

Segments 1209A&B - Bryan Municipal & Finfeather Lakes sediment toxicity

Segment Description

Bryan Municipal Lake, also known as Country Club Lake, is a small (14 acres), shallow lake located adjacent to the Bryan Municipal Golf Course. Discharges from this lake flow into Burton Creek, then to Charters Creek, and into the Navasota River. Finfeather Lake, located upstream of Bryan Municipal Lake, is also a small lake (18.5 acres), which is fed by an unnamed tributary within an industrial area of Bryan, Texas.

The primary potential toxicant of concern for these water bodies is elevated concentrations of arsenic in sediment.

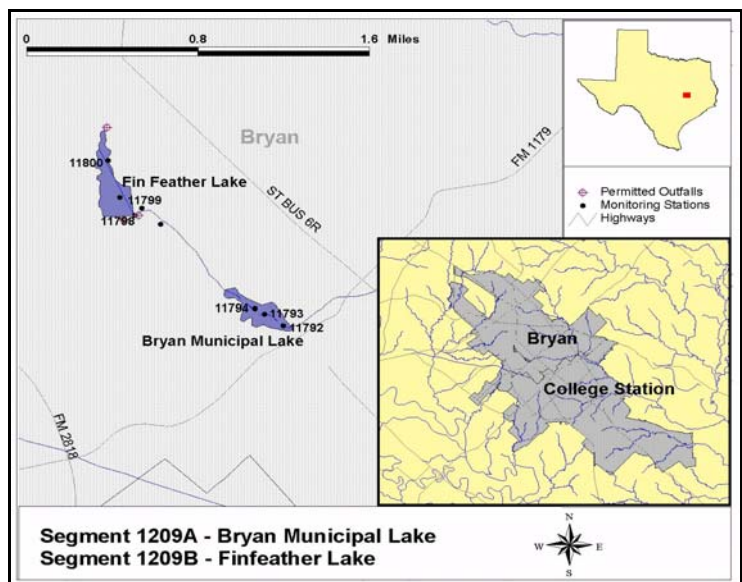
Listing Status

Bryan Municipal and Finfeather Lakes were identified as not supporting the aquatic life use, due to ambient toxicity in sediment, on the state's 303(d) Lists for 1999 and 2000. Because there were insufficient data available in 2002 to evaluate changes in water quality, these water bodies are also identified on the draft 2002 List. The use support will be reevaluated when sufficient data are available.

Test Results and Toxicity Identification

Using whole sediment test methods, toxicity test results indicated that the sediment was significantly toxic to *Chironomus tentans* and *Hyalloa azteca* species in both lakes, with lethality at all stations in Finfeather Lake; and in Stations 11792 and 11793 in Bryan Municipal Lake. Statistically significant sublethal effects were also observed in sediment taken from Station 11800 and 11798 in Finfeather Lake and from all stations in Bryan Municipal Lake.

Toxicity identification evaluation (TIE) procedures were conducted on sediment samples from Station 11798. These analyses indicate that a metal is the source of the observed toxicity. Chemical analyses of porewaters indicate elevated levels of copper.



Test Results - Bryan Municipal Lake

Station	Lethal				Sublethal			
	<i>C. tentans</i>		<i>H. azteca</i>		<i>C. tentans</i>		<i>H. azteca</i>	
	# toxic	# tests	# toxic	# tests	# toxic	# tests	# toxic	# tests
11792	1	2	0	2	1	1	1	2
11793	1	2	0	2	1	1	2	2
11794	0	2	0	2	1	1	0	2

Test Results - Finfeather Lake

Station	Lethal				Sublethal			
	<i>C. tentans</i>		<i>H. azteca</i>		<i>C. tentans</i>		<i>H. azteca</i>	
	# toxic	# tests	# toxic	# tests	# toxic	# tests	# toxic	# tests
11798	2	2	1	2	0	0	2	2
11799	1	2	0	2	0	0	0	2
11800	1	2	1	2	0	0	1	2

Segment Recommendations:

Sediment toxicity tests indicate significant levels of toxicity to benthic invertebrates. Initial analyses appear to indicate that a metal or complex of metals is responsible for the toxicity. Further TIE procedures should be performed to identify the metal(s) responsible, and a TMDL should be initiated.