TCEQ’s Continuous Water Quality Monitoring Network (CWQMN)

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History of the CWQMN

- Network started by TCEQ in 2001 with 4 sites in the Bosque and Leon River watersheds
- Network continues to progressively grow
- Currently over 50 sites in the network

Locations in Texas

- Calico Lake
- Lake Palestine
- Wichita River
- Lake Possum Kingdom
- Lake Granbury
- Lake Whitney
- Bosque River and Tribs.
- Llano River Tribs.
- Upper Colorado River
- San Antonio River
- Pecos River
- Rio Grande
- Arroyo Colorado
- Petronilla Creek
- Houston Bayous
- Groundwater Sites

Benefits of Continuous Data

- Water quality is measured in greater temporal detail and resolution than is possible with discrete samples or short-term deployment of monitoring equipment
Projects in the Brazos

- Harmful Alga Research
  - Partnership with TPWD to collect water quality data in reservoirs affected by Golden Alga

- Environmental Monitoring and Response System (EMRS)
  - Provide timely surface water quality data to TCEQ Field Ops for screening and targeting field responses and investigations in the Upper North Bosque watershed.

- General Water Quality
  - Monitor long-term water quality trends at downstream locations in the Bosque and Leon watersheds.

Lake Whitney boat launch, February 9, 2005

*Photo and slide by Dave Busan

Locations of Harmful Algal Bloom Continuous Water Quality Monitoring Stations, Brazos River Basin

Vertical Profiler

[Map and diagram of monitoring stations and vertical profiler equipment]
Deployed Station

Golden Alga Data
TCEQ/TPWD/ BRA Partnerships

0
10
20
30


Degrees C
Fluorescence
P. parvum/ml/10,000

*Data by Dave Buzan

Environmental Monitoring and Response System
How it Works

- Landowner permission to establish site
- Develop site-specific “trigger levels” based on nutrient concentrations
- Deploy monitoring equipment
- Receive notifications when ambient conditions exceed trigger levels
- TCEQ regional staff decide how/if to respond

Parameters Measured

- Ammonia - Nitrogen
- Nitrate -Nitrogen
- Total Reactive Phosphorus
- Total Phosphorus
- Temperature
- Specific Conductance
- Dissolved Oxygen
- pH
- Turbidity

Nutrient Monitoring Quality Control

- Each data point is verified and validated by TCEQ Data Management Staff or by contracted data validators.
Future Expansion in the Brazos

- Leon River at Gatesville
  - Field Parameters only (not nutrients)
  - Replace the station lost in the 2007 Flood
- No other sites planned

Opportunities

- **Water Resource Management**
- Water Resource Management Projects
  - EV Spence
  - Rio Grande at Andzalduas
  - Pecos River
- Easy Parameters (ex. conductivity)
- Real-time data available to local decision-makers

For more information on TCEQ’s Continuous Water Quality Monitoring Network please visit:

[www.texaswaterdata.org](http://www.texaswaterdata.org)

Questions?

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