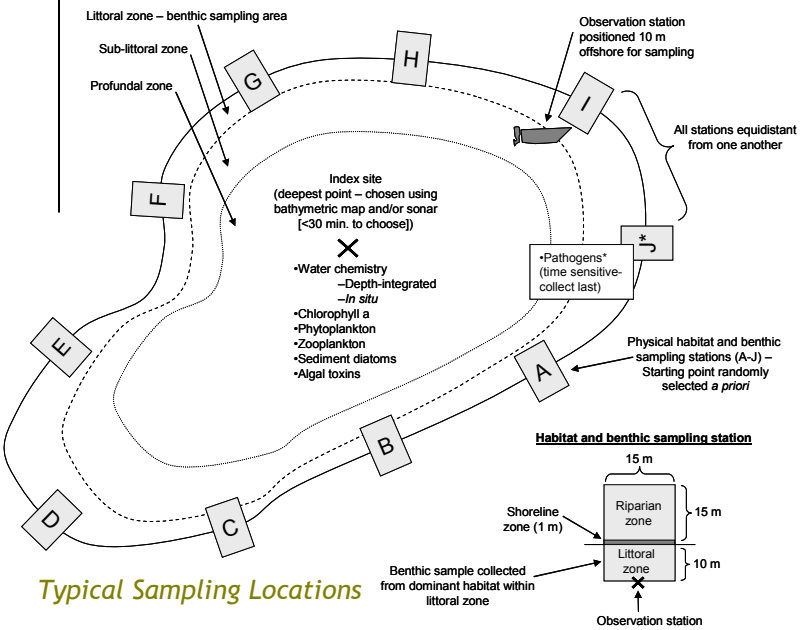
Benefits to Texas

A few of the benefits to the TCEQ's participation in the NLA:

- Develop capacity for using probabilistic sampling methods
- Provide a useful tool for directing targeted monitoring in future
- Provide a statistically valid estimate of various constituent levels in Texas lakes
  - Mercury levels for TMDLs and background levels
  - Standards development for nutrients, DO, etc.
- Provide comparison of where Texas lakes stand in relation to national averages
- Development of biological methods for reservoirs
  - Benthic macroinvertebrates
  - Plankton

Shoreline Benthic Sampling

10 Page Physical Habitat Forms



Typical Sampling Locations

For More Information

For additional information on the EPA National Lakes Assessment go to <http://www.epa.gov/owow/lakes/lakessurvey/>

Project Participants

This project took a great deal of coordination with EPA staff, cooperation from land owners, and participation by numerous TCEQ staff.

-Surface Water Quality Monitoring (SWQM) staff from TCEQ Regions: 1-Amarillo, 3-Abilene, 4-DFW, 5-Tyler, 8-San Angelo, 9-Waco, 12-Houston, and 13-San Antonio.

-TCEQ central office SWQM and TMDL Program staff.