Texas Commission on Environmental Quality
Total Maximum Daily Load Program
GI-475

Improving Water Quality in the Fort Worth Area

A Project to Reduce Legacy Pollutants

As early as 1990, analysis of fish tissue collected in three reservoirs and two river segments in the Fort Worth area (Table 1) revealed unsafe levels 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. Six legacy pollutants are addressed by this project and are described in Table 2.

To address these legacy pollutants, TCEQ developed 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.

TCEQ also developed an implementation plan establishing measures to achieve this goal. The plan and the TMDLs are available on our website.

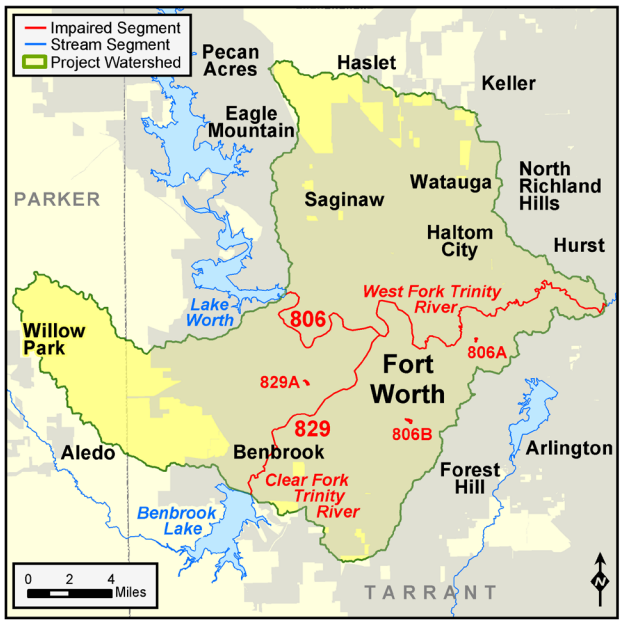
Learn more about water quality standards, monitoring, and TMDLs by reading Preserving and Improving Water Quality[1], available on our website.

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, until the 1970s, agricultural uses dominated much of the land south Fort Worth and a large area in the northern portion of the watershed. The three small reservoirs in this project are in public parks within the city of Fort Worth and impound small drainage tributaries that collect stormwater.

The watershed includes the following water bodies.

- *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. Only the lower mile of the segment is affected
- *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.
- *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. Only the lower 22 miles are affected.
- *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.



[1] https://www.tceq.texas.gov/publications/gi/gi-351

TMDLs for Legacy Pollutants

Widespread use of the chemicals addressed in this TMDL has been either banned or restricted since 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 legally occur in these water bodies, the maximum permissible daily load allowable is, in effect, zero.

Public Participation

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 TCEQ, DSHS, the City of Fort Worth, and the Trinity River Authority (TRA).

For More Information

Email us at tmdl@tceq.texas.gov or call 512-239-6682. Visit the project webpage at:

www.tceq.texas.gov/implementation/water/tmdl/02-fwleg.html.

Table 1. Water Bodies and Pollutants Addressed

Segment Number	Segment Name (portion covered by TMDL)	TMDL Contaminants	Original DSHS Ban or Advisory Issued	Changes in DSHS Advisory or Ban	Implementation Status
0829	Clear Fork Trinity Below Benbrook Lake (lower one mile of the segment from 7th Street in Fort Worth to the confluence with the West 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 and DDE are no longer of concern.	Complete. TMDL contaminant no longer of concern.
0806	West Fork Trinity River Below Lake Worth (lower 22 miles of the segment from the Clear Fork Trinity River confluence to the confluence of Village Creek)	Chlordane	January 1990	September 2002 – Ban expanded to include DDE and PCBs. July 2010 – No consumption advisory issued due to PCBs and dioxins. Chlordane and DDE are no longer of concern.	Complete. TMDL contaminant no longer of concern.
0829A	Lake Como (entire lake)	Chlordane, DDT, Dieldrin, PCBs	April 1995	September 2007 - Ban rescinded. Chlordane, DDT, dieldrin, and PCBs are no longer of concern. February 2016 – No consumption advisory issued for common carp due to dieldrin, dioxins, and PCBs.	Ongoing
0806A	*Fosdic Lake* (entire lake)	Chlordane, DDT, Dieldrin, PCBs	April 1995	*December 2007* - Ban modified to a consumption advisory for carp only due to PCBs. Chlordane, DDT, and dieldrin are no longer of concern. *December 2015* - Consumption advisory retained.	Ongoing
0806B	*Echo Lake* (entire lake)	PCBs	December 1995	*August 2007* - Ban retained *December 2015* - Ban modified to consumption advisory for common carp and largemouth bass due to dieldrin, dioxins, and PCBs.	Ongoing

Table 2. Description of Pollutants

Chemical	Description
Chlordane	Organochlorine insecticide
DDE	Dichlorodipheynyldichloroethylene (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)
PCBs	Polychlorinated biphenyls (group of synthetic organic chemicals widely used as coolants and lubricants)

TMDL Adoption

TCEQ Adoption: November 17, 2000
EPA Region 6 Approval: May 24, 2001

Implementation Plan Approval

TCEQ Approval: July 2001

TMDL Project Highlights

- A final TMDL, *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 Highlights

- The Commission approved the Implementation Plan for Legacy Pollutant TMDLs in Fort Worth, Texas on July 13, 2001.
- The objectives of the implementation plan were to confirm historical trends, identify any remaining pollutant sources, and evaluate and implement mitigation or remediation strategies which will result in the restoration of the fish consumption use for these water bodies.
- In 2001, the City of Fort Worth began implementation of mitigation measures including a hazardous waste collection center and evaluation of remediation strategies.
- In November 2005, DSHS collected fish tissue samples from Como, Fosdic, and Echo lakes 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 was conducted in June and July 2008.
- In July 2010, the DSHS issued a no-consumption advisory for West Fork Trinity River and Clear Fork Trinity River due to elevated levels of PCBs and dioxins in fish. Chlordane is no longer considered a contaminant of concern.
- TCEQ contracted with DSHS to collect fish tissue samples and reassess the fish consumption risk in Lake Como, Fosdic Lake, and Echo Lake. Sampling was conducted April 2014.
- In December 2015, DSHS issued a consumption advisory for common carp and largemouth bass in Echo Lake due to dieldrin, dioxins, and PCBs. Also in 2015, the advisory for Fosdic Lake was retained with no changes.
- In February 2016, DSHS issued a no consumption advisory for common carp in Lake Como due to dieldrin, dioxins, and PCBs.
- TCEQ contracted with DSHS to collect fish tissue samples in 2019. In August 2019, fish tissue samples were collected at various sites on Clear Fork Trinity and West Fork Trinity rivers. Laboratory analysis is expected to occur in 2020, with a report reassessing the fish consumption risk in 2021.