

Candidate Conservation Agreement with Assurances (CCAA) for Six Species in the Trinity River Basin

**2024 Annual Report
Permit #PER4611962-0**



Texas Heelsplitter



Trinity Pigtoe



Texas Fawnsfoot



Louisiana Pigtoe



Western Chicken Turtle



Alligator Snapping Turtle

Submitted to the U.S. Fish and Wildlife Service on March 1st, 2025, by the
Trinity River Authority of Texas

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Executive Summary

The following report highlights the implementation activities of the “*Candidate Conservation Agreement with Assurance for Six Species in the Trinity River Basin*,” a 10-year agreement between the United States Fish and Wildlife Service, members of the Trinity River Compact, and the Tarrant Regional Water District. This first annual report describes the implementation of the newly signed agreement. Multiple meetings were held over the year to kick off the new Agreement, discuss Take and reporting metrics, establish Conservation Priority Areas and Best Management Practices, and educate Covered Parties' staff about the CCAA. The narrative of this report will be about the activities of the Trinity River Authority, with all other covered parties' reports captured in Appendix B of this document. The draft template for this document was submitted to USFWS and Texas Parks and Wildlife for review in late 2024, and their comments were incorporated into this final reporting format. This report fulfills all reporting requirements for Year 1 of the Agreement and the accompanying Incidental Take Permit.

Compliance Measures Table

Table 1. Compliance Matrix for Year 1 of the Trinity Basin CCAA.

Conservation Measure	CCAA Conservation Sub-measure	Tracking Metric	Compliance Summary/Value	Annual Report Section Detail	Notes
8.1 Non-point Source Watershed Protection	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans	Continued 2 (Joe Pool Lake, Village Creek/Lake Arlington)	4.1 Non-point Source Watershed Protection	
	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities	JPL- OSSFs Database, Funding repair/replacement VCLA- Illegal Dumping, Litter Source Assessment Surveys	4.1 Non-point Source Watershed Protection	
	8.1c Work with partners to create and design a watershed prioritization tool	Summary of work towards the watershed development tool.	None required for this reporting period.	4.1 Non-point Source Watershed Protection	To begin in 2026
8.2 Stream Restoration Activities	8.2a Work with partners to identify locations, partners, funding, and project management for habitat restoration projects and	Number of meetings with landowners, grant applications, meetings with NRCS and TSSWCB	None required for this reporting period.	4.2 Stream Restoration Activities	To begin in 2028

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	implementation of BMPs	Area and type of restoration	None required for this reporting period.	4.2 Stream Restoration Activities	To begin in 2028
		Summary of data collection activities	None required for this reporting period.	4.2 Stream Restoration Activities	To begin in 2028
8.3 Participate in the USACE Sustainable Rivers Project	8.3a Participate in the USACE stakeholder process and technical review	Meeting between Covered Parties and USACE	Meetings in 2024	4.3 Participate in the USACE Sustainable Rivers Project	
8.4 Regional and Large-scale Wastewater Treatment	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	Funding for FY 2024 was \$1,788,814.00. A total of 207 industrial inspections were conducted in the previous year.	4.4 Regional and Large-scale Wastewater Treatment	
	8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	TRA DCRWS investigated high BOD loadings at the treatment plant. The problem was resolved.	4.4 Regional and Large-scale Wastewater Treatment	
	8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	Meetings. TRA management testified as an expert witness at a contested case hearing in support of regionalization.	4.4 Regional and Large-scale Wastewater Treatment	
	8.4d Continue the Waste Load Allocation process for the mainstem Trinity River and analyze and validate discharge limits that are protective of the aquatic env.	Summary of Wasteload Allocation Modeling updates (if available)	None needed this reporting period	4.4 Regional and Large-scale Wastewater Treatment	No updates to WLA models at this time

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	8.4e Continue operations of WWTPs	Volume of water treated (mgd)	192.95 MGD	4.4 Regional and Large-scale Wastewater Treatment	Covered parties' information included in the appendices
8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	Phases of 15 different CIP projects completed in 2024. \$457.6 Million budget for CIP in FY25	4.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	
	8.5b Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	Funding for FY 2024 was \$1,788,814.00. A total of 207 industrial inspections were conducted in the previous year.	4.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	
	8.5c Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	One Illicit Discharge identified into DCRWS	4.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	
	8.5e Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	326.72 Miles of Surface inspections	4.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	
	8.5f Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	Three	4.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	All within the metroplex along tributaries to the Trinity. None into Known Occupied Habitat
8.6 Environmental Flows Protection	8.6a Support TCEQ's environmental flow requirements and continue environmental flow research	Summary of activities	Meetings	4.6 Environmental Flows Protection	

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	8.6b Ensure that models and modeling results are provided to the BBASC and BBEST to inform the Adaptive Management phases of SB3	Summary of any model or modeling results		4.6 Environmental Flows Protection	
	8.6c Support environmental flow requirements codified by the TCEQ and incorporated into the WAM	Summary of activities	Water rights operated according to environmental flow requirements	4.6 Environmental Flows Protection	Environmental flow requirements were met for all water rights with Environmental Flow components.
	8.6d Work on environmental flow projects and research in conjunction with the BBASC and BBEST	Number and Summary of meetings of the BBASC and BBEST, projects, research, and grant applications	None	4.6 Environmental Flows Protection	Per Texas State Law, BBEST is waiting on TCEQ to set a new Environmental Flow Advisory Group meeting schedule before new projects
	8.6a Continue the settlement agreement requiring at least 30% (excluding NTMWD) of all in-basin wastewater return flows to be allowed to flow downstream to Lake Livingston	Summary of Hydrologic Review of the 30% of all discharges guaranteed to remain in the system to Lake Livingston	USGS Gage Data Rosser - no flows observed below 30%	4.6 Environmental Flows Protection	
8.7 Instream Flow Protections in Zone E	TRA Voluntary E. Flow from Livingston	Confirm that 250 cfs and 500 cfs (7-day average) occurred. (LLP Release Records or Goodrich gage)	USGS Gage Data Goodrich - no flows below the 750 cfs trigger	4.7 Instream Flow Protections in Zone E	

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8.8 USGS Flow and Water Quality Monitoring	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs	76 Gage Stations Partially or Fully Funded	4.8 USGS Flow and Water Quality Monitoring	
	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs	see 8.8a	4.8 USGS Flow and Water Quality Monitoring	
8.9 Eradication and Control Measures to Address Invasive Aquatic Plants	8.9a Fund eradication and control measures to address invasive aquatic plants in the Covered Parties' infested reservoirs	Summary of any Invasive Species public outreach	Website	4.9 Eradication and Control Measures to Address Invasive Aquatic Plants	On TRA Basin Planning Website (https://www.trinityra.org/basin_planning/initiatives/zebra_mussels.php)
		Summary of any 3rd party activities (ex: TPWD Clean, Drain, Dry program)	Website	4.9 Eradication and Control Measures to Address Invasive Aquatic Plants	On TRA Basin Planning Website (https://www.trinityra.org/basin_planning/initiatives/zebra_mussels.php)
	8.9b Report herbicide use to the Service as part of the annual reporting and any adverse effects to wildlife, if observed	Report of Cost, Herbicide Use, Product Name, Volume Applied and Area (feet) treated & any observed adverse	\$10,985 spent on 250 acres, no adverse effects identified	4.9 Eradication and Control Measures to Address Invasive Aquatic Plants	

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		effects to wildlife			
8.10 Avoiding and Minimizing Site-Level Disturbances	8.10a Conduct mussel surveys and relocations consistent with the latest USFWS and TPWD protocols prior to initiating disturbance	Number and summary of mussel surveys and relocation efforts covered under this CCAA (Excluding Section 7 and other activities covered by other permits)	None	4.10 Avoiding and Minimizing Site-Level Disturbances	No surveys conducted under CCAA Section 10(1)(a) permit
	8.10b Avoid occupied mussel beds where possible for any covered activity requiring CWA 404 permitting	Summary of avoidance activities related to identified mussel beds	None	4.10 Avoiding and Minimizing Site-Level Disturbances	No projects conducted which fall under CCAA Section 10(1)(a) permit
	8.10c Implement standard erosion and sediment control measures consistent with state or local requirements during site-level disturbance activities	Summary of standard erosion and sediment control measures (SWPPP in occupied areas), Training provided	All TRA Construction Contracts require SWPPP to meet State and Federal Standards	4.10 Avoiding and Minimizing Site-Level Disturbances	
	8.10d Minimize as much as feasible area of new disturbance within a streambed	Summary of Training Provided	None to report during this Reporting Period	4.10 Avoiding and Minimizing Site-Level Disturbances	TRA BMPs require minimal clearing on all Construction Projects. Training Video in development

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	8.10e Minimize vegetation clearing within riparian zones	Summary of Training Provided	None to report during this Reporting Period	4.10 Avoiding and Minimizing Site-Level Disturbances	TRA BMPs require minimal clearing on all Construction Projects. Training Video in development
	8.10f Make temporary coffer dams of nontoxic materials	Were materials of temporary coffer dams non-toxic - add to construction BMPs	No Toxic Materials were used	4.10 Avoiding and Minimizing Site-Level Disturbances	
	8.10g Restore streambanks, vegetation, streambeds, and temporary work areas after construction to pre-existing conditions or better	Summary of streambank, vegetation, and temporary work area restoration activities- add to construction BMPs	None to report during this Reporting Period	4.10 Avoiding and Minimizing Site-Level Disturbances	TRA BMPs require minimal clearing on all Construction Projects. Training Video in development
	8.10h Follow Aquatic Resource Relocation Plan when mussels cannot be avoided	Summary of Aquatic Resource Relocation Plans (Excluding Section 7 and other activities covered by other permits)	None required for this reporting period.	4.10 Avoiding and Minimizing Site-Level Disturbances	
	8.10i Incorporate natural channel design elements into construction projects permitted under a separate section 7 consultation whenever feasible	Summary of Natural Channel design elements (if applicable)	None to report during this Reporting Period	4.10 Avoiding and Minimizing Site-Level Disturbances	TRA BMPs require natural channel design on all Construction Projects. Training Video in development
8.11 Public Education and Outreach	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activities (see specific page)	33,000 interactions	4.11 Public Education and Outreach	

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	8.11b Further expand the Alligator Snapping Turtle signage program with 20 additional signs each year for the first two years. Evaluate the program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and Reports	3 new signs, 40 new posters	4.11 Public Education and Outreach	Posters were developed instead of signs to reach a greater number of citizens
8.12 Reintroduction of Covered Species	8.12a Work with the appropriate agency to facilitate the reintroduction of covered mussel species through in-kind support, should agencies authorize reintroduction	Summary of in-kind support provided for reintroduction efforts	None to report during this Reporting Period	4.12 Reintroduction of Covered Species	
	8.12b Work with the appropriate agency to facilitate the reintroduction of covered turtle species, should agencies authorize	Summary of data provided to partner agencies for research and reintroduction efforts	None to report during this Reporting Period	4.12 Reintroduction of Covered Species	
8.13 No New Permanent Dams on the Trinity River Mainstem	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem	No New Permanent Dams	4.13 No New Permanent Dams on the Trinity River Mainstem	
8.14.1 Instream Water Quality Monitoring	8.14.1a Should TCEQ unexpectedly discontinue funding the Clean Rivers Program during the term of the agreement, continue water quality monitoring and reporting for the Trinity Basin at or above the same level of effort as was in place when the funding was reduced at sites along the mainstem and major tributaries that have a direct effect on the Covered Species.	Number of Clean Rivers Program stations and parameters sampled (in occupied or critical habitat)	28	4.14.1 Instream Water Quality Monitoring	No change to CRP sites - 28 Stations sampled monthly or quarterly for Metals, Conventional (i.e. Nutrients, Chl-a, TDS), Bacteria (E. Coli), Flow, and Field measurements (pH, DO, Spec. Cond., Temp)

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	8.14.1b Review operations to determine if operational changes can be made to improve water quality conditions if negative water quality trends within CPAs are expected to cause harm of covered species based on water quality trend assessment every 5 years	Meeting	None Required for this reporting period.	4.14.1 Instream Water Quality Monitoring	Scheduled 2028
	8.14.1c Assist USFWS and TPWD in Covered Species should agencies determine relocation is necessary based on water quality trend assessment every 5 years	Assist TPWD and/or USFWS	0	4.14.1 Instream Water Quality Monitoring	Not requested
8.14.1 Instream Water Quality Monitoring	8.14.1 a Should TCEQ unexpectedly discontinue funding the Clean Rivers Program during the term of the agreement, continue water quality monitoring and reporting for the Trinity Basin at or above the same level of effort as was in place when the funding was reduced at sites along the mainstem and major tributaries that have a direct effect on the Covered Species.	Number of Clean Rivers Program stations and parameters sampled (in occupied or critical habitat)	28	4.14.1 Instream Water Quality Monitoring	
8.14.2 Caged Mussel Studies	8.14.2a Complete caged mussel studies at a minimum of two sites in Zone B and two sites in Zone C within first 5 years	Percent of study completed to date	~20%	14.14.2 Caged Mussel Studies	Sites and study species selected, silo testing and water quality parameters almost finalized

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8.14.3 Long-term Monitoring for Mussels	8.14.3a Fund long-term monitoring (annually or biennially) at a total of four sites within Zones B, C, and/or E in close coordination with USFWS and TPWD	Percent of study completed to date	None to report during this Reporting Period	14.14.3 Long-term Monitoring for Mussels	Planned to begin 2026
8.14.4 Water Quality Modeling	8.14.4a Within first 5 years, create water quality model or modify an existing model that can be used to better understand the expected water quality responses from up to three potential future flow conditions in all or portions of Conservation Zones B, C, and E	Percent of study completed to date	None to report during this Reporting Period	14.14.4 Water Quality Modeling	Planned to begin 2027
8.14.5 Hydraulic and Hydrologic Modeling	8.14.5a Design a modeling project that can best address the current data gaps for shear tolerances for mussels in all or portions of Conservation Zones B and C	Percent of study completed to date	None to report during this Reporting Period	14.14.5 Hydraulic and Hydrologic Modeling	Planned to begin 2027
8.14.6 Zebra Mussel Monitoring	8.14.6a Fund zebra mussel monitoring programs at \$40,000 per year	Documentation of funding of Zebra Mussel monitoring program	USGS Joint Funding Contract	14.14.6 Zebra Mussel Monitoring	
		Number and location of monitoring sites (include infestation status)	Lake Arlington (Not Infested): 4 sites, twice a year, Lake Livingston (Infested): 6-8 sites, twice a year	14.14.6 Zebra Mussel Monitoring	
	8.14.6b Provide in-kind assistance to eradicate zebra mussels if USFWS/TPWD identify means and methods	Summary of in-kind assistance to eradicate zebra mussels	\$15,300 Annually	14.14.6 Zebra Mussel Monitoring	

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I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	14 Reporting of Incidental Take	Date and duration of permit limit exceedance	None	5.3 Incident Take Estimation and Analysis	
		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)	None	5.3 Incident Take Estimation and Analysis	
I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream disturbing activities that impact habitat occupied by the four Covered Species of mussels	14 Reporting of Incidental Take	Direct interactions (touching) or inducted mortality of covered species	None	5.3 Incident Take Estimation and Analysis	
9 Funding	9a Maintain current level of funding for conservation measures	Funds Provided	\$75,000	7.1 Overview, 7.2 Committed Funding, 7.3 New Funding	
	9b Provide \$750,000 in new funding for monitoring, research, public education programs, and non-point source and restoration projects	1 of 10 Annual Funds Provided	\$7,500		
	9c Determine breakdown of new funding during first year and review annually	Analysis	Completed		
12 Effects and Incidental Take	12.3 Take of Turtles	Take, as defined	0	5.3 Incident Take Estimation and Analysis	
	12.2 Take of Mussels	Affected River Miles	0	5.3 Incident Take Estimation and Analysis	

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15 Agreement Term	15.1a Entities under a CI will be subject to the same terms and responsibilities as in the CAAA	CIs still bound by the agreement	Parties Removed	1.1 Statement of Assurance for Reporting	
	15.2a Host a Work Plan kickoff meeting with USFWS and TPWD within the first 6 months and then at a minimum of every two years after to review the Work Plan	Meeting	1	2.1.1 USFWS & TPWD Kickoff Meeting	
Compliance or Reporting Measure in Permit					
Compliance or Reporting Measure	Sub-measure	Tracking Metric	Compliance Summary/Value	Annual Report Section Detail	Notes
I. Incidental Take Authorized	I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	River Miles of Take	0	5.3 Incident Take Estimation and Analysis	
	I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream disturbing activities that impact habitat occupied by the four Covered Species of mussels	Activities	See Appendices	5.3 Incident Take Estimation and Analysis	

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Q. Biennial Meetings	Q.1 (Work Plan Kickoff Meeting) - Within the first 6 months of Permit issuance, the Permittee will host a Work Plan kickoff meeting with the USFWS and Texas Parks and Wildlife Department (TPWD) to develop a Work Plan and develop specific strategies to accomplish goals outlined in the Work Plan.	Meeting	1	2.1.1 USFWS & TPWD Kickoff Meeting	
	Q.2 Biennial Meetings - The Permittee will, at a minimum, host meetings every two years thereafter to review the Work Plan, discuss progress in recovery of Covered Species, discuss factors that may be having positive and negative effects on Covered Species, discuss actions that could benefit Covered Species, and ensure Work Plan goals are achieved through adaptive management	Meeting	1	2.1.3 Covered Parties' Biennial Work Plan and Operations Review Meeting	
	Q.3 TRA will also keep USFWS and TPWD updated annually about research activities through the Texas Freshwater Mussel Workgroup	Meeting	1	2.1.4 Research Review Meeting	

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S. Monitoring	S.1 Monitoring conservation actions, Covered Species, water quality, hydrology, and levels of incidental take associated with Covered Activities in the Covered Area (i.e., areas of the Trinity River basin wherever the Covered Parties have property, operations, management authority, or otherwise some level of control) to ensure compliance with the CCAA, assess efficacy of conservation measures, and determine if adaptation is needed	Annual Report	1	3 Annual Water Quality and Hydrology Summary	
	S.2 Monitoring all CIs to ensure conservation measures are implemented on the enrolled properties and are providing a conservation benefit to the Covered Species	Annual Report	1	Appendix B	
	S.3 Tracking expenditure of funds	Annual Report	1	7 Workplan and Budget	
T. Reporting	T.1 A summary of activities related to each of the Conservation Measures found in Section 8 of the CCAA	Annual Report	1	4 Activities Related to Conservation Measures	
	T.2 Estimates of mortality, injury, or disturbance of mussel habitat (take) of the Covered Species	Annual Report	1	5 Reporting of Incidental Take	

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	T.3 Results of any freshwater mussel surveys or relocations conducted by or on behalf of the Covered Parties	Annual Report	1	4.14.3 Long-term Monitoring for Mussels	
	T.4 Review and summary of water quality and hydrologic conditions for each Conservation Zone	Annual Report	1	3 Annual Water Quality and Hydrology Summary	
	T.5 A summary of public outreach efforts	Annual Report	1	4.11 Public Education and Outreach	
	T.6 A description of any adaptive management needed or implemented	Annual Report	1	6 Adaptive Management	

1 Background

1.1 Statement of Assurance for Reporting

This report covers all Take and annual reporting requirements listed in USFWS-ESA Section 10(a)(1)(A) Enhancement-of-survival Permit (PER4611962-0) and describes the tracking metrics for each requirement. The narrative of this report is primarily from activities by the Trinity River Authority of Texas from the issuance date of February 1st, 2024, to January 31st, 2025, hereafter referred to as the “Reporting Period.” Activities of all entities that are part of this Candidate Conservation Agreement with Assurances are provided in the Appendix B – Covered Parties Year 1 Reports as supplementary information. The Covered Parties only reported on Conservation Measures that overlapped with the Covered Activities of their entity.

1.2 Background

The Candidate Conservation Agreement with Assurances (CCAA, Agreement) for Six Species in the Trinity River Basin is a voluntary conservation agreement between the United States Fish and Wildlife Service (USFWS, Service) and the Trinity River Authority of Texas (TRA). Both the members of the Upper Trinity River Water Quality Compact (Compact), which includes the Cities of Dallas and Fort Worth, and the North Texas Municipal Water District (NTMWD), and one non-Compact member, Tarrant Regional Water District (TRWD), have joined this Agreement as partners under Certificates of Inclusion from the date of signing, February 1, 2024, with USFWS backdating the date of execution for this Agreement to November 1, 2023. Together, these entities are referred to as the Covered Parties.

This Agreement aims to provide a net conservation benefit for candidate and at-risk species within the Trinity River Basin while allowing the TRA and partners' critical water supply and wastewater operations to continue providing for the needs of the citizens of Texas. The Covered Species for this CCAA include four species of freshwater mussels, Texas Fawnsfoot (*Truncilla macrodon*), Texas Heelsplitter (*Potamilus amphichaenus*), Trinity Pigtoe (*Fusconaia chunii*), and Louisiana Pigtoe (*Pleurobema riddellii*); and two species of turtles, Alligator Snapping Turtle (*Macrochelys temminckii*) and Western Chicken Turtle (*Deirochelys reticularia miaria*). The Conservation Measures in this Agreement have been specifically designed to reduce threats and increase the viability of not only the covered species but also a variety of aquatic species, including amphibians, fish, and aquatic insects. All Conservation Measures and Reporting Metrics have been developed using the best available science, in close coordination with staff from the USFWS and the Texas Parks and Wildlife Department (TPWD). The draft template for this report was provided to USFWS and TPWD in late 2024, and their comments were incorporated into the final report template.

1.3 Trinity River Basin

At over 18,000 mi², the Trinity River Basin is the largest river basin in Texas that both begins and ends within the state. It provides water to over 50% of the population of Texas

and serves as a transition zone between the arid plains of West Texas and the wet piney woods of East Texas. It is unique to other Texas basins, as it contains the large, urbanized population of the Dallas-Fort Worth (DFW) Metroplex in the upper portion of the basin, and although not in-basin, it serves as a major drinking water source of another large metropolitan area (Houston Metroplex), in the lower basin.

Water quality has long been an issue in the basin, as years of industry, along with the rapidly growing DFW Metroplex, made the river dangerous to wildlife and public health. Through the advancement of waste and wastewater treatment technologies, a coordinated regionalization of treatment systems, and the passing of federal regulations like the Clean Water Act of 1972, the present-day water quality conditions are, in large part, a result of hard work, cooperation, and coordination by the Covered Parties in this agreement.

Today, water supply and wastewater operations are complicated and nuanced. There is no single, overarching entity that controls either water supply or wastewater operations within the basin. Further, the Covered Parties each have designated service areas, but have no actual regulatory authority over the Trinity River. Regulatory oversight of water quality and the river channel lies with the U.S. Army Corps of Engineers (USACE) and/or the Texas Commission on Environmental Quality (TCEQ). Over the past 70 years, cooperation between regional, municipal, local, and county entities has led to many water quality improvements in the Trinity River, especially in the Dallas and Fort Worth metropolitan areas. Together, the Covered Parties spend over \$397 million annually to operate 18 major WWTPs, which are permitted to convert up to 978.4 million gallons per day (MGD) of raw sewage into high-quality effluent. This has transformed the Trinity into its present state, where even in times of drought, this water provides approximately 500 cubic feet per second (cfs) of baseflow to the system.

1.4 Covered Species

This section provides a description of each Covered Species and their current legal status as of March 1, 2025. More detailed information about each Covered Species can be found in Section 3 of the Agreement.

1.4.1 Texas Fawnsfoot

The Texas Fawnsfoot is a small endemic freshwater mussel that occurs within the Colorado, Brazos, and Trinity basins (Randklev, 2017). It is identified by its compressed, elongated oval shell that is dull green, tan or yellow brown with broken rays of chevron or zig-zag patterns (Figure 1). It prefers deep bank habitats but is also found within backwater and on the upstream end of point bars (C.R. Randklev, 2023). Within the Trinity basin, the Texas Fawnsfoot can be found on the East Fork below Lake Ray Hubbard and in multiple locations on the Mainstem, both above and below Lake Livingston.



Figure 1: Photo of a Texas Fawnsfoot (*Truncilla macrodon*).

On June 4, 2024, the Texas Fawnsfoot was listed as Threatened with designated Critical Habitat and a 4(d) rule by the USFWS as part of the Central Texas Mussel Package (USFWS, 2024). This status matches the State Threatened status set by the TPWD. This listing did not come with designated Critical Habitat within the Trinity basin, due in part to the Conservation Measures as part of this Agreement, which the Service deemed to fulfill the criteria for protections without needing to designate Critical Habitat. The take allowance for this species and the other three freshwater mussels covered by this Agreement is not to exceed 54 river miles combined or 9% of known occupied habitat.

1.4.2 Texas Heelsplitter

The Texas Heelsplitter is an endemic, medium-sized, elliptical-shaped, tan to chestnut brown/black mussel that only occurs in Eastern Texas river basins (Trinity, Sabine, Neches) (Figure 2) (C.R. Randklev, 2023). It is a riverine obligate species but can survive in backwater and reservoir habitats within the basin. Within the Trinity, the Texas Heelsplitter can be found in the Elm Fork, Mainstem reaches, and in Lakes Grapevine and Livingston (C.R. Randklev, 2023). At the time of this report, the Texas Heelsplitter is Proposed Endangered by the Service and listed as state Threatened by the TPWD. The take allowance for this species and the other three freshwater mussels covered by this Agreement is not to exceed 54 river miles combined or 9% of known occupied habitat.



Figure 2: Photo of two Texas Heelsplitters (*Potamilus amphichaenus*).

1.4.3 Trinity Pigtoe

The Trinity Pigtoe was recently distinguished from other Texas Pigtoe species including the Texas Pigtoe (*Fusconaia askewi*) and Triangle Pigtoe (*Fusconaia lananensis*) within the state (C.R. Randklev, 2023). It is described as a small to medium-sized mussel, relatively triangular with a posterior ridge, and a shell color that can vary from reddish-brown to greenish-brown depending on water conditions (Figure 3). Upon reclassification, the distribution of the Trinity Pigtoe is restricted to the Trinity Basin, primarily within the Elm Fork and on the Mainstem, both above and below Lake Livingston (Pieri, 2018). Current studies list this species as primarily a river and stream obligate, with no known occurrences within reservoir habitats at this time.



Figure 3: Photo of Trinity Pigtoe (*Fusconaia chunii*)

Currently, it is classified as threatened by TPWD but is not under review by the USFWS for potential listing under the ESA. The take allowance for this species and the other three freshwater mussels covered by this Agreement is not to exceed 54 river miles combined or 9% of known occupied habitat.

1.4.4 Louisiana Pigtoe

The Louisiana Pigtoe is presumed to be currently extirpated from the Trinity River Basin, but was added to this Agreement in the event it is ever rediscovered. It is a small-medium sized mussel, with a triangular shape and a brown to reddish-brown or black color (Figure 4). It is currently found within Texas from the San Jacinto basin east to the Sabine, along with being present in the neighboring states of Oklahoma, Arkansas, and Louisiana (C.R. Randklev, 2023). Currently, it is categorized as state Threatened by TPWD and is currently Proposed Threatened by the USFWS. The take allowance for this species and the other three freshwater mussels covered by this Agreement is not to exceed 54 river miles combined or 9% of known occupied habitat.



Figure 4: Photo of Louisiana Pigtoe (*Pleurobema riddellii*)

1.4.5 Alligator Snapping Turtle

The Alligator Snapping Turtle (AST) is the largest freshwater turtle species in North America and can be identified by its characteristic spiked shell, large broad head, and large beak with a red-pink worm-like mouth appendage (Figure 5) (Carwardine, 2008) (Hibbitts, 2016). The current range extends from the Trinity Basin to the east, through 14 southeastern states. These turtles can be found on land, but mainly inhabit aquatic environments, preferring calm, deep waters of ponds, oxbows, lakes, and large rivers. Currently, the species is State Threatened by the TPWD and Proposed Threatened by the USFWS. The current take allowance for the AST is not to exceed 10 ASTs over the 10 years of the CCAA.



Figure 5: Photo of an Alligator Snapping Turtle (*Macrochelys temminckii*)

1.4.6 Western Chicken Turtle

The Western Chicken Turtle (WCT) is a relatively unknown species and is currently the focus of many researchers throughout the Southeast. This small-medium turtle can be identified by its long head and neck, a single yellow bar on its front legs, and a black and white striping on its rump (Figure 6) (Ernst, 2009). The preferred habitats for the WCT are ephemeral wetlands, swamps, and ponds when above ground. But the WCT spends extended periods estivating in upland areas for up to 9 months out of the year. Currently, the WCT does not have any listing status at the State level, but it is Under Review for potential protections by the USFWS. The current take allowance for the WCT is not to exceed 1 WCT over the 10 years of the CCAA.



Figure 6: Photo of a Western Chicken Turtle (*Deirochelys reticularia miaria*)

1.5 Brief Description of the Covered Activities

The complete description of each Covered Activity along with each Covered Parties involvement can be found in Section 7 of the Agreement. The Covered Activities of this agreement include the following:

- Conservation Activities,
- Water Supply and Reservoir Operations,
- Maintenance of Levee, Dam, Bulkhead, Boat Dock and Ramp, and Instream Structures,
- Operations of Wastewater Treatment Plants,
- Pipeline Operations,
- Invasive Aquatic Plant Control, and
- Boat Dock and Pier Permitting.

Specific Conservation Measures have been designed to provide a Net Conservation Benefit to the Covered Species for each of the above-listed Covered Activities. Those Conservation Measures, along with a review of the past year's efforts, can be found in Section 4 beginning on page 66 of this report.

2 Meetings

This section provides summaries of Agreement-related meetings that occurred during the Year 1 Reporting Period. Meetings that fulfill requirements stated in this Agreement or the Section 10(1)(a) permit are listed first, and then additional CCAA-related coordination meetings follow, both in chronological order. Agendas and notes were provided to Erik Orsak, Supervisory Fish and Wildlife Biologist, at the USFWS Texas Coastal and Central Plains Ecological Services Field Office when required by the Agreement or Permit.

2.1 Required Year 1 Meetings

2.1.1 USFWS & TPWD Kickoff Meeting

On March 20, 2024, a kickoff meeting was held via Microsoft Teams with staff from the Trinity River Authority (TRA), Texas Parks and Wildlife Department (TPWD), and the US Fish and Wildlife Service (USFWS). This meeting fulfilled Permit Requirement I.4 (and CCAA Section 15.2) by occurring within 60 days of permit execution. TRA staff led the initial discussion regarding Take reporting and tracking, but two additional meetings specific for Freshwater Mussels and Turtles were scheduled on March 26th, 2024 to discuss Freshwater Mussel Take and on April 16th, 2024 to discuss Freshwater Turtle Take with species experts.

During the Freshwater Mussel Take Meeting on March 26th, staff from the TRA, USFWS, and TPWD determined the Covered Parties will need to track Take associated with all Water Quality treatment operations. Take will be translated into impacted river miles as per the required Take unit for Freshwater Mussels defined in the Permit.

During the Freshwater Turtle Take Meeting on April 16, 2024, staff from the TRA and USFWS determined how the Covered Parties will track turtle Take for the CCAA. Staff from the TPWD were invited but could not attend; they were sent a full summary of the meeting. It was determined that the Covered Parties would track all encounters, not just those that result in Take of an animal. If encounters are greater than expected, or unintentional Take occurs more often than expected, the USFWS would be willing to discuss adjusting permit limits.

2.1.2 Conservation Priority Areas Meeting

On July 8, 2024, TRA staff presented the newly designated Conservation Priority Areas (CPAs) to staff from the USFWS and TPWD (Figure 7). The CPAs for Freshwater Mussels, shown in Figure 10, were accepted by all parties at the end of the meeting with minor revisions. The full Conservation Priority Areas of the Trinity River Basin CCAA document is available in the Supplemental Material in Appendix A. This meeting and acceptance fulfilled the requirement of getting CPAs in place by the end of year 1 of this Agreement.

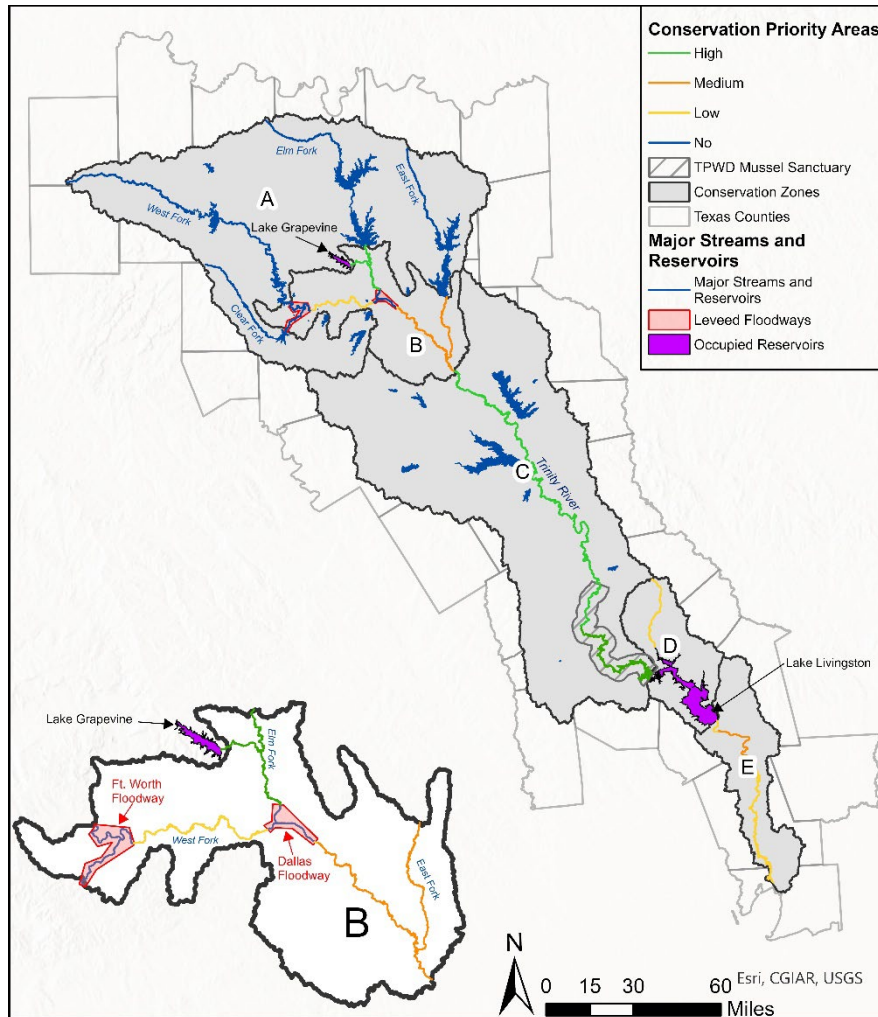


Figure 7: Map of Freshwater Mussel Conservation Priority Areas (CPAs) for the Trinity River Basin.

2.1.3 Covered Parties' Biennial Work Plan and Operations Review Meeting

The Trinity River Authority will host the 1st Biennial Work Plan and Operations Review Meeting with representatives from all Covered Parties on February 13, 2025. A draft agenda was provided to the USFWS and TPWD for approval and comments on January 6, 2025, fulfilling requirement 8.14 of the Agreement, notifying the service 30 days before the meeting.

Meeting notes will be provided to the USFWS and TPWD, fulfilling requirement 8.14 of the Agreement within 30 days after the meeting. The exact date and a summary of the meeting will be included in the Year 2 Annual Report, due to be submitted on March 1st, 2026.

2.1.4 Research Review Meetings

The first Research Review Meeting will occur between the Covered Parties at the first Biennial Work Plan and Operations Review meeting on February 13, 2025 (summarized in

Section 2.7). Subsequent research review meetings will be held as needed between Ops Review meetings, pending research project updates, and/or protection status changes.

2.2 Other Coordination Meetings

2.2.1 Texas Freshwater Mussel Workgroup Meeting

On February 13, 2024, Ryan Seymour, the TRA's CCAA Project Manager, attended the 2024 Texas Freshwater Mussel Workgroup Meeting in Austin, TX (Figure 8). He provided a brief overview of the newly executed Agreement, including the Covered Parties, Covered Species, and Conservation Measures to attendees of over 20 agencies and environmental firms. He answered clarification questions regarding the Caged Mussel Study (highlighted on page 78) and provided contact information for any future questions.



Figure 8: CCAA Project Manager, Ryan Seymour, presenting at 2024 Texas Freshwater Mussel Workgroup meeting in Austin, TX.

2.2.2 Texas River Authorities HCP/CCAA Meeting

On February 27, 2024, Webster Mangham, Senior Manager, Environmental and Water Resources at the TRA, was invited to present on the newly signed Agreement at the 2024 Texas River Authorities HCP/CCAA Meeting hosted by the Guadalupe Blanco River Authority. Webster covered why the TRA decided to go the route of the CCAA, and the process of getting it approved, and he covered the implementation plans for the Agreement (Figure 9).

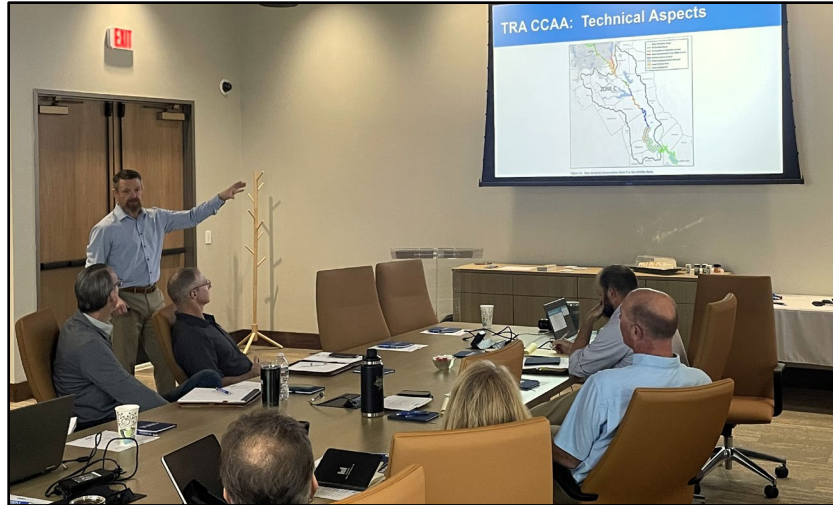


Figure 9: Webster Mangham, presenting the Trinity River Basin CCAA to the 2024 Texas River Authorities HCP/CCAA Meeting in Seguin, TX.

2.2.3 Trinity Basin Clean Rivers Program Steering Committee Meeting

On April 4, 2024, Webster Mangham and Ryan Seymour, presented the implementation plan for the newly signed Agreement to the Trinity Basin CRP Steering Committee. The CRP Steering Committee meets once a year to discuss CRP activities and solicit input for future activities. Web and Ryan focused the presentation on how the newly signed Agreement and certain conservation measures overlap with CRP Program activities (Figure 10).

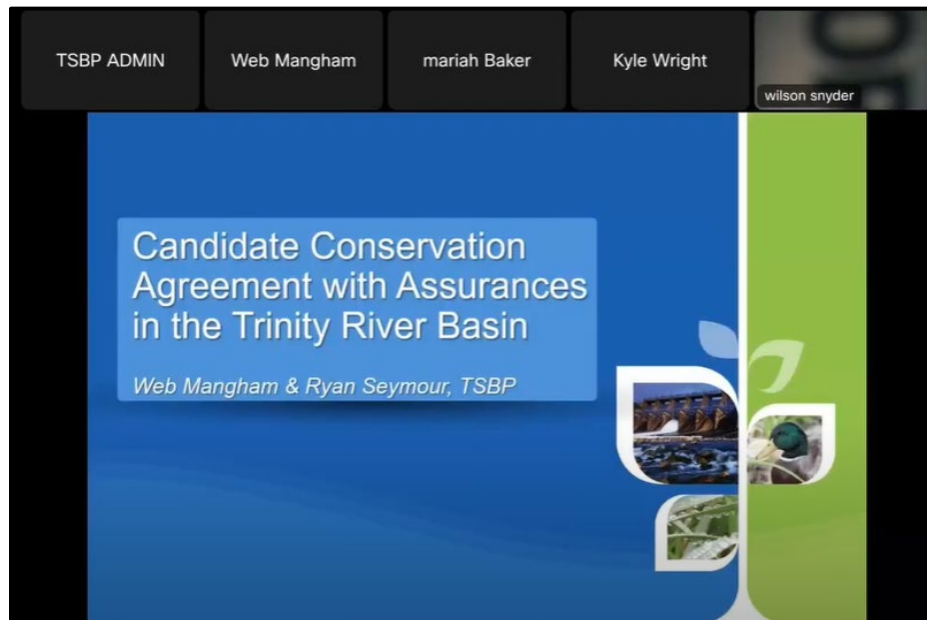


Figure 10. Screenshot of Virtual 2024 Trinity Basin Clean Rivers Program Steering Committee Meeting.

2.2.4 Internal Kick-off Meetings

Two Internal Kick-off Meetings were held for TRA managerial staff whose job duties overlap with the Covered Activities of this Agreement. On May 29, 2024, Ryan Seymour and Webster Mangham presented the Agreement along with tracking metrics and reporting requirements to staff from the TRA Northern Region of Operations (Figure 11). A similar meeting with the same objectives was held with TRA Southern Region staff on November 12, 2024.



Figure 11: Discussion during TRA Internal Kick-off meeting in May 2024.

2.2.5 Covered Parties Kick-off Meetings

The TRA extended offers to host a CCAA Kick-off meeting with Covered Parties staff at each entity. The objective of these meetings was to introduce the CCAA Conservation Measures and Reporting Requirements to staff who might not have been involved in the development process. TRA staff met with staff from the City of Fort Worth on August 7, 2024, and with staff from the North Texas Municipal Water District (Figure 12) and the City of Dallas (in separate meetings) on August 19, 2024. Tarrant Regional Water District did not request a kickoff-meeting.

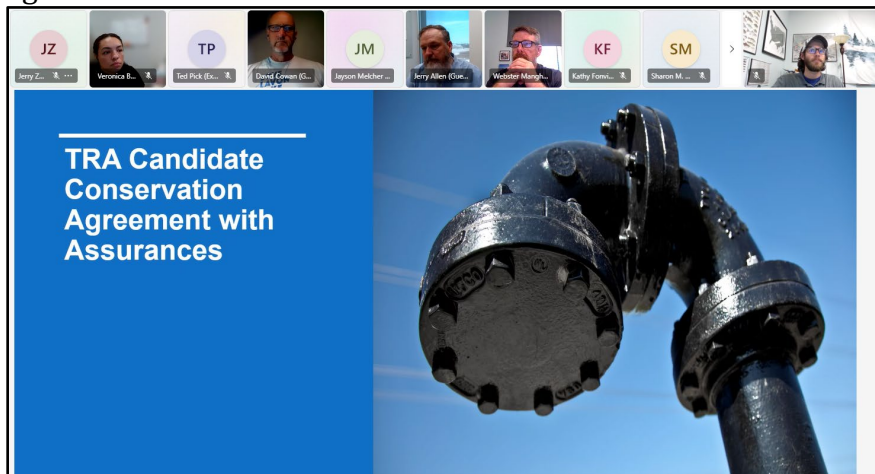


Figure 12: Screenshot of the North Texas Municipal Water District kick-off meeting which was held virtually via Microsoft Teams on August 19, 2024.

3 Annual Water Quality and Hydrology Summary

The Covered Parties do not have regulatory authority or direct control over river flows. Influence is limited to contributing to baseflows when releasing water from reservoirs to downstream customers or discharging wastewater effluent, which supplements baseflow in the river above Lake Livingston. However, these wastewater operations are just one part of a larger, interconnected system and account for only a portion of the overall impact on the basin's hydrology and water quality.

The sections below review the Water Quality and Hydrology of each Conservation Zone (Zone) (Figure 13) for the 2024 reporting period. Results from this review are summarized in Table 2. Each Zone's hydrology was reviewed using relevant USGS gage data. Water quality data was reviewed using the best available data source, either near-real-time USGS gage data or supplemented with data from "grab" samples from the TCEQ Surface Water Quality Monitoring (SWQM) database. Grab samples are individual data points and represent "snapshots" in time. This data does not take flow into account and may or may not be representative of conditions for an entire year. Data from all individual sites within each TCEQ segment were combined to increase the robustness of this dataset. Table 3 lists the data sources for each Zone.

Table 2. Summary table of results from hydrologic and water quality analysis.

Potential Impact on Mussels in 2024 ¹				
Conservation Zone	Hydrologic	Dissolved Oxygen	Water Temperature	Ammonia
A ²	Likely	No Indication	Likely	No Indication
B	No Indication	No Indication	Possible	No Indication
C	Possible	No Indication	Possible	No Indication
D	Possible	No Indication	Possible	No Indication
E	Possible	No Indication	Possible	No Indication

¹ This is a review of the Trinity Basin conditions, *not a review of the Covered Party's impacts.*

² No known healthy populations of mussels are known in Zone A.

This section is not intended to review the Covered Parties operations, but is designed to provide a review of the previous year's flow and water quality characteristics as background information for this report.

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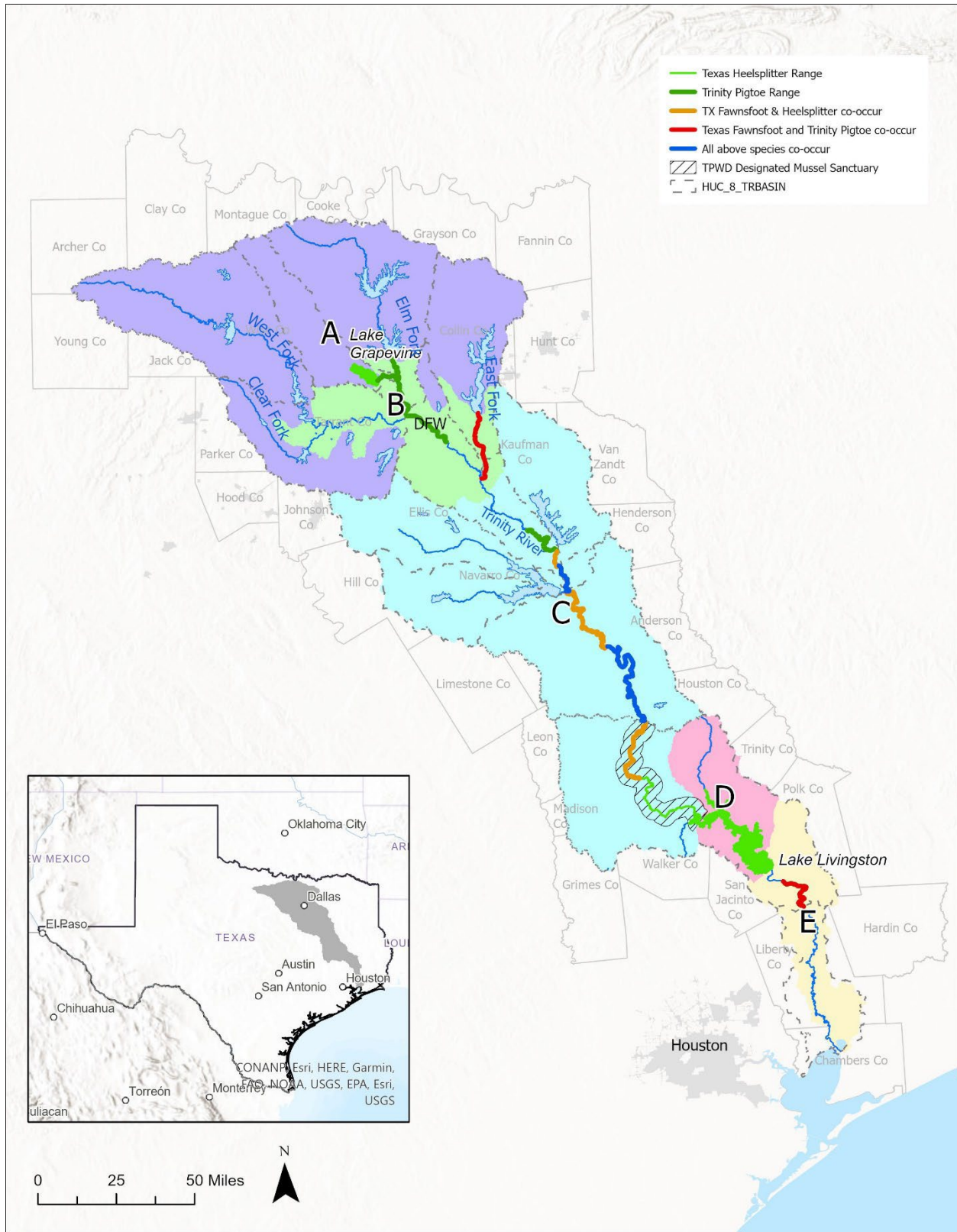


Figure 13. Map of the Conservation Zones and currently known Occupied Habitat of the Trinity River CCAA.

The general water quality characteristics vary by basin. Total dissolved solids (TDS) provides a general measure of the overall concentration of dissolved substances—often referred to as "pollution"—in the water. Average daily TDS, as calculated from Specific Conductance where $TDS = \text{Specific Conductance} \times 0.65$, data from four USGS gages in the Covered Area were reviewed to assess long-term “overall” water quality trends across the Covered Area (Figure 14). In summary, the data indicates that TDS levels have remained stable over time, showing no significant increasing or decreasing trends, and results from 2024 fall within these norms. No TDS measurements violated any TCEQ water quality standard. This suggests that factors influencing dissolved solids, such as land use, hydrology, and pollutant inputs, have not substantially changed in the monitored areas in 2024 when compared to the gaged period of record (POR).

Table 3. Data sources for the 2024 hydrology and water quality review.

Conservation Zone	Hydrology Review		Water Quality Review	
	USGS Gage Number	USGS Gage Name	USGS Gage Number	TCEQ Segment
Zone A	08044500	West Fork Trinity River Near Boyd	NA	0810, 0819, 0822
	08051135	Elm Fork Trinity River at Greenbelt		
Zone B	08062500	Trinity River near Rosser, TX	08062500, 08057000	0841, Partial 0805 (Site 10925)
	08057000	Trinity River at Dallas, TX		
	08062000	East Fork Trinity River near Crandall		
Zone C	08065350	Trinity River near Crockett, TX	08065350	0804
Zone D	08066190080	Livingston Reservoir near Goodrich	NA	0803
Zone E	08066500	Trinity River at Romayor, TX	NA	0802, 0801
	08067000	Trinity River at Liberty, TX		

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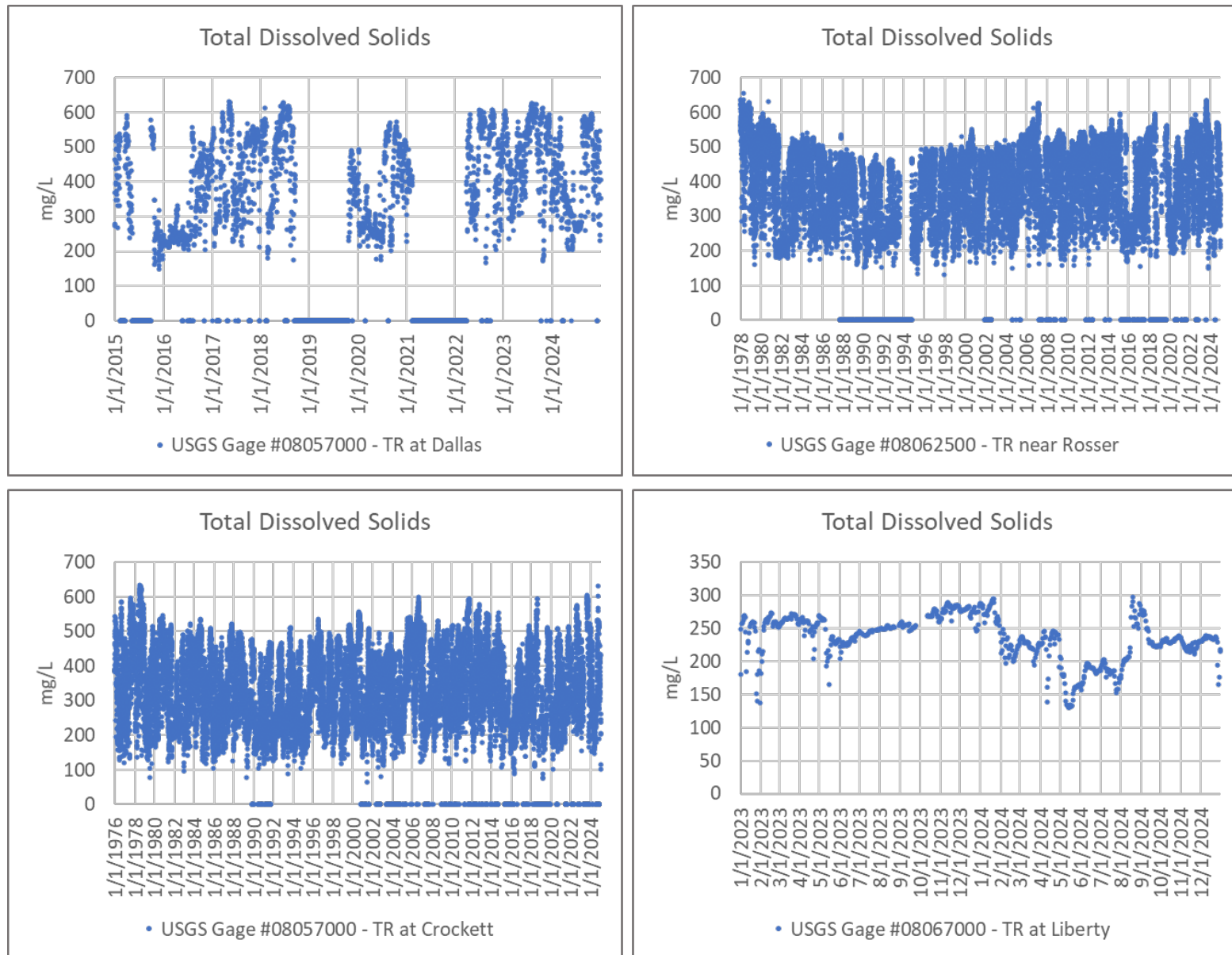


Figure 14. Graph showing average daily total dissolved solids results from four USGS gages (mg/L).

3.1 Zone A

Zone A is defined as the controlled watersheds above the major reservoirs in the DFW area. All of the water that leaves this zone passes through a major dam, and above the reservoirs, the flow in these tributaries is generally very low with intermittent baseflows. For context, it is important to note that there are currently no known, healthy Texas Fawnsfoot populations in Zone A (USFWS 2024).

Hydrologic and Water Quality Summary: As discussed below, a review of relevant data identifies two indicators suggesting that Texas Fawnsfoot may have been negatively impacted in Zone A by hydrologic and water quality conditions in 2024. One area in this Zone experienced more no-flow days than recorded historically, and in Segment 0810, water temperatures exceeded the recommended thermal maximums (USFWS 2024). As previously stated, no known healthy Texas Fawnsfoot populations exist in Zone A (USFWS 2024).

3.1.1 Zone A Hydrology

The data indicates that Zone A experienced record low flows in 2024 and any mussels present in this zone likely experienced more dewatering than at any time since in gaged POR.

The West Fork Trinity, as indicated from data from USGS gage 08044500 West Fork Trinity River near Boyd, had no flow for approximately 4% of the year, which is almost double the amount of time shown in the 53-year POR (1970-2023) (Figure 15). The Elm Fork showed no flow for approximately 4% of the year. While the Elm Fork has experienced extremely low flows in the gage's 14-year POR (2009-2023), 2024 was the first time that the gage recorded any 0 cfs days (Figure 16).

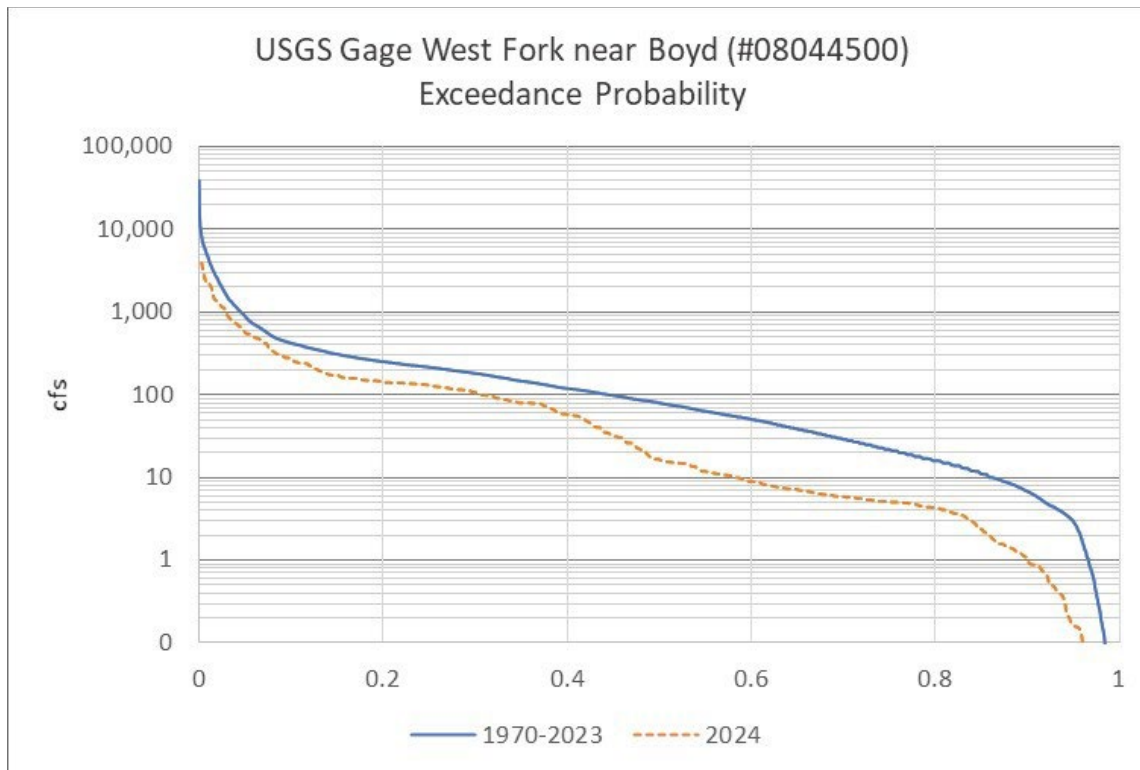


Figure 15. Flow exceedance curve for USGS Gage 08044500 for the 1970-2023 period of record and 2024.

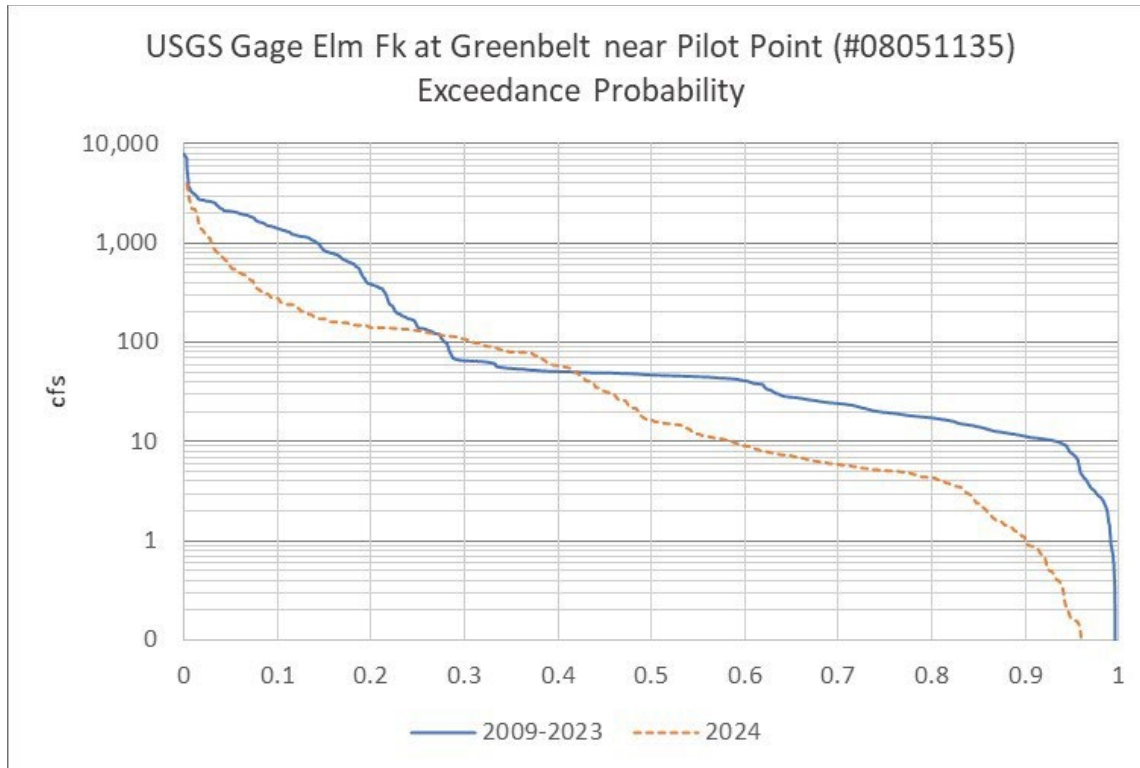


Figure 16. Flow exceedance curve for USGS Gage 08051135 for the 2009-2023 period of record and 2024.

3.1.2 Zone A Water Quality

For the West Fork Trinity (Segment 0810), the maximum water temperature recorded equaled the maximum recorded in 2006, while in segments 0819 and 0822, the maximum water temperature recorded was below the POR historical maximum values (Figure 17).

Historically, the maximum annual water temperature in Segments 0810 (Upper West Fork), 0819 (Upper East Fork), and 0822 (Upper Elm Fork) exceeded the USFWS-recommended maximum of 29°C (USFWS 2024) for adult Texas Fawnsfoot mussels 30%, 72%, and 51% of the time, respectively. More research is needed to better understand any potential sublethal impacts on glochidia and juvenile mussels at or above the 29°C upper thermal tolerance limit for adults.

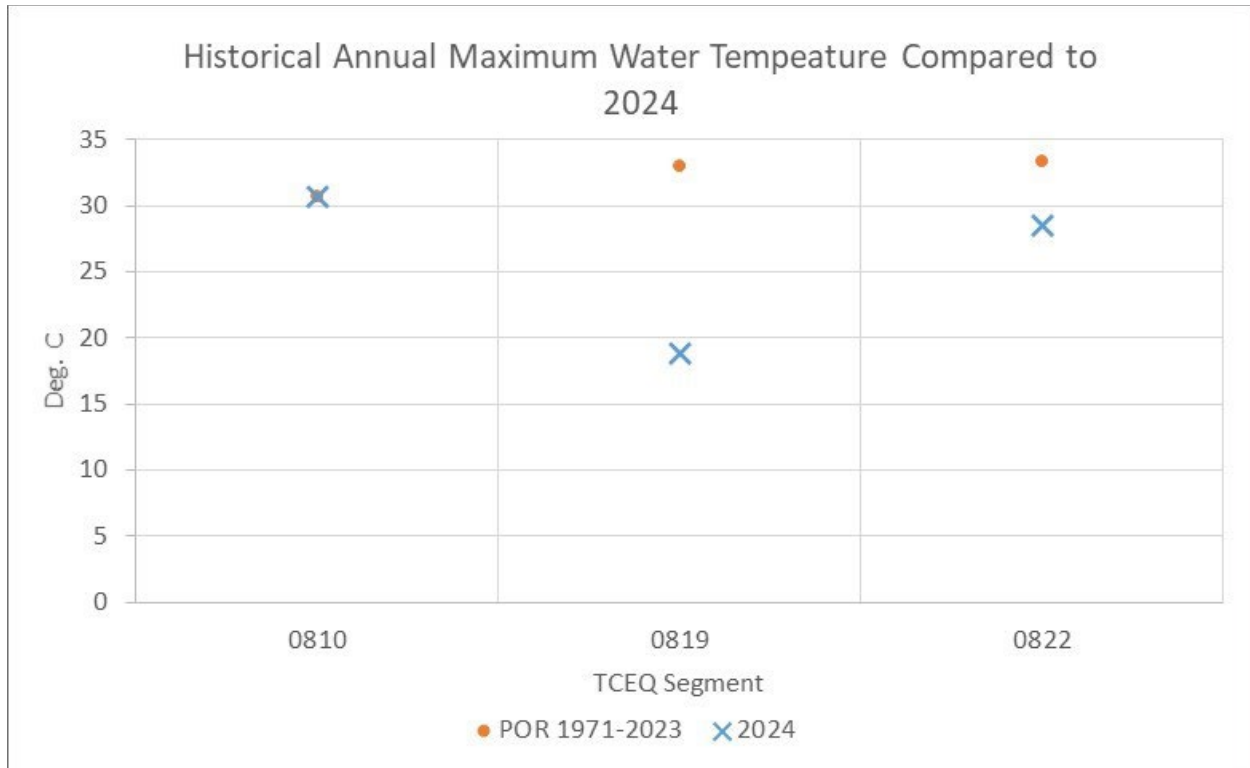


Figure 17. Historical maximum annual water temperature grab samples compared to 2024 results (degrees C).

USFWS (2024) lists the dissolved oxygen (DO) resource needed for adult Texas Fawnsfoot mussels as > 2.0 mg/L. When comparing 2024 to historical (POR 1971-2023) minimum annual grab samples for DO, the minimum values remained above 3 mg/L and all were above historical minimum values (Figure 18).

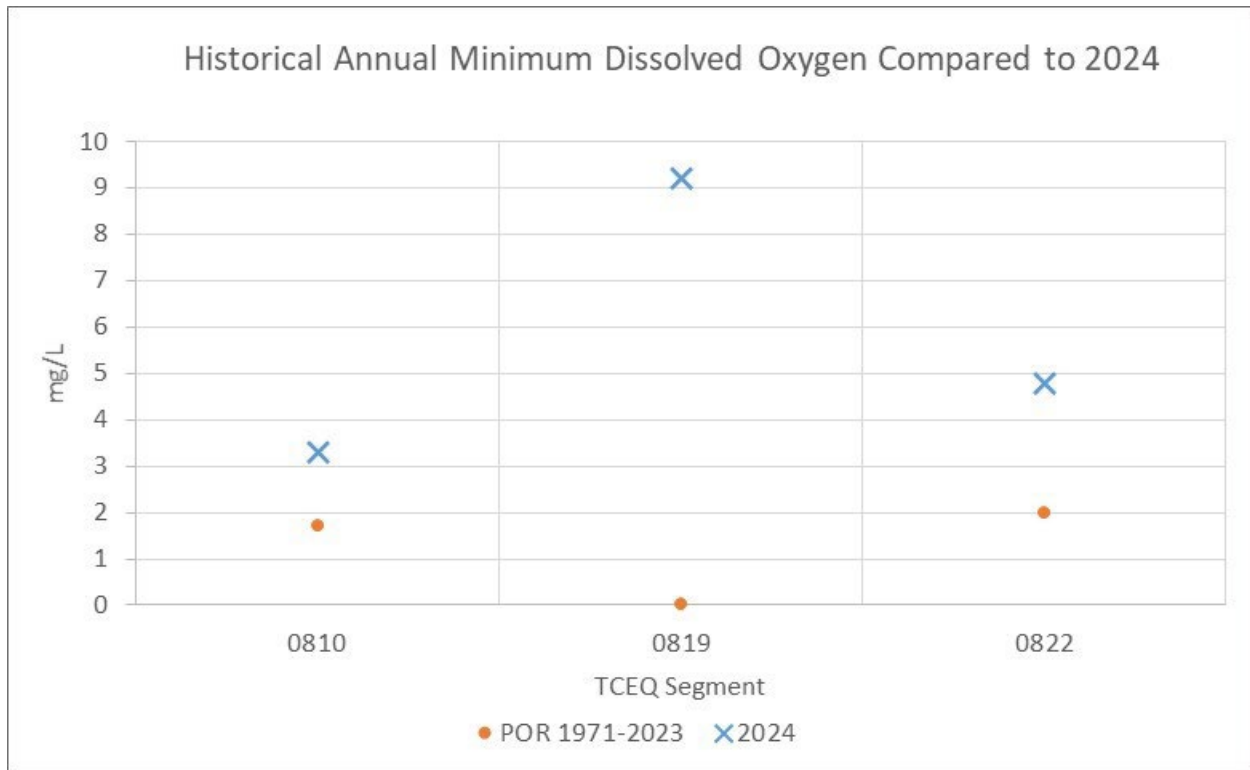


Figure 18. Historical minimum annual dissolved oxygen grab samples compared to 2024 results (mg/L).

USFWS (2024) lists the ammonia resource needed for adult Texas Fawnsfoot mussels as < 7.0 mg/L. When comparing 2024 to the historical maximum annual grab samples for ammonia (POR 1972-2023), the maximum values remained below historical maximums. However, while the >0.7 mg/L resource need was met for Segments 0810 (Upper West Fork) and 0819 (Upper East Fork), results showed an exceedance, 1.41 mg/L, for Segment 0822 (Upper Elm Fork) (Figure 19). If adult Texas Fawnsfoot were present in this reach, it is possible that they could be negatively impacted. As previously stated, there are no known healthy populations of Texas Fawnsfoot in Zone A (USFWS 2024).

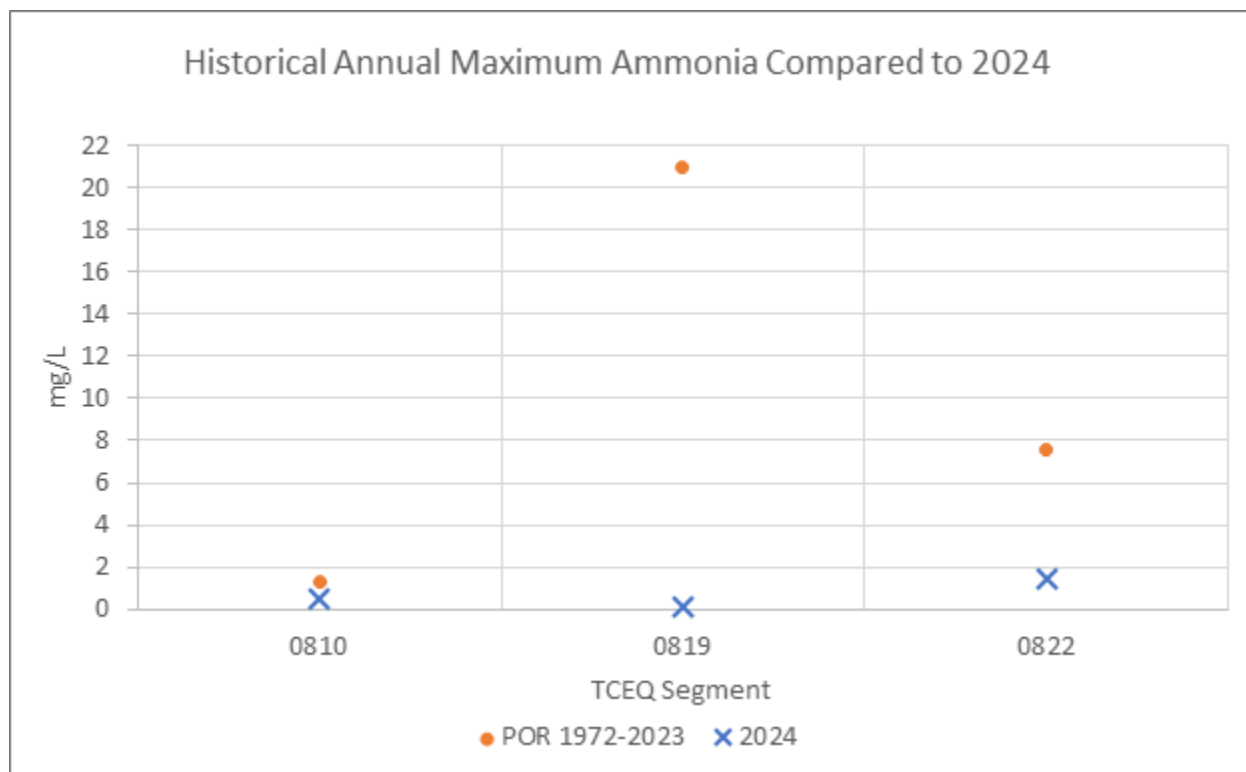


Figure 19. Historical maximum annual ammonia grab samples compared to 2024 results (mg/L).

3.2 Zone B

Zone B is highly urbanized with highly modified stream reaches and levees in the DFW area. This zone begins at the dams of the reservoirs mentioned in Zone A and ends downstream of the East Fork confluence. Its hydrology is characterized by elevated baseflows from WWTPs (both from the Covered Parties and other municipalities return flows), water supply deliveries, USACE flood releases, and urban runoff.

Hydrologic and Water Quality Summary: As discussed in the section below, with the potential exception of water temperature, a review of available relevant data suggest that no water quality or hydrological indicators negatively impacted freshwater mussels in 2024.

3.2.1 Zone B Hydrology

Zone B hydrology was summarized by reviewing the discharge records from three USGS gages:

1. USGS gage Trinity River near Rosser, TX - 08062500 (Rosser Gage, Figure 20);
2. USGS gage Trinity River near Dallas, TX - 08057000 (Dallas Gage, Figure 21); and
3. USGS gage East Fort Trinity near Crandall - 08062000 (East Fork Gage, Figure 22).

In all cases, the minimum average daily discharge (1 on the X-axis) for each gage was at least 200 cfs higher than at any time in each gage's POR, median flows (0.5 on the X-axis) were all higher in 2024 than in the previous period of record, and maximum flows (0 on the X-axis) were far lower than historic maximums.

While these records do not fully capture flow conditions at each gage, they provide useful data for inference. Overall, the data suggest that less mussel habitat was dewatered in 2024 compared to previous years. Additionally, since 2024 flows remained in the bank full range or higher for a much smaller percentage of time than the historical average, excessive scour is unlikely to have impacted freshwater mussels in Zone B.

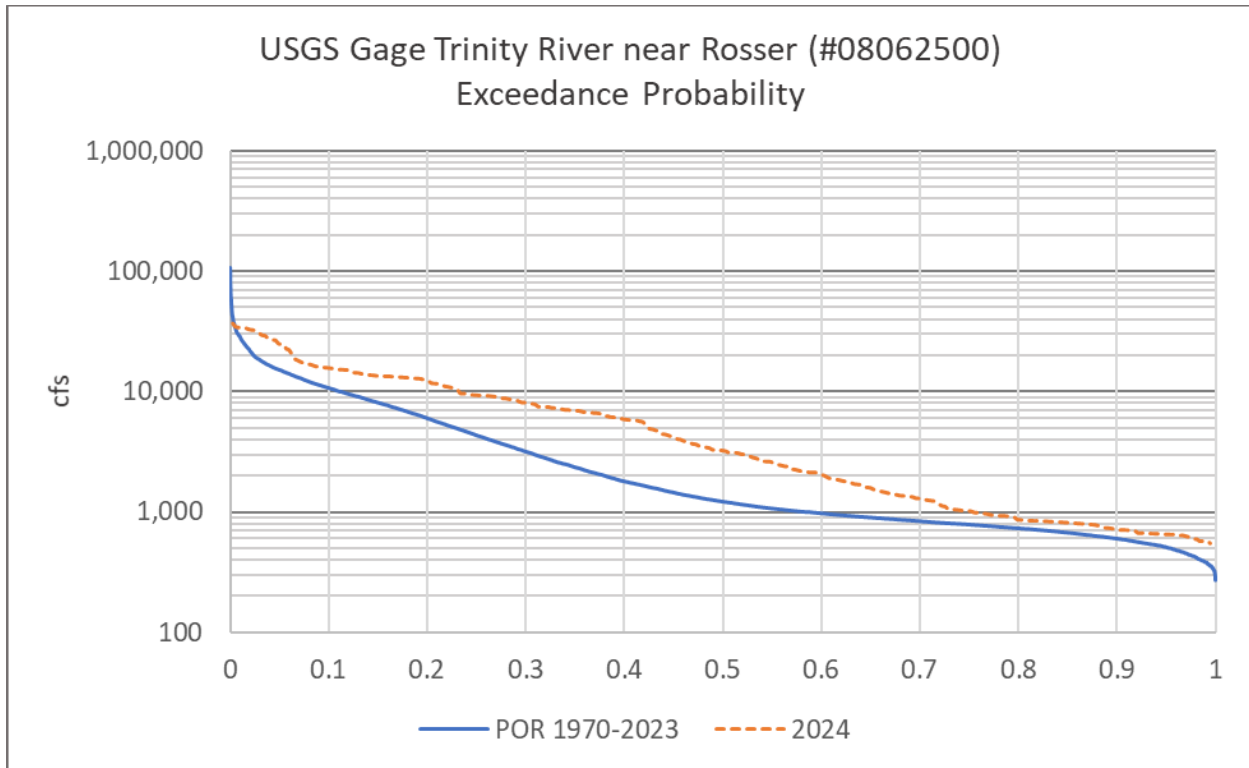


Figure 20. Flow exceedance curve for USGS Gage 08062500 for the 1970-2023 period of record and 2024.

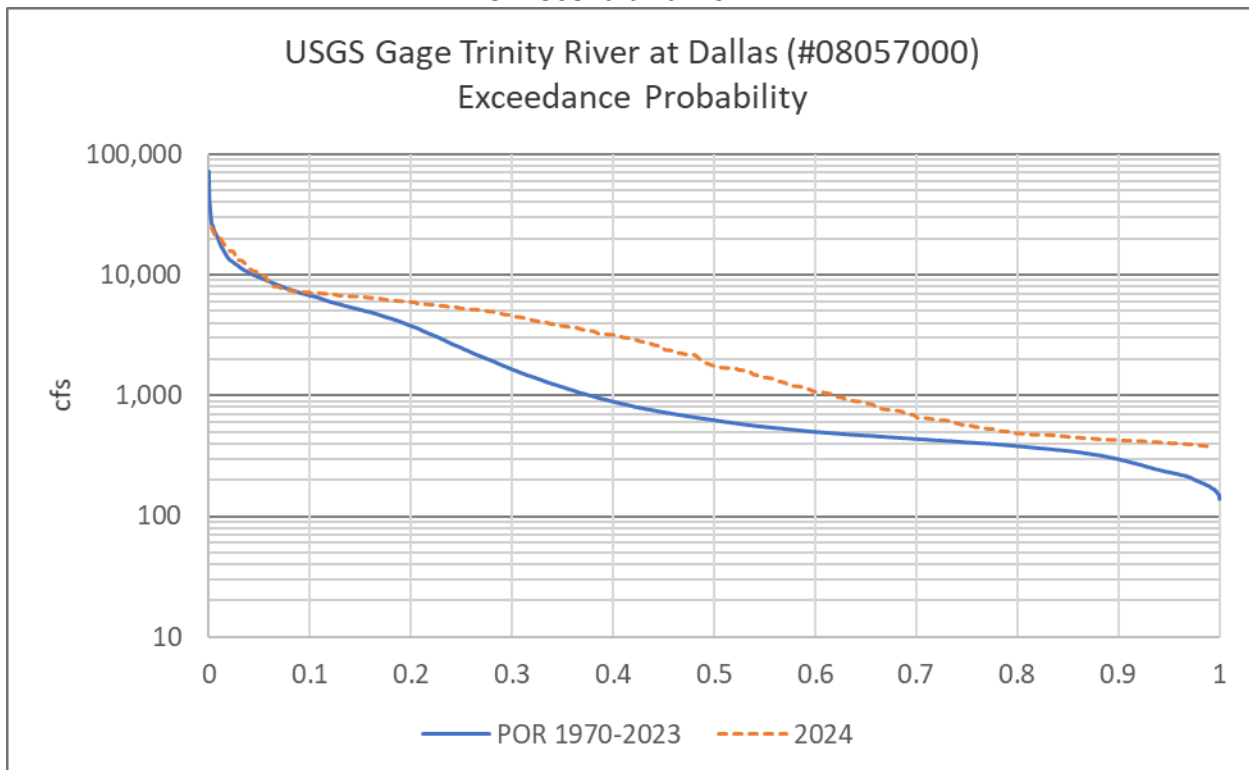


Figure 21. Flow exceedance curve for USGS Gage 08057000 for the 1970-2023 period of record and 2024.

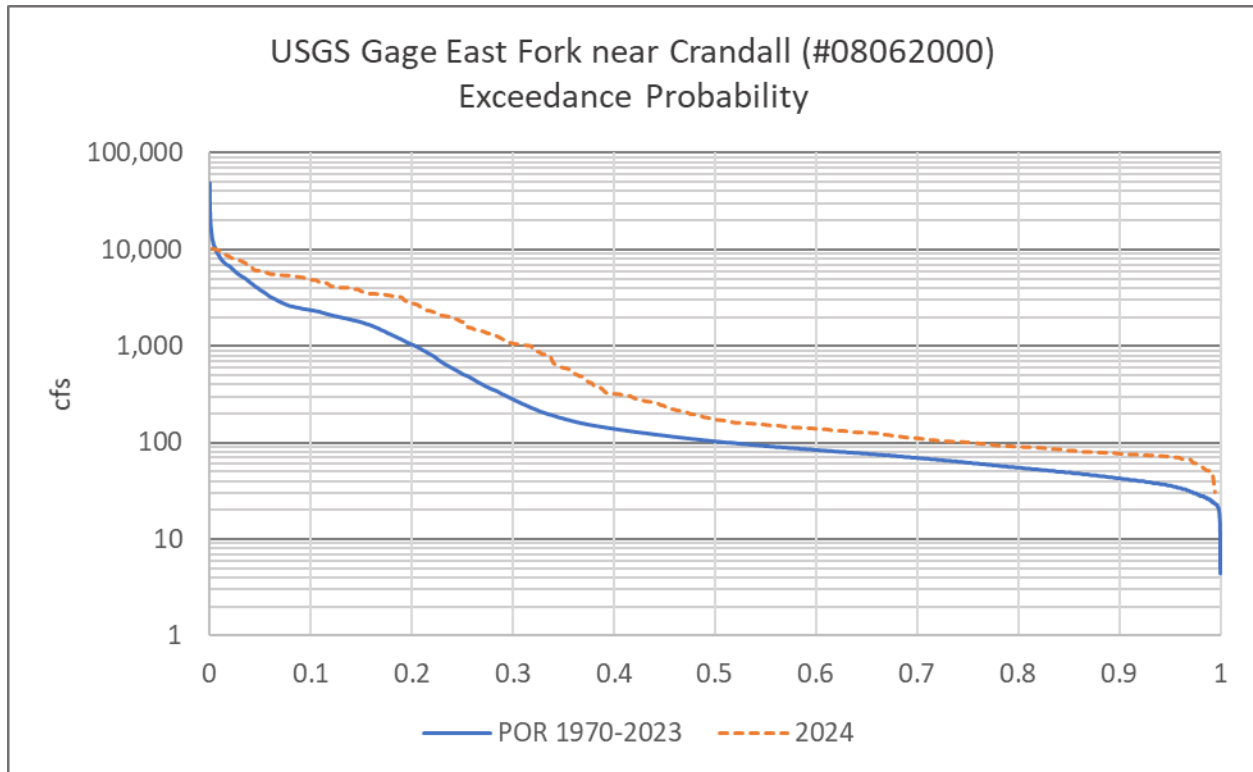


Figure 22. Flow exceedance curve for USGS Gage 08062000 for the 1970-2023 period of record and 2024.

3.2.2 Zone B Water Quality

DO and water temperature were assessed using near-real-time data from both the Dallas and Rosser gages, while ammonia was assessed using data from the SWQM database for Segments 0805, 0841, and on-site in Segment 0804.

For DO at the Rosser gage (Figure 23), none of the minimum daily results were below the 3.0 mg/L TCEQ minimum standard or the 2.0 mg/L limit identified in USFWS 2024. For the Dallas gage (Figure 24), a single result, 2.7 mg/L, was recorded below the TCEQ 3.0 mg/L standard. Because juvenile Texas Fawnsfoot can tolerate DO levels down to 2.0 mg/L (USFWS 2024), it is unlikely that low DO impacted mussels in Zone C in 2024.

2024 maximum daily water temperatures exceeded the 29° C maximum suitable water temperature provided in USFWS 2024 a total of 18% of the year (66 days in August, September, and October). Reviewing historical data from the Rosser Gage, every year since 1977 showed exceedances of the 29° Celsius suitable water temperature (Figure 25 and Figure 26). The Dallas gage shows a similar pattern (Figure 27 and Figure 28). Because Texas Fawnsfoot is known to inhabit this range and water temperatures in 2024 were not uncommon, it is unlikely that these temperatures impacted these mussels more than normal from previous years. Further research is needed to assess whether the upper limit should be revised.

2024 Maximum ammonia results were far lower than historical maximums and did not exceed any TCEQ standard or the >0.7 mg/L resource need identified in USFWS 2024 (Figure 29). Given this, ammonia is not expected to have impacted mussels in Zone B.

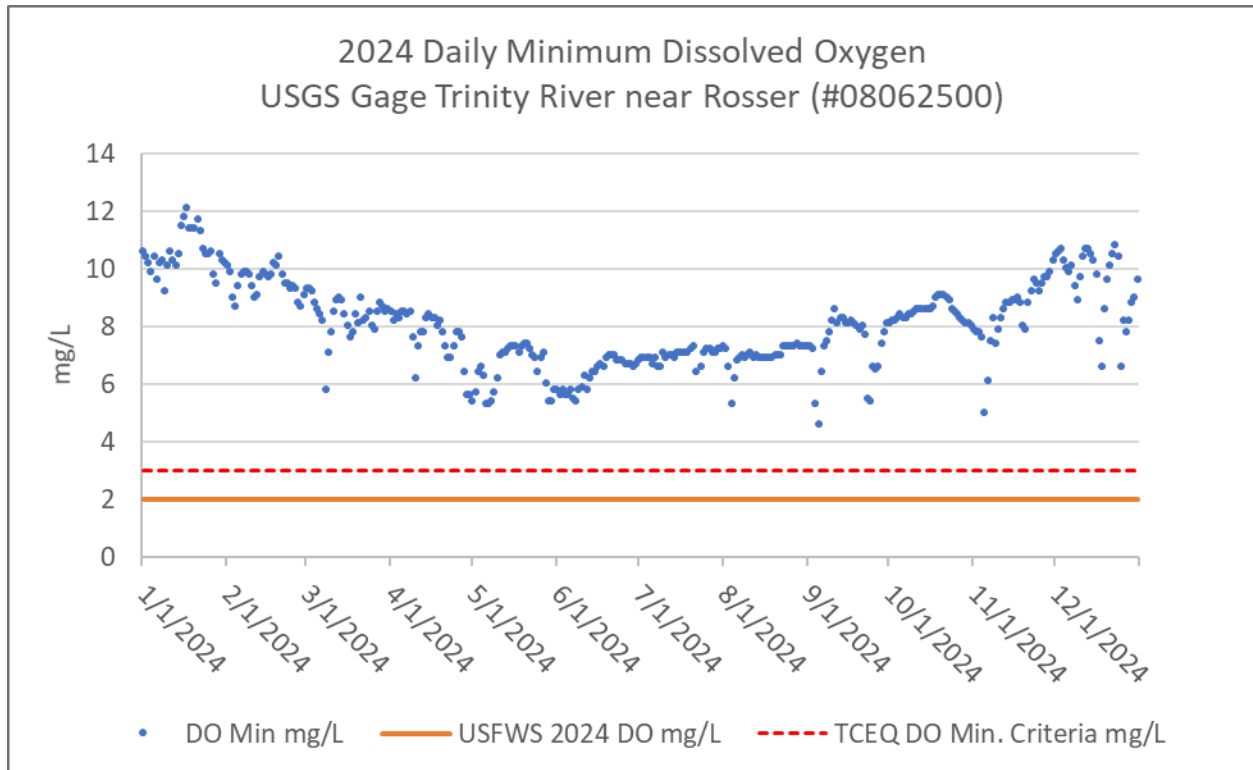


Figure 23. 2024 Minimum daily dissolved oxygen from USGS Gage 08062500, Trinity River near Rosser. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

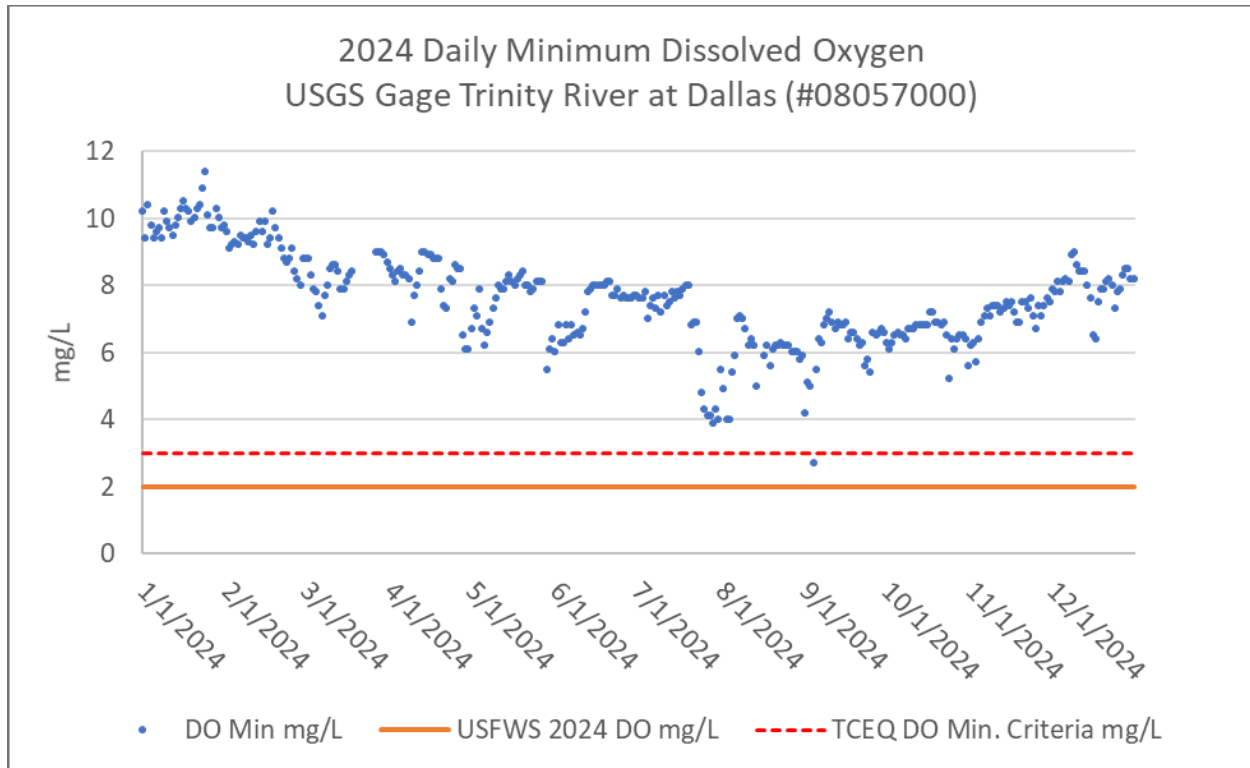


Figure 24. 2024 Minimum daily dissolved oxygen from USGS Gage 08057000, Trinity River at Dallas. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

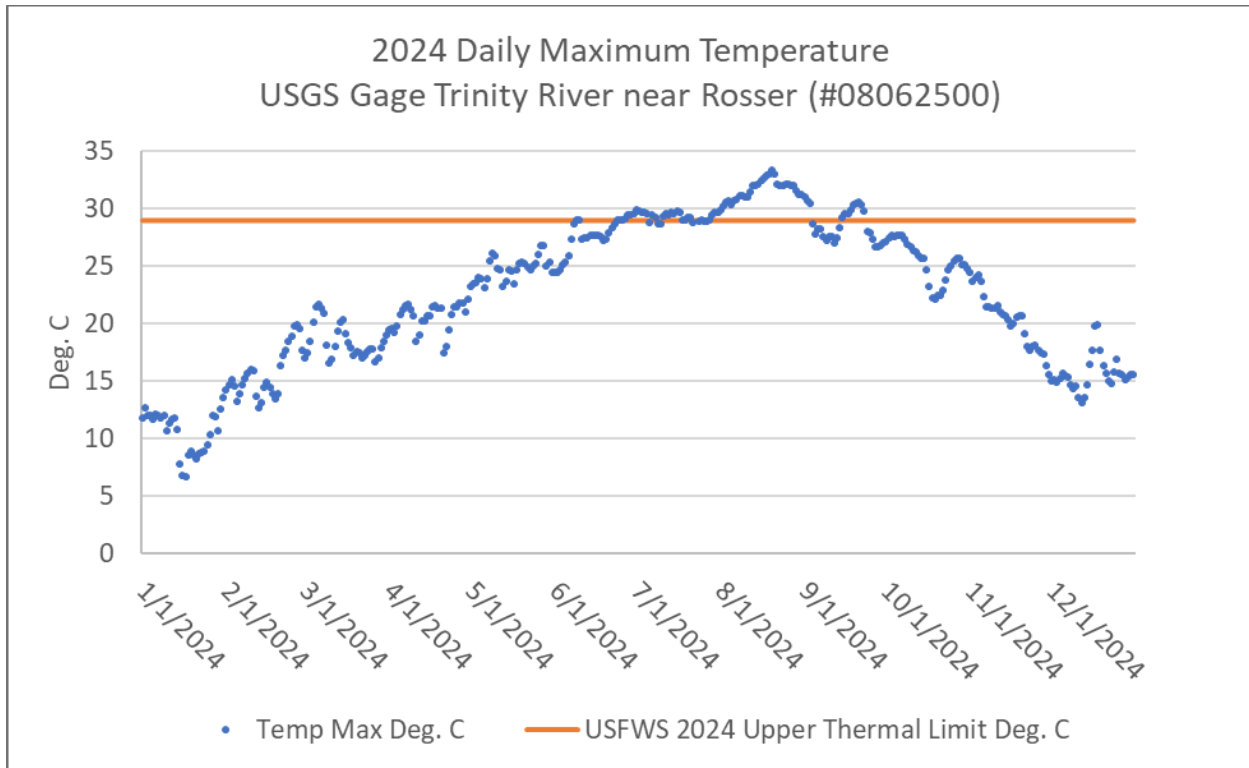


Figure 25. 2024 maximum daily temperature from USGS Gage 08062500, Trinity River near Rosser. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

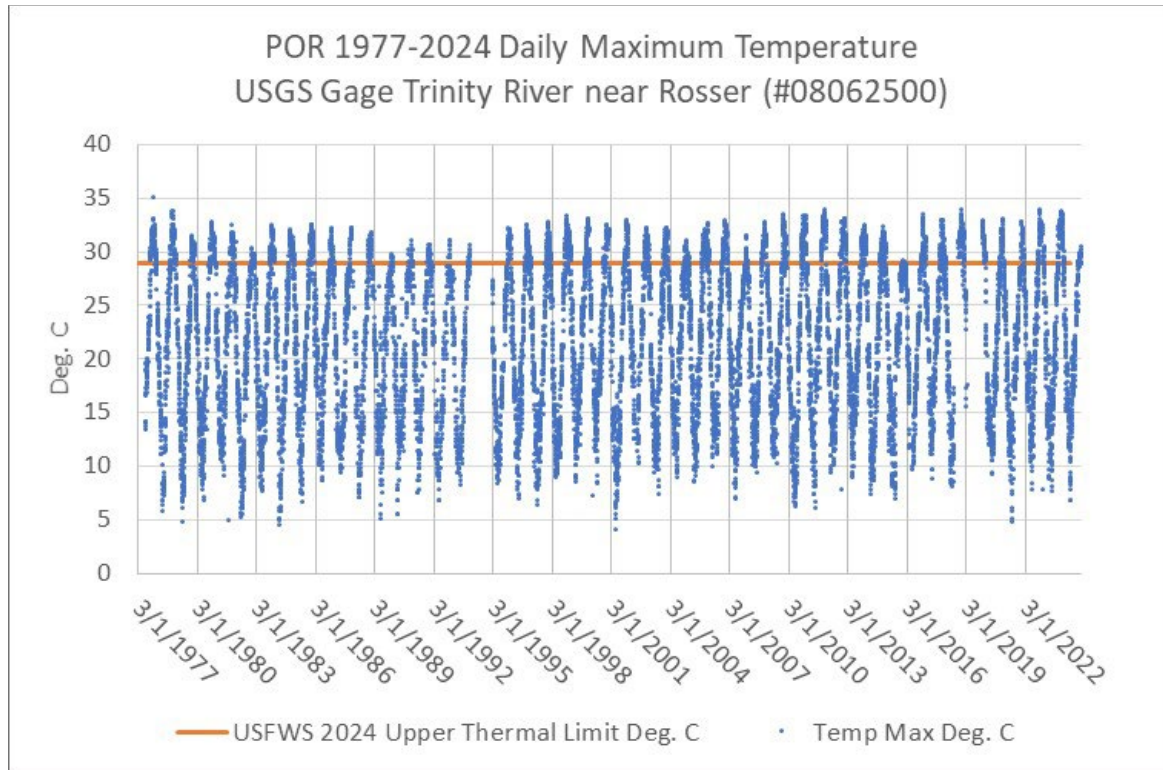


Figure 26. POR 1977-2024 maximum daily temperature from USGS Gage 08062500, Trinity River near Rosser. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

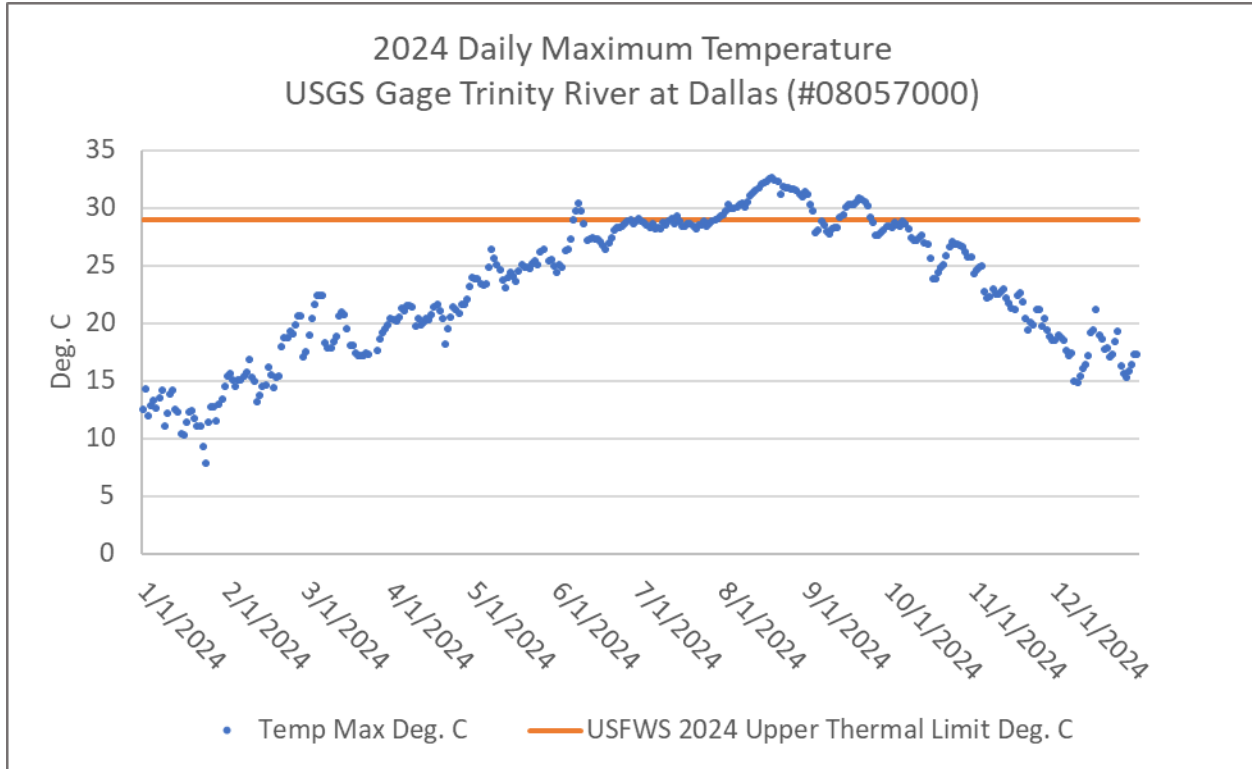


Figure 27. 2024 maximum daily temperature from USGS Gage 08057000, Trinity River at Dallas. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

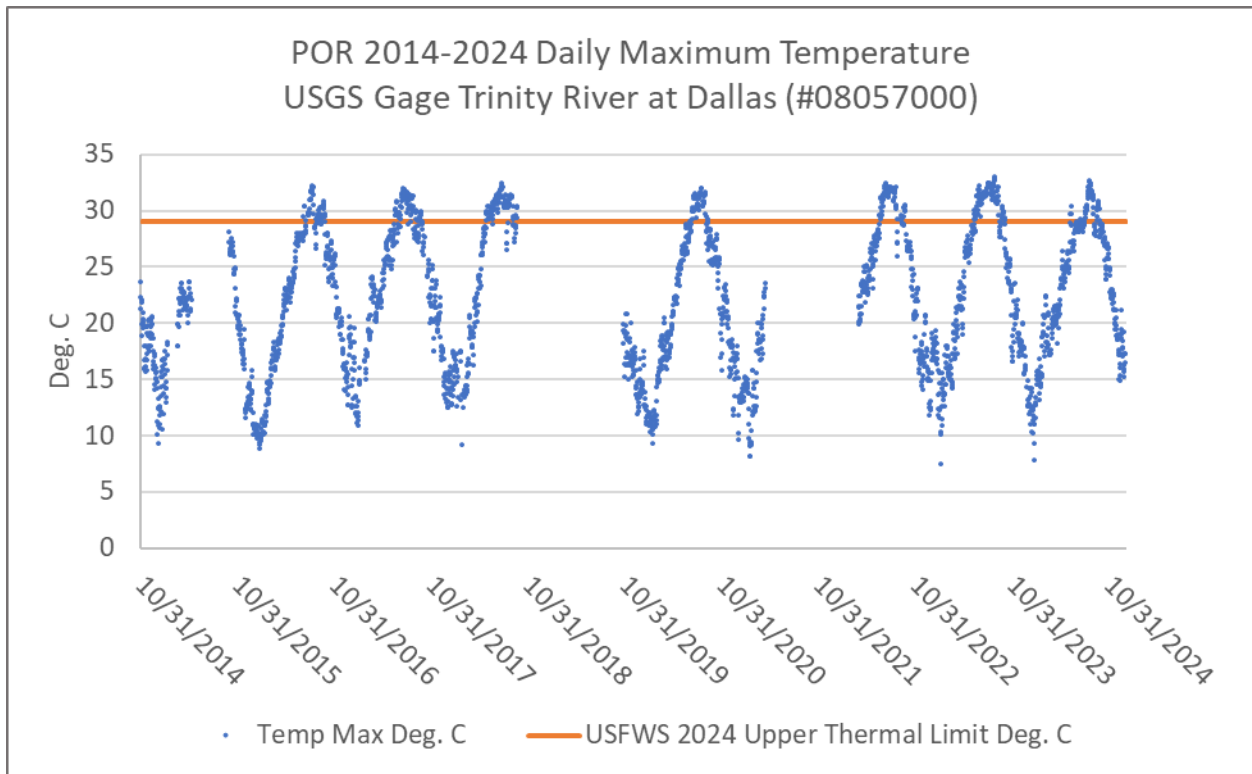


Figure 28. POR 2014-2024 maximum daily temperature from USGS Gage 08057000, Trinity River at Dallas. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

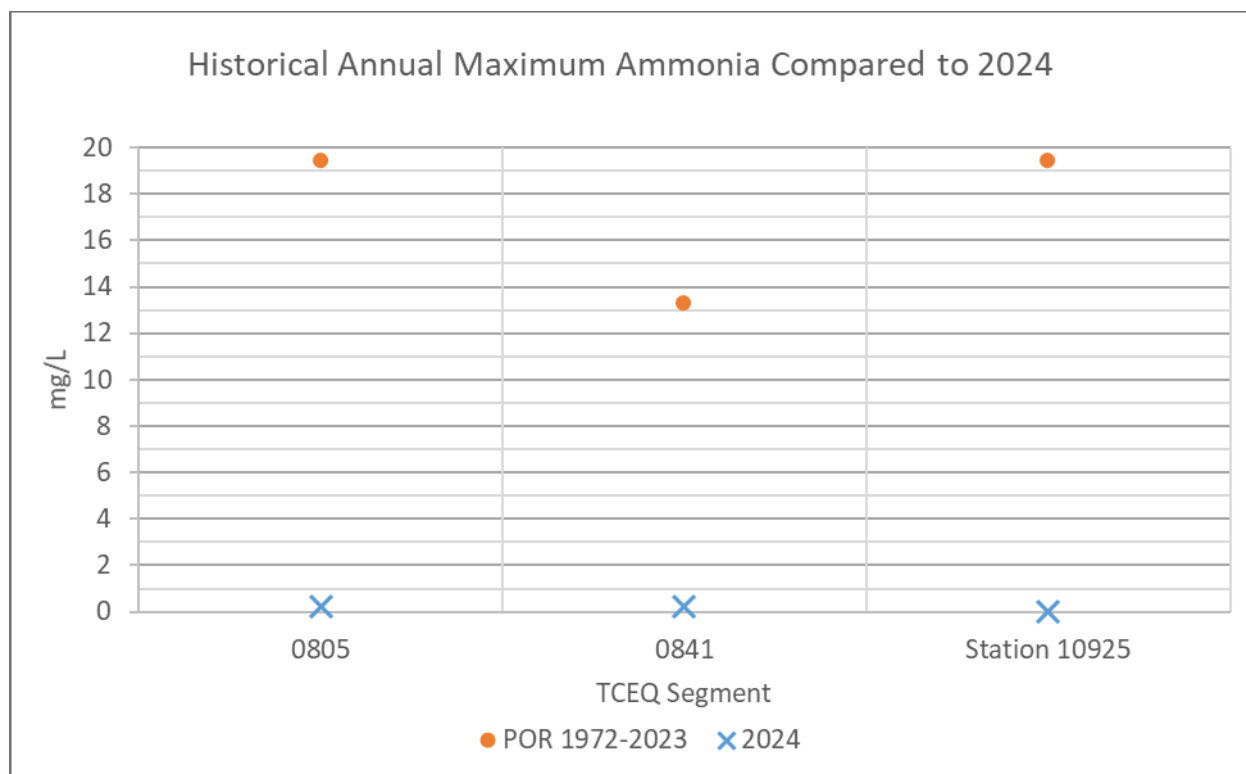


Figure 29. Historical maximum annual ammonia grab samples compared to 2024 results (mg/L).

3.3 Zone C

Zone C begins just below the East Fork confluence at the USGS gage #08062500 Trinity River Near Rosser, which is at the intersection of the Trinity River and State Highway 34 in Ellis and Kaufman Counties, and it ends at the downstream boundary of the TPWD designated mussel sanctuary in the headwaters of Lake Livingston. This Zone exhibits more “natural” riverine conditions although it is highly modified hydrologically. This Zone is a mostly rural watershed where freshwater mussels are more common than in other zones (Randklev et al., 2017).

Hydrologic and Water Quality Summary: As discussed below, a review of relevant data suggests that freshwater mussels in Zone C were not negatively impacted by water quality in 2024, with the possible exception of water temperature. Although peak flows did not reach historical maximums, Zone C saw several weeks of high flows in the spring, which may have negatively affected freshwater mussels due to the potential for increased channel scour in the lower part of Zone C.

3.3.1 Zone C Hydrology

Zone C hydrology was summarized by reviewing the discharge records from the USGS gage Trinity River near Crockett, TX – 08065350 (Crockett Gage), is the closest gage to the TPWD designated freshwater mussel sanctuary. The minimum flow value, or 1 on the x-axis in Figure 30, for 2024 was 809 cfs, which is far higher than the historical minimum

flow (Figure 30). The median, or 0.5 flow as shown on the x-axis in Figure 29, of 6,380 cfs far exceeded the POR median of approximately 2,150 cfs. The maximum flow of 68,100 cfs, or 0 as shown on the x-axis in Figure 29, is far lower than the maximum flow of 109,000 cfs.

While these records do not fully capture flow conditions at each gage, they provide useful data for inference. The data suggests that this Zone experienced higher than normal flows except for the very high end of the flow range. This suggests that less mussel habitat would have been dewatered in 2024 than during a “normal” year and, because the highest range of annual flows was far less than the historical record, excessive scour is not expected to have impacted freshwater mussels. Although peak flows were lower than historical levels, the lower end of Zone C experienced a very wet spring, with flow rates exceeding 10,000 cfs at the Crockett gage for much of the spring of 2024.

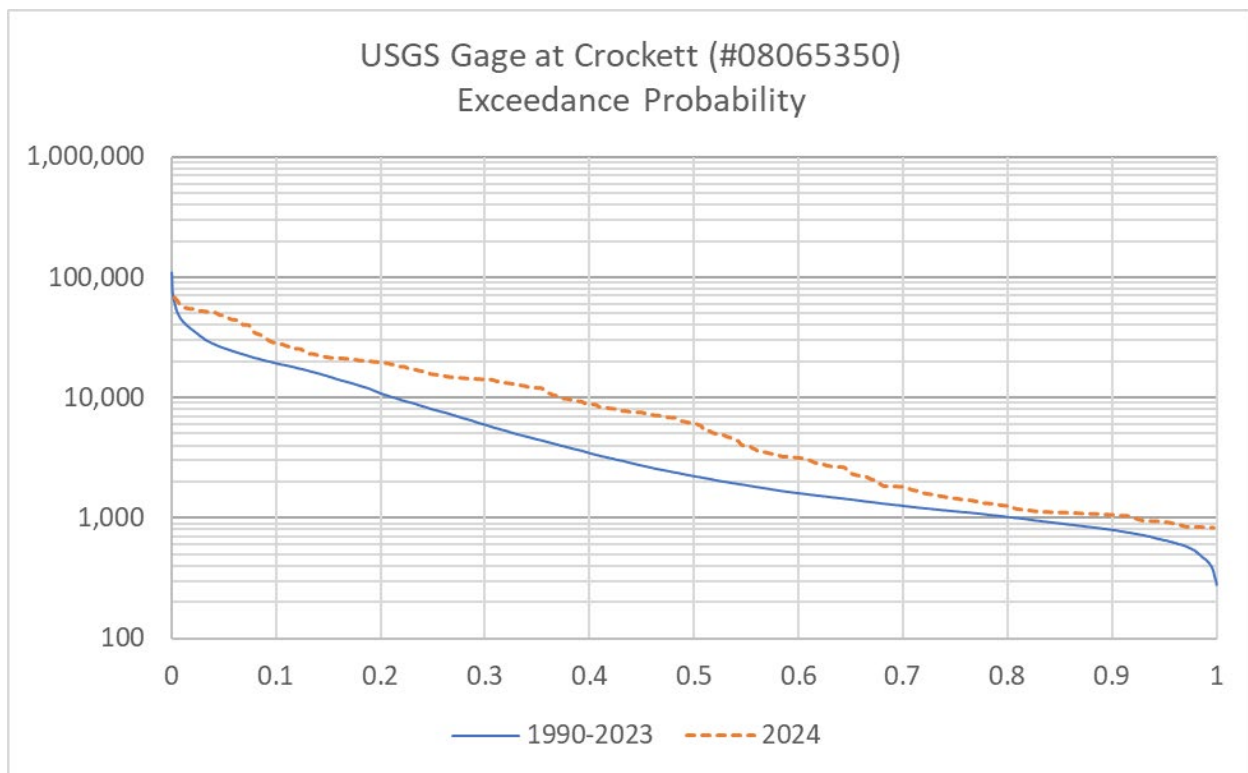


Figure 30. Flow exceedance curve for USGS Gage 08065350 for the 1990-2023 period of record and 2024.

3.3.2 Zone C Water Quality

According to USGS near-real-time temperature monitoring at the Crockett Gage, the minimum DO value in 2024 was 3.8 mg/L. This low value was short in duration but did fall below the TCEQ water quality 24-hour average criteria of 5.0 mg/l. However, since research has shown that the juvenile Texas Fawnsfoot can tolerate DO levels down to 2.0 mg/L (USFWS 2024), it is unlikely that low DO impacted mussels in Zone C in 2024.

In 2024, the data showed that the average daily water temperature exceeded the maximum suitable water temperature provided in USFWS 2024 a total of forty-three times. Using historical data from the Crockett Gage, every year since 1975 showed exceedances of the 29° Celsius suitable water temperature. Between 3/11/1975 and 12/31/2024, the lowest number of exceedances was 13 days in 1992, and the maximum exceedance was 88 days in 1992, with the average annual days of exceedance being 42. Because Texas Fawnsfoot is known to inhabit this range and water temperatures in 2024 were not uncommon, it is likely that these temperatures did not impact these mussels more than normal from previous years. Further research is needed to assess whether the upper limit should be revised.

In 2024, the average ammonia concentration for all samples taken in Zone C was 0.096 mg/L, with no samples exceeding the USFWS 2024 recommended resource need of >0.7 mg/L for juvenile Texas Fawnsfoot (Figure 34), so there are no expected impacts on mussels in Zone C for ammonia.

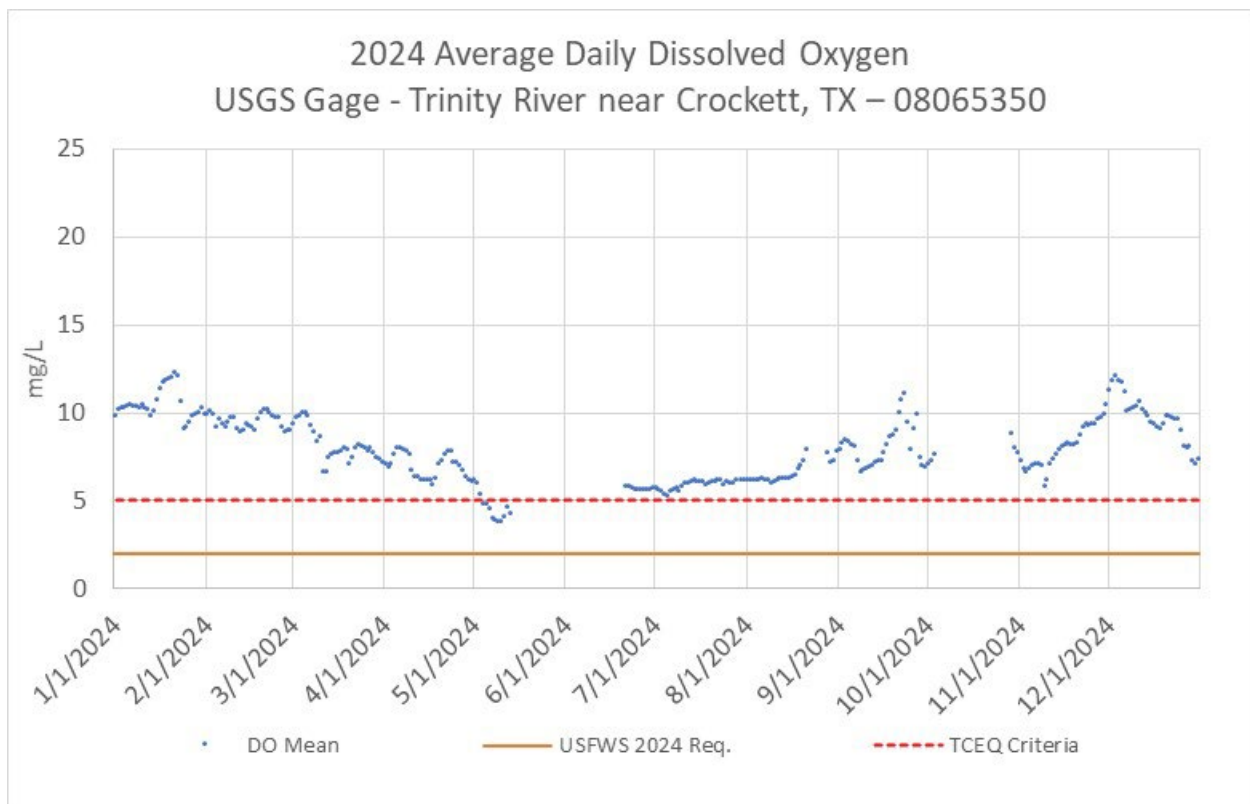


Figure 31. Average daily dissolved oxygen from USGS Gage 08065350, Trinity River near Crockett. Note: Missing daily data indicates sensor was inoperable or data did not pass USGS quality requirements.

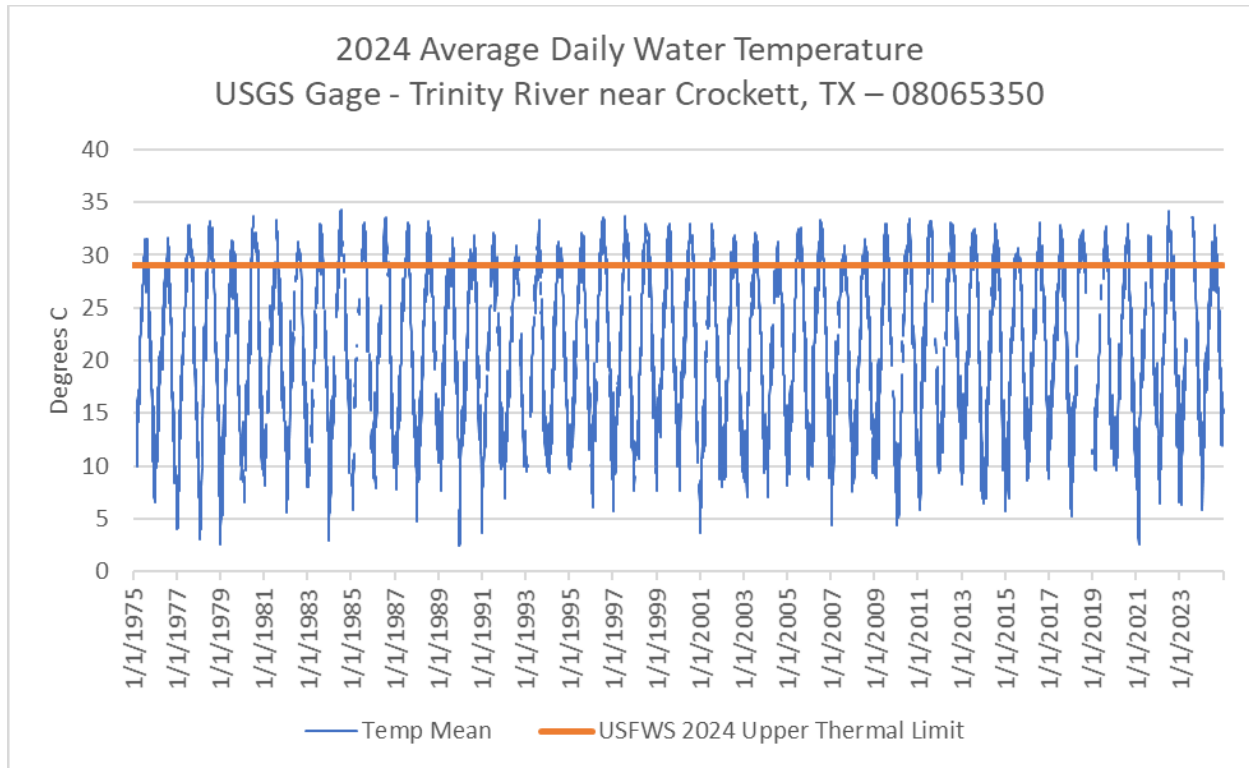


Figure 32. Average water temperature from USGS Gage 08065350, Trinity River near Crockett.

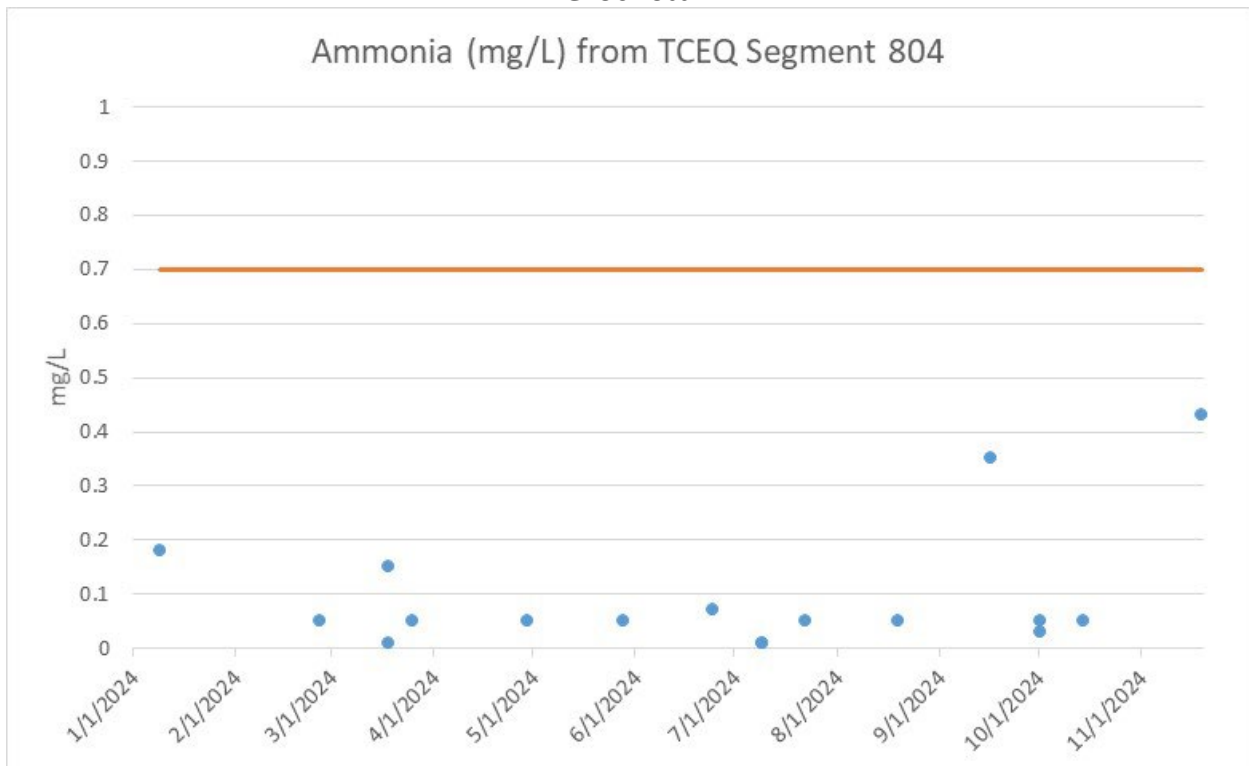


Figure 33. Ammonia (mg/L) samples from all sites in Zone C.

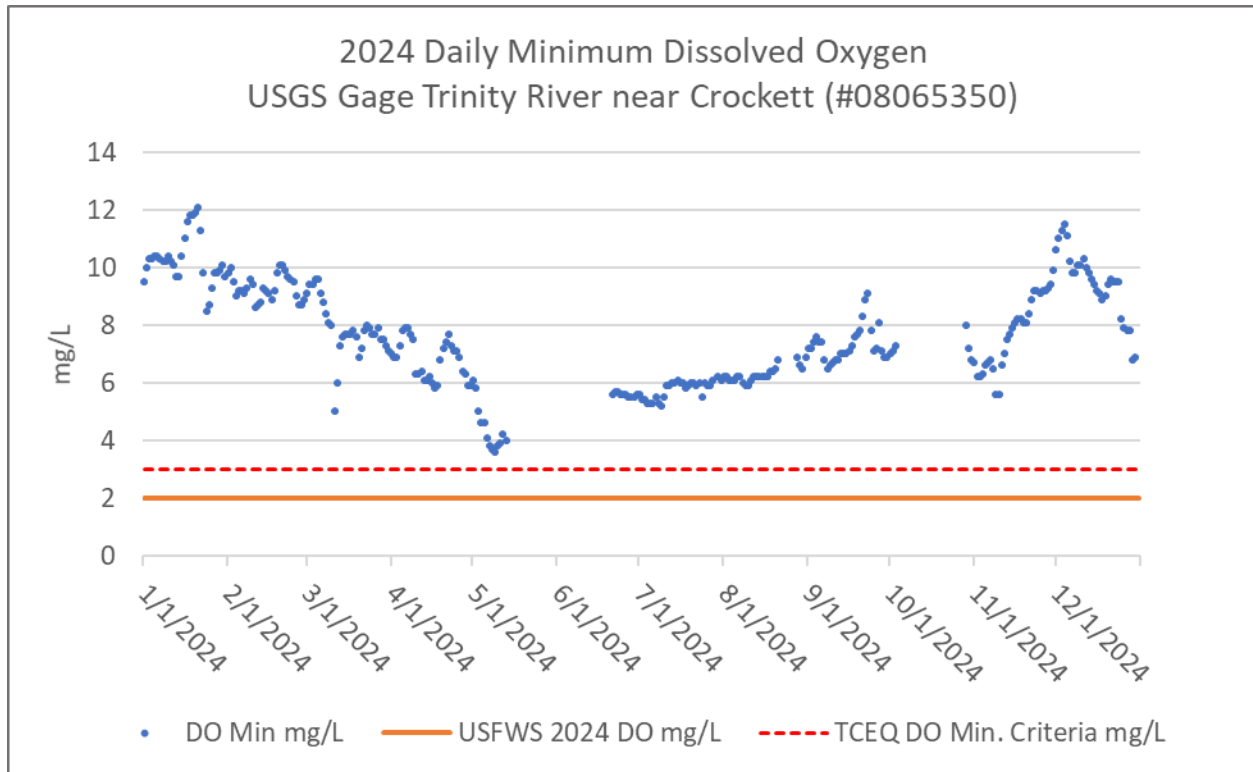


Figure 34. 2024 Minimum daily dissolved oxygen from USGS Gage 08065350, Trinity River near Crockett. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

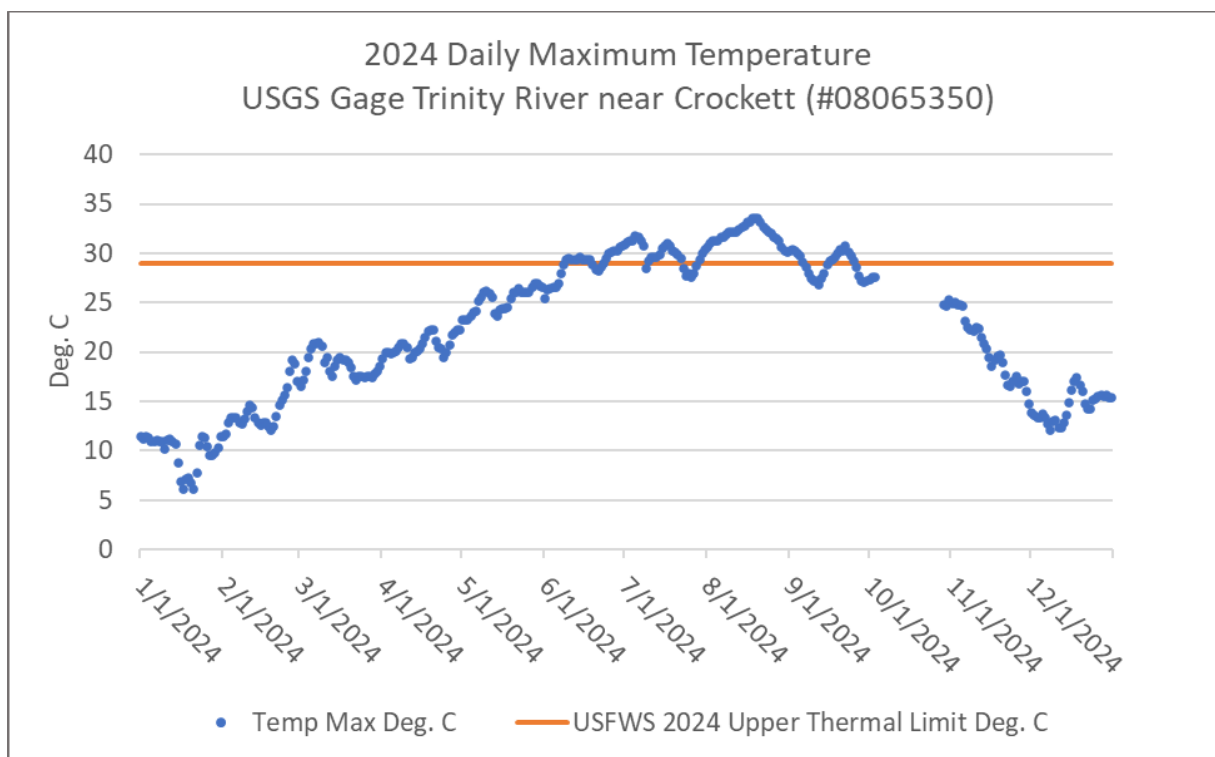


Figure 35. 2024 maximum daily temperature from USGS Gage 08065350, Trinity River near Crockett. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

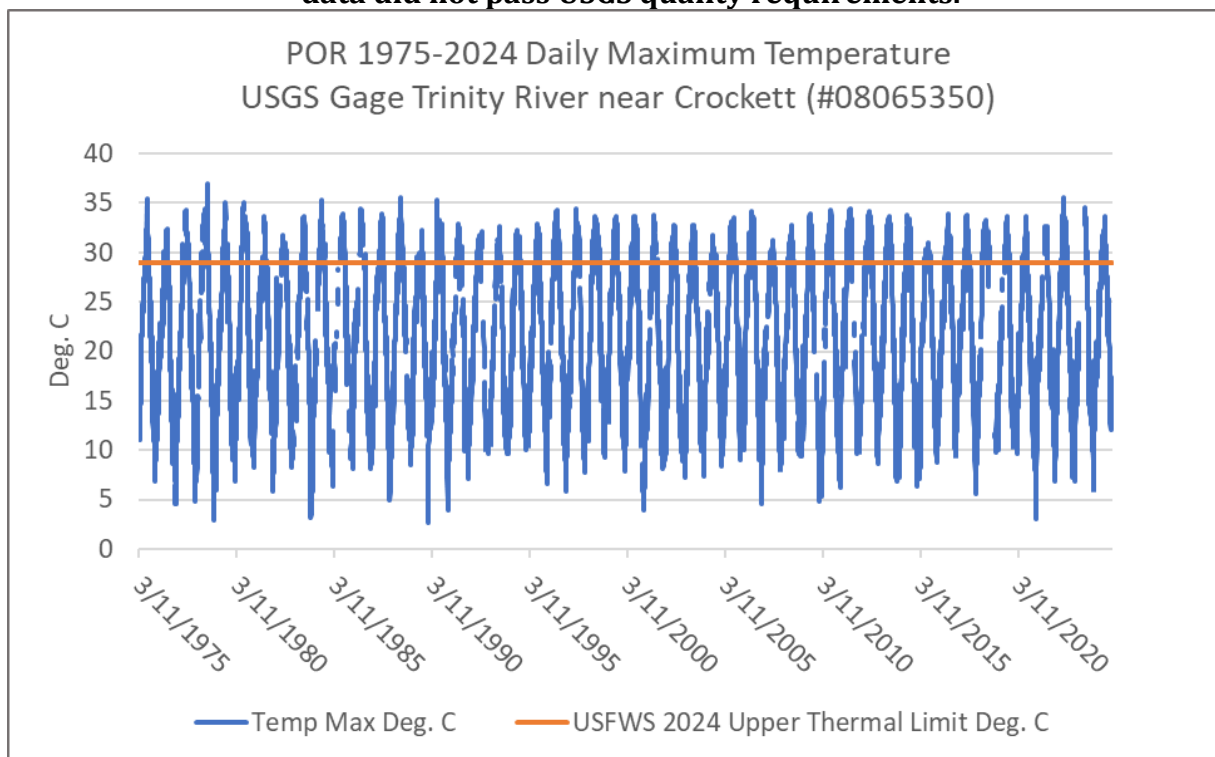


Figure 36. POR 1975-2024 maximum daily temperature from USGS Gage 08065350, Trinity River near Crockett. Note: Missing daily data indicates the sensor was inoperable or the data did not pass USGS quality requirements.

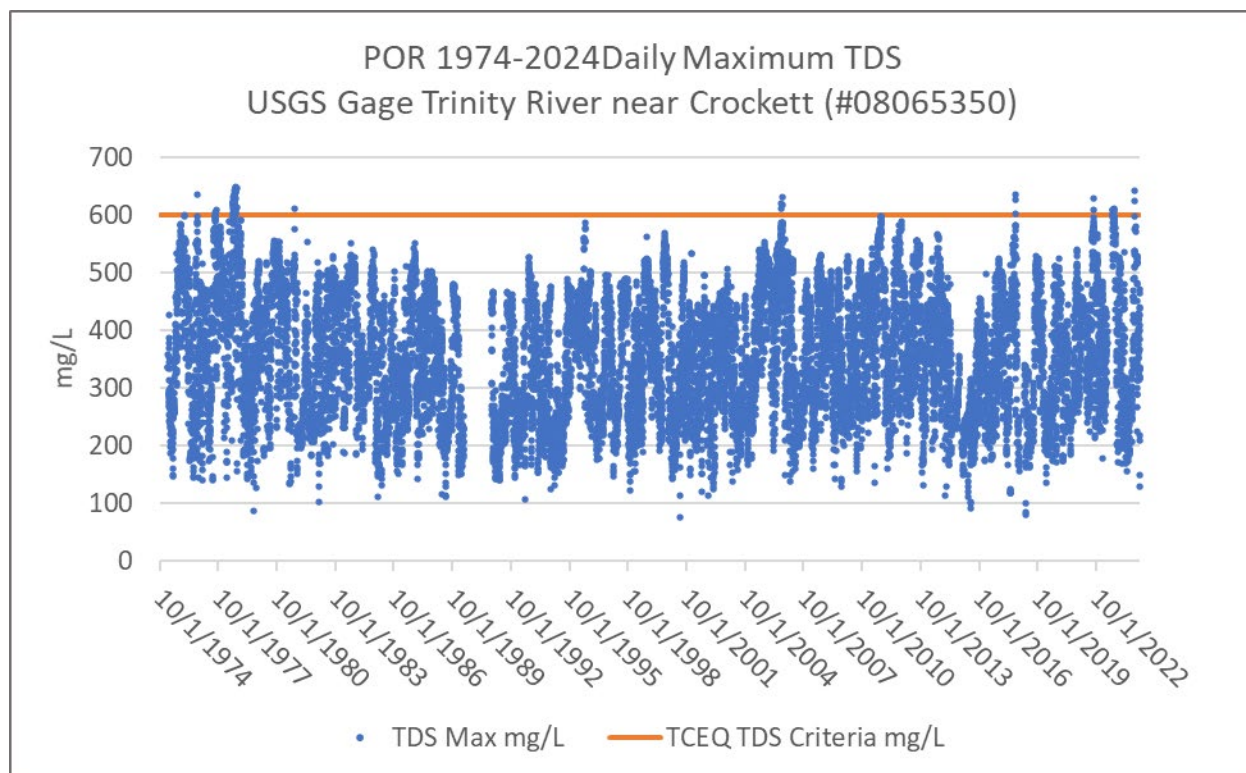


Figure 37. POR 1974-2024 maximum daily TDS from USGS Gage 08065350, Trinity River near Crockett. Note: Missing daily data indicates the sensor was inoperable or data did not pass USGS quality requirements.

3.4 Zone D

Zone D is defined as Lake Livingston and the surrounding direct watersheds, from the bottom of the TPWD freshwater mussel sanctuary to the Lake Livingston dam. This water supply and recreational reservoir is a major source of water for Houston but is not designed to capture floodwater. Lake Livingston regularly fluctuates by 5 to 6 feet, drawing down during periods of drought, refilling during wet periods, and passing floodwaters.

Hydrologic and Water Quality Summary: As discussed below, a review of relevant data suggests that freshwater mussels in Zone D were not negatively impacted by hydrologic or water quality conditions in 2024, with the possible exception of water temperature.

3.4.1 Zone D Hydrology

Lake Livingston experienced extended periods of very high inflows in the spring of 2024. In the headwaters, Lake Livingston reached the highest lake level ever recorded. As these flows were passed through the Lake Livingston dam, they caused scour below the apron of

the dam. This necessitated emergency repairs and the lowering of the conservation pool by two feet to ensure the safety of the dam.

While 2024 was a challenging year for Lake Livingston operations, lake elevations varied within normal ranges, from approximately two feet above to two feet below the normal conservation pool elevation of 131 feet above mean sea level at the dam (Figure 38). Any mussels within the fluctuation range would have been impacted.

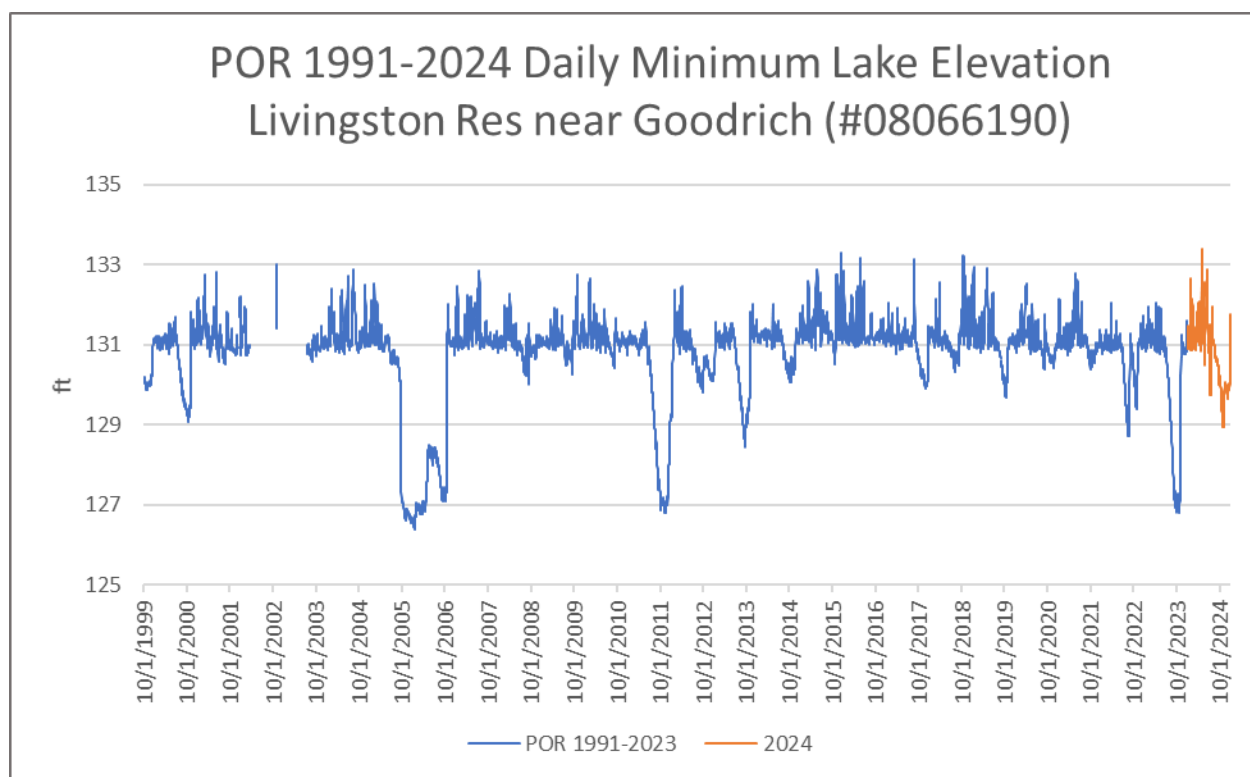


Figure 38. POR 1999-2024 Daily minimum lake surface elevation for USGS Gage Livingston Reservoir near Goodrich

3.4.2 Zone D Water Quality

TCEQ SWQM data from the Lake Livingston dam site showed no DO values below the TCEQ minimum standard of 3.0 mg/L (Figure 39). All ammonia samples for every Lake Livingston site were combined. The highest value was 0.13 mg/L, which is far below the USFWS 2024 recommended resource need of >0.7 mg/L (Figure 40) Water temperature followed the same pattern as the other Zones; the data regularly exceeded the USFWS 2024 recommended resource need of 29°C but remained within the range of normal values for the POR (Figure 41).

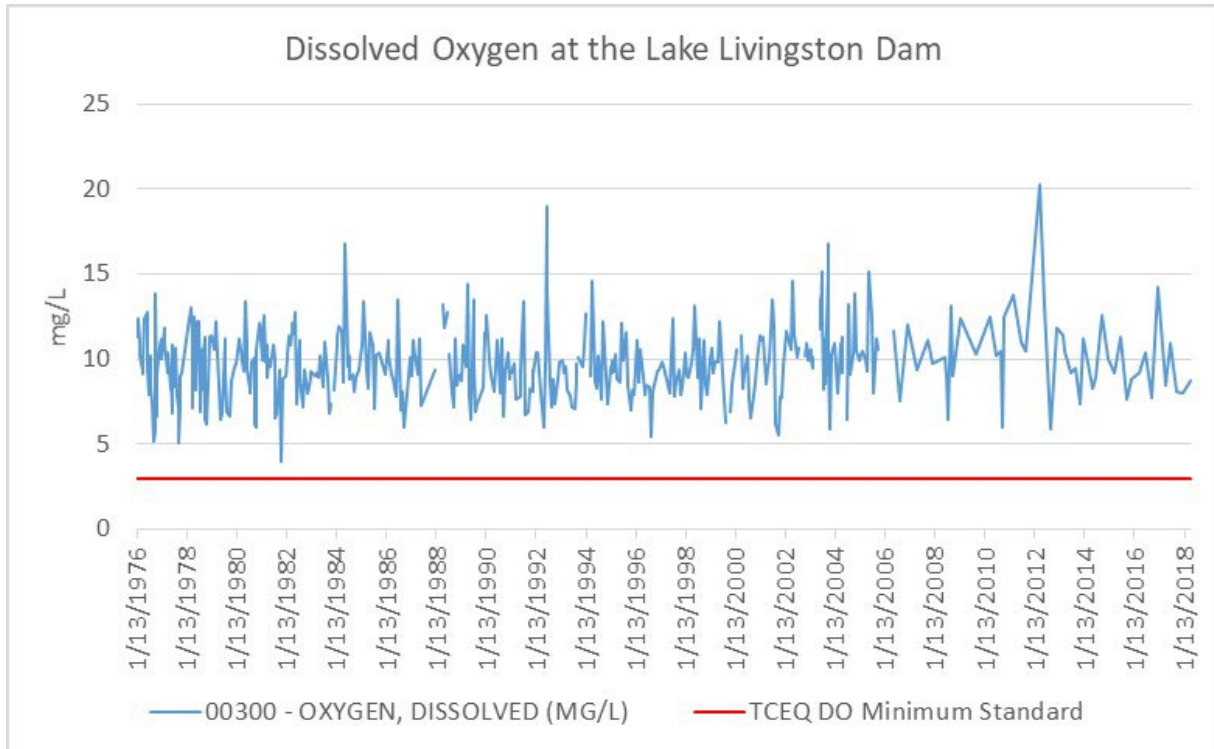


Figure 39. Dissolved oxygen results at site 10899, Lake Livingston near the dam (mg/L).

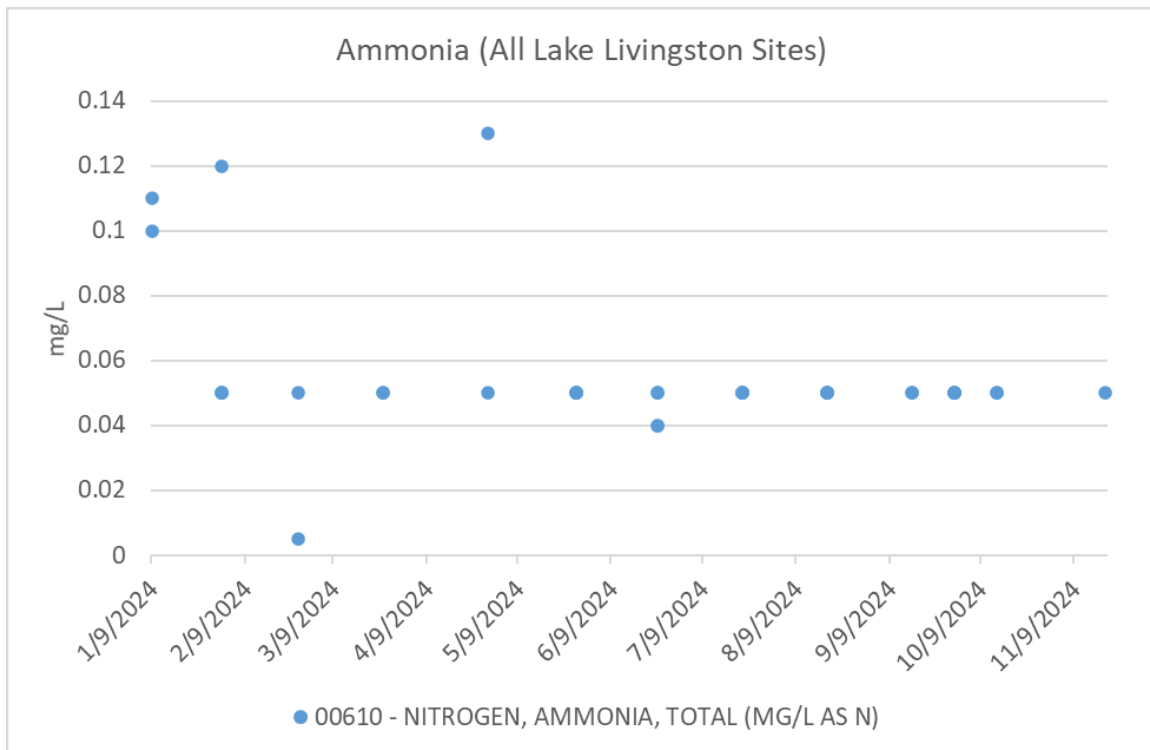


Figure 40. Ammonia results at site 10899, Lake Livingston near the dam (mg/L).

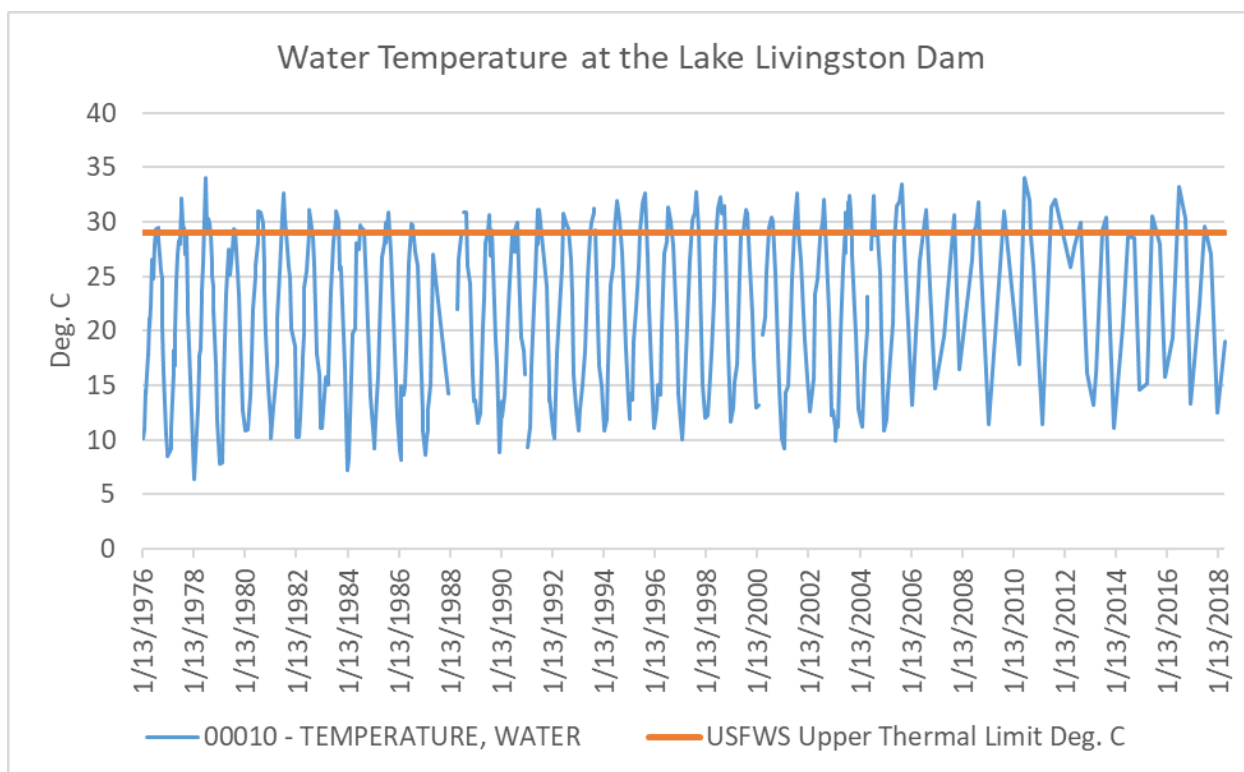


Figure 41. Water temperature results at site 10899, Lake Livingston near the dam.

3.5 Zone E

Below Lake Livingston, the hydrology of this rural portion of the basin is primarily driven by reservoir releases for water supply delivered through the bed and banks, as well as reservoir releases during high flows and tropical storm systems. The Trinity River in the Lower Basin is characterized by wide, long meanders typical of a large coastal plain river system. Below Highway 90 near Liberty, Texas, the river becomes tidally influenced.

Hydrologic and Water Quality Summary: As discussed below, a review of relevant data suggests that freshwater mussels in Zone E could have been negatively impacted by excessive channel scour during the record-high flows of 2024. Data suggest that mussels were not impacted by water quality conditions in 2024, with the possible exception of water temperature.

3.5.1 Zone E Hydrology

While these records do not fully capture flow conditions at each gage, they provide useful data for inference. The data indicate that this Zone experienced higher-than-normal flows throughout the entire period of record (POR), including setting a peak flow record of 146,000 cfs for average daily flow at USGS Gage 08066500, Trinity River at Romayor. For USGS Gage 08067000, Trinity River near Liberty, flows were at or below normal for all ranges between the 20th and 100th percentiles. This gage also set its peak flow record in 2024, with an average daily flow of 137,344 cfs. These high flows could have affected mussels by causing higher-than-normal channel scour.

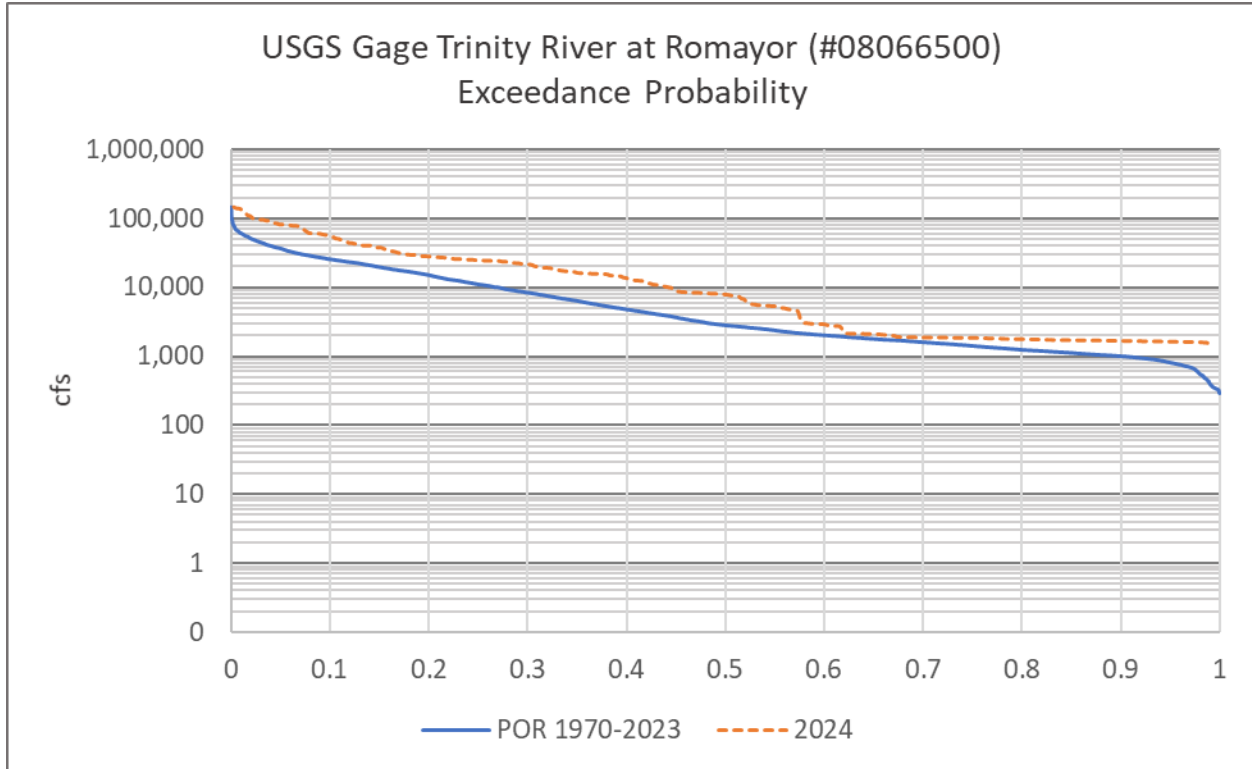


Figure 42. Flow exceedance curve for USGS Gage 08066500 for the 1970-2023 period of record and 2024.

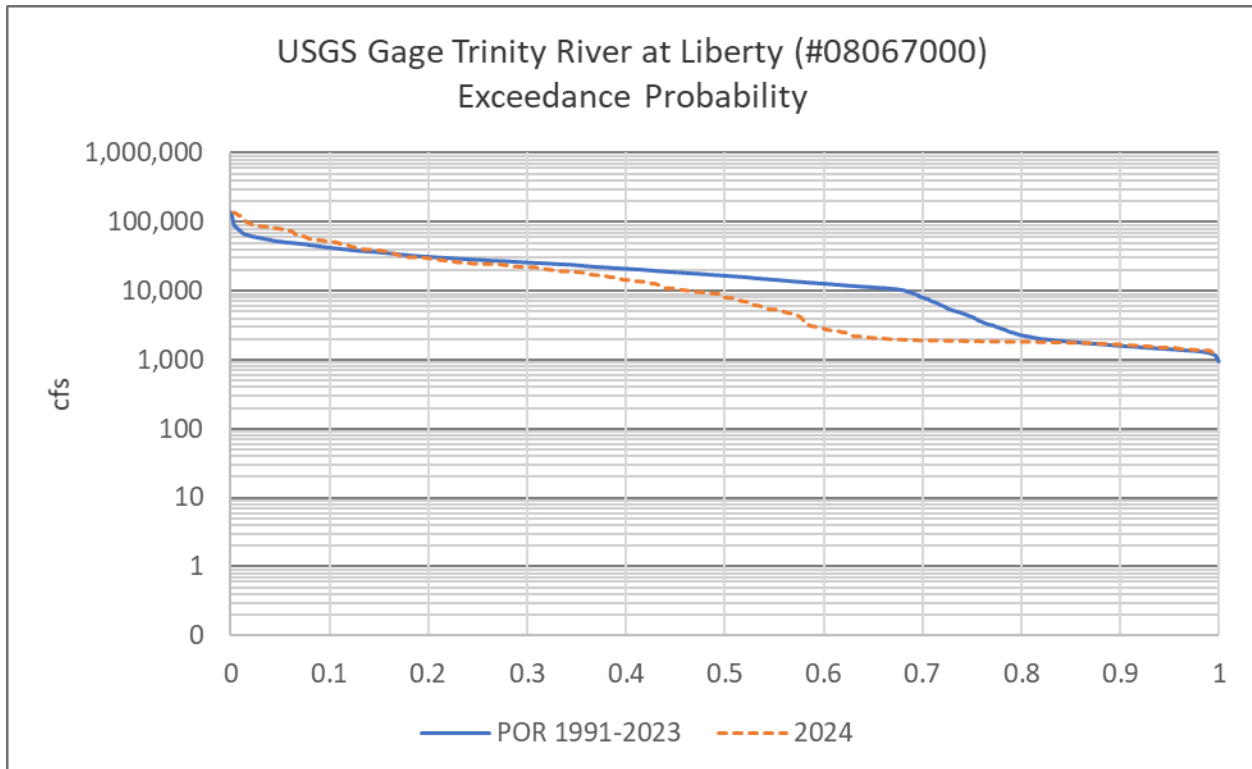


Figure 43. Flow exceedance curve for USGS Gage 08067000 for the 1991-2023 period of record and 2024.

3.5.2 Zone E Water Quality

TCEQ SWQM data from segments 0801 and 0802 showed no DO values below the TCEQ minimum standard of 3.0 mg/L (Figure 44). Water temperatures followed the same pattern as the other Zones; the data regularly exceeded the USFWS 2024 recommended resource need of 29°C but remained within the range of normal values for the POR (Figure 45). For ammonia, the highest value was 0.22 mg/L, which is far below the USFWS 2024 recommended resource need of >0.7 mg/L (Figure 46).

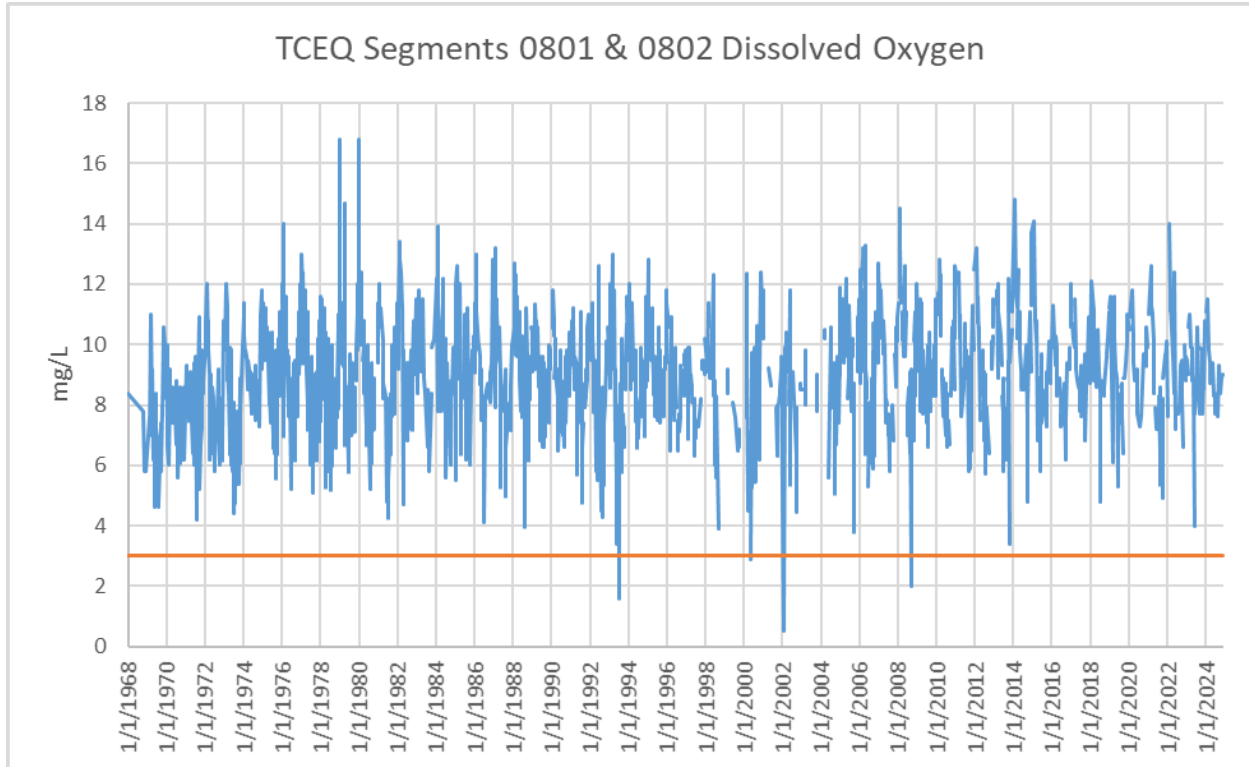


Figure 44. Dissolved oxygen samples from TCEQ's SWQM database for TCEQ Segments 0801 and 0802.

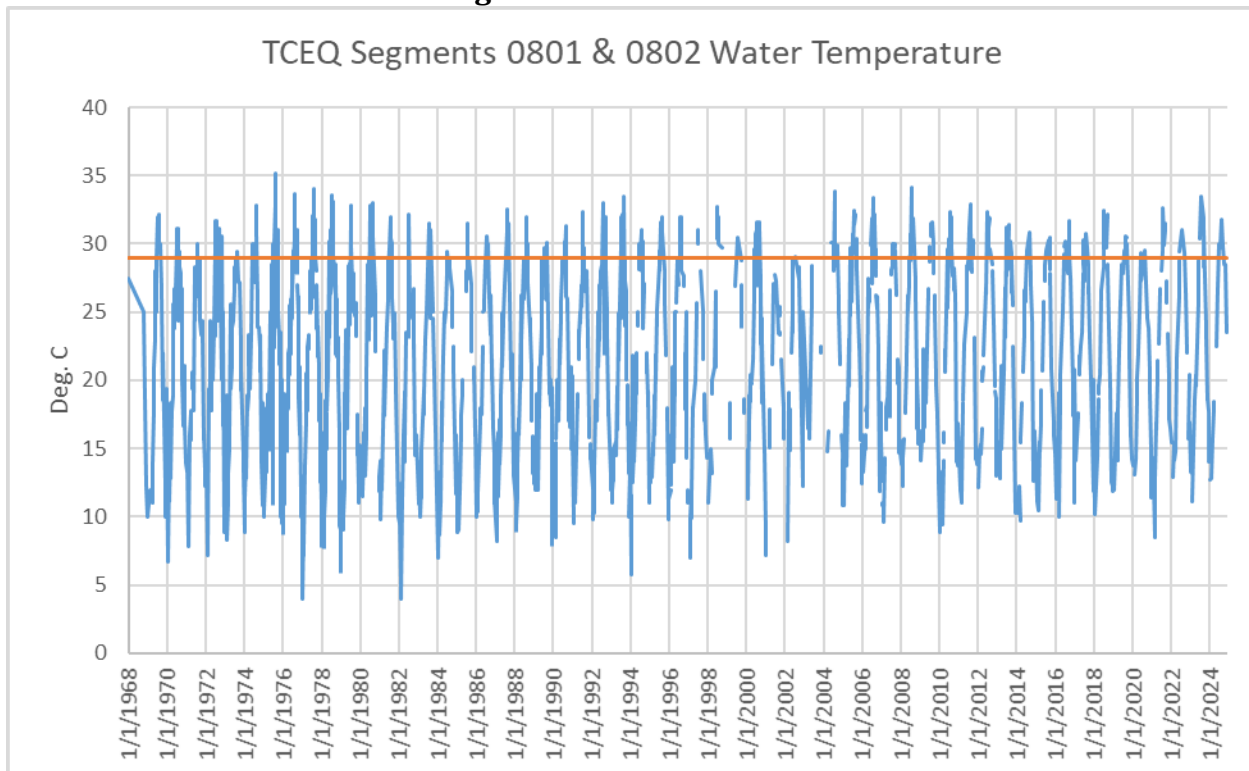


Figure 45. Water temperature results from TCEQ's SWQM database for TCEQ Segments 0801 and 0802.

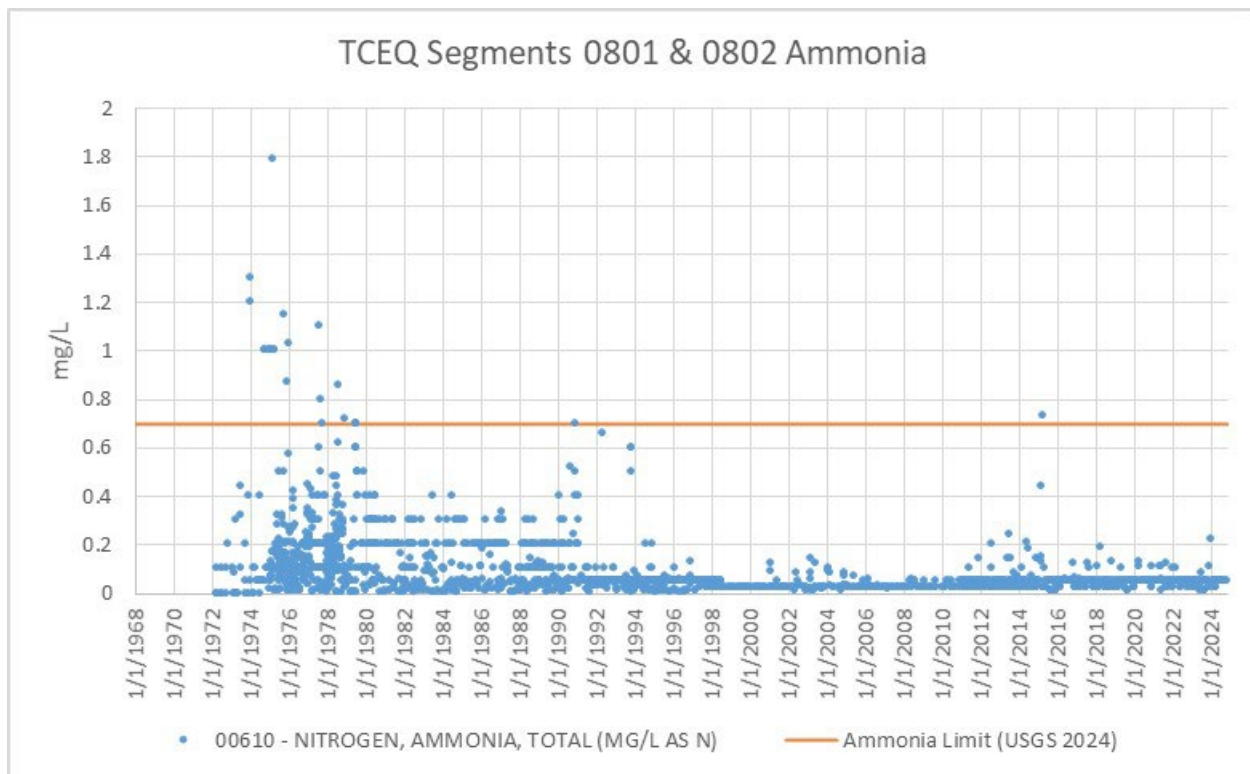


Figure 46. Ammonia results from TCEQ's SWQM database for TCEQ Segments 0801 and 0802.

4 Activities Related to Conservation Measures

4.1 Non-point Source Watershed Protection

The TRA is currently in the process of implementing two Watershed Protection Plans (WPPs) within the greater DFW Metroplex. The Joe Pool Lake (JPL WPP) and the Village Creek Lake Arlington (VCLA WPP) address the growing water quality concerns associated with each watershed's rapid development. Stakeholders in both watersheds recommended several BMPs targeting *Escherichia coli* (*E. Coli*) reductions with the intent that they would also prevent the attenuation of other known or emerging pollutants. Additionally, recommendations were made to gather more information regarding illegal dumping activities, illicit dischargers, and other stormwater-related sources.

TRA applied for and was awarded funding via Section 319(h) in the amount of \$477,179.33 to assist in reducing pollution from faulty residential septic tanks, or on-site sewage facilities (OSSFs). Over the next three years, TRA and sub-awardee Texas A&M AgriLife Research and Extension will develop a database of all permitted and unpermitted OSSFs within the JPL WPP study area, while also working with property owners to fund the repair/replacement of up to ten failing OSSF systems.

TRA also began a Litter and Illegal Dumping Initiative to support the JPL and VCLA WPPs. The project began in April 2024 and runs for one year. This project will support water quality improvement goals and implementation strategies identified within the WPPs study areas. The hope is that it will improve and protect water quality in the Trinity River Basin by, reducing illegal dumping, sponsoring and supporting litter cleanups, expanding TRAs Litter Source Assessment Survey, and engaging stakeholders.

The Watershed Prioritization Tool for Zone C of this Agreement is in the planning phase, and a summary of tool development efforts will be included in the Year 2 Annual Report. TRA is currently in the planning and coordination phase for a watershed protection plan, or similar pollutant reduction plan, for Lake Livingston.

4.2 Stream Restoration Activities

Per the Workplan, Stream Restoration activities are scheduled to begin in 2028.

4.3 Participation in the USACE Sustainable Rivers Project

In October 2023, staff from TRA, NTMWD, and TRWD, along with representatives from various government agencies, attended the kickoff workshop for the USACE and The Nature Conservancy's Sustainable Rivers Program (SRP). The SRP aims to explore potential changes to USACE reservoir operations to benefit downstream aquatic and riparian resources. Since its launch in 2002, the program has expanded from 8 to 44 rivers nationwide, influencing 12,079 miles of waterways and 90 reservoirs and dams. The Fort Worth District and The Nature Conservancy hosted the two-day workshop in Fort Worth, TX, to assess the feasibility of an SRP project for the Trinity River.

In April 2024, USACE informed workshop participants that, due to the Trinity Reregulation Study and stakeholder agreement, further discussions on the SRP program would be postponed. Once the Reregulation Study progresses, USACE will reassess the SRP opportunity. If the SRP moves forward in the Trinity Basin, TRA will remain an active participant in the program.

4.4 Regional and Large-scale Wastewater Treatment

During the Reporting Period, TRA converted 192 MGD, or 78% of the combined permitted amount of 243.2 MGD, of raw sewage into high-quality effluent across all 5 TRA facilities.

Northern Region staff met with 5 cities associated with the Chambers Creek watershed and 15 entities in Ellis County about the regionalization of Wastewater Treatment. TRA also provided expert testimony to support regionalization in a contested wastewater discharge permitting case at TCEQ.

4.5 Proactive Measures to Address Wastewater Overflows, Illicit Discharges into Treatment Plants, and Emergency Repairs

During the Reporting Period, TRA concluded multiple project phases for 15 different Capital Improvement Projects (CIPs) across its system of 5 WWTPs, 1 Drinking Water Plant, and miles of pipelines. Moving into FY25, TRA has 40 different CIPs planned to improve the system, capacity, and capability of TRA operations. The estimated project budget for these 40 CIPs is currently over \$457 million.

Also, during the Reporting Period, TRA funded and implemented over 1.7 million dollars in Industrial pre-treatment programs. TRA treats all projects as if they have approved programs and follow the rules in 40 CFR 403, though only TRA's Central Regional (CRWS) and Ten Mile Creek (TMCRRWS) are currently required to have approved programs by the TCEQ. A total of 207 industrial inspections were conducted during the Reporting Period, and Industrial User surveys were conducted for all projects to identify any new dischargers to TRA. All industrial users are sampled for parameters in permits semi-annually at a minimum.

One instance to highlight, staff from the TRA Environmental Services Department worked alongside the City of Fort Worth to identify higher-than-normal BOD levels at the TRAs DCRWS project. TRA and City of Fort Worth staff identified an Industrial User contributing untreated finished products and raw materials into the sanitary sewer system. The City of Fort Worth put the user on an Administrative Order and required various cleanup/pre-treatment processes. Since the order, BOD levels have decreased coming into the Denton Creek Regional (DCRWS) project to levels expected by permitted dischargers.

TRA Collections staff conducted 326.72 miles of surface inspections on TRA's pipeline network. Three issues in the system were identified by these inspections, with all emergency repairs being done promptly. No breaks occurred within or resulted in impacts to Known Occupied Habitat, so no time elapsed metric is reported.

4.6 Environmental Flows Protection

The Trinity and San Jacinto Basin and Bay Area Stakeholder Committee (BBASC) met in May of 2024. TRA, TRWD, NTMWD, and the City of Dallas attended this meeting and provided input. The BBASC discussed opportunities for reevaluating the environmental flow standards for the Trinity and San Jacinto basins. The majority of the participants agreed that the BBASC should wait until the statewide Environmental Flows Advisory Group (EFAG) sets the new meeting schedule, as is required by Texas Water Code 11.02362(b), before re-evaluating the TCEQ's environmental flow standards.

Representatives from the covered parties continued to serve on the BBASC and the Basin and Bay Expert Science Team (BBEST) during this Reporting Period (Table 4). No new environmental flow modeling was suggested or completed during this Reporting Period.

Table 4. Covered Parties involved in the Trinity Environmental Flows process.

Name	Entity	BBASC Committee
J. Kevin Ward	TRA	BBASC
Web Mangham	TRA	BBEST
Woody Frossard	TRWD	BBASC
Galen Roberts	NTMWD	BBEST
Dennis Qualls	City of Dallas	BBASC

As agreed in the CCAA, TRA allowed 30% of all return flows from TRA's wastewater plants (Central Regional, Ten Mile Creek, and Red Oak Creek) to remain in the stream for instream flows between each discharge point and Lake Livingston. Figure 47 below shows that the flows at USGS Gage USGS #08062500 Trinity River near Rosser, TX stayed above the 30% of discharges that TRA allowed to flow downstream to satisfy the instream flow commitment for all of 2024.

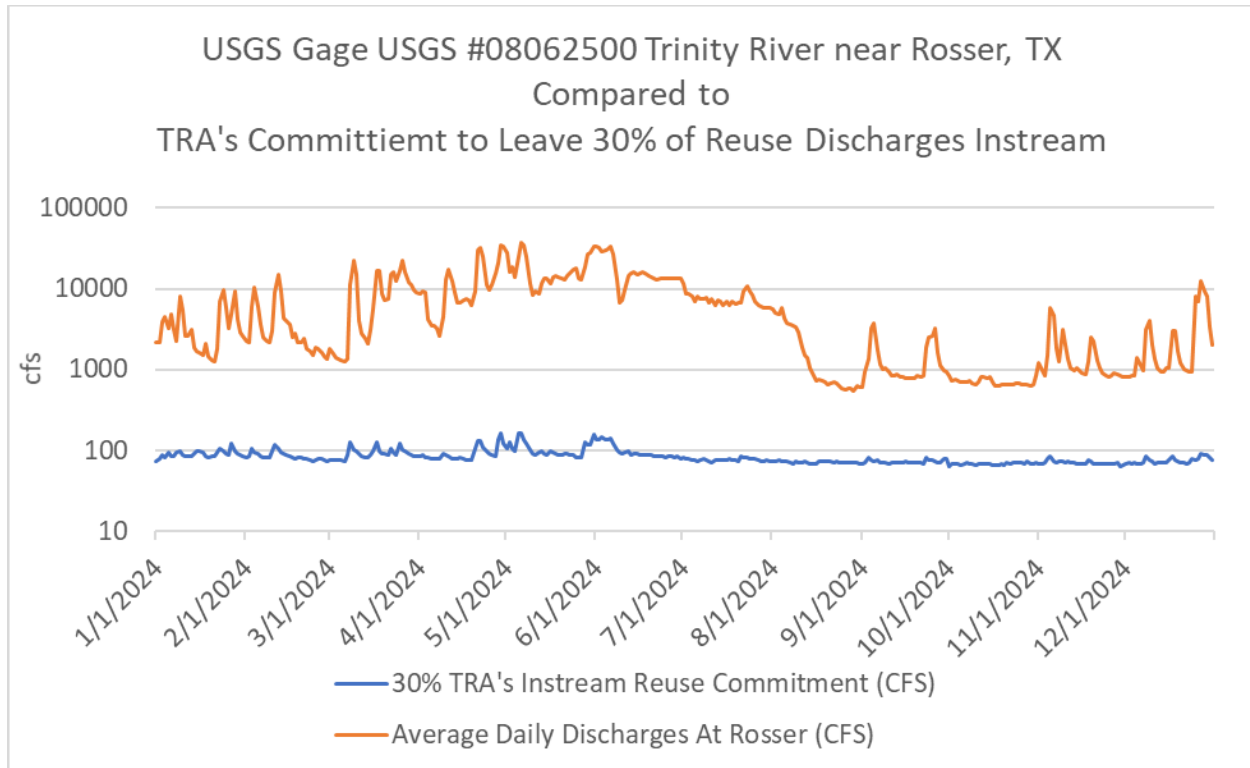


Figure 47. Discharges from 3 TRA wastewater treatment plants compared to flows from USGS gage #08062500.

4.7 Instream Flow Protections in Zone E

The TRA delivered on the commitment to release a minimum of 750 cfs of flow below the Lake Livingston Dam. A summary of the hydrologic conditions highlighting this release can be found in Section 3.4 of this report.

One event to note, in mid-2024, the Lake Livingston Dam sustained damage due to heavy rainfall and flooding, leading to erosion below the spillway apron on the downstream side. In response, the Trinity River Authority (TRA) initiated emergency repairs, which included replacing washed-out clay fill with stronger materials to restore the dam's integrity. Throughout the repair process, the lake level was managed between 128.0 and 131.0 feet above mean sea level to facilitate construction activities. Flows through the dam were managed to ensure that the repairs could be completed as quickly as possible to ensure the safety of the dam. It is important to note that, even during this challenging operational scenario, the average daily flows at the USGS Gage #08066250 Trinity River near Goodrich, TX, immediately downstream of the dam, never fell below the 750 cfs voluntary environmental flow release commitment (Figure 48).

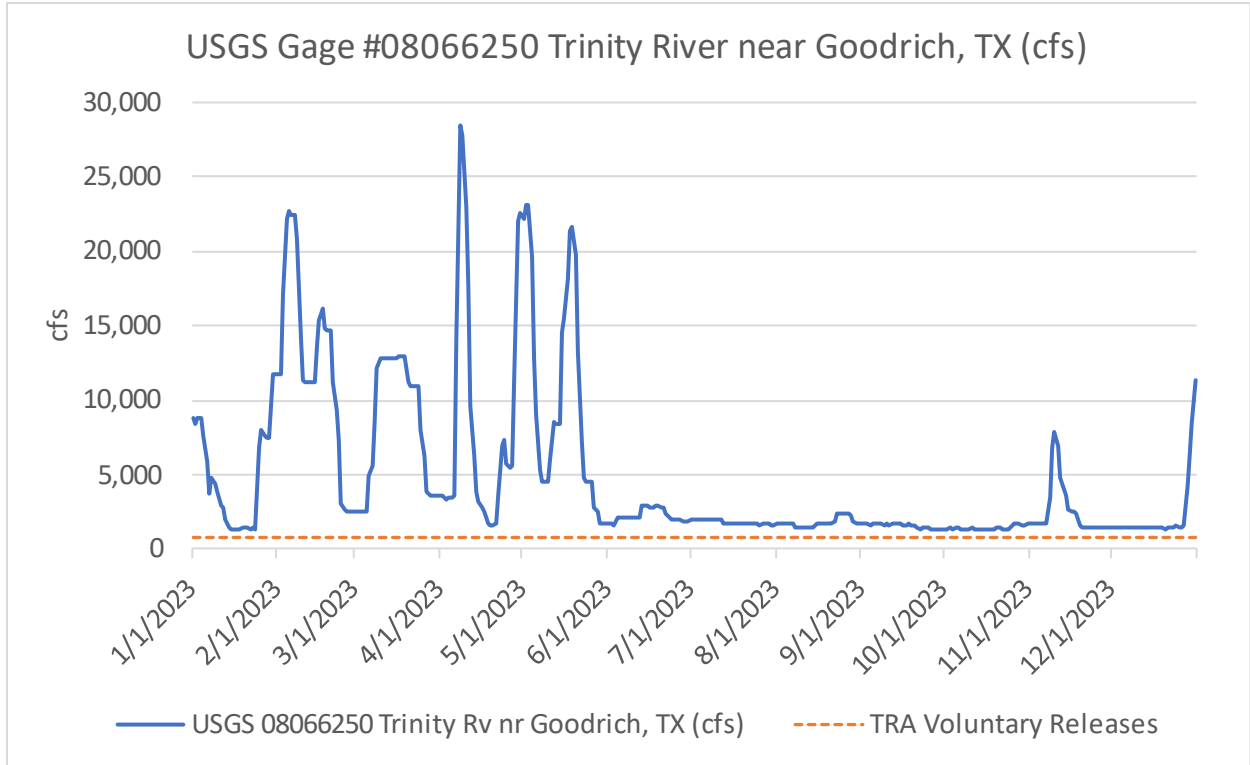


Figure 48. Average daily flows (cfs) from USGS gage #08066250 Trinity River near Goodrich, TX

4.8 USGS Flow and Water Quality Monitoring

Currently, the Covered Parties fund a portion of 76 USGS Gage Stations throughout the Trinity Basin, totaling \$1,439,730 in support for Flow, Elevation, Water Quality and Precipitation monitoring (Table 5).

Table 5. USGS Gage Stations funded by Covered Parties

USGS Gage #	USGS Gage Name	Funding Amount (USD)	Funding Party
07332603	Bois D'Arc Creek at FM 271 nr Bonham, TX	\$25,076	NTMWD
07332605	Bois D'Arc Ck at FM 56	\$25,076	NTMWD
07332621	Bois D'Arc Lake nr Honey Grove, TX	\$25,076	NTMWD
07332622	Bois D'Arc Ck at FM 409 nr Honey Grove, TX	\$25,076	NTMWD
07332655	Bois D'Arc Ck at FM 100	\$25,076	NTMWD
08042600	West Fork Trinity River at Hwy 281 nr Windthorst, TX	\$17,800	TRWD
08042800	W. Fork Trinity River near Jacksboro, TX	\$1,500	TRWD
08042820	Lost Creek Reservoir near Jacksboro, TX	\$6,750	TRWD
08042950	Big Ck nr Chico, TX	\$17,800	TRWD
08043000	Bridgeport Reservoir above Bridgeport, TX	\$9,800	TRWD
08043950	Big Sandy Creek near Bridgeport, TX	\$1,500	TRWD
08044500	W. Fork Trinity River near Boyd, TX	\$1,500	TRWD
08044800	Walnut Creek at Reno, TX	\$12,100	TRWD
08045000	Eagle Mountain Reservoir above Fort Worth, TX	\$9,800	TRWD
08045400	Lake Worth above Fort Worth, TX	\$9,800	TRWD
08045550	W. Fork Trinity River at White Settlement, TX	\$12,100	TRWD
08045800	Lake Weatherford near Weatherford, TX	\$6,750	TRWD
08045995	Clear Fork Trinity River at Kelly Road near Aledo, TX	\$10,600	TRWD
08047000	Clear Fork Trinity River near Benbrook, TX	\$21,060	TRWD
08047050	Mary's Creek at Benbrook, TX	\$50,200	TRWD
08047500	Clear Fork Trinity River at Fort Worth, TX	\$0	TRWD
08048000	W. Fork Trinity River at Fort Worth, TX	\$44,600	TRWD
08048543	W. Fork Trinity River at Beach St., Fort Worth, TX Full Range Streamflow Station	\$8,710	Dallas, Fort Worth, TRWD, TRA (Joint Funded)
08048970	Village Ck at Everman, TX	\$11,050	TRWD
08049200	Lake Arlington at Arlington, TX	\$9,600	TRWD
08049500	W. Fork Trinity River at Grand Prairie, TX	\$8,150	Dallas and Fort Worth
08049500	W. Fork Trinity River at Grand Prairie	\$8,150	TRA, Dallas, Ft. Worth
08051100	Ray Roberts Lk nr Pilot Point, TX	\$119,575	Dallas

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08051135	Elm Fork Trinity River at Greenbelt nr Pilot Point, TX	\$8,150	Dallas (USACE Pays 50%)
08052700	Little Elm Creek near Aubrey, TX	\$37,960	Dallas
08052745	Doe Branch at US 380 near Prosper, TX	\$25,960	Dallas
08052800	Lewisville Lk nr Lewisville, TX	\$119,575	Dallas
08052900	Prairie Ck at N Keasley Ave nr Lewisville, TX	\$19,300	Dallas
08053000	Elm Fork Trinity River nr Lewisville, TX	\$12,350	Dallas (USACE Pays 50%)
08053009	Indian Ck at FM2281, Carrollton, TX	\$8,800	Dallas
08053025	Timber Creek at S. Edmonds Lane Lewisville, TX	\$16,300	Dallas
08053090	Hutton Branch at Carrollton, TX	\$16,300	Dallas
08054500	Grapevine Lk nr Grapevine, TX	\$119,575	Dallas
08055000	Denton Creek near Grapevine, TX	\$13,980	Dallas (Dallas County PCMUD Pays 50%)
08055500	Elm Fork Trinity River nr Carrollton, TX	\$4,200	Dallas
08055519	Farmers Br Trib at IH 635 Service Rd nr Dallas, TX	\$39,200	Dallas
08055560	Elm Fork Trinity River at Spur 348, Irving, TX	\$14,170	Dallas
08055605	Joes Creek at Willow brook Road Dallas, TX	\$19,300	Dallas
08056000	Elm Fork Trinity River at Frasier Dam	\$8,580	Dallas
08056500	Turtle Ck at Dallas, TX	\$12,325	Dallas
08057000	Trinity River at Dallas	\$8,150	TRA, Dallas, Ft. Worth
08057200	White Rock Ck at Greenville	\$0	<i>Funded by Federal Priority Streamgages</i>
08057410	Trinity River bl. Dallas, TX	\$8,150	TRA, Dallas, Ft. Worth
08061000	East Fork Trinity River nr Lavon, TX	\$12,000	Dallas
08061480	Squabble Ck at Shores Blvd nr Rockwall, TX	\$16,300	Dallas
08061540	Rowlett Creek near Sachse, TX	\$4,000	Dallas
08061548	Muddy Ck at Creek Crossing Ln nr Sachse, TX	\$16,300	Dallas
08061550	Lake Ray Hubbard near Forney, TX	\$7,425	Dallas
08061550	Lake Ray Hubbard near Forney, TX	\$119,575	Dallas
08061551	East Fork Trinity River below Lake Ray Hubbard, TX	\$9,800	Dallas
08061750	East Fork Trinity River near Forney, TX	\$0	Dallas
08062500	Trinity River near Rosser	\$8,150	TRA, Dallas, Ft. Worth
08062575	Trinity River at Dosser	\$16,300	TRWD
08062700	Trinity River at Trinidad, TX	\$0	TRWD
08062800	Cedar Creek nr Kemp, TX	\$0	TRWD
08062895	Kings Creek at H 34 nr Kaufman, TX	\$10,700	TRWD
08063010	Cedar Creek Reservoir near Trinidad, TX	\$11,300	TRWD
08063100	Richland Creek near Dawson, TX	\$16,300	TRWD
08063460	Richland Creek at CR 0030, TX	\$16,300	TRWD
08063600	Lake Waxahachie near Waxahachie	\$6,750	TRWD

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08063800	Waxahachie Creek near Bardwell, TX	\$16,300	TRWD
08064510	Halbert Lake near Corsicana, TX	\$6,750	TRWD
08064550	Richland-Chambers Reservoir near Kerens, TX	\$11,300	TRWD
08064570	Trinity Rv at Hwy 287 nr Cayuga, TX	\$16,300	TRWD
08065350	Trinity River near Crockett, TX	\$33,250	TRA
08066000	Trinity River at Riverside, TX	\$5,590	TRA
08066170	Kickapoo Creek near Onalaska, TX	\$11,600	TRA
08066190	Livingston Reservoir near Goodrich, TX	\$7,640	TRA
08066200	Long King Creek at Livingston, TX	\$0	<i>Currently funded through FPS Network (TRA Associated)</i>
08066250	Trinity River near Goodrich, TX	\$11,600	TRA
08066300	Menard Creek near Rye, TX	\$11,600	TRA

4.9 Eradication and Control Measures to Address Invasive Aquatic

The TRA maintains a partnership with the TPWD to ensure invasive aquatic plants are kept in check in Lake Livingston. TRA staff provide the labor, while TPWD provides the funding for TPWD-approved chemicals purchased through the Aquatic Invasives Grant Program of the TPWD. During the Reporting Period, \$10,985 was spent on aquatic vegetation management, with an herbicide mixture of AquaNeat, Tribune, and Clipper used to treat Water Hyacinth (*Eichhornia crassipes*), Giant Salvinia (*Salvinia molesta*), and Water Lettuce (*Pistia stratiotes*). Roughly 250 acres are treated within Lake Livingston under a permit from TPWD, with no notable adverse effects observed on the local wildlife population.

Additionally, the TRA promotes the TPWD Clean, Drain, and Dry program on their Basin Planning website:

(https://www.trinityra.org/basin_planning/initiatives/zebra_mussels.php).

4.10 Avoiding and Minimizing Site-level Disturbances

The TRA developed and is currently implementing Best Management Practices for Section 7 New Construction activities (not directly covered by this Agreement) and Section 10 Routine Operation and Maintenance activities. These BMPs demonstrate compliance with Conservation Measures identified in Section 8.10 of the Agreement. They were reviewed and approved by staff from all Covered Parties and at both the TPWD and USFWS. The BMP documents can be found attached to this report in the TRA's Supplemental Materials Appendix A.1. TRA Planning Development Construction Administration (PDCA) staff are currently developing CCAA CCAA-specific Construction Specifications to incorporate into all future TRA Construction contracts.

Additionally, TRA has developed a 12-minute CCAA Training Video, with the help of TRA Communications staff, that will be shown to all TRA employees and contractors. This training video introduces the CCAA, highlights Covered Species and habitats, explains where interactions might occur, provides an overview of the BMPs, and provides encounter

and Take reporting examples. This training video will also be shared with all Covered Parties to train their staff and contractors.

4.11 Public Education and Outreach

The TRA has developed a Public Education and Outreach plan for the Covered Parties of the CCAA Agreement which can be found in Appendix A – CCAA Supplemental Materials. TRA has implemented CCAA-related messaging into all aspects of its Public Education and Outreach Program. During the Reporting Period, CCAA content included Social Media Post, Public Presentations, Booths at Local Events, and inclusion in the annual TRA Student Art Contest. An estimated 33,000 interactions with endangered species content over the 1st Reporting Period.

4.11.1 Alligator Snapping Turtle Signage and Reporting Tool

As part of the overall Public Outreach component of the CCAA. The TRA developed an Alligator Snapping Turtle signage project in consultation with the TPWD. The signs, seen in Figure 49, are designed to educate the public about the protected status of Alligator Snapping Turtles and provide a real-time reporting tool to submit sightings by scanning the QR code. The program began with 68 signs around several reservoirs operated by the Covered Parties and the USACE within the Trinity Basin. TRA staff surveyed existing signage in early 2025 and were able to inspect 56 of the 68 signs currently placed in the basin. 13 of these signs were damaged (Bullet Holes, Graffiti, Missing), and plans are being made to either replace the sign or move the signage to a safer location.

Over the past year, TRA expanded the program by placing an additional 3 new metal signs around the Fort Worth Nature Center and distributing 40 AST posters which are visible at various River Authority Headquarters, Covered Party buildings, and Texas Universities around the State. To date, 31 potential sightings have been submitted to the reporting tool with 4 confirmed AST identified within Texas and Louisiana.

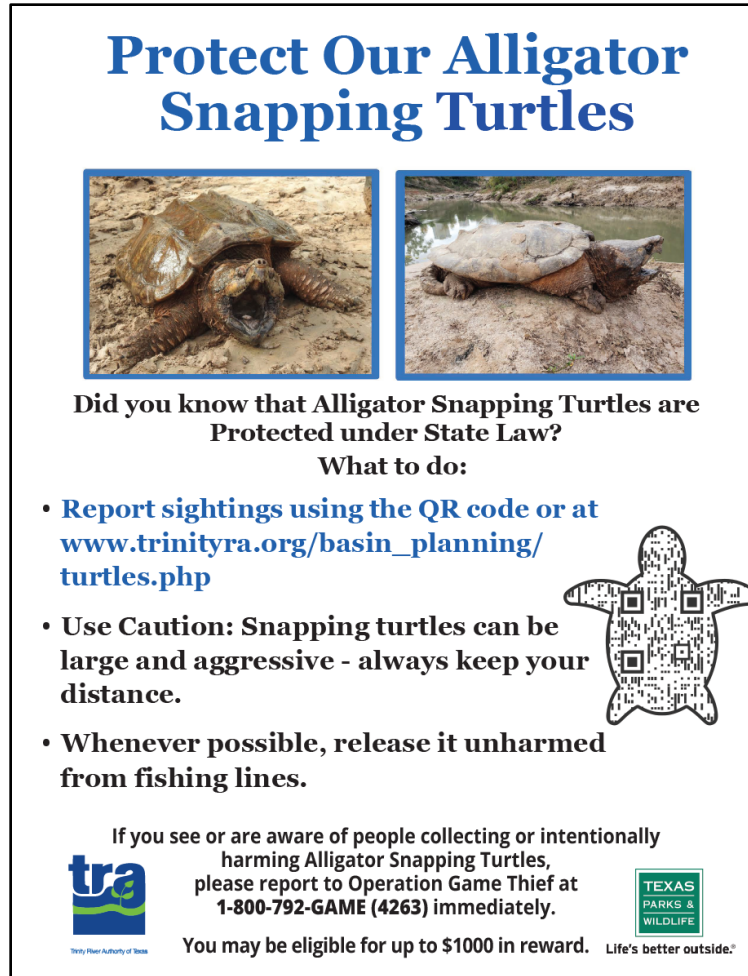


Figure 49: Alligator Snapping Turtle signage.

4.11.2 Covered Parties Freshwater Mussel Workshop

In response to the listing of the Texas Fawnsfoot as Threatened in June 2024. The TRA hosted a freshwater mussel continuing education workshop on September 27, 2024, which was attended by permitting and environmental field staff representing all Covered Parties. The one-day workshop covered topics including permitting requirements, freshwater mussel ecology, identification techniques for Trinity Basin species, and how to use the USFWS TX Freshwater Mussel Survey Protocols. In addition to the classroom portion (Figure 50), participants had the opportunity to conduct a mock mussel survey under the supervision of multiple federally permitted malacologists from Environmental Consulting and Technology Inc. (ECT Inc.). This workshop served as an important continuing education opportunity for Covered Party staff and the TRA plans to host a similar style workshop for freshwater turtles after the listing of either of the covered turtle species.



Figure 50. Covered Parties staff listening to a presentation about the Texas Freshwater Mussel Survey Protocols during the September 2024 Workshop.

4.12 Reintroduction of Covered Species

At the time of this report, there are currently no plans to reintroduce any of the Covered Species to systems within the Trinity Basin. The Covered Parties are still fully supportive of efforts if they arise.

4.13 No New Permanent Dams on the Trinity River Mainstem

No new permanent dams were constructed by any of the Covered Parties during this report's Reporting Period.

4.14 Monitoring and Research

Summaries and status of the monitoring and research efforts of the Covered Parties are highlighted below.

4.14.1 Instream Water Quality Monitoring

All Covered Parties currently conduct Instream Water Quality Monitoring via the Texas Clean Rivers Program (CRP). The Trinity River Authority is the main coordinating agency for the basin and is awarded the CRP grant biennially from the TCEQ. Combined, the Covered Parties sample at 199 different TCEQ SWQM stations in over 80 unique waterbodies. Currently, 28 stations overlap with known occupied habitat for one or more CCAA Covered Freshwater Mussel species (Table 6). These sites are sampled routinely either biannually, quarterly, or monthly for various parameters including Metals, Conventional (i.e. Nutrients, Chlorophyll-a (Chl-a), and TDS), Bacteria (E. Coli), Flow, and Field Measurements (pH, DO, Spec. Cond., Temp). Sampling stations and parameters are evaluated yearly to reduce duplication of effort and investigate water quality impairments or concerns. This data is in addition to the near-real-time USGS water quality gages the Covered Parties support (Table 5).

**Table 6: Clean Rivers Program stations on Known Occupied Waterbody segments
with the number of sample events annually per site.**

TCEQ Station ID	TCEQ Waterbody ID	Covered Party Collecting Entity	Metals in Water	Conventional	Bacteria	Flow	Field
10897	802	TRA (LLP)	2	4	4	4	4
10899	803	TRA (LLP)	2	4	4		4
10913	803	TRA (LLP)	2	4	4		4
10914	803	TRA (LLP)	2	12	12		12
10917	803	TRA (LLP)	2	12	12		12
21562	803	TRA (LLP)	2	4	4		4
21563	803	TRA (LLP)	2	4	4		4
10919	804	TRA	2	4	4	4	4
10922	804	TRA	2	4	4	4	4
13690	804	TRA (LLP)	2	12	12	12	12
10934	805	TRA	2	4	4	4	4
10937	805	TRA	2	4	4	4	4
20444	805	City of Dallas (Trinity)			4	4	4
20933	805	City of Dallas (Trinity)			4	4	4
20934	805	City of Dallas (Trinity)			4	4	4
15252	822	City of Dallas (Lakes)	2	12	12		12
16438	822	City of Dallas (Lakes)	2	12	12		12
18358	822	City of Dallas (Lakes)	2	12	12		12
20287	822	TRA	2	4	4	4	4
11036	826	TRA		4	4		4
16114	826	TRA		4	4		4
16116	826	TRA		4	4		4
20884	826	TRA		4	4		4
21351	826	TRA		4	4		4
21354	826	City of Dallas (Lakes)	2	12	12		12
22234	826	TRA		4	4		4
22316	826	City of Dallas (Lakes)	2	12	12		12
22317	826	City of Dallas (Lakes)	2	12	12		12

Data from the Trinity River Basin CRP is submitted regularly to the TCEQ for use in the biennial Integrated Report. There were no changes to the CRP Program during this reporting period. TRA staff reviewed the latest version of *Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)*, published in June 2024, for current Impairments or parameters of Concern to any Known Occupied Waters. Upon review, TRA staff do not recommend any operational changes at this time to any of the Covered Parties' operations. No relocation efforts have been suggested by the TPWD or USFWS at the time of this report.

4.14.2 Summary of Caged Mussel Study

In 2022, an opportunity arose through a TPWD research grant that allowed the TRA to fund the Caged Mussel Study. TRA staff submitted a competitive grant proposal for the Caged Mussel Study designed to fill a large knowledge gap in contemporary research regarding whether current water quality in the Trinity River Basin limits freshwater mussel survival and growth. The Caged Mussel Study grant proposal was selected and approved by the TPWD in November of 2022. Authority staff reached out to Texas A&M University's AgriLife Extension (AgriLife), one of the leading mussel research laboratories in Texas with the facilities, knowledge, and experience to grow these mussels, for assistance on this project. During negotiations with TPWD and AgriLife, it became apparent that it would be more efficient for the grant to be awarded directly to AgriLife, with the Authority serving as a project partner. TRA would commit \$85,000 of compact funds to the Project, bringing the total project budget to \$185,000.

Currently, the project is about 20% completed. TRA and AgriLife staff have identified 6 locations for silo deployment between the Dallas Fort Worth Metroplex and the USGS Oakwood gage on the Mainstem Trinity and began the propagation of juvenile mussels. Test deployments of silos will be conducted in early March 2025, with full deployment of silos with juvenile mussels occurring in Fall 2025. The test species for the study are Yellow Sandshell (*Lampsilis teres*), Texas Heelsplitter (*Potamilus amphichaenus*), and potentially Bleufer (*Potamilus purpuratus*) if we are unable to acquire enough Heelsplitter for propagation. The water quality parameters that will be sampled monthly as part of this project are undergoing final review by TRA, AgriLife, and TPWD staff. To date, 0% of the project budget has been invoiced.

4.14.3 Long-term Monitoring for Mussels

In 2024, an opportunity arose to establish the Long-term mussel monitoring program through an Endangered Species grant by the Texas Comptroller's office. TRA is ineligible to be awarded this funding since the grants are intended for Texas Public Universities only. TRA staff worked with Researchers from Texas State University and Texas A&M AgriLife to submit a competitive grant to establish a Long-term mussel monitoring program within the Trinity River Basin. The specific tasks of this project include mapping and identifying mussel-habitat, establishing a mark-recapture program, and estimating population dynamics and sampling efficiency. The TRA and TPWD were added to the grant proposal as Non-funded collaborators, and the TRA provided a letter of support for the project. The total project budget in the grant proposal is around \$455,000. We are currently waiting to see if the project is funded by the Tx Comptroller (estimated notification date April 2025), if the project is funded work will start in Summer/Fall 2025. If the project is not funded by the TX Comptroller, work will begin via the originally planned compact funding source in 2026.

4.14.4 Water Quality Modeling

The Water Quality Modeling project is slated to begin in 2026.

4.14.5 Hydraulic and Hydrologic Modeling

The Hydraulic and Hydrologic Modeling project is slated to begin in 2027.

4.14.6 Zebra Mussel Monitoring

The TRA currently funds the USGS Zebra Mussel Monitoring program for Lake Arlington and Lake Livingston. Lake Arlington, which is currently not infested with Zebra mussels, is sampled twice a year at 4 sites. The TRA, along with the Covered Parties of the Cities of Dallas and Fort Worth, fund 61% of the program's \$8,150 annually. Lake Livingston, which is currently infested with Zebra mussels, is sampled twice a year at 6-8 sites. The TRA funds 79% of the program, at \$15,300 annually. In total, all Covered Parties combined fund \$304,600 annually in Zebra Mussel Monitoring.

5 Reporting of Incidental Take

5.1 Activities with Incidental Take Potential

The TRA and other Covered Parties conduct multiple Covered Activities that have the potential to result in the Incidental Take of the Covered Species. Broadly, the four categories of take associated with this CCAA are, 1) Conservation Activities, 2) Facilities Maintenance, 3) Water Quality, and 4) Hydrology.

Where Incidental Take can occur via all four of the categories identified above, Conservation Activities and Hydrology were identified as providing a net overall benefit to the Covered Species. Most of the Facilities Maintenance activities were identified to be either covered by the Section 7 permitting process (not covered by this agreement) or in a way that does not disturb the Covered Species or impact the Known Occupied Habitat. In discussions with the USFWS and TPWD during the Freshwater Mussel and Turtle take meetings, summarized in Section 2.3, Water Quality operations were identified as the most likely route for Incidental Take of the Covered Species.

5.2 Tracking Incidental Take

Estimates of take were based on a combination of basic life history traits, abundance, and the proximity of occupied areas to wastewater outflows, water supply, or other Covered Activities that could impact the Covered Species. The potential impacts of Covered Activities were considered based on the best scientific information available and as they relate to current habitat conditions that exist in the basin today.

For Freshwater Mussels, it was determined to identify situations where Water Quality operations resulted in disturbances to the baseline conditions of known occupied habitat for the Covered Species. The extent of either the major issues/hiccup would be tracked as impacted river miles, by either mapping the mixing zone or by identifying the extent of an associated fish kill. TRA staff will review the Annual Report of all Covered Parties for situations where Covered Party operations resulted in a disturbance. If no disturbances are identified, then the estimated take of miles of known occupied habitat will be zero.

For Turtles, it was determined that all instances of Take (as defined by the USFWS) would be tracked for both Alligator Snapping Turtle and Western Chicken Turtle for activities that fall under this Agreement. Most work conducted within the Trinity River basin by all Covered Parties is done via a separate Section 7 project-specific permit, with its own Take allowances. The Covered Parties also agreed to track Take events that resulted in Mortality as a subset of all events to better distinguish interactions with the Covered Turtle Species.

5.3 Incident Take Estimation and Analysis

After reviewing the Year 1 Annual Reports for all the Covered Parties, no instances of Take were identified during the Reporting Period. Covered Parties still have 100% of permitted Take allowances for all 6 Covered Species.

Table 7. Incidental Take Tracking for Covered Freshwater Mussel Species

Species	Take Metric	Description	Permitted Take Total Value all 4 Species (River Miles)	Did Take Occur this Year?	Cumulative Take Since Signing of CCAA
Texas Fawnsfoot	Impacted River Miles	Divergence from baseline conditions caused by a Covered Activity	54	No	0
Texas Heelsplitter	Impacted River Miles	Divergence from baseline conditions caused by a Covered Activity	54	No	0
Trinity Pigtoe	Impacted River Miles	Divergence from baseline conditions caused by a Covered Activity	54	No	0
Louisiana Pigtoe	Impacted River Miles	Divergence from baseline conditions caused by a Covered Activity	54	No	0
			Total Take:	0	0
			% Permitted Take:	0	0%
				% Take Remaining	100%

Table 8. Incidental Take Tracking for Covered Turtle Species

Species	Take Metric	Description	Permitted (Instances)	Did Take Occur this Year?	Instances of Mortality	Cumulative Take Since Signing of CCAA
Alligator Snapping Turtle	Instances of Take	As defined by USFWS	10	No	0	0
Western Chicken Turtle	Instances of Take	As defined by USFWS	1	No	0	0
			Total Incidental Take:	0	0	0
			% of Permitted Take:	0%	0%	0%
					% Take Remaining	AST 100%, WCT 100%

6 Adaptive Management

6.1 Changed and Unforeseen Circumstances

No changes or unforeseen circumstances occurred within the Reporting Period for this report.

6.2 Adaptive Management Strategies

Adaptive management strategies were not required within the Reporting Period for this report.

7 Workplan and Budget

7.1 Overview

The Workplan for this Agreement was divided into five 2-year Bienneums (Table 9). Minor changes from the original CCAA Workplan include moving the Caged Mussel Study to Year 1 (from Year 3), delaying all Non-point Source & Restoration activities back to a 2028 start date, and delaying the development of the Watershed Prioritization tool till 2026. These changes were necessary after two grant funding opportunities allowed the TRA to expand the scope of the Caged Mussel Study and the Long-term Monitoring for Mussel projects. To date, only \$1010.00 has been spent from the overall project budget, with an estimated \$50,000 to be spent in Fiscal Year 2025 (Figure 51). By the end of Fiscal Year 2025, the total funds available should be roughly \$98,990, moving into Year 3 of the CCAA. Funding is accumulating as intended for restoration projects in the back half of the 10-year Workplan.

TRA staff have recorded 652.5 person-hours towards the implementation of this Agreement as of 2/12/25.

7.2 Committed Funding

None of the Covered Parties reported a decrease in funding for any Conservation Measures during the first Reporting Period. Each Covered Party allocated their initial annual \$15,000 deposit into the Agreement's Compact Fund, bringing the total to \$75,000. All Covered Parties are on track to contribute their share of the total project cost (\$750,000) by the end of the 10-year Agreement.

7.3 New Funding

As stated in Section 4.14.2, the TRA, via a Texas Parks and Wildlife Grant was able to expand the scope of the Caged Mussel Study project from the originally allocated \$100,000, to the new project budget of \$185,000. Because of the terms of the Grant, the Covered Parties' commitment dropped to \$85,000 of compact funds, allowing for the reallocation of \$15,000 back into the Agreement Workplan and Budget. To date, \$100,000 of new grant funds have been acquired to expand the scope and impact of this Agreement.

7.4 Updated Workplan

Table 9. 10-year Workplan for the Trinity River CCAA.

	1st Biennium		2nd Biennium		3rd Biennium		4th Biennium		5th Biennium	
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033
Annual Report	X	X	X	X	X	X	X	X	X	X
Biennial Ops Review & Report	X		X		X		X		X	
CPA Review	X		X		X		X		X	
Public Outreach and Education	X	X	X	X	X	X	X	X	X	X
Watershed Prioritization Tool			X							
Cage Study	X	X	X	?						
Long-term Monitoring		X	X		X		X		X	
WQ Modeling			X	X	X					
H&H Modeling				X	X					
Restoration					X	X	X	X	X	X
? - Grant funding opportunity may change timeline.										

The timeline of the Workplan has been slightly adjusted due to grant funding opportunities, but no significant changes were made to the plan itself.

7.5 1st Biennium Budget

Table 10. 1st Biennium Budget

FY 2025 Budget					
		1st Biennium			Remaining Overall Budget
		2024 Budget	2024 Actuals	2025 Budget	\$ 698,990
Carryover Actuals		No Carryover		\$73,990	93%
Carryover Budgeted		\$0			
Annual Funding		\$75,000		\$75,000	
Available Funds Actual or Est.		\$75,000		\$148,990	
Project Admin		\$0	\$0	\$0	
Reporting		\$0	\$0	\$0	
Public Outreach		\$5,000	\$1,010	\$5,000	
Cage Mussel Study		\$0	\$0	\$45,000	
Long-term Monitoring		\$0	\$0	\$0	
WQ Modeling		\$0	\$0		
H&H Modeling		\$0	\$0		
Restoration		\$0	\$0		
Other/TBD		\$0	\$0		
Ops Budgeted		\$5,000		\$50,000	
Ops Spent to Date			\$1,010		
Ops Budget Balance			\$3,990	\$50,000	
Set Aside Fund Balance			\$70,000	\$98,990	
Total Carry Over (Actuals)			\$73,990		
Person Hours to Date	Updated 2/12/2025		466	186.5	

8 Erratum

8.1 Candidate Conservation Agreement with Assurances for Six Species in the Trinity River Basin

Following ratification of the Agreement on February 1, 2024. It was identified that the location of the NTMWD Sister Grove Regional Water Resources Recovery Facility, represented as “N10” on Agreement Figure 15, is incorrectly symbolized. The Sister Grove facility is shown in the Agreement as north of Lewisville Lake, whereas the facility should be located north of Lavon Lake, further east. The correct GPS coordinates for the facility are: N33°13'44”, W96°33'35”. Due to this being a minor error, it has been noted and will be corrected during any future amendments to the Agreement.

9 References

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Appendix A – CCAA Supplemental Materials

A.1 CCAA Conservation Priority Measures

Trinity River CCAA 1st Biennium

Freshwater Mussel and Turtle Conservation Priority Areas

CCAA Language: “Within each Conservation Zone, the Covered Parties will work with USFWS and TPWD to identify potential Conservation Priority Areas (CPAs) in the first year of this agreement. Designated CPAs will primarily consist of areas that are currently occupied by at least one Covered Species with a reasonably high potential of either stabilizing the existing population by reducing threats or increasing the population size through various conservation actions, such as additional measures to protect water quality or habitat restoration. The Conservation Zones are described in detail below.” (Trinity River CCAA page 21)

Conservation Priority Areas: 1st Biennial CPAs (Figure 1) have been identified using known species occurrence, year-round water availability, riparian quality, proposed critical habitat, and proximity to leveed floodways. The Mainstem Trinity River, its forks and major tributaries, and all major reservoirs have been assigned a CPA tier from No Priority to High Priority. All occupied habitat for any CCAA Covered Species, except for the areas within the Dallas or Fort Worth levee system, are designated Medium or High Priority. Finalized Biennial CPAs will be reviewed, and revised if necessary, during the Covered Parties Biennial Operations Review meeting.

No Priority Areas: Primarily the forks of the Trinity River located within Conservation Zone A. Within Zone A, year-round water availability is questionable due to the intermittent nature of many of the streams. Additionally, all major reservoirs (occupied and unoccupied) within the Trinity Basin. Water levels in reservoirs within the Trinity can fluctuate significantly due to water supply and flood control operations outside of the control of the Covered Parties. Lastly, the Dallas and Fort Worth leveed floodways are also designated No Priority Areas. The Dallas and Fort Worth leveed floodways are areas with little canopy cover, little to no submerged structure and are designed to move water, all features not conducive for the covered species.

Low Priority Area: These are the mainstem and forks of the Trinity River located within Conservation Zones B, D, and E not identified as occupied habitat for any CCAA species. These areas are either urbanized systems or rural areas with poor riparian habitat and substrate quality.

Medium Priority Area: These are segments of the East Fork and mainstem Trinity River in Conservation Zone B and E that are known occupied habitat zones for one or more CCAA species. These areas and their justification for Medium Priority designation include:

- The Mainstem Trinity River below the Dallas Floodway to the Rosser, TX USGS Streamgage. This segment is downstream of the DFW metroplex and the outfalls of multiple wastewater treatment plants. Though this segment will contain multiple sites during the Cage Mussel Study (CCAA Years 1-3), it was designated Medium Priority until the impacts of WWTP on Trinity River mussel populations are identified.
- The East Fork Trinity River below Lake Ray Hubbard to the confluence with the mainstem. Though it is occupied habitat of the Texas Fawnsfoot, populations are minimal and sporadic within the lower East Fork due to poor riparian and substrate quality, thus earning a Medium Priority for the time being.

- The Mainstem Trinity River below Lake Livingston to the USGS at Romayor, TX. The lower Trinity below Lake Livingston has a very sandy and unstable substrate. Though portions of the segment will potentially be a part of long-term monitoring efforts (CCAA year 2, 4, 6, 8, & 10), major restoration efforts within the unstable system are unlikely and are the reason for a medium designation.

High Priority Area: These segments make up the mainstem of the Trinity River and its major tributaries located within Conservation Zone C from the Rosser, TX USGS Streamgage to the Headwaters of Lake Livingston at the end of the TPWD Mussel Sanctuary. Along with the Elm fork Trinity River (and Denton Creek) from the Lake Lewisville Dam to the Northern edge of the Dallas Floodway Levee. Although hydrology is highly modified though this section, these segments have the greatest potential for restoration success due to possessing good riparian and substrate, known occurrence of Covered Species, and are areas of conservation research interest.

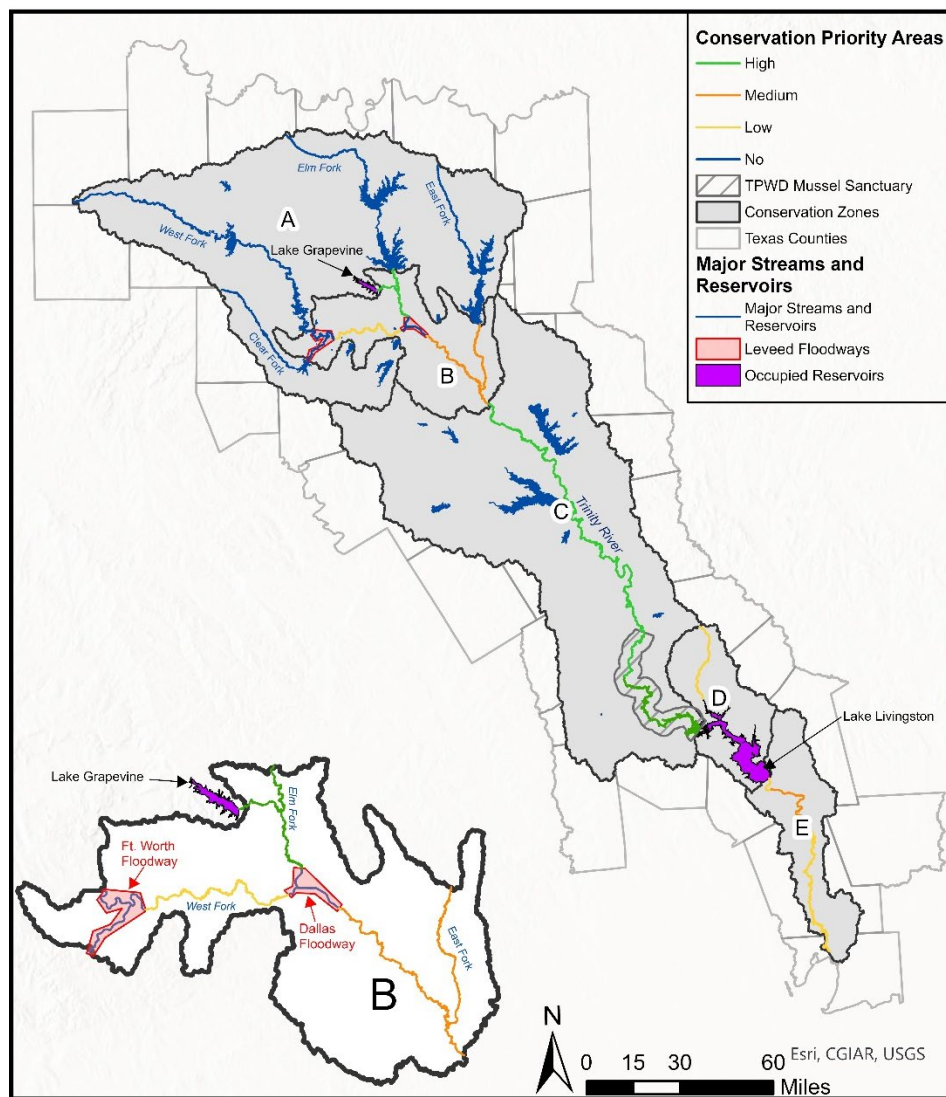


Figure 1: Freshwater mussel Conservation Priority Areas (CPA) within the Trinity River Basin.

A.2 Section 7 and 10 Best Management Practices



Trinity River Authority of Texas

Best Management Practices for Section 7

Activities within the Trinity River basin

Purpose of Document and Disclaimer:

The following document is intended to avoid and minimize the impacts to the Covered Species of freshwater mussels and turtles, listed in the Trinity River Authority's Candidate Conservation Agreement with Assurances (CCAA). These Best Management Practices have been developed by the Covered Parties to fulfill the avoidance, mitigation, and educational requirements tasked to the Covered Parties within the Covered Area. Where these BMPs were developed specifically for the Covered Species and the Covered Activities outlined in Section 7 of the Trinity River CCAA, their beneficial impacts should extend to all other species of freshwater mussels and turtles found within the Trinity River basin. These BMPs are not intended to replace Endangered Species Act coordination if required for a project, but rather to act as guidance of how to voluntarily avoid harming these species. These recommended BMPs were developed in cooperation with Texas Parks and Wildlife Department (TPWD), USFWS and from other publicly available BMPs for each species.

Covered Species & Ecological Profiles:

-Freshwater mussels are a highly inconspicuous group of organisms that play a vital role within the aquatic environment. Commonly mistaken for rocks, these relatively immobile creatures are filter feeders who remove algae, bacteria and other material from the water column, improving the water quality within their environment. They live their lives in the substrate of flowing waters, usually in areas with stable substrate (gravel, cobble or boulder). Certain species have adapted to be found in backwaters, oxbows and in sandier/silt filled environments, though this is uncommon. Currently, 29 different species can be found within the Trinity River Basin, with this CCAA focusing on the Covered Species: Trinity Pigtoe (*Fusconaia chunii*), Texas Heelsplitter (*Potamilus amphichaenus*) and Texas Fawnsfoot (*Truncilla macrodon*). Additionally, the Louisiana Pigtoe (*Pleurobema*

riddellii), though no longer found within the Trinity, is also a Covered Species.

-The Alligator Snapping Turtle (*Macrochelys temminckii*) is a modern-day dinosaur found throughout East Texas and the Southeast in a variety of aquatic habitats from small streams to large rivers and on the banks of some reservoirs, though they prefer aquatic habitat with canopy cover, submerged structures and areas of slower moving water. Adults are opportunistic feeders but are highly adapted to consuming fish and other aquatic prey. Males rarely leave the water and use downed trees and root balls as habitat. Female Alligator Snapping Turtles will use riparian areas for nesting.

-The Western Chicken Turtle (*Deirochelys reticularia miaria*) is a semi-aquatic turtle that prefers wetlands and smaller bodies of water in the spring. Most of the year, these turtles will leave the aquatic environment and bury themselves underground for the remainder of the year. Ranges and many behavior characteristics are still being discovered for this species.

Threats within the Trinity:

Major threats to these Covered Species include; altered hydrology, degraded water quality, modification, loss, or fragmentation of habitat, and barriers to dispersal. All these factors can and have impacted the Covered Species in varying degrees within the Trinity Basin. Freshwater mussels are the most endangered species group in the United States, with multiple species either listed or currently under consideration for Threatened or Endangered Species Protections. Alligator Snapping Turtle, along with the threats above, are commonly poached for their meat, shell or to be sold in the pet trade.

Best Management Practices:

The Covered Parties operations require staff to operate in riparian areas where the Covered Species are found. These Best Management Practices are designed to minimize any



Trinity River Authority of Texas

Best Management Practices for Section 7

Activities within the Trinity River basin

disturbance of the Covered Species while working in and near aquatic environments:

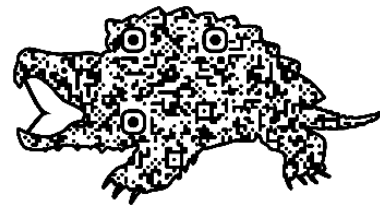
- All Covered Parties will ensure that any project is evaluated for compliance with TPWD's Guidelines for Aquatic Resource Relocation Plans for Fish and Shellfish, Including Freshwater Mussels (ARRP) and Section 106 of the National Historic Preservation Act (NHPA).
- All Covered Parties employees and contractors should be provided with educational material on the Covered Species. Contents of the material should focus on the general identification, habitat, and avoidance measures for these covered species.
- A general inspection shall be conducted by construction crews to determine if any of the covered species are found within the potential project area or along the easement leading to the project area. If species are found, avoidance measures should be implemented, and appropriate authorities should be contacted.
- All project-specific equipment and materials should be staged outside of riparian areas when feasible and only brought into the riparian area when necessary to complete the goal/task.
- Vehicles used regularly for work within the riparian environment should be routinely inspected for any fluid leaks.
- Exclusion barriers, temporary coffer dams, and silt fencing shall be constructed when required by USFWS, TPWD, or other agency. Barriers should not impede flow when possible and, be made out of non-toxic materials and checked daily.
- The clearing of riparian or aquatic vegetation should be avoided unless necessary for access to the project area.
- Avoid removing or destroying unique aquatic habitat features (downed trees, root snags, etc.) unless necessary. If possible, aquatic features can be temporarily removed and replaced once work is completed.

- Any vehicles or machinery operating within the waterway shall comply with all State laws and/or State/Federal permit regulations.
- Natural channel and riparian designs, along with bioengineered methods should be included in all projects, when feasible.
- Any Covered Species spotted by personnel within or near the project area should be immediately reported to TRA. If an Alligator Snapping Turtle is sighted, take a photo, only if a photo can be taken without harassing the animal, and report the sighting using the online reporting tool from TRA website (See "Reporting" below).

Reporting

Any sighting of an Alligator Snapping Turtle should be reported immediately to TRA here:

https://www.trinityra.org/basin_planning/turtles.php



Contact Information:

For questions regarding CCAA compliance and reporting:

Trinity River Authority of Texas

Attn: Technical Services and Basin Planning

Webster Mangham or Ryan Seymour

Phone: 817-467-4343

Email: EnvOps@trinityra.org

Additional Resources:

Section 10(1)(a) Permit and CCAA Document:

https://www.trinityra.org/basin_planning/initiatives/endangered_species/ccaa.php

Information on Freshwater Mussels:

- https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/mussel/biology/
- <https://www.fws.gov/library/collections/texas-freshwater-mussels>

Information on Alligator Snapping Turtles and Western Chicken Turtles:

- <https://ecos.fws.gov/ecp/species/4658>
- <https://ecos.fws.gov/ecp/species/9903>



Trinity River Authority of Texas

Best Management Practices for Section 10

Activities within the Trinity River basin

Purpose of Document and Disclaimer:

The following document is intended to avoid and minimize the impacts to the Covered Species of freshwater mussels and turtles, listed in the Trinity River Authority's Candidate Conservation Agreement with Assurances (CCAA). These Best Management Practices have been developed by the Covered Parties to fulfill the avoidance, mitigation and educational requirement tasked to the Covered Parties within the Covered Area. Where these BMPs were developed specifically for the Covered Species and the Covered Activities outlined in Section 7 of the Trinity River CCAA, their beneficial impacts should extend to all other species of freshwater mussels and turtles found within the Trinity River basin. These BMPs are not intended to replace Endangered Species Act coordination if required for a project, but rather to act as guidance of how to voluntarily avoid harming these species. These recommended BMPs were developed in cooperation with Texas Parks and Wildlife Department (TPWD), USFWS and from other publicly available BMPs for each species.

Covered Species & Ecological Profiles:

-Freshwater mussels are a highly inconspicuous group of organisms that play a vital role within the aquatic environment. Commonly mistaken for rocks, these relatively immobile creatures are filter feeders who remove algae, bacteria and other material from the water column, improving the water quality within their environment. They live their lives in the substrate of flowing waters, usually in areas with stable substrate (gravel, cobble or boulder). Certain species have adapted to be found in backwaters, oxbows and in sandier/silt filled environments, though this is uncommon. Currently, 29 different species can be found within the Trinity River Basin, with this CCAA focusing on the Covered Species: Trinity Pigtoe (*Fusconaia chunii*), Texas Heelsplitter (*Potamilus amphichaenus*) and Texas Fawnsfoot (*Truncilla macrodon*). Additionally, the Louisiana Pigtoe (*Pleurobema riddellii*), though no longer found within the Trinity, is also a Covered Species.

-The Alligator Snapping Turtle

(*Macrochelys temminckii*) is a modern-day dinosaur found throughout East Texas and the Southeast in a variety of aquatic habitats from small streams to large rivers and on the banks of some reservoirs, though they prefer aquatic habitat with canopy cover, submerged structures and areas of slower moving water. Adults are opportunistic feeders, but are highly adapted to consuming fish and other aquatic prey. Males rarely leave the water and use downed trees and root balls as habitat. Female Alligator Snapping Turtles will use riparian areas for nesting.

-The Western Chicken Turtle (*Deirochelys reticularia miaria*) is a semi-aquatic turtle that prefers wetlands and smaller bodies of water in the spring. Most of the year, these turtles will leave the aquatic environment and bury themselves underground for the remainder of the year. Ranges and many behavior characteristics are still being discovered for this species.

Threats within the Trinity:

Major threats to these Covered Species include; altered hydrology, degraded water quality, modification, loss, or fragmentation of habitat, and barriers to dispersal. All these factors can and have impacted the Covered Species in varying degrees within the Trinity Basin. Freshwater mussels are the most endangered species group in the United States, with multiple species either listed or currently under consideration for Threatened or Endangered Species Protections. Alligator Snapping Turtle, along with the threats above, are commonly poached for their meat, shell or to be sold in the pet trade.

Best Management Practices:

The Covered Parties operations require staff to operate in riparian areas where the Covered Species are found. These Best Management Practices are designed to minimize any disturbance of the Covered Species while working in and near aquatic environments:

- All Covered Parties will ensure that any routine operations and maintenance activities are in compliance with



Trinity River Authority of Texas

Best Management Practices for Section 10

Activities within the Trinity River basin

TPWD's Guidelines for Aquatic Resource Relocation Plans for Fish and Shellfish, Including Freshwater Mussels (ARRP) and Section 106 of the National Historic Preservation Act (NHPA).

- All Covered Parties employees and any subcontractors shall be provided with educational material on the Covered Species. Contents of the material should focus on the general identification, habitat and avoidance measures for these covered species.
- When driving within riparian areas, personnel should move at a slow rate of speed and avoid driving through highly vegetated environments.
- Any Covered Species spotted by personnel within or near the project area should immediately be reported to TRA. If an Alligator Snapping Turtle is sighted, take a photo, only if a photo can be taken without harassing the animal, and report the sighting using the online reporting tool from TRA website (See "Reporting" below).
- Any new disturbances to the stream or riparian areas should minimize impacts by: avoiding unnecessary clearing of riparian vegetation or instream structure, following proper sediment and erosion control measures, and regularly inspecting the project area for covered species.
- All project-specific equipment and materials should be staged outside of riparian areas when feasible and only brought into the riparian area when necessary to complete the goal/task.
- Vehicles used regularly for work within the riparian environment should be routinely inspected for any fluid leaks.
- Temporary coffer dams and silt fencing should be made of non-toxic materials.
- Once work is complete, all disturbances should be restored back to pre-existing conditions or better using natural channel design elements whenever feasible.
- See "Exception Statement" for further information.

Reporting

Any sighting of an Alligator Snapping Turtle should be reported immediately to TRA here:

https://www.trinityra.org/basin_planning/turtles.php



Exception Statement

The Covered Parties understand that avoidance of the Covered Species is not always possible when responding to emergency pipeline breaks or sewer overflows. Thus, in rare occurrences when there is an immediate danger to human health and safety, the Covered Parties have the right to temporarily suspend following one or multiple BMPs to provide a timely repair. Any such instance will be reported to the Service in the Annual Report.

Contact Information:

For questions regarding CCAA compliance and reporting:

Trinity River Authority of Texas

Attn: Technical Services and Basin Planning

Webster Mangham or Ryan Seymour

Phone: 817-467-4343

Email: EnvOps@trinityra.org

Additional Resources:

Section 10(1)(a) Permit and CCAA Document:

https://www.trinityra.org/basin_planning/initiatives/endangered_species/ccaa.php

Information on Freshwater Mussels:

- https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/mussel/biology/
- <https://www.fws.gov/library/collections/texas-freshwater-mussels>

Information on Alligator Snapping Turtles and Western Chicken Turtles:

- <https://ecos.fws.gov/ecp/species/4658>
- <https://ecos.fws.gov/ecp/species/9903>

A.3 Trinity River CCAA Public Education and Outreach Workplan

Trinity River CCAA Public Education and Outreach Workplan

Objective: To increase the awareness of Covered Species by adding Endangered Species-specific (ESS) information to existing conservation messaging, materials, and curriculum.

Task Description: Covered Parties are asked to continue their already successful public education and outreach programs throughout their respective jurisdictions. Within the 1st year, Covered Parties are asked to develop ESS educational materials to be incorporated into their existing programs. Covered Parties should include these ESS materials in their outreach for at least the duration of the CCAA agreement (Nov 30, 2033).

Conservation Topics: Endangered Species-specific content developed by the Covered Parties should focus on the following topics outlined within the CCAA agreement: General Awareness and Lifecycle needs, Ecosystem Services, Threats to Persistence, Poaching Awareness, Water Quality, Water Conservation, and Riparian Restoration.

Important Dates for Content: The new ESS content should mesh easily into already existing programs, but Covered Parties are asked to try to highlight certain environmental holidays/awareness weeks relevant to the conservation topics mentioned within the CCAA. These holidays/awareness weeks of relevance to the CCAA include but are not limited to:

- World Wetland Day (Feb 2nd)
- World Aquatic Animal Day (April 3rd)
- National Environmental Education Week (2nd Week of April)
- Earth Day (April 22nd)
- World Wildlife Day (Mar 3rd)
- Endangered Species Day (3rd Friday in May)
- World Turtle Day (May 23rd)
- National Rivers Month (June)
- World Water Week (Week of Aug 23rd)
- World Rivers Day (Sept 22nd)

In-Person Events: Each Covered Party is asked to incorporate ESS content into their normal public outreach activities and events throughout the year. Examples of ways to do this include but are not limited to:

- An endangered species pamphlet/fact sheet handed out at events.
- An endangered species activity teaching the public about identification, habitat or life cycles.
- Endangered species-specific slides are incorporated into public presentations about the agency/municipality.
- Endangered Species-specific presentations to groups, clubs, or at schools throughout the basin

Social Media: Covered Parties are asked to incorporate ESS material into their existing social media content. The platform upon which content is posted is at the discretion of the Covered Parties, but ideally there should be at minimum 6 social media posts each year regarding ESS topics.

Tracking Metrics: Each Covered Party will need to track their public education and outreach activities for CCAA annual reporting. Tracking metrics include:

- Event/Post Date and Location
- Event/Post Name or Title
- Description of Event/Post
- Number of Interactions (event only)
- Number of Like and Shares (Social Media Post only)

Deliverables and Due Dates:

Spring 2025

- TRA will set up a Kickoff Meeting with the Public Outreach/Education staff for each of the Covered Parties to create messaging and outreach materials. This Workgroup will aim to meet biannually to discuss the success of messaging and content.

February 1, 2024, through January 31th, 2025

- Develop Endangered Species-specific educational content for outreach events.
- Post Endangered Species-specific social media posts throughout the year.
- Report Public education and outreach activities via the Covered Parties Reporting Template and submit to the TRA CCAA Project Manager by Feb 1, 2025.

Annually Jan 1st, 2025 through January 28th, 2034

- Post Endangered Species-specific social media posts throughout the year
- Report Public education and outreach activities via the Covered Parties Reporting Template and submit to the TRA CCAA Project Manager by Feb 1 of each year.

Appendix B – Covered Parties Year 1 Reports

B.1 Trinity River Authority

CCAA Covered Party Annual Report

Covered Party Name	Trinity River Authority of Texas
Date Range of Report	2/1/24-1/31/25

Covered Party Contact Information

Representative Name	Ryan Seymour
Job Title	Environmental Scientist III, CCAA Project Manager
Email	Seymourrd@trinityra.org
Phone	682-381-9025

Conservation Measure	TRA Department	CCAA Conservation Sub-measure	Tracking Metric	Date Range	Summary/Value	Notes
8.1 Non-point Source Watershed Protection	TSBP (Env)	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans	2/1/24-1/31/25	2 (Joe Pool Lake, Village Creek/Lake Arlington)	
	TSBP (Env)	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities	2/1/24-1/31/25	JPL- OSSFs Database, Funding repair/replacement VCLA- Illegal Dumping, Litter Source Assessment Surveys	
	TSBP (Env)	8.1c Work with partners to create and design a watershed prioritization tool	Summary of work towards watershed development tool.	2/1/24-1/31/25	None	Watershed Development Tool will come later in CCAA
8.2 Stream Restoration Activities	TSBP (WRP)	8.2a Work with partners to identify locations, partners, funding, and project management for habitat restoration projects and implementation of BMPs	Number of meetings with landowners, grant applications, metterings with NRCS and TSSWCB	2/1/24-1/31/25	None	To begin in 2028
	TSBP (WRP)		Area and type of restoration	2/1/24-1/31/25	None	To begin in 2028
	TSBP (WRP)		Summary of data collection activities	2/1/24-1/31/25	None	To begin in 2028
8.3 Participate in the USACE Sustainable Rivers Project	TSBP (WRP)	8.3a Participate in the USACE stakeholder process and technical review	Meeting between Covered Parties and USACE	2/1/24-1/31/25	Meetings in 2024	Informed that talks were on hold till Reregulation study finished

	(Pre-treatment)	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	2/1/24-1/31/25	Funding for FY 2024 was \$1,788,814.00. A total of 207 industrial inspections were conducted in the previous year.	TRA CRWS and TMCrWS are required to implement approved pretreatment programs by TCEQ. An approved pretreatment program is under review by TCEQ and will be implemented in the near future for TRA DCRWS. Both TRA MCRWS and ROCrWS are not required to implement approved pretreatment programs currently. All five projects are treated as if they have approved programs and follow the rules in 40 CFR 403. Minimum annual inspections are performed at all permitted industrial users. Industrial user surveys are conducted for all projects every 3-5 years to identify any new dischargers to TRA. All permitted industrial users are sampled for parameters in permits a minimum of semi-annually.
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8.4 Regional and Large-scale Wastewater Treatment

(Pre-treatment)	8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	2/1/24-1/31/25	TRA DCRWS was experiencing high BOD loadings at the treatment plant.	Environmental Services isolated the wastewater trunk lines and deployed automatic samplers to help isolate the high loadings. The Cade Branch was identified as contributing to the high BOD. The City of Fort Worth was notified of the high results and they initiated an investigation of their permitted industrial users. An energy drink manufacturer was identified as being the contributor of the high BOD. Fort Worth along with TRA Specialists visited the industrial user (IU) and noted several instances of untreated finished product and raw material being discharged to the sanitary sewer. The City of Fort Worth placed the industry on an Administrative Order, placed a BOD discharge limit of 500 mg/L in its permit and required the IU to design and install wastewater treatment and install spill prevention measures to mitigate the release of untreated product or raw material to the sanitary sewer. Since the installation of wastewater treatment and the mitigation of spills, BOD loading issues at the DCRWS project have decreased.
NORTHERN REGION	8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	2/1/24-1/31/25	Meetings	Met with 5 Cities in Chambers Creek Watershed, 15 Entities within Ellis County

	TSBP (WRP)	8.4d Continue the Waste Load Allocation process for the mainstem Trinity River and analyze and validate discharge limits that are protective of the aquatic env.	Summary of Wasteload Allocation Modeling updates (if available)	2/1/24-1/31/25	None	
		8.4e Continue operations of WWTPs	Volume of water treated (mgd)	2/1/24-1/31/25	192.95 MGD	
8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	NORTHERN REGION	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	2/1/24-1/31/25	See Notes	TRA finished one or multiple phases* of 15 different CIP projects within the Period of Record. In FY 25, the TRA has one or multiple phases of 40 different CIP projects planned, with an estimated total CIP budget of \$457.6 million. *Note: Project Phases include Studies, Field Assessments, Prelim or Final Designs, Land Rights & Legal processes, Inspections, or Construction.
	NORTHERN REGION	8.5b The continuation of industrial pre-treatment programs (described in Section 8.4)	Summary of pre-treatment activities or See Section 8.4)	2/1/24 - 1/31/25	See 8.4a & 8.4b above	
	COLLECTIONS	8.5c Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	2/1/24 - 1/31/25	326.72 Miles of Surface inspections	These are inspections on the surface and aerial conditions of all the TRA's pipelines with in and outside of Riparian area.
	COLLECTIONS	8.5d Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	2/1/24 - 1/31/25	Three	All within the metroplex along tributaries to the Trinity.
	TSBP (Env)	8.6a Support TCEQ's environmental flow requirements and continue environmental flow research	Summary of activities	2/1/24 - 1/31/25	Meetings	BBASC Met in 2024, TRA, TRWD, NTMWD and City of Dallas Present
	TSBP (Env)	8.6b Ensure that models and modeling results are provided to the BBASC and BBEST to inform the Adaptive Management phases of SB3	Summary of any model or modeling results	2/1/24 - 1/31/25		
	TSBP (Env)	8.6c Support environmental flow requirements codified by the TCEQ and incorporated into the WAM	Summary of activities	2/1/24 - 1/31/25	None	

8.6 Environmental Flows Protection	TSBP (Env)	8.6d Work on environmental flow projects and research in conjunction with the BBASC and BBEST	Number and Summary of meetings of the BBASC and BBEST, projects, research, grant applications	2/1/24 - 1/31/25	None	Waiting on TCEQ to set new Environmental Flow Advisory Group meeting schedule before new projects
	TSBP (Env)	8.6a Continue settlement agreement requiring at least 30% (excluding NTMWD) of all in-basin wastewater return flows to be allowed to flow downstream to Lake Livingston	Summary of Hydrologic Review of the 30% of all discharges guaranteed to remain in the system to Lake Livingston	2/1/24 - 1/31/25	USGS Gage Data Rosser	Gage Data over Period of Record Attached
8.7 Instream Flow Protections in Zone E	SOUTHERN REGION	TRA Voluntary E. Flow from Livingston	Confirm that 250 cfs and 500 cfs (7-day average) occurred. (LLP Release Records or Goodrich gage)	2/1/24 - 1/31/25	USGS Gage Data Goodrich	Gage Data over Period of Record Attached
8.8 USGS Flow and Water Quality Monitoring	TSBP	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs	2/1/24 - 1/31/25	12 Funded Gages	(See Page specific to 8.8 USGS Gage Stations)
	TSBP	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs	2/1/24 - 1/31/25	see 8.8a	(See Page specific to 8.8 USGS Gage Stations)
8.9 Eradication and Control Measures to Address	SOUTHERN REGION	8.9a Fund eradication and control measures to address invasive aquatic plants in the Covered Parties' infested reservoirs	Summary of any Invasive Species public outreach	2/1/24 - 1/31/25	Website	On TRA Basin Planning Website (https://www.trinitytra.org/basin_planning/initiatives/zebra_mussels.php)
	SOUTHERN REGION		Summary of any 3rd party actives (ex: TPWD Clean, Drain, Dry program)	2/1/24 - 1/31/25	Website	On TRA Basin Planning Website (https://www.trinitytra.org/basin_planning/initiatives/zebra_mussels.php)

Measures to Address
Invasive Aquatic Plants

8.10 Avoiding and
Minimizing Site-Level
Disturbances

SOUTHERN REGION	8.9b Report herbicide use to the Service as part of the annual reporting and any adverse effects to wildlife, if observed	Report of Cost, Herbicide Use, Product Name, Volume Applied and Area (feet) treated & any observed adverse effects to wildlife	2/1/24 - 1/31/25	\$10,985	TPWD AIS Grant Program, 250 acres treated for Giant Salvinia, Water Lettuce and Water Hyacinth
PDCA	8.10a Conduct mussel surveys and relocations consistent with the latest USFWS and TPWD protocols prior to initiating disturbance	Number and summary of mussel surveys and relocation efforts covered under this CCAA (Excluding Section 7 and other activities covered by other permits)	2/1/24-1/31/25	PDCA requires its engineering design consultants to determine if a mussel survey and/or an aquatic resource relocation plan is required prior to construction on a project-by-project basis.	This requirement is defined in PDCA's design contract, Engineering Services Agreement (ESA), with each engineering design consultant.
PDCA	8.10b Avoid occupied mussel beds where possible for any covered activity requiring CWA 404 permitting	Summary of avoidance activities related to identified mussel beds	2/1/24-1/31/25	N/A	N/A
PDCA	8.10c Implement standard erosion and sediment control measures consistent with state or local requirements during site-level disturbance activities	Summary of standard erosion and sediment control measures (SWPPP in occupied areas) Training provided	2/1/24-1/31/25	PDCA requires its contractors to provide erosion and sediment controls on all construction projects. Additionally, SWPPP is included as a bid item/mechanism on all projects for compensation associated with this requirement.	See attached specifications 01 57 23 Temporary Stormwater Pollution Control and 31 25 00 Erosion and Sediment Control. Both specifications require the Contractor to implement a stormwater pollution prevent plan (SWPPP) in accordance with the Texas Commission on Environmental Quality (TCEQ) TPDES General Permit No. TXR150000.
PDCA/COLLECTIONS	8.10d Minimize as much as feasible area of new disturbance within a streambed	Training provided	2/1/24-1/31/25	PDCA requires contractors to work within defined easements which minimizes disturbance and vegetation clearing where feasible.	PDCA is to release specification 01 41 26 CCAA Requirements by March 1, 2025 for use on future construction projects as applicable.
PDCA/COLLECTIONS	8.10e Minimize vegetation clearing within riparian zones	Training provided	2/1/24-1/31/25	See response to 10d.	See response to 10d.

	PDCA/COLLECTIONS	8.10f Make temporary coffer dams of nontoxic materials	Were materials of temporary coffer dams non-toxic - add to construction BMPs	2/1/24-1/31/25	All coffer dams comply with storm water regulations and are constructed in accordance with the Texas Commission on Environmental Quality (TCEQ) TPDES General Permit No. TXR150000.	
	PDCA/COLLECTIONS	8.10g Restore streambanks, vegetation, streambeds, temporary work areas after construction to pre-existing conditions or better	Summary of streambank, vegetation, and temporary work area restoration activities- add to construction BMPs	2/1/24-1/31/25	See response to 10d.	See response to 10d.
	PDCA	8.10h Follow Aquatic Resource Relocation Plan when mussels cannot be avoided	Summary of Aquatic Resource Relocation Plans (Excluding Section 7 and other activities covered by other permits)	2/1/24-1/31/25	See response to 10a.	See response to 10a.
	PDCA	8.10i Incorporate natural channel design elements into construction projects permitted under a separate section 7 consultation whenever feasible	Summary of Natural Channel design elements (if applicable)	2/1/24-1/31/25	PDCA assesses if natural channel design is feasible on a project-by-project basis.	
8.11 Public Education and Outreach	COMMUNICATIONS	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activities (see specific page)	2/1/24-1/31/25	33,000 interactions	(See page specific to 8.11 Public Education and Outreach)
	TSBP	8.11b Further expand Alligator Snapping Turtle signage program with 20 additional signs each year for first two years. Evaluate program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and reports	2/1/24-1/31/25	3 new signs, 40 new posters	Posters developed instead of signs to reach greater number of citizens
8.12 Reintroduction of	TSBP	8.12a Work with appropriate agency to facilitate reintroduction of covered mussel species through in-kind support should agencies authorize reintroduction	Summary of in-kind support provided for reintroduction efforts	2/1/24-1/31/25	None	No Reintroduction Efforts to Date

Covered Species	TSBP	8.12b Work with appropriate agency to facilitate reintroduction of covered turtle species should agencies authorize	Summary of data provide to partner agencies for research and reintroduction efforts	2/1/24-1/31/25	None	No Reintroduction Efforts to Date
8.13 No New Permanent Dams on the Trinity River Mainstem	TSBP	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem	2/1/24-1/31/25	0	No new permanent dams
8.14 Monitoring and Research						
8.14.1 Instream Water Quality Monitoring	TSBP	8.14.1 a Should TCEQ unexpectedly discontinue funding the Clean Rivers Program during the term of the agreement, continue water quality monitoring and reporting for the Trinity Basin at or above the same level of effort as was in place when the funding was reduced at sites along the mainstem and major tributaries that have a direct effect on the Covered Species.	Number of Clean Rivers Program stations and parameters sampled (in occupied or critical habitat)	2/1/24-1/31/25	28	28 Stations sampled monthly or quarterly for Metals, Conventional (i.e. Nutrients, Chl-a, TDS), Bacteria (E. Coli), Flow, and Field measurements (pH, DO, Spec. Cond., Temp)
8.14.2 Caged Mussel Studies	TSBP	8.14.2a Complete caged mussel studies at a minimum of two sites in Zone B and two sites in Zone C within first 5 years				
8.14.3 Long-term Monitoring for Mussels	TSBP	8.14.3a Fund long-term monitoring (annually or biennially) at a total of four sites within Zones B, C, and/or E in close coordination with USFWS and TPWD				
8.14.4 Water Quality Modeling	TSBP	8.14.4a Within first 5 years, create water quality model or modify an existing model that can be used to better understand the expected water quality responses from up to three potential future flow conditions in all or portions of Conservation Zones B, C, and E				
8.14.5 Hydraulic and Hydrologic Modeling	TSBP	8.14.5a Design a modeling project that can best address the current data gaps for shear tolerances for mussels in all or portions of Conservation Zones B and C				

8.14.6 Zebra Mussel Monitoring	TSBP	8.14.6a Fund zebra mussel monitoring programs at \$40,000 per year	Documentation of funding of Zebra Mussel monitoring program	2/1/24-1/31/25	USGS Joint Funding Contract	Available Upon Request
	TSBP		Number and location of monitoring sites (include infestation status)	2/1/24-1/31/25	Lake Arlington (4 sites, twice a year), Lake Livingston (6-8 sites, twice a year)	
	TSBP	8.14.6b Provide in-kind assistance to eradicate zebra mussels if USFWS/TPWD identify means and methods	Summary of in-kind assistance to eradicate zebra mussels	2/1/24-1/31/25	\$15,300 Annually	
Compliance or Reporting Measure		Addressed in Annual Report	Tracking Metric	Date Range	Summary/Value	Notes
I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	TSBP	14 Reporting of Incidental Take	Date and duration of permit limit exceedance	2/1/24-1/31/25	None	
	TSBP		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)	2/1/24-1/31/25	None	
I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream disturbing activities that impact habitat occupied by the four Covered Species of mussels	TSBP	14 Reporting of Incidental Take	Direct interactions (touching) or induced mortality of covered species	2/1/24-1/31/25	None	

	USGS Gage #	USGS Gage Name	Gage Type	Covered Parties Cost (USD)	Covered Parties Partners	Total Funding Amount (USD)
1	8048543	W. Fork Trinity River at Beach Street, Fort Worth	Flow	\$3,605	TRA, Dallas, Ft. Worth	\$117,485
2	8049500	W. Fork Trinity River at Grand Prairie	Flow & Water Quality	\$8,150	TRA, Dallas, Ft. Worth	
3	8057000	Trinity River at Dallas	Flow & Water Quality	\$8,150	TRA, Dallas, Ft. Worth	
4	8057410	Trinity River bl. Dallas, TX	Flow & Water Quality	\$8,150	TRA, Dallas, Ft. Worth	
5	8062500	Trinity River near Rosser	Flow & Water Quality	\$8,150	TRA	
6	8065350	Trinity River near Crockett, TX	Flow & Water Quality	\$33,250	TRA	
7	8066000	Trinity River at Riverside, TX	Stream Level	\$5,590	TRA	
8	8066170	Kickapoo Creek near Onalaska, TX	Flow & Water Quality	\$11,600	TRA	
9	8066190	Livingston Reservoir near Goodrich, TX	Reservoir and Wind	\$7,640	TRA	
10	8066200	Long King Creek at Livingston, TX	Flow & Water Quality	\$0	TRA Supporting, but currently funded through FPS Ntwk	
11	8066250	Trinity River near Goodrich, TX	Flow & Water Quality	\$11,600	TRA	
12	8066300	Menard Creek near Rye, TX	Flow & Water Quality	\$11,600	TRA	

	Post or Event	Event/Post Date	Event/Post Name	Description	Number of Interactions/Post Performance	Handouts + Activities	Number of Likes/Shares
1	Event	4/27/2024	Earth Day Mansfield	The debut of the Alligator Snapping Turtle "Guess the difference" activity. Booth at Chris W Burkett Service Center in Mansfield staffed by 3 TRA staff from 9 AM - 1 PM	300	Handed out and engaged In the guess the difference activity, talked to city staff and the public about the CCAA, and distributed the press release.	N/A
2	Post	5/17/2024	Endangered Species Day Post	Post on Facebook, Instagram, LinkedIn, and Twitter to introduce the public to the CCAA species. Caption "May 17th is Endangered Species Day! Check out how the Trinity River Authority and its partners are already ahead of the game committing to special conservation measures for four freshwater mussel species and two turtle species within the Trinity basin. Check out the environmental initiatives website: https://trinityra.org/basin.../environmental_initiatives.php "	4,705	N/A	52 Likes, 8 shares
3	Post	5/23/2024	World Turtle Day Post	Post on Facebook, Instagram, LinkedIn, and Twitter to highlight the Alligator Snapping Turtle. Caption "May 23rd is World Turtle Day! This year, we're highlighting the Alligator Snapping Turtle (<i>Macrochelys temminckii</i>), one of the key species in our Candidate Conservation Agreement with Assurances (CCAA). A CCAA is a voluntary agreement where landowners commit to conservation efforts for at-risk species. Learn how to identify these turtles and help us monitor their populations using our online reporting tool. For more information, visit our website https://www.trinityra.org/basin_planning/turtles.php "	4,195	N/A	58 likes, 17 shares

4	Post	6/7/2024	Texas Fawnsfoot Post	Post on Facebook, LinkedIn, and inTRA (TRA's newsletter) about the fawnsfoot's updated status with a link to the press release. Caption from inTRA "The United States Fish and Wildlife Service recently announced the listing of seven freshwater mussel species found throughout Central Texas under the Endangered Species Act. One of these species, the Texas Fawnsfoot (<i>Truncilla macrodon</i>), is found within the Trinity Basin and has received a threatened status with a 4(d) rule. Once a species is declared threatened or endangered, the ESA ensures it will be protected, and all efforts will be made to assist in its recovery. Read More"	3,331	N/A	33 likes, 4 shares
5	Event	6/17/2024 - 6/20/24	FWISD Vital Link at GO and TRWD	Yearly program supporting Fort Worth ISD's career connection program Vital Link. Students learned about TRA's mission, water and wastewater treatment, watershed protection, species in the Trinity, and careers in the water industry. On the final day we partnered with TRWD and the students learned about water quality indicators for different species of aquatic macroinvertebrates and sampled the river near TRWD's campus and their on campus wetland.	7	Students were given a presentation, basic TRA info, and participated in sampling.	N/A
6	Event	8/19/24 - 10/4/24	2024 Art Contest	1st-8th grade students in TRA's customer cities and board member counties were invited to participate in TRA's annual art contest. The theme for 2024 was "The Trinity River: Our Shares Home" This theme invited students to explore the interconnected story of the Trinity River Basin. It's a place where millions of Texans and a wide range of species coexist, relying on its rich resources and diverse ecosystems. Our actions shape the health of this shared home, influencing the future of human communities, the well-being of the river, and plant and animal life, including those that are endangered or at risk. Students were given a list of resources to educate them on the topic, with several being specifically about the CCAA and associated species. We received 1,512 entries from 14 board member counties and 18 customer cities, covering a huge swath of the Trinity Basin. Several of the artworks created can go towards future CCAA publications.	1,512	A list of resources was included with some of the info given to educate on the Trinity being specific to the CCAA and its covered species.	N/A

7	Event	9/4/2024	TCC SustainABash	Table at TCC Southeast's campus staffed by 2 TRA staff members from 11 AM - 2 PM.	250	Basic TRA info, watershed protection plan, and the CCAA press release were distributed. Further tied TRA into local universities and colleges.	N/A
8	Event	9/14/2024	River Legacy Water Festival	Booth and activity area staffed by 2 TRA staff members and a River Legacy volunteer from 10 AM - 2 PM. Changed some of TRA's trivia wheel to feature questions about CCAA species. Discussed turtles with River Legacy staff for possible future collaboration.	350	Trivia wheel with questions in the activity area. Visitors were guided through the guess the difference activity.	N/A
9	Event	9/26/2024	Arlington Organic Garden Club Speaking Engagement	3 TRA staff presented to the Garden Club at their meeting at the Bob Duncan Center from 7 PM - 8 PM. Topics included TRA's environmental programs including the CCAA, watershed protection, and the CRP.	20	Basic TRA info and slides with links to info pages including CCAA.	
10	Post	10/3/2024	Freshwater Mussel Training Post	Post on Facebook, Instagram, LinkedIn, and Twitter to share awareness of mussel species and the work of all CCAA partner entities. Caption "Last week, the Trinity River Authority hosted a Freshwater Mussel Workshop for all partners of the Trinity River Candidate Conservation Agreement with Assurances (CCA). The one-day workshop covered topics including permitting requirements, freshwater mussel ecology, mussel identification, and how to use the U.S. Fish and Wildlife Service freshwater mussel survey protocols. Participants also conducted a mock freshwater mussel survey on the Elm Fork Trinity River. TRA staff and CCAA partners had the opportunity to handle more than 12 Texas mussel species and even found two Texas heelsplitters (<i>Potamilus amphichaenus</i>), one of the four mussel species covered under the CCAA. Special thanks to Ryan Blankenship and Nathan Ring of Environmental Consulting and Technology, Inc. for serving as instructors at the workshop. And thank you to City of Fort Worth, City of Dallas - City Hall, TRWD - Tarrant Regional Water District, North Texas Municipal Water District"	5,046	N/A	69 Likes, 6 shares

11	Event	10/5/2024	River Legacy Fall Festival	A large festival held annually, with a table and activity area staffed by TRA volunteers. TRA also sponsored TRWD's watershed experience trailer, staffed by TRWD and TRA staff. 5 TRA and 3 TRWD volunteers working the event in shifts from 10 AM - 7 PM. Introduced a more kid-friendly version of find the difference activity. Spoke to several people who had experiences seeing Alligator snapping turtles and took extra copies to share with people in their favorite camping/hunting groups.	800	Large distribution of CCAA info, guess the difference activity, and engagement in Trivia	N/A
12	Event	10/19/24 - 10/20/24	WCP Car Show	Engage visitors to the annual Car, Truck, and Bike show at TRA's Wolf Creek Park in Coldspring over 2 days. The park is on Lake Livingston, so extra focus was given to campers, boaters, and fishers in the area.	200	Educated visitors with guess the difference activity and Trivia wheel, and specifically engaged in conversation with those that live in rural areas and near the water.	N/A
13	Event	11/18/24 - 11/19/24	FWISD TABS Ap Biology Classes	TRA staff helped instruct field classes for FWISD alongside TRWD staff members. Students learned about water quality and aquatic species including those covered by the CCAA while getting a chance to sample native fish species of the Trinity basin.	72	Students learned about and participated in water quality data dampling and identified more than 15 species of fish. Info included other species and concepts.	N/A

14	Post	11/21/2024	FWISD TABS Post	Post on Facebook, Instagram, LinkedIn, and shared in inTRA to spread word about the FWISD TABS class. Caption "This week, TRA environmental scientists Ryan Seymour, Meghan Craft and Logan Tidwell were guest instructors for multiple FWISD AP Biology classes. TRA staff worked alongside TRWD - Tarrant Regional Water District staff and Fort Worth ISD teacher Andrew Brinker to develop a curriculum that introduced students to the basics of water quality monitoring and fisheries science in North Central Texas. Before the lab, students were introduced to key terms, methodologies and identification techniques in the classroom. Then, alongside TRA and TRWD scientists, the students used those methods to collect fish community and water quality data from the West Fort Trinity River behind their campus. Students gained hands-on experience in authentic scientific research, collecting valuable data using the same rigorous protocols as TRA and TRWD scientists. Brinker will use the datasets collected by the students to teach lessons on data analysis, statistics and science communication to prepare them for their upcoming AP Biology exam this spring."	12,370	N/A	97 Likes, 12 Shares
15	Event	12/4/2024	TCU Tour of DCRWS	Students from Dr. Michelle Birmingham's class at TCU's Environmental Science Department toured DCRWS and were presented to by TRA staff ranging from engineering, wastewater operations, and TSBP. A presentation at the end of the tour included CCAA info.	12	Discussed turtle signage program and watershed protection.	N/A
16	Event	1/29/2025	Sam Houston HS Speaking Engagement	10 TRA staff members presented about water treatment, watersheds, endangered species, and careers at Sam Houston HS in Arlington for 200 freshmen and sophmores. Speakers talked for 10-15 mins from 9:00 - 11:00 AM.	200	Presentation with AST QR code given to teachers to use in the classroom beyond the presentation	N/A
17	Event	1/31/2025	STEP Meeting Presentation	2 TRA staff presented at the January meeting of the Society of Texas Environmental Professionals meeting at La Puertita at Joe T. Garcia's in Fort Worth about watershed and endangered species initiatives within the Trinity River Basin	60	Presentation given to attendees highlightin watershed protection plans and the CCAA Development and Implementation	N/A



Earth Day Mansfield 4/27/2024



Fort Worth ISD Vital Link at GO 6/17/2024



Fort Worth ISD Vital Link at TRWD 6/20/2024



2024 Art Contest 8/18/2024 - 10/4/2024



TCC SustainABash 9/4/2024



River Legacy Water Festival 9/14/2024



River Legacy Fall Festival (outdoor)
10/5/2024



River Legacy Fall Festival (in trailer)
10/5/2024



**Wolf Creek Park Car Show
10/19/2024 - 10/20/2024**



**Fort Worth ISD TABS AP Biology Class
11/18/2024 - 11/19/2024**



TCU Tour of DCRWS 12/4/2024



Sam Houston HS Speaking Engagement 1/29/2025



STEP Meeting Presentation 1/31/2025

Trinity River Authority of Texas

Art Contest

2024



THEME: THE TRINITY RIVER: OUR SHARED HOME

1st - 8th grade students living or going to school in the following Texas counties are invited to enter:

Anderson, Chambers, Dallas, Ellis, Freestone, Henderson, Houston, Kaufman, Leon Liberty, Madison, Navarro, Polk, San Jacinto, Tarrant, Trinity, Walker

In addition to 1st - 8th grade students living or going to school in TRA customer cities outside of the listed counties

Flower Mound, Argyle, Northlake, Roanoke, Justin

Entries close September 30



ART CONTEST RULES

Theme

"The Trinity River: Our Shared Home." This theme invites students to explore the interconnected story of the Trinity River Basin. It's a place where millions of Texans and a wide range of species coexist, relying on its rich resources and diverse ecosystems. Through your artwork, you can depict the vital relationships between the river, its inhabitants, and the broader environment. Our actions shape the health of this shared home, influencing the future of human communities, the well-being of the river, and plant and animal life, including those that are endangered or at risk.

Deadline

The deadline for entries is Monday, Sept 30, 2024 at 5 p.m.

Mail or deliver to:

Trinity River Authority of Texas
Attn: Communications
5300 S. Collins
Arlington, TX 76018

Submission

Entries may be mailed or delivered. A drop box is available for deliveries inside the main entrance of TRA's office in Arlington. Digital or email submissions are not accepted. The original artwork should be submitted, not a copy or scan. Entries must be separated by grade and teacher. All artwork must have a fully complete entry form attached.

Eligibility

The contest is open to all 1st-8th grade students in the following Texas counties: Anderson, Chambers, Dallas, Ellis, Freestone, Henderson, Houston, Kaufman, Leon, Liberty, Madison, Navarro, Polk, San Jacinto, Tarrant, Trinity, and Walker. 1st-8th graders in TRA customer cities outside of these counties are also eligible (Flower Mound, Argyle, Roanoke, Northlake, Justin). Artwork not adhering to the rules will be disqualified.

Judging

Judging will be conducted by a select panel of water and wastewater professionals based on:

- Incorporation of theme
- Originality of idea
- Creative use of design and artistic methods
- Neatness and colorfulness
- Original and appropriate use of message/slogan, if applicable

Materials

Entrants may use watercolor or tempera paint, crayon, ink, charcoal, pastel, or colored markers or pencils to create their artwork. Any message or messages must be readable and understandable. Do not use reflective materials such as glitter, gold stars, or anything that must be glued to the artwork. Photography, digital and three-dimensional art will not be accepted. Artwork not adhering to the rules will be disqualified.

Other

Entries must be original and created on white or off-white background paper or poster board that is at least 8 1/2 inches by 11 inches, but not larger than 18 inches by 24 inches.

Notebook paper or graph paper may not be used. Single entries only. No group or team projects.

A completed entry form must accompany artwork upon submission. Please attach the entry form to the back of artwork. The entry form is available on the Trinity River Authority of Texas website at www.trinityra.org.

Winning categories

A first-place winner from each grade level (1st-8th) will be chosen with an overall grand-prize winner selected from among the first place winners. Depending on the volume of entries, second - and third-place winners may also be chosen from each grade level, along with honorable mentions.

Prizes

The grand-prize winner will receive an Amazon tablet. All first place winners will receive a certificate, a calendar, and notecards featuring their winning artwork, as well as art supplies. First-place winners will be invited to attend the Trinity River Authority's Board of Directors meeting in October with their teachers and families to be celebrated. The school of each first-place winner will receive posters of their artwork to distribute and display in the school.

Second - and third-place winners will receive a certificate, a calendar, and notecards featuring their artwork.

Honorable mentions may be selected, and will receive a certificate.

Ownership

All entries become TRA property. Artwork will not be returned to the school or student unless special circumstances arise.

Additional information

All winners and honorable mentions of each grade level will be announced in October online and via email to school contact provided on the entry form. Winning artwork will be posted on TRA's social media and website.

Questions

If you have any questions, send them to naylorcr@trinityra.org

Resources

Information to aid the students in producing their artwork and learning about the theme is available on the Trinity River Authority of Texas website at www.trinityra.org or at the QR Code below





Trinity River Authority Art Contest

Entry and Information Form

Student's Name

Grade

Student's City, County of Residence

School's Name

School's Address

City, County

, Texas Zip

Teacher's Name

Phone

Teacher's Email

Principal's Name

Phone

Principal's Email

Deadline: 5 pm on Monday, Sept 30, 2024. Entries must be separated by grade and teacher. All artwork must have a completed entry from attached.

Mail or deliver to:

Trinity River Authority of Texas

Attn: Communications

5300 S. Collins

Arlington, TX 76018





2024 Art Contest Resources

“The Trinity River: Our Shared Home”

https://www.twdb.texas.gov/surfacewater/rivers/river_basins/trinity/index.asp

<https://www.tshaonline.org/handbook/entries/trinity-river>

<https://trinityrivercorridor.com/explore-the-trinity>

<https://trinityrivercorridor.com/environment/habitat-creation-environment>

<https://txrivers.org/discover-texas-rivers/trinity-river/>

<https://naturalatlas.com/rivers/trinity-861811>

<https://wildlife.tamu.edu/publications/popular-publications/trinity-river/>

<https://storymaps.arcgis.com/stories/435a1188d8f3425da9721308d90a7f2d>

https://www.trinityra.org/our_history.php

<https://www.fortworthtexas.gov/departments/development-services/zoning/urbanforestry/trinity-river-corridor>

<https://www.texastribune.org/2013/10/16/reused-wastewater-key-trinity-rivers-survival/>

<https://www.dmagazine.com/nature-environment/2016/10/the-trinity-project-characteristics-of-a-river/>

https://www.trinityra.org/basin_planning/watershed_protection_plans.php

https://tpwmagazine.com/archive/2008/nov/ed_2/

<https://www.fws.gov/refuge/trinity-river/species>

<https://houstonwilderness.org/trinity-bottomlands>

<https://www.youtube.com/watch?v=2V9TBAGsUIw>

<https://guidesly.com/fishing/waterbodies/Trinity-River-Texas>

https://tpwd.texas.gov/fishboat/fish/action/waterecords.php?WB_code=1592

<https://www.fws.gov/media/signed-ccaa-six-species-trinity-river-basin>

https://www.trinityra.org/basin_planning/turtles.php

<https://www.texasturtles.org/alligator-snapping-turtle>

<https://www.texasturtles.org/western-chicken-turtle>

https://www.trinityra.org/basin_planning/native_freshwater_mussels.php

https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/mussel/biology/

<https://nri.tamu.edu/learning/threatened-and-endangered-species/all-about-texas-mussels/>



B.2 City of Dallas

CCAA Covered Party Annual Report

Covered Party Name	City of Dallas
Date Range of Report	2/1/24-1/31/25

Covered Party Contact Information

Representative Name	Jason Wu
Job Title	Senior Engineer
Email	Jingshi.wu@dallas.gov
Phone	214-243-1526

TRA CCAA ANNUAL REPORT

Dallas Water Utilities

City of Dallas

2/18/2025 (Rev. 1)

Conservation Measure	CCAA Conservation Sub-measure	Tracking Metric	Date Range	Summary/Value	Notes
8.1 Non-point Source Watershed Protection	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans	02/01/2024 - 01/31/2025	0	No City Of Dallas WPP implemented in the reporting period
	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities	02/01/2024 - 01/31/2025	0	No creation activities in the reporting period
8.4 Regional and Large-scale Wastewater Treatment	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	02/01/2024 - 01/31/2025	Pre-treatment program funding: \$6,709,490 No. of industrial inspections conducted: 231	
	8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	02/01/2024 - 01/31/2025	100	DWU Stormwater Operations/Clean Waterways Division investigated 100 reports of illicit discharges. Final disposition of each request is on file with this division. Many/Most of the illicit discharge investigations were NOT SSO/related to wastewater treatment
	8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	02/01/2024 - 01/31/2025	New developments within (or near) the City of Dallas sewer sheds are encouraged to tie to our existing facilities through correspondence with developers between DWU Wastewater Operations and the City of Dallas Planning and Development Department.	
	8.4e Continue operations of WWTPs	Volume of water treated (mgd)	02/01/2024 - 01/31/2025	Volume of wastewater treated: 81,141 MG	
8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	02/01/2024 - 01/31/2025	See attached "Summary of CIP Activities"	
	8.5b The continuation of industrial pre-treatment programs (described in Section 8.4)	Summary of pre-treatment activities or See Section 8.4)	02/01/2024 - 01/31/2025	See responses to Sec. 8.4a & 8.4b	
	8.5c Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	02/01/2024 - 01/31/2025	Miles of pipeline inspections completed: 213.22 on wastewater, 4146.76 on water	
	8.5d Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	02/01/2024 - 01/31/2025	No. of emergency repairs performed: 369 on wastewater, 724 on water	
8.8 USGS Flow and Water Quality Monitoring	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs	02/01/2024 - 01/31/2025	- Provided valuable baseline flow data for mussel research and monitoring projects. - Provided automated, near real-time water quality measurements for water quality parameters (total suspended solids, dissolved oxygen, pH, and specific conductance). - Monitoring and early detection of conditions that may be problematic to the Covered Species. For instance, flow data would alert the Covered Parties if areas within the system are at risk of dewatering. - The gages also provide data to calibrate models and study trends in water quality and quantity through time. allowing	See "8.8 USGS gage Stations" Tab for more info
	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs	02/01/2024 - 01/31/2025	Same as above	See "8.8 USGS gage Stations" Tab for more info

8.10 Avoiding and Minimizing Site-Level Disturbances	8.10g Restore streambanks, vegetation, streambeds, temporary work areas after construction to pre-existing conditions or better	Summary of streambank, vegetation, and temporary work area restoration activities-add to construction BMPs	02/01/2024 - 01/31/2025	None	
	8.10h Follow Aquatic Resource Relocation Plan when mussels cannot be avoided	Summary of Aquatic Resource Relocation Plans (Excluding Section 7 and other activities covered by other permits)	02/01/2024 - 01/31/2025	None	
	8.10i Incorporate natural channel design elements into construction projects permitted under a separate section 7 consultation whenever feasible	Summary of Natural Channel design elements (if applicable)	02/01/2024 - 01/31/2025	None	
8.11 Public Education and Outreach	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activates (see specific page)	02/01/2024 - 01/31/2025	Created 25 social media posts (See "8.11 Public EduOutreach" Tab)	
	8.11b Further expand Alligator Snapping Turtle signage program with 20 additional signs each year for first two years. Evaluate program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and reports	02/01/2024 - 01/31/2025	None	Will be receiving posters in Spring 2025
8.13 No New Permanent Dams on the Trinity River Mainstem	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem	02/01/2024 - 01/31/2025	None	

Compliance or Reporting Measure	Addressed in Annual Report	Tracking Metric	Date Range	Summary/Value	Notes
I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	14 Reporting of Incidental Take	Date and duration of permit limit exceedance	02/01/2024 - 01/31/2025	None	
		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)	02/01/2024 - 01/31/2025	None	
I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream disturbing activities that impact habitat occupied by the four Covered Species of mussels	14 Reporting of Incidental Take	Direct interactions (touching) or inducted mortality of covered species	02/01/2024 - 01/31/2025	None	

	USGS Gage Number	USGS Gage Name	Gage Type (Parameters)	Funding Amount (Dallas Share)	Notes	Total Funding Amount
1	08056500	Turtle Ck at Dallas, TX	Full Range Streamflow Station	\$12,325		\$837,205
2	08057200	Greenville	Full Range Streamflow Station	\$0	Streamgages	
3	08048543	at Beach St., Fort	Full Range Streamflow Station	\$3,605		
4	08057410	Trinity River below	Full Range Streamflow Station	\$0	Streamflow Information	
5	08049500	W. Fork Trinity River at Grand Prairie, TX	QW Monitor (T, SC, DO, pH & Turbidity)	\$8,150		
6	08057000	TX	Turbidity)	\$8,150		
7	08057410	TX	Turbidity)	\$8,150		
8	08062500	Rosser	Turbidity)	\$8,150		
9	08051135	at Greenbelt nr Pilot	Full Range Streamflow Station	\$8,150	Coop: USACE pays 50%	
10	08052700	Aubrey, TX	Full Range Streamflow Station	\$12,000		
11	08053000	nr Lewisville, TX	Monthly measurements	\$12,350	Coop: USACE pays 50%	
12	08053009	Carrolton, TX	Full Range Streamflow Station	\$8,800		
13	08053090	Carrolton, TX	Full Range Streamflow Station	\$16,300		
14	08053025	Edmonds Lane	Full Range Streamflow Station	\$16,300		
15	08055000	Grapevine, TX	Monthly measurements	\$13,980	Coop: DCPCMUD pays 50%	
16	08055500	Elm Fork Trinity River	Full Range Streamflow Station,	\$4,200	Continious Flow	
17	08055560	Elm Fork Trinity River at Spur 348, Irving, TX	Full Range Streamflow Station	\$14,170		
18	08056000	at Frasier Dam	Stage station (1 level)	\$8,580		
19	08061000	Lavon, TX	Continuous Stage	\$12,000		
20	08061480	Blvd nr Rockwall, TX	Full Range Streamflow Station	\$16,300		
21	08061540	Sachse, TX	Precipitation	\$4,000		
22	08061548	Crossing Ln nr Sachse,	Full Range Streamflow Station	\$16,300		
23	08061550	near Forney, TX	Reservoir elevation only	\$7,425		
24	08061551	below Lake Ray	Precipitation	\$9,800		
25	08061750	near Forney, TX	Full Range Streamflow Station	\$0		
26	08052900	Ave nr Lewisville, TX	Precipitation	\$19,300		
27	08055605	Willowbrook Road	Precipitation	\$19,300		
28	08055519	635 Service Rd nr	Precipitation	\$39,200		
29	08052700	Aubrey, TX	Turbidity)	\$25,960		
30	08052745	near Prosper, TX	Turbidity)	\$25,960		

31	08051100	Ray Roberts Lk nr Pilot	QW Monitor (nutrients, ions, T,	\$119,575	sampling 8 sites (5 depths)
32	08052800	Lewisville Lk nr Lewisville, TX	QW Monitor (nutrients, ions, T, SC, DO, pH & Turbidity)	\$119,575	Quarterly lake water quality sampling 8 sites (5 depths)
33	08054500	Grapevine Lk nr Grapevine, TX	QW Monitor (nutrients, ions, T, SC, DO, pH & Turbidity)	\$119,575	Quarterly lake water quality sampling 8 sites (5 depths)
34	08061550	Lake Ray Hubbard near Forney, TX	QW Monitor (nutrients, ions, T, SC, DO, pH & Turbidity)	\$119,575	Quarterly lake water quality sampling 8 sites (5 depths)

	Event Date	Event/Post Name	Description	Number of Interactions	Number of Likes/Shares
1	1/3/2024	Social media post	Anti-litter efforts in waterways	Reach - 103 viewers	1 share
2	1/24/2024	Social media post	Natural floodplain functions	Reach - 213 viewers	2 likes
3	1/26/2024	Social media post	Anti-litter efforts in waterways	Reach - 110 viewers	1 like
4	1/31/2024	Social media post	Natural floodplain functions	Reach - 166 viewers	2 likes
5	2/8/2024	Social media post	Anti-litter efforts in waterways	Reach - 113 viewers	2 likes
6	3/6/2024	Social media post	Anti-litter efforts in waterways	Reach - 107 viewers	2 likes
7	3/22/2024	Social media post	Educate residents on World Water Day	Reach - 181 viewers	1 like
8	4/11/2024	Social media post	Anti-litter efforts in waterways	Reach - 116 viewers	2 likes
9	4/19/2024	Social media post	Anti-litter efforts in waterways	Reach - 83 viewers	2 likes
10	4/21/2024	Social media post	DWU at Earth Day outreach events	Reach - 260 viewers	5 likes
11	4/22/2024	Social media post	Celebrate Earth Day	Reach - 247 viewers	11 likes, 4 shares
12	4/22/2024	Social media post	DWU at EarthX 2024 event	Reach - 210 viewers	8 likes
13	5/6/2024	Social media post	Drinking Water Week	Reach - 179 viewers	7 likes
14	5/8/2024	Social media post	Drinking Water Week	Reach - 363 viewers	15 likes
15	5/9/2024	Social media post	Anti-litter efforts in waterways	Reach - 86 viewers	
16	6/7/2024	Social media post	Anti-litter efforts in waterways	Reach - 74 viewers	
17	7/3/2024	Social media post	Anti-litter efforts in waterways	Reach - 77 viewers	1 like
18	7/12/2024	Social media post	Anti-litter efforts in waterways	Reach - 77 viewers	1 like
19	7/24/2024	Social media post	Anti-litter efforts in waterways	Reach - 96 viewers	2 likes
20	8/8/2024	Social media post	Anti-litter efforts in waterways	Reach - 101 viewers	1 like
21	9/9/2024	Social media post	Anti-litter efforts in waterways	Reach - 93 viewers	1 like
22	9/29/2024	Social media post	Source Water Protection Week	Reach - 191 viewers	3 likes, 1 share
23	10/4/2024	Social media post	Tri-City Litter Cleanup	Reach - 218 viewers	1 like
24	10/26/2024	Social media post	Tree planting event	Reach - 445 viewers	10 likes, 1 share
25	11/21/2024	Social media post	Anti-litter efforts in waterways	Reach - 122 viewers	4 likes, 1 share
26	12/3/2024	Social media post	Anti-litter efforts in waterways	Reach - 90 viewers	1 like
27	12/12/2024	Social media post	Anti-litter efforts in waterways	Reach - 171 viewers	4 likes, 2 shares
28	12/16/2024	Social media post	Safe Drinking Water Act 50th Anniversary	Reach - 88 viewers	2 likes
29	12/26/2024	Social media post	Anti-litter efforts in waterways	Reach - 124 viewers	2 likes
30					

Summary of Capital Improvement Program Activities

DWU's Capital Improvement Program provides planning, design, and construction of capital projects to assure adequate and appropriate improvements within the water, wastewater, and stormwater systems. Major capital improvements are guided by regulatory changes, work for others, master plans (growth), and rehabilitation/replacement needs.

Following are the major divisions covering several aspects of DWU infrastructure programs:

1. Pipeline Project Management
2. WW Facilities Project Management
3. Water Facilities Project Management
4. Stormwater Project Management

Part of the water/wastewater utilities capital improvement program has a goal to award water and wastewater main replacement and rehabilitation contracts which will result in the installation of 0.9% of small diameter water and wastewater mains, including relocation and private development projects. These projects replace aging infrastructure that has reached the end of its useful life or no longer has the necessary capacity to provide adequate service to Dallas Water Utilities customers.

Following are the brief highlights of DWU Capital Improvement Program:

1. \$8+ billion replacement value of asset system
2. DWU Water and WW Capital Improvement Budget for FY 24-25 = \$328.2 M (out of which \$175 M is for water and WW pipe replacement and relocation).
3. FY 24/25 goal for water and WW mains replacement and rehabilitation = award of 73 miles (0.9%) of 8,115 miles of small diameter water and wastewater mains.
4. DWU utilizes 10-year capital improvement program (CIP) supported by system master planning to prioritize and schedule projects. Following are budget highlights summary associated with development of 10-year CIP Plan
 - 10-year CIP Plan Budget Total \$4.0 billion
 - Water/WW Capital Budget = \$328 – \$494 million per year over next 10 years
 - Stormwater Capital Budget of \$45M in FY 25 increasing up to \$105M by FY 32

B.3 City of Fort Worth

CCAA Covered Party Annual Report

Covered Party Name	City of Fort Worth
Date Range of Report	2/1/24-1/31/25

Covered Party Contact Information

Representative Name	Stacy Walters
Job Title	Regulatory & Environmental Administrator
Email	Stacy.Walters@fortworthtexas.gov
Phone	817-392-8203

Conservation Measure	CCAA Conservation Sub-measure	Tracking Metric	Date Range	Summary/Value	Notes
8.1 Non-point Source Watershed Protection	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans	2/24 - 1/25	0	Fort Worth Water (FWW) performs stream water quality monitoring for major rivers and tributaries in our service area twice annually for 26 locations.
	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities	2/24 - 1/25	0	
8.4 Regional and Large-scale Wastewater Treatment	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	1/24 - 12/24	131 industrial inspections	
	8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	1/24 - 12/24	163 permitted facilities	Compliance monitoring performed annually
	8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	2/24 - 1/25	Ordinance	§ 35-131 APPROVAL PREREQUISITE TO ISSUANCE OF A BUILDING PERMIT.
	8.4e Continue operations of WWTPs	Volume of water treated (mgd)	2/24 - 1/25	46,572.28 mgd	Monthly average is 3,881.02 MG
	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	2/24 - 1/25	20 projects scheduled for construction	> 50,000,000.00 in award costs

8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	8.5b The continuation of industrial pre-treatment programs (described in Section 8.4)	Summary of pre-treatment activities or See Section 8.4)	2/24 - 1/25	Grease abatement program	Total inspections = 1,860; New Facility Inspections = 1,469; New Permits = 115; Permit Renewals = 2,860
	8.5c Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	2/24 - 1/25	Maintenance activities performed	CCTV inspections = 344.6 miles; Manhole inspections = 4,125 ea
	8.5d Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	2/24 - 1/25	32	15,704 LF
8.8 USGS Flow and Water Quality Monitoring	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs	2/24 - 1/25	USGS Agreement w/ Fort Worth (CSC No. 61743)	Total Annual Cost = \$36,369
	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs	2/24 - 1/25	Station Numbers for Trinity River Surface Water Program and Water Quality Program	08048543; 08057410; 08049500; 0805700; 08057410; 08062500
8.9 Eradication and Control Measures to Address Invasive Aquatic Plants	8.9b Report herbicide use to the Service as part of the annual reporting and any adverse effects to wildlife, if observed	Report of Cost, Herbicide Use, Product Name, Volume Applied and Area (feet) treated & any observed adverse effects to wildlife	2/24 - 1/25	0	Nothing to report

8.10 Avoiding and Minimizing Site-Level Disturbances	8.10g Restore streambanks, vegetation, streambeds, temporary work areas after construction to pre-existing conditions or better	Summary of streambank, vegetation, and temporary work area restoration activities- add to construction BMPs	2/24 - 1/25	0	Nothing to report
	8.10h Follow Aquatic Resource Relocation Plan when mussels cannot be avoided	Summary of Aquatic Resource Relocation Plans (Excluding Section 7 and other activities covered by other permits)	2/24 - 1/25	0	Nothing to report
	8.10i Incorporate natural channel design elements into construction projects permitted under a separate section 7 consultation whenever feasible	Summary of Natural Channel design elements (if applicable)	2/24 - 1/25	0	Nothing to report
8.11 Public Education and Outreach	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activities (see specific page)	2/24 - 1/25	0	Nothing to report
	8.11b Further expand Alligator Snapping Turtle signage program with 20 additional signs each year for first two years. Evaluate program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and reports	2/24 - 1/25	0	Nothing to report
8.13 No New Permanent Dams on the Trinity River Mainstem	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem	2/24 - 1/25	0	Nothing to report
8.14.6 Zebra Mussel Monitoring	8.14.6a Fund zebra mussel monitoring programs at \$40,000 per year	Documentation of funding of Zebra Mussel monitoring program	2/24 - 1/25	100K	Plant Operations budget
		Number and location of monitoring sites (include infestation status)	2/24 - 1/25	Intakes at Eagle Mountain (3) and Lake Worth (2).	Inspections performed annually/ No infestations found

Compliance or Reporting Measure	Addressed in Annual Report	Tracking Metric	Date Range	Summary/Value	Notes
I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	14 Reporting of Incidental Take	Date and duration of permit limit exceedance	2/24 - 1/25	0	No exceedances to report
		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)	2/24 - 1/25	0	Nothing to report

I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream	14 Reporting of Incidental Take	Direct interactions (touching) or induced mortality of covered species	2/24 - 1/25	0	Nothing to report
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B.4 North Texas Municipal Water District

CCAA Covered Party Annual Report

Covered Party Name	North Texas Municipal Water District
Date Range of Report	2/1/24-12/31/25

Covered Party Contact Information

Representative Name	Jerry Allen
Job Title	Permitting Manager
Email	jallen@NTMWD.COM
Phone	469-626-4634

Conservation Measure	CCAA Conservation Sub-measure	Tracking Metric	Description	Pertains to Trinity River Basin (TRB) or Critical Area (CA)	Date Range	Summary/Value	Notes	NTMWD DEPARTMENT(S) THAT PROVIDED INFO
8.1 Non-point Source Watershed Protection	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans	Track the number of watershed protection plans the covered party has	TRB	2/1/2024-1/31/2025	2	Lavon and BDL WPPs in effect during time period. For justification of inclusion ofm BDL, reference page 53 of CCAA "While that WPP [Bois d'Arc WPP] is outside the Trinity River Basin, water from Bois d'Arc is pumped into the Trinity River Basin. This additional water helps sustain flows for the benefit of all aquatic animals, included the Covered Species."	Water Resources
	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities	Track the number of activities that relate to the creation of a watershed protection plan	TRB	2/1/2024-1/31/2025	0	No new WPPs impacting Trinity Basin during time period.	Water Resources
	NTMWD Additional Info Provided	Source Water Volume	Track the daily average flow of water pulled into each NTMWD Intake within the Trinity River Basin.		2/1/2024-1/31/2025	1	Raw water to Wylie WTP intakes.	Water Resources

	NTMWD Additional Info Provided	Water Diverted to Trinity River from Wetlands	Track the daily average flow of water diverted via the NTMWD Wetland System within the annual reporting year.		2/1/2024-1/31/2025	1	Water diverted at Diversion PS	Water Resources
	NTMWD Additional Info Provided	Water Diverted to Trinity River from Pump Station	Track the daily average flow of water diverted via the NTMWD Rosser Mainstem Pump Station within the annual reporting year.		2/1/2024-1/31/2025	1	Water diverted at Main Stem PS	Water Resources
	NTMWD Additional Info Provided	Area and type of restoration	Provide a description of any habitat restoration activity that was completed and the area it was completed in.		2/1/2024-1/31/2025	1	1/4 of mile of Rush Creek (100 foot wide creek) restoration	Water Resources

8.2 Stream Restoration Activities	NTMWD Additional Info Provided	Summary of data collection activities	Provide a summary of any data collection activities that were utilized in identifying locations, partners, funding, and project management for habitat restoration projects and implementation of BMPs.		2/1/2024-1/31/2025	1	Visual identification of a stream requiring restoration (pictures are included in the folder of pre- and post condition as well as a Technical Memorandum from Weston proposing solutions). Restoration was completed in Fall 2024.	Water Resources
	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	Provide a summary of funding* that the covered party provided for its pretreatment program(s)	TRB	10/1/2023 - 09/30/2024	\$1,764,925	Funding includes personnel, sampling equipment, laboratory analyses costs, supplies, vehicles, etc. Approximately 74 industries were inspected in this date range.	Pretreatment

**8.4 Regional and Large-scale
Wastewater Treatment**

8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	Provide a summary of illicit discharge investigations and results	CA	02/01/2024 - 01/31/2025	21 Responses to investigate sanitary sewer overflows, customer concerns about spills/stream quality, potable water spills, etc. Results of investigations were shared with appropriate regulatory agencies as needed.	NTMWD Environmental Services team does not respond to illicit discharges since this term specifically refers to stormwater discharges and is managed by the Cities. Many industries violated permit limits, but none caused an exceedance at the WWTPs. NTMWD Pretreatment team samples all permitted industries a minimum of 2-4 times per year. Industries with permit limit exceedances will be sampled more.	Environmental Services & Pretreatment
8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	Provide a summary of actions taken by the covered party toward wastewater treatment regionalization.	TRB	2/01/2024 - 01/31/2025	29 Non-NTMWD WWTPs	NTMWD Permitting Department has coordinated with 29 developers during this date range to encourage and promote the development and use of regional and area-wide waste collection, treatment, and disposal systems to prevent pollution and maintain and enhance the quality of water in the state.	Permitting

	8.4e Continue operations of WWTPs	Volume of water treated (mgd) Asked to report as AADF (MGD)	Provide the amount of water treated by each of NTMWD's WWTPs that are located within the Trinity River Basin (all but Sabine), in MGD.	TRB	2/1/2024-1/31/2025	138.61	See spreadsheet in Supporting Documentation Folder. Sabine WWTP was excluded as it's not in the Trinity River Basin.	WW Operations
	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	Provide a summary of CIP activities that the Covered Party implemented to address wastewater overflows, illicit discharges and emergency repairs. Please include a couple of sentences about each project with an estimated dollar amount and timeframe for the project.	CA & TRB	2/1/2024-1/31/2025	24 total project starts 2 projects with BMPs 3 projects address WW overflows/illicit discharges 1 project preemptively addresses risk of overflow	There were 24 capital improvement projects that began construction activity during the period located within the Trinity River Basin. For this year we have included BMPs on 2 projects. Three active projects addresses overflows or illicit discharges and one project preemptively addresses risk of overflow within 3 miles of the critical areas; details attached.	Engineering and CIP

8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	8.5b The continuation of industrial pre-treatment programs (described in Section 8.4)	Summary of pre-treatment activities or See Section 8.4)	Provide a summary of pre-treatment activities that investigated illicit discharges or work with stakeholders to notify the appropriate regulatory agencies and stop the illicit discharges.	CA	02/01/2024 - 01/31/2025	See 8.4b above		Pretreatment
	8.5c Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	Provide a summary of routine infrastructure inspections to ensure proper sewer system function and reduction of the chances of future pipeline breaks.	TRB	2/1/2024 - 1/31/2025	Daily and annual inspections	Wastewater Operations conducts the following routine inspections: Daily lift station inspections, annual right of way inspections, annual air release valve inspections, annual aerial crossing inspections, and gravity pipeline internal inspections on a ten year cycle	WW Operations
	8.5d Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	Provide the number of emergency repairs in segments illustrated in Figure 1 (page 17) of the CCAA	CA	02/01/2024 - 01/31/2025	4	See spreadsheet in Supporting Documentation Folder.	WW Operations

8.6 Environmental Flows Protection	8.6c Support environmental flow requirements codified by the TCEQ and incorporated into the WAM	Summary of activities	Provide a summary of activities that support the environmental baseflow standards adopted by TCEQ in 2011 that must be satisfied in order for a water right for new appropriation of water or amendment to an existing water route that increases the amount of water to be store taken or diverted.	TRB		2	2410 F and J contain requirements for environmental flows (applicable sections are highlighted). NTMWD complies with these conditions.	Water Resources
	8.6a Continue settlement agreement requiring at least 30% (excluding NTMWD) of all in-basin wastewater return flows to be allowed to flow downstream to Lake Livingston	Summary of Hydrologic Review of the 30% of all discharges guaranteed to remain in the system to Lake Livingston						
8.7 Instream Flow Protections in Zone E	TRA Voluntary E. Flow from Livingston	Confirm that 250 cfs and 500 cfs (7-day average) occurred. (LLP Release Records or Goodrich gage)		TRB				

8.8 USGS Flow and Water Quality Monitoring ** Please also include this information in the tab called "8.8 USGS Gage Stations"**	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs	Provide a summary and cost* of USGS Gage stations supported by NTMWD	TRB	2/1/2024 - 1/31/2025	5 Gages	We provide funding for USGS gages in the Red River Basin to support Bois d'Arc Lake environmental flow requirements. See 8.8 USGS Gage Station tab	Water Resources
	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs	Provide a summary and cost* of USGS Gage stations and Water Quality Gage Stations supported by NTMWD	TRB	N/A	N/A	Other entities within Trinity Basin fund these stations.	Water Resources

8.9 Eradication and Control Measures to Address Invasive Aquatic Plants	8.9a Fund eradication and control measures to address invasive aquatic plants in the Covered Parties' infested reservoirs	Summary of any Invasive Species public outreach	Provide a summary of any public outreach regarding invasive aquatic vegetation such as Giant Salvinia, Hydrilla, and Water Hyacinth. Please also include this information in tab "8.11 Public EduOutreach"		2/1/2024 - 1/31/2025	N/A	During our Stream Trailer demonstrations in partnership with Watershed, we discuss invasive species, such as Zebra Mussels and Hydrilla with students and adults throughout the service area.	Communications and Watershed/Water Resources
		Summary of any 3rd party actives (ex: TPWD Clean, Drain, Dry program)	Provide a summary of any actions taken in support of 3rd party activities that address invasive aquatic plants in infested reservoirs.		2/1/2024 - 1/31/2025	\$25,000	We provided funding for the Clean, Drain, Dry program through Texas Parks & Wildlife.	Communications

	8.9b Report herbicide use to the Service as part of the annual reporting and any adverse effects to wildlife, if observed	Report of Cost, Herbicide Use, Product Name, Volume Applied and Area (feet) treated & any observed adverse effects to wildlife	For any herbicides used for invasive aquatic plants, please provide product name, volume and area (in feet) applied, cost*, and any observed adverse effects to wildlife		2/1/2024-01/31/2025	N/A	No products applied	Solid Waste
8.10 Avoiding and Minimizing Site-Level Disturbances	8.10c Implement standard erosion and sediment control measures consistent with state or local requirements during site-level disturbance activities	Summary of standard erosion and sediment control measures (SWPPP in occupied areas) Training provided	Provide a summary of erosion and sediment control measures that were tailored to each site with site level disturbances within the covered area. Provide a summary of any training provided on erosion and sediment control measures	CA	2/1/2024-01/31/2025	Quarterly	Implement site wide SWPPP at the 121 RDF to reduce erosion. Measured by testing TSS and FE	Solid Waste

8.11 Public Education and Outreach	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activates (see specific page)	Provide a summary of outreach activities where species- specific information was added to public education conservation messaging, materials, and curriculum.	TRB	02/01/2024 - 01/31/2025	N/A	(See page specific to 8.11 Public Education and Outreach)	Communications
	8.11b Further expand Alligator Snapping Turtle signage program with 20 additional signs each year for first two years. Evaluate program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and reports	Provide a summary of signage designed to educate the public about the protected status of Alligator snapping turtles and number of citizen-based reports of illegal activity or sightings.	TRB	02/01/2024 - 01/31/2025	38 Alligator Snapping Turtle Signs; 38 Zebra Mussel Signs	The QR code for the Alligator Snapping Turtle sign was scanned 76 times during the timeframe. The Zebra Mussel sign was scanned 67 times during the timeframe.	Permitting and Communications

8.13 No New Permanent Dams on the Trinity River Mainstem	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem	Input the number of new permanent dams on the mainstem of the Trinity River, if any. As a covered party, NTMWD commits to not building any new permanent dams on the Trinity River mainstem during the timeframe of the agreement.	TRB	02/01/2024 - 01/31/2025		No new dams were built on the Trinity River Mainstem	Solid Waste
8.14.1 Instream Water Quality Monitoring	8.14.1 a Should TCEQ unexpectedly discontinue funding the Clean Rivers Program during the term of the agreement, continue water quality monitoring and reporting for the Trinity Basin at or above the same level of effort as was in place when the funding was reduced at sites along the mainstem and major tributaries that have a direct effect on the Covered Species.	Number of Clean Rivers Program stations and parameters sampled (in occupied or critical habitat)	Please provide the number of Clean Rivers Program Stations sampled by NTMWD and the parameters the samples are tested for. Please indicate whether funding of the CRP program is still being provided by TCEQ.	TRB	2/1/24 - 1/31/25	17 stations monitored annually for E. coli, Alkalinity, Hardness, chloride, sulfate, bromide, ammonia, nitrate, nitrite, TKN, total and ortho phosphate, TOC, TDS, TSS, VSS, turbidity, Chlorophyll a/Pheophytin, iron, manganese (parameters vary by location). Funding is not provided by TCEQ to NTMWD for CRP monitoring.	NTMWD also monitors 12 stations (for parameters listed to the left) in the Lavon Lake Watershed under the WPP, funded by the TSSWDB.	Environmental Services

8.14.6 Zebra Mussel Monitoring	8.14.6a Fund zebra mussel monitoring programs at \$40,000 per year	Documentation of funding of Zebra Mussel monitoring program	Provide documentation of any funding that NTMWD provides the USGS monitoring for larvae, eDNA, and adult zebra mussels at multiple reservoirs, stream sites, and transfer pipelines within the covered area (Figure 1, page 17 of CCAA)	TRB	2/1/24 - 1/31/25	\$189,300.00	NTMWD provides zebra mussel monitoring through the USGS contracts that are uploaded. Monitoring occurs at Lake Lavon, Sister Grove, and the Wylie WTP to detect zebra mussels within the Trinity Basin. The remaining zebra mussel locations (Texoma, Balancing Reservoirs, and BDL) are associated with water used within the Trinity Basin.	Water Resources
		Number and location of monitoring sites (include infestation status)	Provide the number, location, and infestation status of zebra mussel monitoring locations that NTMWD provides funding for.	TRB	2/1/24 - 1/31/25	Lavon, Sister Grove, and Wylie WTP = 9 samples Texoma, Balancing Reservoirs, and BDL= 8 samples	See USGS contract. Infestation status unavailable at this time, available upon request.	Water Resources
	NTMWD Additional Info Provided	Summary of in-kind assistance to address invasive animal species	Provide a summary of Labor or funding to mitigate environmental affects of invasive animal species.		2/1/24 - 1/31/25	\$70,833.33	\$70,833.33 spent during data range on invasive species management at East Fork Wetland and Bois d'Arc Watershed.	Water Resources

Compliance or Reporting Measure	Addressed in Annual Report	Tracking Metric			Date Range	Summary/Value	Notes	
I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	14 Reporting of Incidental Take	Date and duration of permit limit exceedance						
		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)	Provide the river miles or percentage of stream miles in each conservation zone affected by NTMWD pipeline, WWTP, and pretreatment program industry illicit discharges.	CA	02/01/2024 - 01/31/2025	0	No miles of occupied mussel habitat impacted by illicit discharges	Environmental Services
I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream disturbing activities that impact habitat occupied by the four Covered Species of mussels	14 Reporting of Incidental Take	Direct interactions (touching) or induced mortality of covered species	Provide a summary of any direct interactions, such as touching, or bycatch, that results in mortality of a covered species.	CA				

	Event Date	Event/Post Name	Description	Number of Interactions	Number of Handouts	Number of Likes/Shares
1	2/16/2024	McKinney Trout Derby	(Provided Stream Trailer)			
2	3/16/2024	Collin County Master Gardeners Plant Sale	(Provided Stream Trailer and Presentations)			
3	3/17/2024	Collin County Master Gardeners Plant Sale	(Provided Stream Trailer and Presentations)			
4	4/3/2024	Wylie High School Career Day for CTE Students	(Provided Stream Trailer & Presented to Students)	100+ Students		
5	4/20/2024	Keep Rowlett Beautiful - Earth Day	(Provided Stream Trailer)			
6	4/20/2024	Rockwall Master Gardener Plant Sale	(Provided Stream Trailer)v			
7	7/1/2024	Fireworks in the Park	(Provided Stream Trailer and giveaways)			
8	7/1/2024	Library Summer Reading Program	(Provided Water4Otter giveaways)			
9	7/25/2024	Richardson Summer Camp Program	(Provided Stream Trailer and Nine Presentations)			
10	7/30/2024	Water4Otter Library Program				
11	7/30/2024	Water4Otter Library Program				
12	9/20/2024	Celebrate Fate	Provided 500 Water4Otter Bookmarks			
13	10/1/2024	National Night Out - Wylie	Provided 500 Water4Otter Bookmarks			
14	10/4/2024	Wylie Water Treatment Plant Tour for Member Cities and Customers				
15	10/8/2024	Rockwall Rotary Club Presentation	Presentation by PE staff to Rotary Club	Presentation to 40+ Rockwall residents on NTMWD Future Water Supply and Water Conservation Efforts	40+ WIA bookmarks with endangered species info handed out	
16	11/12/2024	Rockwall Rotary Club Presentation				

17	11/13/2024	Water and Wastewater Partnering Meeting with Member Cities and Customers				
18	11/14/2024	18th Annual North Texas Regional Water Conservation Symposium	(Hosted & Presented)			
19	11/15/2024	Project Wet Educators Training	Hosted training taught by Project Wet staff for MCC staff members	Provided information to 6 staff members on stormwater and watershed protection as well as endangered species	WIA bookmarks with endangered species info	
20	12/3/2024	McKinney Cub Scouts Pack #920 Presentation	Presentation by PE staff to Cub Scouts for their Spirit of Water Badge	Presentation to 10 Cub Scouts to meet requirement for water badge	Gave out 10-15 WIA bookmarks with endangered species info	
21	1/16/2025	Royce City Lunch Rotary Club	Presentation by PE staff to Rotary Club	Presentation to 15+ Royce City residents on NTMWD Future Water Supply and Water Conservation Efforts	15+ WIA bookmarks with endangered species info handed out	
22	2/5/2025	Sustainable Sips	Regional meeting of Sustainability Professionals	Over 25+ city staff and other sustainability professionals attended regional meeting	25+ WIA bookmarks with endangered species info distributed	

	USGS Gage Number	USGS Gage Name	Gage Type (Parameters)	Funding Amount
1	07332603	Bois D'Arc Creek at FM 271 nr Bonham, TX	Gage height (ft)	
2	07332605	Bois D'Arc Ck at FM 56	Temperature, Discharge, Gage height, specific cond at 25 C, DO, pH	
3	07332621	Bois D'Arc Lake nr Honey Grove, TX	Lake or reservoir water surface elevation above NAVD 1988, feet	
4	07332622	Bois D'Arc Ck at FM 409 nr Honey Grove, TX	Gage height (ft), discharge, DO, pH, Specific cond at 25 C, temperature	
5	07332655	Bois D'Arc Ck at FM 100	Gage height (ft)	125,380
6		Lake Texoma		189,300
7		Lake Lavon		
8		Bois D'Arc Lake		
9		Sister Grove Creek		
10		Leonard WTP		

Total Funding Amount
\$314,680

B.5 Tarrant Regional Water District

CCAA Covered Party Annual Report

Covered Party Name	Tarrant Regional Water District
Date Range of Report	1/1/2024-2/1/2025

Covered Party Contact Information

Representative Name	Jennifer Owens
Job Title	Regulatory Manager
Email	jennifer.owens@trwd.com
Phone	817-335-2491

Conservation Measure	CCAA Conservation Sub-measure	Tracking Metric	Date Range	Summary/Value	Notes
8.1 Non-point Source Watershed Protection	8.1a Continuing to administer the implementation of existing WPPs	Number of Watershed Protection Plans		3	Existing RC, CC, and EM plans
	8.1b Actively seek opportunities to create new WPPs	Watershed Protection Plan creation activities		EM WPP Revision	Expected submittal 2025
8.4 Regional and Large-scale Wastewater Treatment	8.4a Fund and implement industrial pre-treatment programs to ensure that industrial facilities are meeting permit requirements	Summary of pre-treatment program funding, number of industrial inspections.	N/A	N/A	
	8.4b Investigate and stop illicit discharges by deploying sampling equipment and working with stakeholders to notify appropriate regulatory agencies	Summary of illicit dischargers investigations and results	N/A	N/A	
	8.4c Support the regionalization of WWTPs through comments, when appropriate, on new and renewing water quality permit applications to TCEQ and work with local permitting entities to encourage/require new developments to tie into existing regional WWTPs	Summary of efforts related to wastewater treatment regionalization	N/A	N/A	
	8.4e Continue operations of WWTPs	Volume of water treated (mgd)	N/A	N/A	
8.5 Protective Measures to Address Wastewater Overflows, Illicit Discharges, Emergency Repairs	8.5a The continuation of the Capital Improvement Programs (CIP), or similar, for the timeframe of this agreement.	Summary of Capital Improvement Program activities	N/A	N/A	
	8.5b The continuation of industrial pre-treatment programs (described in Section 8.4)	Summary of pre-treatment activities or See Section 8.4)	N/A	N/A	
	8.5c Routine infrastructure inspections to ensure proper system function and reduce the chances of future pipeline breaks	Summary of routine inspections	N/A	N/A	

	8.5d Perform emergency repairs as quickly as possible to minimize any negative effects from any infrastructure failure	Number of emergency repairs in segments that could impact the species.	N/A	N/A	
8.6 Environmental Flows Protection	8.6d Work on environmental flow projects and research in conjunction with the BBASC and BBEST	Number and Summary of meetings of the BBASC and BBEST, projects, research, grant applications	5/1/2024, 11/6/2024	2	TRWD personnel attended 2 BBEST meetings in 2024
8.8 USGS Flow and Water Quality Monitoring	8.8a Fund near real-time USGS stream gages throughout the Trinity River Basin (should a reduction in funding occur in the future, the Covered Parties, in consultation with USFWS and TPWD, commit to maintaining the gages that are determined to be important for continued monitoring of the health of the Covered Species)	List of all USGS Discharge Gage Stations supported by Covered Parties and costs		28	(See Page specific to 8.8 USGS Gage Stations)
	8.8b Support near real-time discharge measurements at four existing sites: 08057000 Trinity River at Dallas, 08062500 Trinity River at Rosser, 08065000 Trinity River near Oakwood, and 08065350 Trinity River near Crockett	List of all USGS Discharge and WQ Gage Stations supported by Covered Parties and costs		2	2 Gages funded with water quality
8.9 Eradication and Control Measures to Address Invasive Aquatic Plants	8.9b Report herbicide use to the Service as part of the annual reporting and any adverse effects to wildlife, if observed	Report of Cost, Herbicide Use, Product Name, Volume Applied and Area (feet) treated & any observed adverse effects to wildlife	N/A	N/A	
8.10 Avoiding and Minimizing Site-Level Disturbances	8.10g Restore streambanks, vegetation, streambeds, temporary work areas after construction to pre-existing conditions or better	Summary of streambank, vegetation, and temporary work area restoration activities- add to construction BMPs		None	
	8.10h Follow Aquatic Resource Relocation Plan when mussels cannot be avoided	Summary of Aquatic Resource Relocation Plans (Excluding Section 7 and other activities covered by other permits)		None	

	8.10i Incorporate natural channel design elements into construction projects permitted under a separate section 7 consultation whenever feasible	Summary of Natural Channel design elements (if applicable)		None	
8.11 Public Education and Outreach	8.11a Add species-specific information to existing conservation messaging, materials, and curriculum to be developed in the first year of the CCAA	Summary of outreach activities (see specific page)		None	(See page specific to 8.11 Public Education and Outreach)
	8.11b Further expand Alligator Snapping Turtle signage program with 20 additional signs each year for first two years. Evaluate program at 3-year mark.	Summary of Alligator Snapping Turtle Signage and reports		No new signs	
8.13 No New Permanent Dams on the Trinity River Mainstem	8.13a Do not build any new permanent dams on the Trinity River mainstem	Number of new permanent dams on the Trinity River mainstem		0	
8.14 Monitoring and Research					
8.14.1 Instream Water Quality Monitoring	8.14.1 a Should TCEQ unexpectedly discontinue funding the Clean Rivers Program during the term of the agreement, continue water quality monitoring and reporting for the Trinity Basin at or above the same level of effort as was in place when the funding was reduced at sites along the mainstem and major tributaries that have a direct effect on the Covered Species.	Number of Clean Rivers Program stations and parameters sampled (in occupied or critical habitat)			
		Documentation of funding of Zebra Mussel monitoring program		\$10,000	Annual contribution to TPWD campaign

8.14.6 Zebra Mussel Monitoring	8.14.6a Fund zebra mussel monitoring programs at \$40,000 per year	Number and location of monitoring sites (include infestation status)		70 samples collected at 15 sites	Lake Bridgeport (infested) - 3 sites; Eagle Mountain (infested) ; 2 sites; Lake Worth (infested) - 1 site; Benbrook Lake - 2 sites; Lake Arlington - 2 sites; Cedar Creek Lake - 2 sites; Richland-Chambers Reservoir (infested) - 3 sites
Compliance or Reporting Measure	Addressed in Annual Report	Tracking Metric	Date Range	Summary/Value	Notes
I.3 Tracking and Report of Incidental Take - Track river miles of occupied mussel habitat impacted	14 Reporting of Incidental Take	Date and duration of permit limit exceedance		0	
		Extent of illicit discharge in river miles (end of mixing zone, return to baseline)		0	
I.4 Annual Reports - Monitor, track, and report take of Covered species in the form of direct harm or mortality and in the form of stream	14 Reporting of Incidental Take	Direct interactions (touching) or induced mortality of covered species		0	

	USGS Gage Number	USGS Gage Name	Gage Type (Parameters)	Funding Amount
1	8042600	West Fork Trinity River at Hwy 281 nr Windthorst, TX	Flow, Rain	\$17,800
2	8042800	W. Fork Trinity River near Jacksboro, TX	Flow, Rain	\$1,500
3	8042820	Lost Creek Reservoir near Jacksboro, TX	Reservoir Elevation	\$6,750
4	8042950	Big Ck nr Chico, TX	Flow, Rain	\$17,800
5	8043000	Bridgeport Reservoir above Bridgeport, TX	Reservoir Elevation, Rain	\$9,800
6	8043950	Big Sandy Creek near Bridgeport, TX	Flow, Rain	\$1,500
7	8044500	W. Fork Trinity River near Boyd, TX	Flow, Rain	\$1,500
8	8044800	Walnut Creek at Reno, TX	Flow, Rain	\$12,100
9	8045000	Eagle Mountain Reservoir above Fort Worth, TX	Reservoir Elevation, Rain	\$9,800
10	8045400	Lake Worth above Fort Worth, TX	Reservoir Elevation, Rain	\$9,800
11	8045550	W. Fork Trinity River at White Settlement, TX	Flow, Rain	\$12,100
12	8045800	Lake Weatherford near Weatherford, TX	Reservoir Elevation	\$6,750
13	8045995	Clear Fork Trinity River at Kelly Road near Aledo, TX	Flow	\$10,600
14	8047000	Clear Fork Trinity River near Benbrook, TX	Flow, Rain	\$21,060
15	8047050	Mary's Creek at Benbrook, TX	Flow, WQ	\$50,200
16	8047500	Clear Fork Trinity River at Fort Worth, TX	Flow, Rain	\$0
17	8048000	W. Fork Trinity River at Fort Worth, TX	Flow, Weather Station, WQ	\$44,600
18	8048543	W. Fork Trinity River at Beach St. Fort Worth, TX	Flow, Rain	\$1,500
19	8048970	Village Ck at Everman, TX	Flow	\$11,050
20	8049200	Lake Arlington at Arlington, TX	Reservoir Elevation, Rain	\$9,600
21	8062575	Trinity River at Dosser	Flow	\$16,300
22	8062700	Trinity River at Trinidad, TX	Flow	\$0
23	8062800	Cedar Creek nr Kemp, TX	Flow	\$0
24	8062895	Kings Creek at H 34 nr Kaufman, TX	Flow	\$10,700
25	8063010	Cedar Creek Reservoir near Trinidad, TX	Reservoir Elevation, Rain, Wind	\$11,300
26	8063100	Richland Creek near Dawson, TX	Flow	\$16,300
27	8063460	Richland Creek at CR 0030, TX	Flow	\$16,300
28	8063600	Lake Waxahachie near Waxahachie	Reservoir Elevation	\$6,750
29	8063800	Waxahachie Creek near Bardwell, TX	Flow	\$16,300
30	8064510	Halbert Lake near Corsicana, TX	Reservoir Elevation	\$6,750
31	8064550	Richland-Chambers Reservoir near Kerens, TX	Reservoir Elevation, Rain, Wind	\$11,300
32	8064570	Trinity Rv at Hwy 287 nr Cayuga, TX	Flow	\$16,300

Total Funding Amount
\$384,110

	Event Date	Event/Post Name	Description	Number of Interactions
1	4/10/2024	TRWD Facilitator Training. Onboarding for Watersheds and Conservation	Stream Trailer	5
2	4/11/2024	TWA Fort Worth Country Day LWWE Field Day	Stream Trailer	90
3	5/9/2024	Jack County 6th Grade Field Day	Stream Trailer	150
4	5/14/2024	Eagle Mountain Riparian Workshop	Stream Trailer	35
5	6/12/2024	TRWD Staff Stream Trailer Facilitator Training	Stream Trailer	8
6	6/18/2024	First Presbyterian Church of Fort Worth: Vacation Bible School	Stream Trailer	82
7	10/8/2024	Van Zandt County Ag Days	Stream Trailer	460
8	10/9/2024	Van Zandt County Ag Days	Stream Trailer	520
9	10/22/2024	Indian Trail Master Naturalist Training Class	Stream Trailer	30
10	11/19/2024	Next Generation STEM Garden Event: Life Skills Group	Stream Trailer	52
11	11/20/2024	Springtown Elementary Career Day	Stream Trailer	240