



Improving Water Quality in the Fort Worth Area

Eleven TMDLs for Legacy Pollutants

Water Quality in the Fort Worth Area

The state of Texas requires that water quality in most water bodies to be suitable for swimming, wading, fishing, drinking (with treatment), and a healthy aquatic ecosystem. However, legacy pollutants have been detected in fish tissue in three reservoirs and two river segments in the Fort Worth area (Table 1). As a result, the Texas Department of State Health Services (DSHS) has closed the water bodies for fishing. Consumers should not take or eat fish from these water bodies.

Legacy pollutants are chemicals that have been banned or severely restricted, but which persist in the environment. Six legacy pollutants are addressed by this project and are described in Table 2.

To address these legacy pollutants, a total maximum daily load (TMDL) project was developed. The goal of the project was the reduction of contaminant concentrations in fish tissue to levels that constitute an acceptable risk to consumers. An implementation plan establishing measures to achieve that goal was developed and is available on the TCEQ Web site at www.tceq.state.tx.us/implementation/water/tmdl/02-fwleg.html.



Learn more about water quality standards and monitoring by reading *Clean Water for Texas: Working Together for Water Quality*, available on the Web at www.tceq.org/goto/tmdl/.

Table 1. Water Bodies and Pollutants Addressed

Segment Number	Segment Name (portion covered by consumption ban)	Fish Tissue Contaminant(s) on the 303(d) List	DSHS Ban Issued	DSHS Ban Modifications (during TMDL implementation)
0829	<u>Clear Fork Trinity Below Benbrook Lake</u> (lower one mile of the segment from 7 th Street in Fort Worth to the confluence with the West Fork Trinity River)	Chlordane	January 1990	No change
0806	<u>West Fork Trinity River Below Lake Worth</u> (lower 22 miles of the segment from the Clear Fork Trinity River confluence to the confluence of Village Creek)	Chlordane	January 1990	No change
0829A	<u>Lake Como</u> (entire lake)	Chlordane, DDT, Dieldrin, PCBs	April 1995	September 2007 - Ban rescinded
0806A	<u>Fosdic Lake</u> (entire lake)	Chlordane, DDT, Dieldrin, PCBs	April 1995	December 2007 - Ban modified to consumption advisory for carp due to PCBs
0806B	<u>Echo Lake</u> (entire lake)	PCBs	December 1995	August 2007 - Ban retained

Table 2. Description of Pollutants

Chemical	Description
Chlordane	Organochlorine insecticide
DDE	Dichlorodiphenyldichloroethylene (degradation product of DDD and DDT)
DDT	1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane (organochlorine insecticide)
Dieldrin	Organochlorine insecticide and degradation product of aldrin (another organochlorine insecticide)
PCB	Polychlorinated biphenyls (group of synthetic organic chemicals widely used as coolants and lubricants)

Description of the Project Area

The Trinity River segments in this project drain a watershed of 295 square miles, 62 percent of which is urban. However, agricultural land used predominated in much of south Fort Worth and in a large area in the northern portion of the watershed until the 1970s. Currently, the majority of the watershed adjacent to the impaired segments is heavily urbanized. Three small reservoirs located in public parks within the city of Fort Worth impound small drainage tributaries that collect storm water.

The project watershed includes the following water bodies.

- *The Clear Fork Trinity River Below Benbrook Lake (Segment 0829)* is located in downtown Fort Worth and extends from the Benbrook Lake dam in southwest Tarrant County, downstream to the confluence with the West Fork Trinity River.
- *Lake Como (Segment 0829A)* is a 10.1-acre impoundment of an unnamed tributary of the Clear Fork of the Trinity River, and is located in Lake Como Park in west Fort Worth. Lake Como drains a 1.16 square-mile watershed that is predominately residential.
- *The West Fork of the Trinity River Below Lake Worth (Segment 0806)* extends from the Lake Worth dam in west-central Tarrant County, downstream to the confluence of Village Creek in east-central Tarrant County.
- *Fosdic Lake (Segment 0806A)* is a seven-acre impoundment of an unnamed tributary of the West Fork Trinity River, and is located in Oakland Lake Park in east Fort Worth. Fosdic Lake drains a 0.43 square-mile watershed that is predominately residential.
- *Echo Lake (Segment 0806B)* is a 16.8-acre impoundment of an unnamed tributary of Sycamore

Creek, and is located in Echo Lake Park in south-central Fort Worth. Echo Lake drains a one square-mile watershed that is dominated by residential and industrial land uses.

Establishing TMDLs for Legacy Pollutants

Widespread use of the chemicals addressed in this TMDL has been either banned or restricted since at least 1987. Recent sediment and fish tissue samples collected in some of these water bodies suggest that legacy pollutant levels are diminishing. Given the fact that no additional pollutant loading can occur in these water bodies, the maximum permissible daily load allowable is, in effect, zero. This concept of establishing a “no permissible load” allocation is not entirely new, and has been applied in other parts of the country where legacy pollutants have been addressed. The ultimate goal of this project is the reduction of contaminant concentrations in fish tissue to levels that constitute an acceptable risk for consumers.

Public Participation

The TCEQ communicates the progress of this project through the Trinity Basin Steering Committee created by the Texas Clean Rivers Program. This project is a collaborative effort involving the TCEQ, the U.S. Geological Survey (USGS), the Texas Department of State Health Services (DSHS), the City of Fort Worth, and the Trinity River Authority (TRA).

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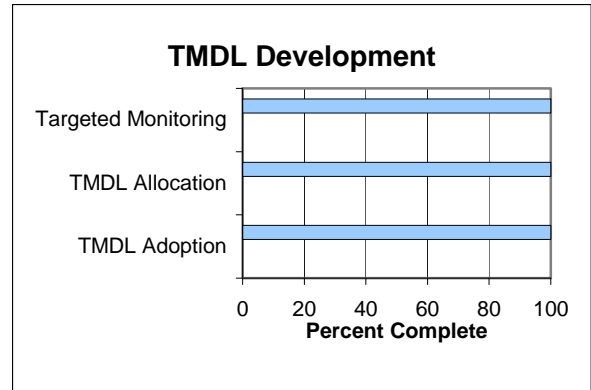
TMDL Development Status

Start: January 2000

TCEQ Adoption: November 17, 2000

Submitted to EPA Region 6: November 28, 2000

EPA Region 6 Approval: May 24, 2001



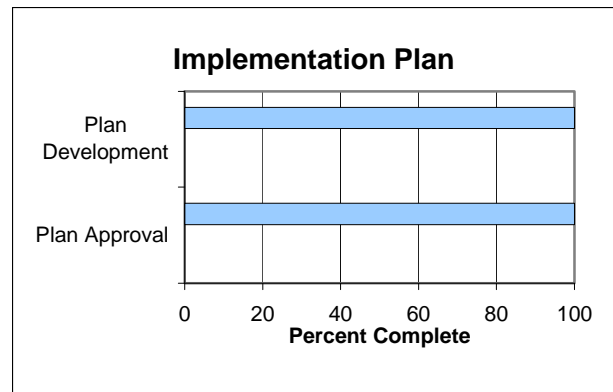
TMDL Project Highlights

- The Commission approved the release of the draft TMDLs for public comment on August 11, 2000. The public comment period was held from September 15, 2000, through October 12, 2000. A public hearing was held in Fort Worth, Texas, on October 9, 2000, to receive formal comment.
- No written or oral comments were received from the public.
- A final report, *Eleven Total Maximum Daily Loads for Legacy Pollutants in Streams and Reservoirs in Fort Worth*, was approved by the Commission on November 17, 2000, and adopted as an update to the Texas Water Quality Management Plan.
- The EPA approved the TMDLs on May 24, 2001.

Implementation Plan Status

Start Date: November 2000

TCEQ Adoption: July 2001



Implementation Plan Highlights

- A public hearing was held to receive comments on the draft implementation plan in Fort Worth on June 13, 2001. The thirty-day public comment period closed June 18, 2001.
- The *Implementation Plan for Legacy Pollutant TMDLs in Fort Worth, Texas* was approved by the Commission on July 13, 2001.
- The objective of the implementation plan is to establish historical trends, identify any remaining pollutant sources, and, if applicable, evaluate and implement mitigation or remediation strategies which will result in the restoration of the fish consumption use for these water bodies.
- In November 2005, DSHS collected fish tissue samples from Lake Como, Fosdic Lake and Echo Lake to reassess the risk associated with consuming fish from those areas. As a result of the study, DSHS lifted the fish possession ban on Lake Como, modified the ban on Fosdic Lake to a consumption advisory, and retained the ban on Echo Lake.
- TCEQ contracted with DSHS to collect fish tissue samples and reassess the fish consumption risk in the Trinity River segments. Sampling occurred June-July 2008. The evaluation of the fish consumption risk is expected to be completed in 2009.