



Improving Water Quality in Dallas and Tarrant Counties Nine TMDLs for Legacy Pollutants

Water Quality in Dallas and Tarrant Counties

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 one reservoir and two river segments in the Dallas 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. Seven legacy pollutants are addressed by this project and are described in Table 2.

To address these pollutants, a total maximum daily load (TMDL) project was developed. The goal of this 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/05-dalleg.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/.



Description of the Project Area

The project area includes three water bodies.

- *The Upper Trinity River (Segment 0805)* extends from the confluence of the Elm Fork of the Trinity River in west-central Dallas County, downstream to

Table 1. Water Bodies and Pollutants Addressed

Segment Number	Segment Name (portion covered by TMDL)	Fish Tissue Contaminant(s) addressed in TMDL	DSHS Ban Issued	DSHS Advisory/Ban Status (during TMDL implementation)
0841	<u>Lower West Fork Trinity River</u> (entire segment from the confluence with Village Creek to the confluence with the Elm Fork Trinity River)	Chlordane	January 1990	September 2002 – Ban expanded to include DDE and PCBs July 2010 – No consumption advisory issued due to PCBs and dioxins. Chlordane no longer considered contaminant of concern.
0805	<u>Upper Trinity River</u> (upper 19 miles of the segment from the Elm Fork Trinity River confluence to Interstate 20 in southeast Dallas County)	Chlordane	January 1990	September 2002 – Ban expanded to include DDE and PCBs July 2010 – No consumption advisory issued due to PCBs and dioxins. Chlordane no longer considered contaminant of concern.
0841A	<u>Mountain Creek Lake</u> (entire lake)	Chlordane, DDT, DDD, DDE, Dieldrin, PCBs, Heptachlor Epoxide	April 1996	September 2003 – Ban maintained due to continued presence of PCBs. Other contaminants unlikely to contribute significantly to risk from consuming fish.

Table 2. Description of Pollutants

Chemical	Description
Chlordane	Organochlorine insecticide
DDD	Dichlorodiphenyldichloroethane (degradation product of DDT; also used as an 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 a degradation product of aldrin (another organochlorine insecticide)
Heptachlor epoxide	Degradation product of the organochlorine insecticide heptachlor
PCBs	Polychlorinated biphenyls (group of synthetic organic chemicals widely used as coolants and lubricants)

the Cedar Creek Reservoir discharge canal in Henderson/Navarro County.

- *The Lower West Fork Trinity River (Segment 0841)* extends from the confluence of Village Creek in east-central Tarrant County, downstream to the confluence of the Elm Fork of the Trinity River in west-central Dallas County.
- *Mountain Creek Lake (Segment 0841A)* is a tributary of the Lower West Fork of the Trinity River. The lake has a current capacity of 20,200 acre-feet. Mountain Creek Lake drains a 46,130-acre watershed downstream from the dam on Joe Pool Lake.

TMDL Development Status

Start: January 2000

TCEQ Adoption: December 20, 2000

Submitted to EPA Region 6: January 9, 2001

EPA Region 6 Approval: June 26, 2001

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

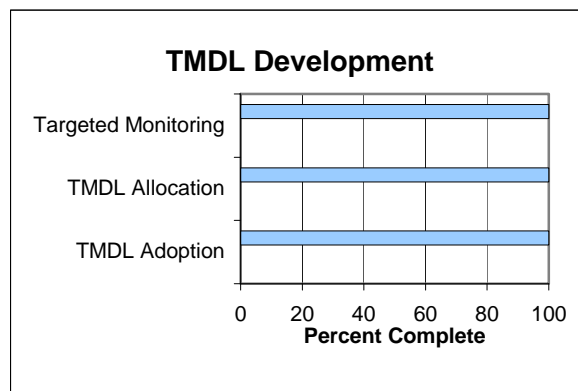
The TCEQ communicates the progress of this project through the Trinity Basin Steering Committee created by the Texas Clean Rivers Program. This project is a collaborative effort involving the TCEQ, the U.S. Geological Survey (USGS), the Texas Department of State Health Services (DSHS), the City of Fort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

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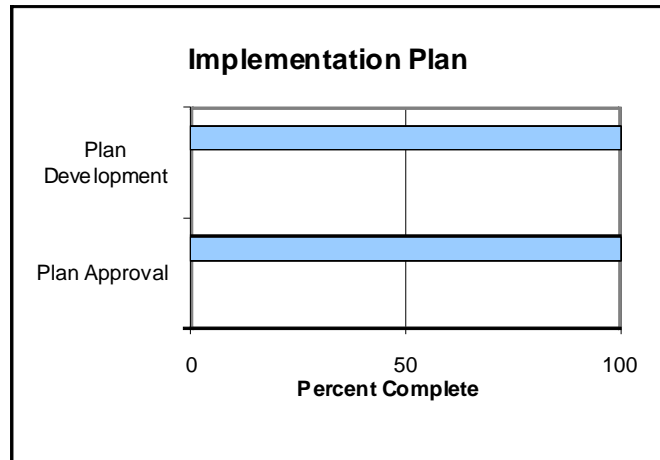
TMDL Project Highlights

- The Commission approved the release of the draft TMDLs for public comment on September 12, 2000. The public comment period was held from September 29, 2000, through October 30, 2000. A public hearing was held in Irving, Texas, to receive formal comment.
- No written or oral comments were received from the public.
- A final report, *Nine Total Maximum Daily Loads for Legacy Pollutants in Streams and a Reservoir in Dallas and Tarrant Counties*, was approved by the Commission on December 20, 2000, and adopted as an update to the Texas Water Quality Management Plan.
- The EPA approved the TMDLs on June 26, 2001.

Implementation Plan Status

Start Date: November 2000

TCEQ Adoption: August 2001



Implementation Plan Highlights

- A public hearing was held to receive comments on the draft implementation plan in Dallas on June 20, 2001. The thirty-day public comment period closed June 25, 2001.
- The *Implementation Plan for Dallas and Tarrant County Legacy Pollutant TMDLs* was approved by the Commission on August 10, 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.
- TCEQ contracted with DSHS to collect fish tissue samples and reassess the fish consumption risk in the Trinity River segments and Mountain Creek Lake. Sampling of the Trinity River occurred June-July 2008 and Mountain Creek Lake was sampled in November 2008.
- In July 2010, the DSHS issued a no-consumption advisory for Lower West Fork Trinity River and Upper Trinity River due to elevated levels of PCBs and dioxins in fish. Chlordane is no longer considered a contaminant of concern.
- The report reassessing the fish consumption risk associated with Mountain Creek Lake is expected in late 2010.