



Improving Water Quality in Dallas and Tarrant Counties

Nine TMDLs for Legacy Pollutants

As early as 1990, analysis of fish tissue collected in one reservoir and two river segments in the Dallas area (Table 1) revealed unsafe concentrations of legacy pollutants. As a result, the Texas Department of State Health Services (DSHS) closed the water bodies for fishing. Consumers should not 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, the TCEQ developed and adopted total maximum daily loads (TMDLs). The goal of the TMDLs was the reduction of contaminant concentrations in fish tissue to levels that constitute an acceptable risk to consumers. The TCEQ also developed an implementation plan establishing measures to achieve this goal. The I-Plan is available on our website along with the adopted TMDLs.

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/.

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 The Upper Trinity River (Segment 0805) extends from the confluence of the Elm 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.

TMDLs for Legacy Pollutants

Widespread use of the chemicals addressed in this



TMDL has been either banned or restricted since at least 1987. 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 legally 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 new, and has been applied in other parts of the country where legacy pollutants have been addressed.

Public Participation

The TCEQ communicates the progress of this project through the Trinity Basin Steering Committee created by the Texas Clean Rivers Program. This TMDL project was 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).

For More Information

Contact one of the people listed following, or visit the project webpage at:

www.tceq.texas.gov/waterquality/tmdl/05-dalleg.html.html

TCEQ Headquarters:

Roger Miranda, Project Manager
512-239-6278, roger.miranda@tceq.texas.gov

Dania Grundmann, Risk Assessments
512-239-3449, dania.grundmann@tceq.texas.gov

TMDL Dates

Start: January 2000

TCEQ Adoption: December 20, 2000

EPA Region 6 Approval: June 26, 2001

I-Plan Approved: August 2001

Table 1. Segments, Advisories, and Bans

Segment Number	Segment Name (portion covered by TMDL)	Fish Tissue Contaminant(s) addressed in TMDL	DSHS Ban Issued	DSHS Advisory and Ban Status During TMDL Implementation	Implementation Status
o841	<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	January 1990- Designated as a "prohibited area for the taking of finfish" due to elevated levels of chlordane in fish tissue September 2002 - Ban expanded to include DDE and PCBs July 2010 - No consumption advisory issued due to PCBs and dioxins. Chlordane no longer considered a contaminant of concern.	TMDL contaminant no longer of concern. Additional advisory due to PCBs and dioxin.
o805	<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	January 1990- Designated as a "prohibited area for the taking of finfish" due to elevated levels of chlordane in fish tissue September 2002 - Ban expanded to include DDE and PCBs July 2010 - A no-consumption advisory was issued due to PCBs and dioxins. Chlordane no longer considered a contaminant of concern.	TMDL contaminant no longer of concern. Additional advisory due to PCBs and dioxin.
o841A	<u>Mountain Creek Lake</u> (entire lake)	Chlordane, DDT, DDD, DDE, Dieldrin, PCBs, Heptachlor Epoxide	April 1996	April 1996 - Designated as a "prohibited area for the possession of all fish species" due to elevated levels of chlordane, DDT, DDD, DDE, dieldrin, heptachlor epoxide, and PCBs in fish tissue. September 2003 - Ban maintained due to continued presence of PCBs. Other contaminants unlikely to contribute significantly to risk from consuming fish. October 2010 - No-consumption advisory issued due to PCBs. The no-possession ban was rescinded. January 2017 - Consumption advisory issued due to PCBs and dioxins.	Contaminants other than PCBs no longer of concern. Additional advisory due to PCBs and dioxin.

Table 2. Description of Pollutants

Chemical	Description
Chlordane	Organochlorine insecticide
DDD	Dichlorodipheynylchloroethane (degradation product of DDT; also used as an organochlorine insecticide)
DDE	Dichlorodipheynylchloroethylene (degradation product of DDD and DDT)
DDT	1,1,1-trichloro-2,2-bis (p-chlorophenyl) ethane (organochlorine insecticide)

Chemical	Description
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)

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TMDL Project Highlights

- The commission approved the release of the draft TMDLs for public comment on September 12, 2000. No written or oral comments were received from the public.
- The commission adopted *Nine Total Maximum Daily Loads for Legacy Pollutants in Streams and a Reservoir in Dallas and Tarrant Counties* on December 20, 2000, at which time they became updates to the Texas Water Quality Management Plan.
- The EPA approved the TMDLs on June 26, 2001.

Implementation Plan Highlights

- The commission approved the *Implementation Plan for Dallas and Tarrant County Legacy Pollutant TMDLs* on August 10, 2001.
- The objective of the implementation plan is to establish historical trends, identify remaining pollutant sources, if any, and evaluate and implement mitigation or remediation strategies that will result in the restoration of the fish consumption use.
- TCEQ contracted with DSHS to collect fish tissue samples and reassess the fish consumption risk in the Trinity River segments and Mountain Creek Lake. DSHS sampled the Trinity River segments in June-July 2008 and Mountain Creek Lake in November 2008.
- In July 2010, the DSHS issued a new no-consumption advisory for the Lower West Fork Trinity River and Upper Trinity River due to elevated levels of PCBs and dioxins in fish. Chlordane was no longer considered a contaminant of concern.
- In October 2010, DSHS rescinded the no-possession ban for Mountain Creek Lake and issued a no-consumption advisory due to elevated levels of PCBs.
- TCEQ contracted with DSHS in 2014 to collect fish tissue samples and reassess the fish consumption risk in the Trinity River segments and Mountain Creek Lake. DSHS was scheduled to sample the Trinity River segments the summer of 2015. Due to flooding of the Trinity River at that time, sampling was postponed to 2018 or later.
- Mountain Creek Lake samples were collected November 2015. A consumption advisory was issued January 2017 for numerous species of fish due to elevated levels of PCBs and dioxins.
- The TCEQ has contracted with DSHS to collect fish tissue samples in 2019 and reassess the fish consumption risk in the Trinity River segments.