



Improving Water Quality in Lake Worth A TMDL Project for PCBs in Fish Tissue

In April 2000, the Texas Department of State Health Services (DSHS) issued a fish consumption advisory to protect consumers from adverse health effects caused by accumulation of polychlorinated biphenyls (PCBs) in fish. In advisory ADV-18, the DSHS warned people to limit or stop eating all species of fish caught in the lake. "PCBs" is a general term used to describe 209 toxic, environmentally persistent compounds.

The TCEQ completed a total maximum daily load project to determine the pollutant limits necessary to restore support of the use. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its assigned uses. The allowable load is then allocated among categories of sources within the watershed. After completing the TMDL, the state then developed an implementation plan (I-Plan) to reduce pollutant loads.

Learn more about water quality standards, monitoring, and TMDLs by reading *Preserving and Improving Water Quality*, available on our website at www.tceq.texas.gov/goto/tmdl/.

The Lake Worth Watershed

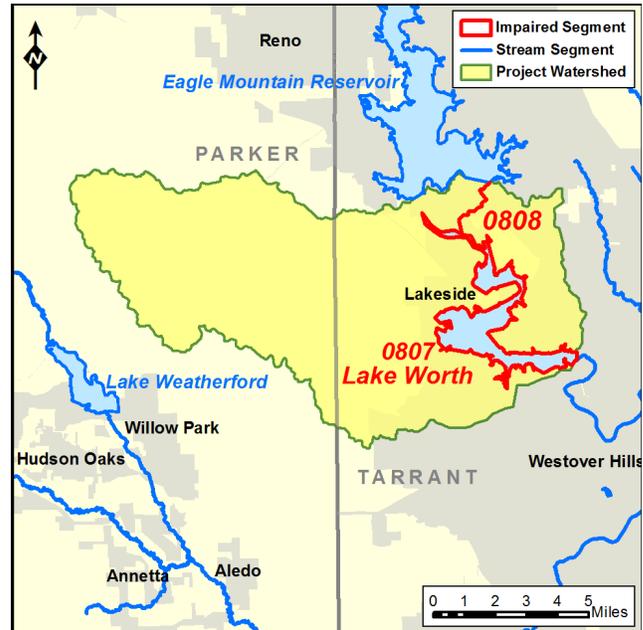
Lake Worth is a 3,558-acre impoundment of the West Fork Trinity River, located directly south of Eagle Mountain Reservoir. Although the lake itself is almost entirely within the Fort Worth city limits, the contributing watershed extends 2,064 square miles across Tarrant and Parker counties and includes several other smaller municipalities.

Lake Worth is used for recreation and is also source of drinking water for the City of Fort Worth. Land use in the watershed is about 35 percent urban and 60 percent rural.

Two large military-industrial facilities are on the south side of the lake—the U.S. Naval Air Station Joint Reserve Base—Fort Worth (NASFW) and Air Force Plant No. 4 (AFP4). Both facilities are currently classified as cleanup sites under the federal Resource Conservation and Recovery Act (RCRA). Cleanup efforts are underway at the AFP4 site.

Project Development

The TCEQ began the project in March 2003. Additional data was collected in cooperation with the United States Geological Survey. Both the new and the historical data pointed to the AFP4 facility as the probable source of the PCBs.



The TMDL I-Plan relies heavily on the RCRA cleanup efforts at AFP4. Also under the I-Plan, fish tissue in Lake Worth is sampled periodically to monitor the effectiveness of cleanup efforts. If concentrations of PCBs in fish tissue fail to decline after two monitoring events, the TCEQ will revise the I-Plan to include alternative or additional measures.

The DSHS conducted the first fish tissue monitoring under the I-Plan in October 2008. Based on that monitoring data, the DSHS analyzed the risks of eating the fish, completing their report in fall 2010. As a result, the DSHS issued advisory ADV-45, which extended ADV-18 to include Segment 0808. However, the new advisory limits the warning to three fish species rather than to all species as in ADV-18.

Public Participation

The TCEQ held a public meeting to receive public comments on the TMDL for PCBs in Lake Worth was held at the Fort Worth City Hall on May 12, 2005. At the same location, the TCEQ held a meeting on July 6, 2006 to receive public comments on the TMDL Implementation Plan.

For More Information

Contact the project manager or visit the project website at:

<www.tceq.texas.gov/waterquality/tmdl/63-lakeworthpcbs.html>

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TMDL Development Status

Start Date: March 2003

TCEQ Adoption: August 10, 2005

EPA Region 6 Approval: October 13, 2005

Projected TMDL Addendum: July 2014

EPA Region 6 Approval: November 25, 2014

I-Plan Development Status

TCEQ Approval: August 23, 2006

TMDL Project Highlights

- A TCEQ adopted a TMDL for PCBs in fish tissue for Lake Worth (Segment 0807) in August of 2005.
- Air Force Plant No. 4 was identified as the probably source of the PCBs in the fish.
- In July 2014, the TCEQ approved an additional TMDL for the watershed, adding allocations for the West Fork Trinity River below Eagle Mountain Lake (Segment 0808). This TMDL addendum was submitted to EPA via the state's July 2014 Update to the Water Quality Management Plan. EPA approved the addendum on November 25, 2014.

IP Highlights

- RCRA cleanup efforts at AFP4 are proceeding. PCB concentrations in fish tissue have stabilized and show a slow decline from levels in 2000.
- Although the advisory has been extended to include Segment 0808, the warning is for only three species of fish rather than for all species.

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