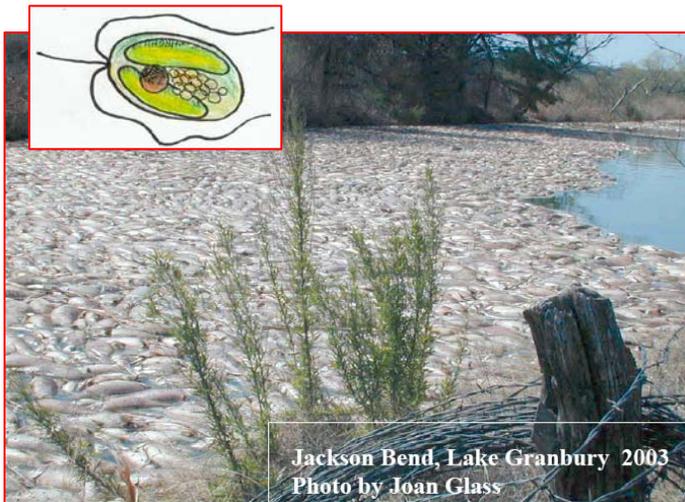




## Golden Alga in Texas

Golden alga, *Prymnesium parvum*, is a naturally occurring flagellated alga that is common in brackish waters. Under certain environmental conditions, these alga produce toxins which cause massive fish kills. Golden alga related kills have been documented in Texas waters with high mineral and salt content since 1985. Through 2007, an estimated 35 million fish have been killed by golden alga in Texas. The value of the fish lost is nearly 13 million dollars. Most fish kills occur in fall or winter and are located in west and central Texas, west of IH-35.



Jackson Bend, Lake Granbury 2003  
Photo by Joan Glass

Golden Alga — *Prymnesium parvum* related fish kill

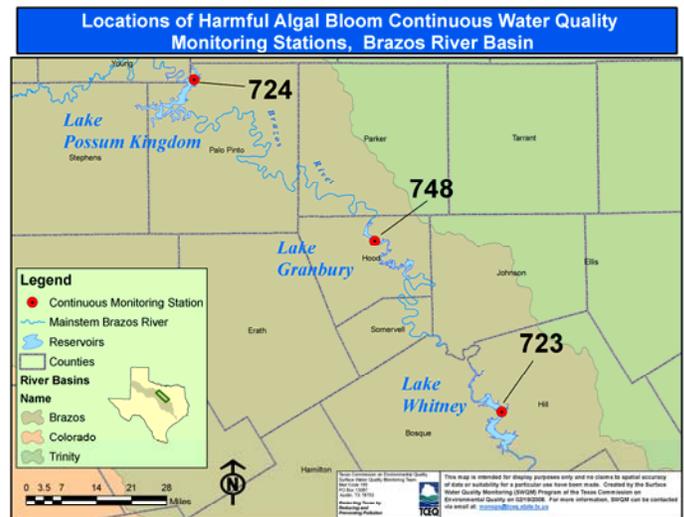
## Addressing the Issue

Environmental conditions leading to toxic *P. parvum* blooms is largely unknown. The Texas Parks and Wildlife Department (TPWD) is coordinating an extensive research initiative to identify environmental factors (including water quality) that contribute to a golden alga bloom. This research will help develop management strategies to mitigate the ecological and economic impacts associated with these toxic blooms. The TPWD researchers are working to identify the water quality conditions that trigger toxin production by *P. parvum*.

Golden alga is particularly active in the Brazos River, whose water quality is characterized by naturally occurring salts. Ongoing research by the TPWD has been augmented by the TCEQ continuous water quality monitoring (CWQM) sites on three reservoirs in the Brazos River Basin; Possum Kingdom, Granbury and Whitney.

## Water Quality Profilers

The CWQM profiler stations in the Brazos River Basin measure temperature, pH, dissolved oxygen, and specific conductance using established multiparameter instrument technology, a data logger and communication/telemetry equipment. In addition, chlorophyll and % water fluorescence are measured. These sites will provide data in a consecutive series of reservoirs affected by golden alga.



Location of Brazos River Basin Water Quality Profilers

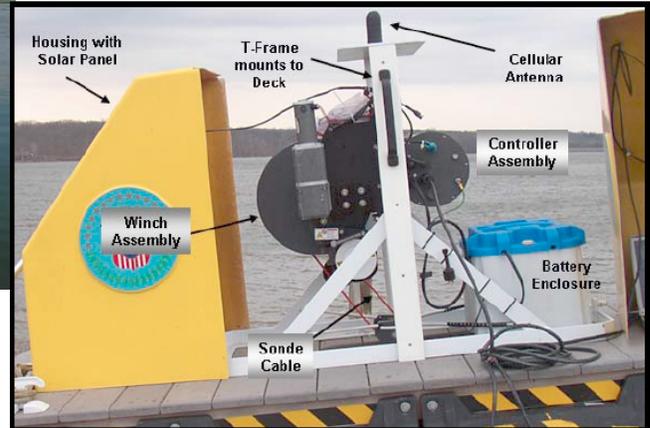
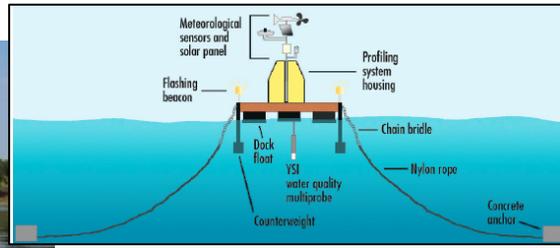
## Using the Data

The objective of these sites is to describe the physical water quality conditions before, during and after golden alga blooms. Trend analysis of *in vivo* chlorophyll fluorescence may identify relationships between phytoplankton and golden alga populations. The ability of the CWQM sites to conduct vertical profiles through the water column allows measurement of two important reservoir dynamics, stratification and mixing and the effects on golden alga populations.

For additional information on Golden Alga (research, bloom status) visit the TPWD web site at <http://www.tpwd.state.tx.us/hab/>



*Basic CWQM Profiler Station Equipment*



**Site Information**

To access information about the Brazos River Basin CWQM sites visit:

<http://www.texaswaterdata.org>



*Lake Whitney CWQM Web Page*

**Site Operators**

The sites are operated and maintained by the TCEQ Regional office staff.

Lake Whitney—Wilson Snyder and Robbie Ozment; Region 9 Waco  
 Possum Kingdom Lake and Lake Granbury—Rob Cooke; Region 4 DFW

**For More Information**

For more information, contact:

Jill Csekitz  
 SWQM Program  
 Project Lead-Lake Granbury  
 512-239-3136  
[jcsekitz@tceq.state.tx.us](mailto:jcsekitz@tceq.state.tx.us)

Pat Bohannon  
 SWQM Program  
 Project Lead-Lake Whitney and Possum Kingdom  
 512-239-5255  
[jbohanno@tceq.state.tx.us](mailto:jbohanno@tceq.state.tx.us)



*Trouble Shooting at the Lake Granbury Profiler*