

Eagle Mountain Lake Watershed Protection Plan Stakeholder Meeting Agenda

January 27, 2025 | 10:15 am | Azle Memorial Library

10:15 Introductions

- Name, Organization, Connection to lake and/or watershed

10: 25 TRWD and Watershed Protection Planning Overview *Katie Myers, TRWD*

- What is Tarrant Regional Water District
- What is Watershed Protection Planning
- Questions

10: 40 Eagle Mountain Lake WPP Overview *Katie Myers, TRWD*

- EML Watershed Overview
- Past: History of EML WPP
- Present: Current Progress on updated EML WPP
- Future: EML WPP Path forward
- Questions

11:00 Chapter 1-2 Guided Review

- General feedback: clarity, legibility
- Review sections flagged by TRWD
- Open discussion: missing or incorrect information in watershed characterization, additional water quality concerns or management practices for consideration

11:45 Wrap up *Katie Myers, TRWD*

- Review next steps and general timeline for next meeting
- Adjourn

Please direct questions regarding this meeting or the Eagle Mountain Lake Watershed Protection Plan to Katie Myers, Rural Programs Coordinator at katie.myers@trwd.com or 817.253.3342



Eagle Mountain Lake Watershed Protection Plan Stakeholder Meeting

Katie Myers, Rural Programs Coordinator
Aaron Hoff, Watershed Programs Manager



TRWD: Everything, Everywhere, All At Once



4 Major Reservoirs

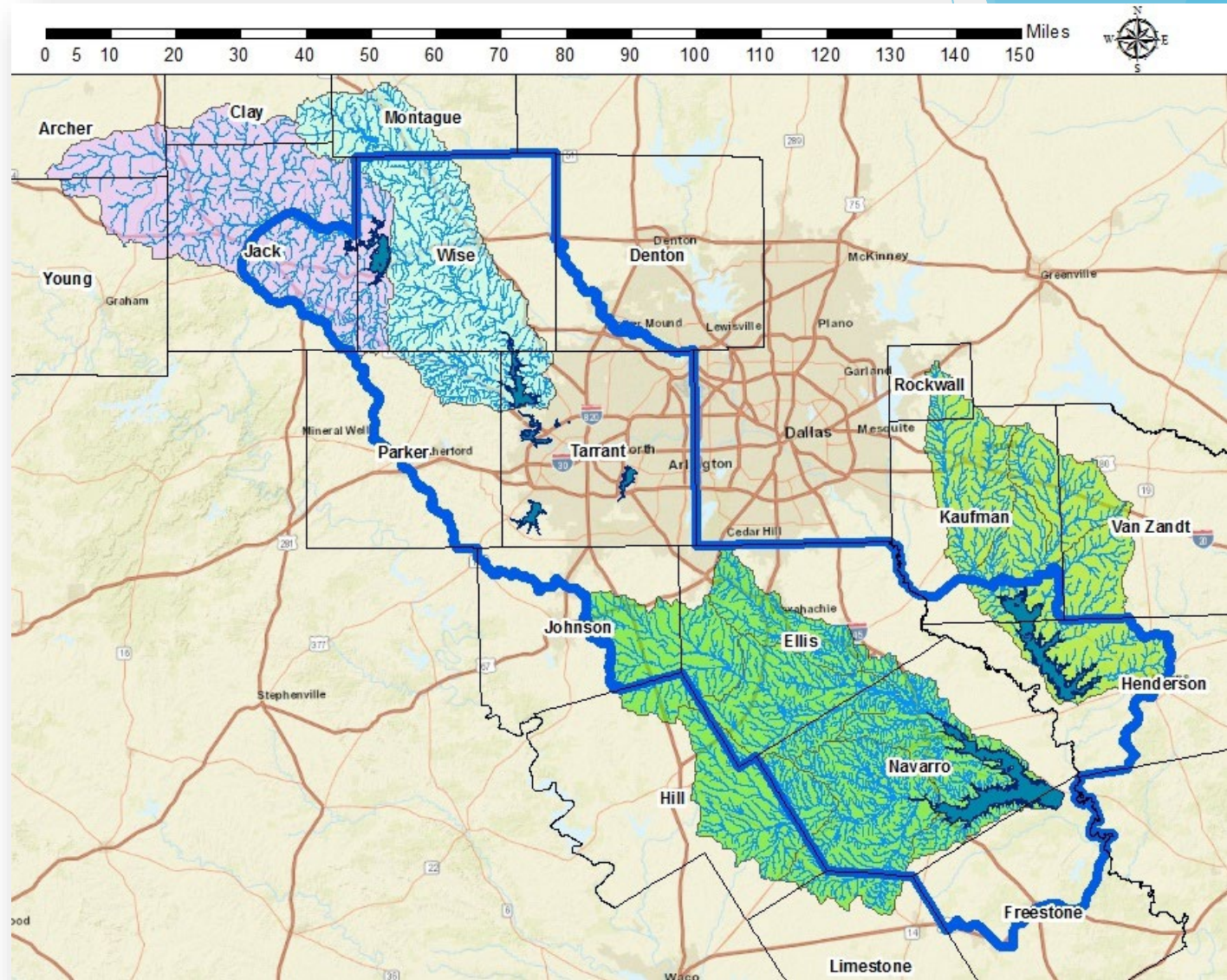
- ▶ 97,000 surface acres
- ▶ 760 mi shoreline

Watersheds

- ▶ 5,000 sq mi
- ▶ 5,500 stream mi

Other stuff

- ▶ 200 mi pipeline
- ▶ 2,000 acre wetland project
- ▶ 72+ mi trail system
- ▶ Public parks and boat ramps



Water Quality: Designated Uses



Aquatic Life

Protect aquatic species

Dissolved Oxygen, Toxic Chemicals, Total Dissolved Solids



Recreation

Estimates the relative risk of swimming and other water recreation activities

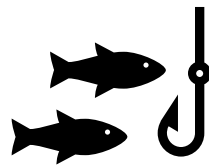
Bacteria



Drinking Water

Indicates if water is suitable as a source of drinking water

Metals, Pesticides, Toxic Chemicals, Total Dissolved Solids, Nitrates



Fish Consumption

Protect public from consuming fish that may be contaminated

Metals, Pesticides, Other Toxic Chemicals

What is a WPP?

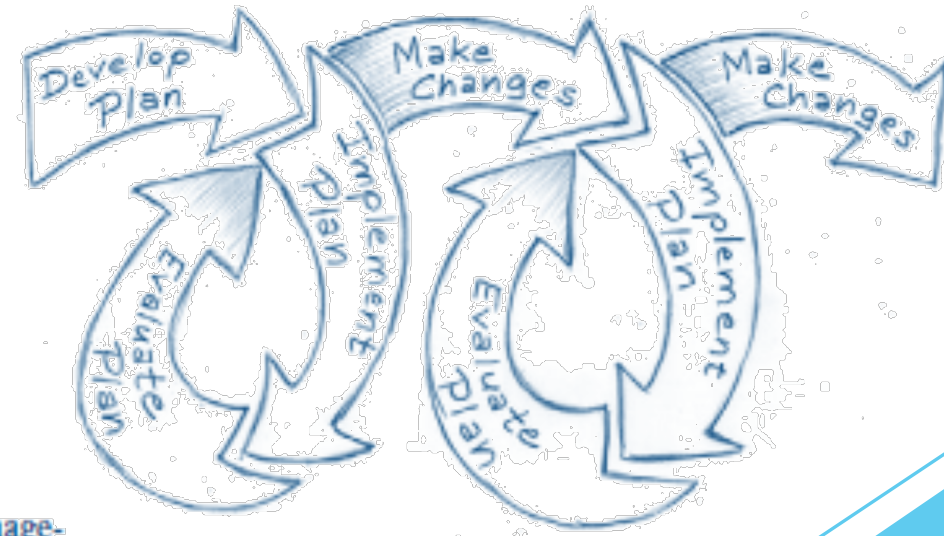
Watershed Protection Plan: A strategy that provides assessment and management information for a defined watershed.

- ▶ Clean Water Act §319 → EPA Framework
 - ▶ TCEQ Integrated Report (303(d) List)
- ▶ Stakeholder involvement
- ▶ Actions supported by sound science
- ▶ Technical expertise from diverse sources
- ▶ Diverse skills & knowledge
- ▶ Focus on water quality goal



Six Steps to Effective Watershed Management

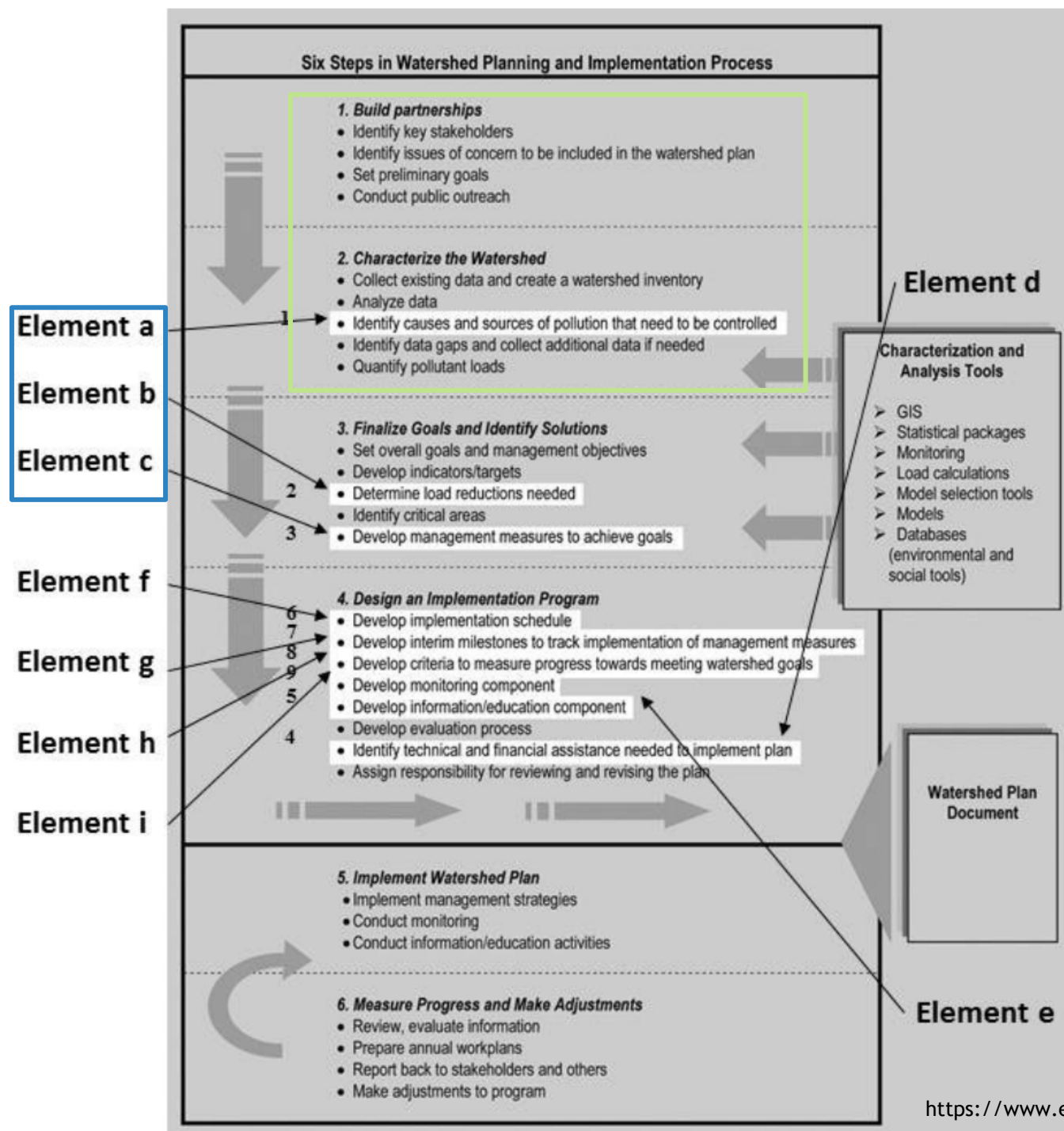
1. Build partnerships
2. Characterize your watershed
3. Establish goals & identify solutions
4. Develop an implementation program
5. Implement your plan
6. Measure progress & make adjustments





EPA Nine Elements of a Successful Watershed Plan

- a. Identify causes and sources of pollution
- b. Estimate pollutant loading into the watershed and the expected load reductions
- c. Describe management measures that will achieve load reductions and targeted critical areas
- d. Estimate amounts of technical and financial assistance and the relevant authorities needed to implement the plan
- e. Develop an information/education component
- f. Develop a project schedule
- g. Describe the interim, measurable milestones
- h. Identify indicators to measure progress
- i. Develop a monitoring component

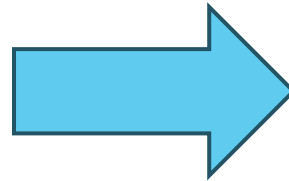


Cross-reference between Six Steps and Nine Elements - included in your documents packet

Element A: Identify causes and sources of pollutants

▶ Point Source Pollution

- ▶ Wastewater Treatment Plant Discharges
- ▶ Industrial Discharges
- ▶ Confined Animal Feeding Operations (CAFO)



- ▶ Regulated through permitting and reporting processes

▶ Non-Point Source Pollution

- ▶ Stormwater
- ▶ Agricultural Run-off
- ▶ Sediment
- ▶ Nutrients
- ▶ Toxic chemicals

- ▶ Municipal stormwater regulated through permitting and reporting
- ▶ Many other types of NPS are unregulated and/or lack effective detection and enforcement



Element B: Determine load reductions needed

- ▶ Load Reductions based on:
 - ▶ SWAT model outputs
 - ▶ Effectiveness of Best Management Practices (BMP) tied to land use and changes

Element C: Develop Management Measures

- ▶ Determine appropriate BMPs
 - ▶ Non-Structural/Behavioral
 - ▶ Structural
- ▶ Must be economically and environmentally reasonable
- ▶ Different BMPs may be tied to different subwatersheds



Element D: Identify technical and financial assistance needed

- ▶ Technical assistance
 - ▶ Natural resource agencies
 - ▶ Some nonprofits
- ▶ Financial assistance
 - ▶ TRWD funding programs*
 - ▶ State and federal grants
 - ▶ Local government funds
 - ▶ Nonprofit grant programs

Element E: Develop education component

- ▶ BMP demonstration sites*
- ▶ Workshops*
- ▶ On-site technical assistance*
- ▶ Citizen science and monitoring*
- ▶ Training and certification programs*



Element F: Develop schedule of implementation

- ▶ By years or blocks of years, implementation schedule for
 - ▶ Educational component from Element E
 - ▶ Implementation of BMPs from Element C with assistance identified in Element D

Element G: Set interim measurable milestones

- ▶ Implementation of BMPs and education according to schedule in Element F



Element H: Develop criteria to measure progress

- ▶ Direct criteria
 - ▶ Measured water quality improvements in impaired waterways and reservoir
 - ▶ Ex: water quality samples show reduction in bacteria
- ▶ Indirect criteria
 - ▶ Ex: reduction in number of recreation closures due to bacteria

Element I: Develop monitoring component

- ▶ Should include baseline, project-specific, and post-project (before, during, after)



WPP Process Overview

We are here



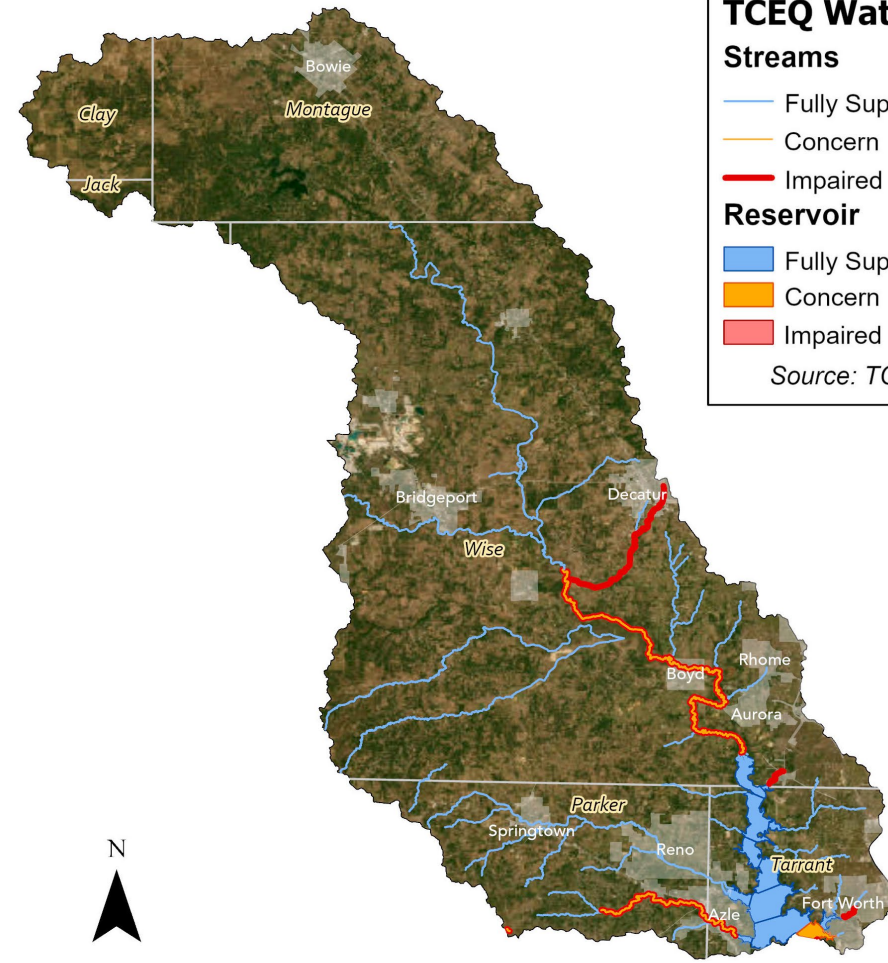
Phase I: Watershed Characterization & Planning			Phase II: Implementation	
Public Education	Writing WPP Document	Informal Review	Agency Approval Process	Federal Grant Funds Available for Project Submittals
Data Collection	Review Watershed Modeling	<ul style="list-style-type: none">• NRCS/ SWCD• Partners (you!)		
Data Analysis and Modeling		Formal Agency Review		
Stakeholder Meetings		<ol style="list-style-type: none">1) Send draft to state agencies2) Respond to agency comments3) 45-day Public Comment Period4) Respond to comments5) Re-submit to state agencies		
<ul style="list-style-type: none">• Priority Selection• Recommendations for WPP				



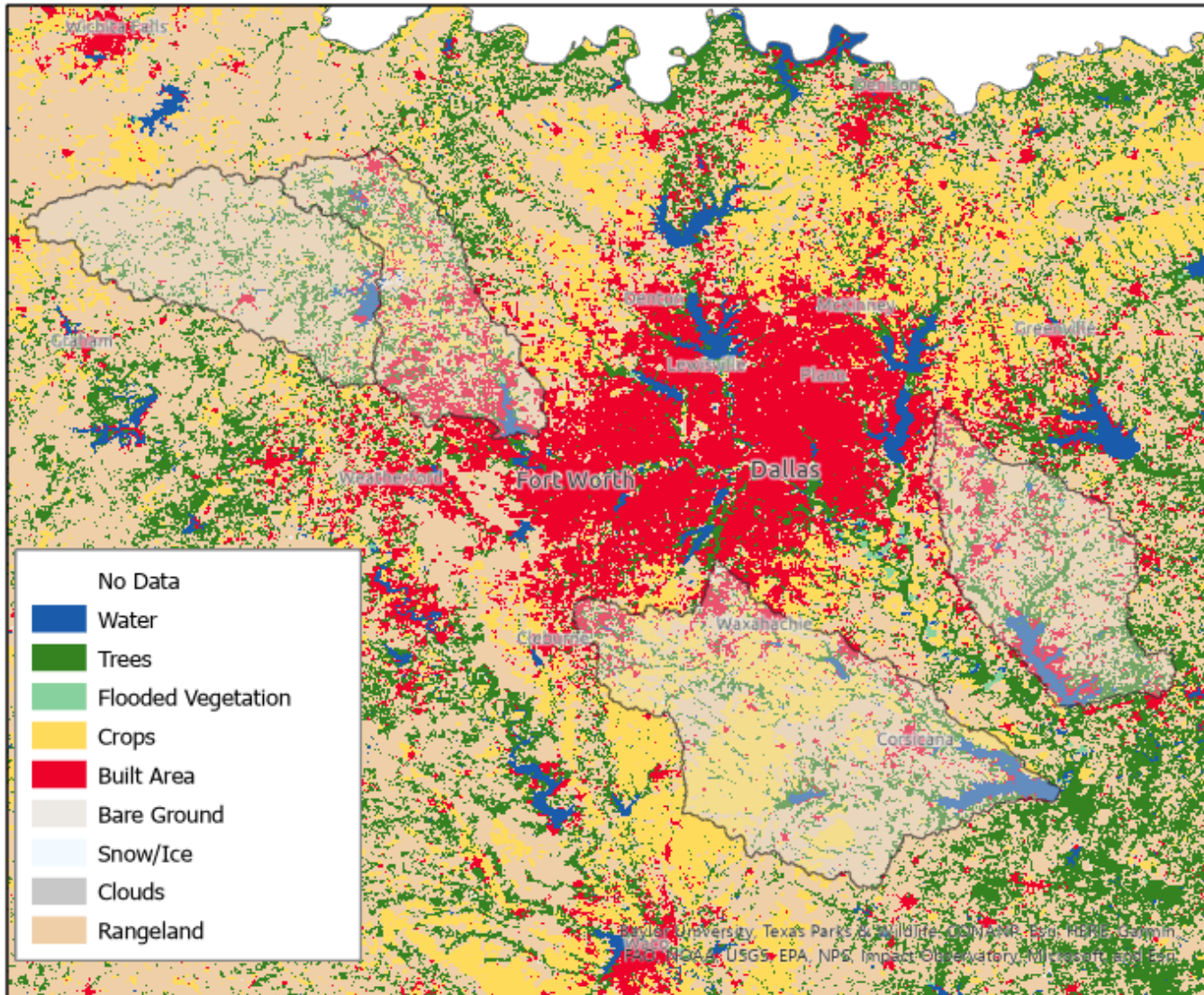


Eagle Mountain Watershed

- ▶ Part of a TRWD's raw water supply system serving 2.4 million people
- ▶ Recreational and habitat values
- ▶ TRWD Concerns
 - ▶ Sedimentation
 - ▶ Eutrophication
 - ▶ Clean Water Act standards

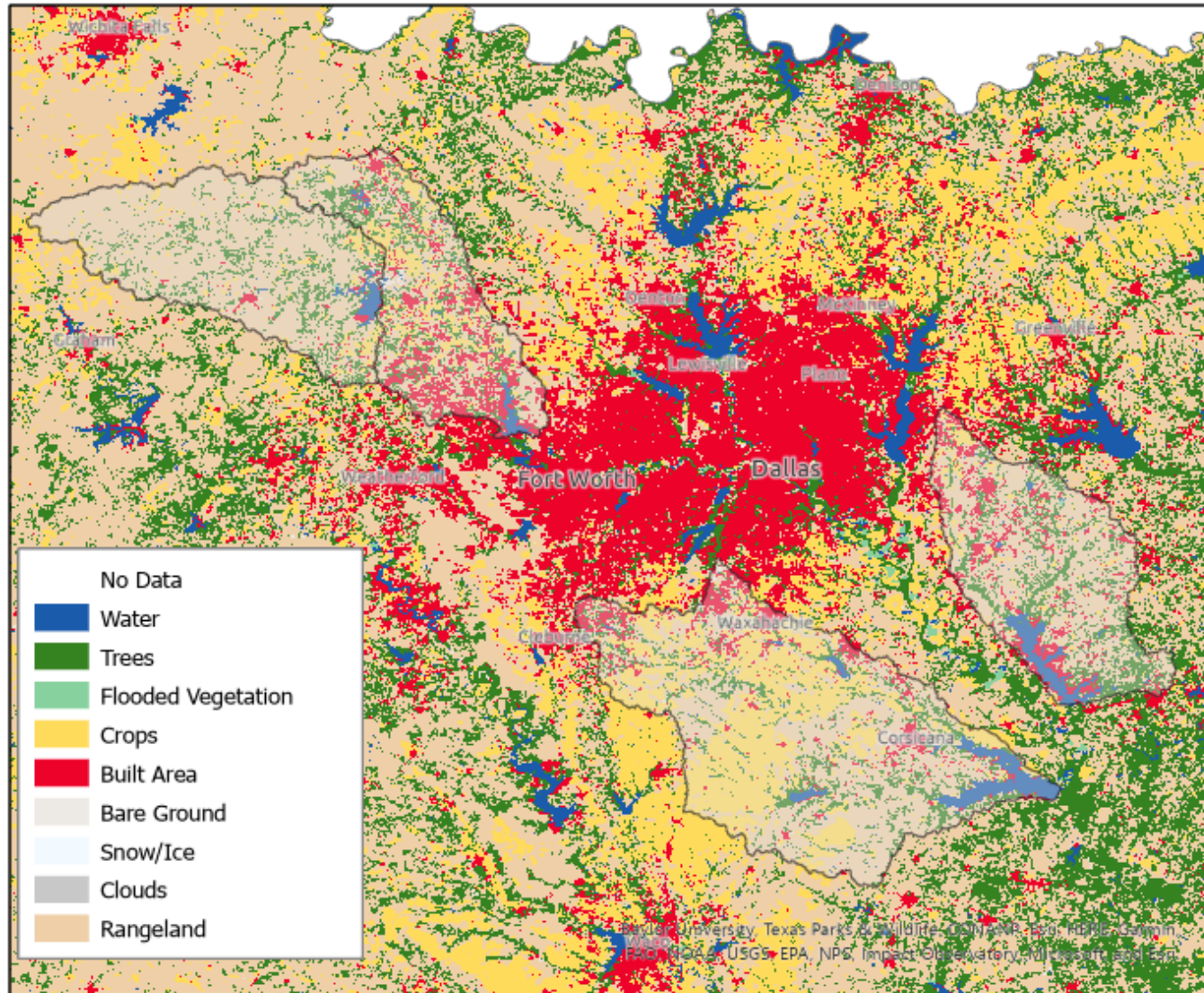


Water Quality Issues



- ▶ Rapidly urbanizing NW fringe of DFW metroplex
 - ▶ Higher runoff volume due to impervious surface
 - ▶ Higher volume of pollutants associated with wastewater treatment, landscaping, construction, pets
- ▶ Advocate for appropriate development standards and pollution abatement ordinances/regulations

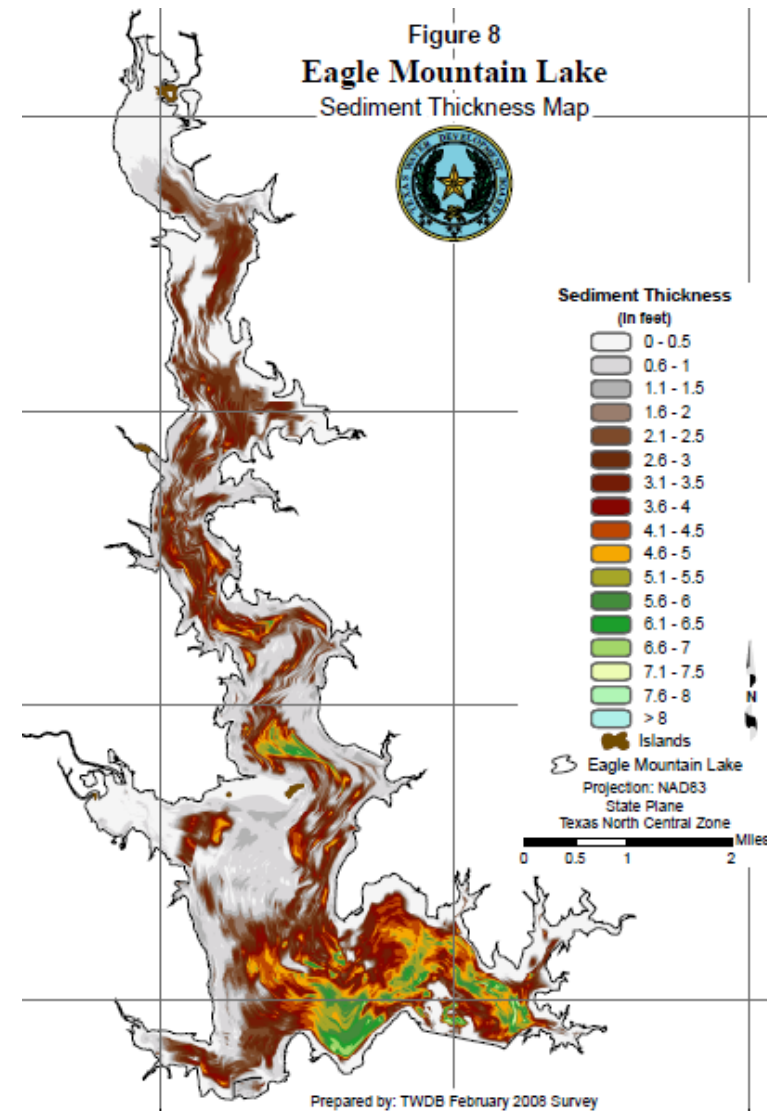
Water Quality Issues



- ▶ Still a large amount of rural and agricultural land
 - ▶ Not a lot of row crops in this area
 - ▶ Mostly pasture/range
- ▶ Grazing methods, stocking rates, upland vegetation management, and riparian buffer quality affect erosion/sediment and nutrient and bacteria loading

Water Quality Issues

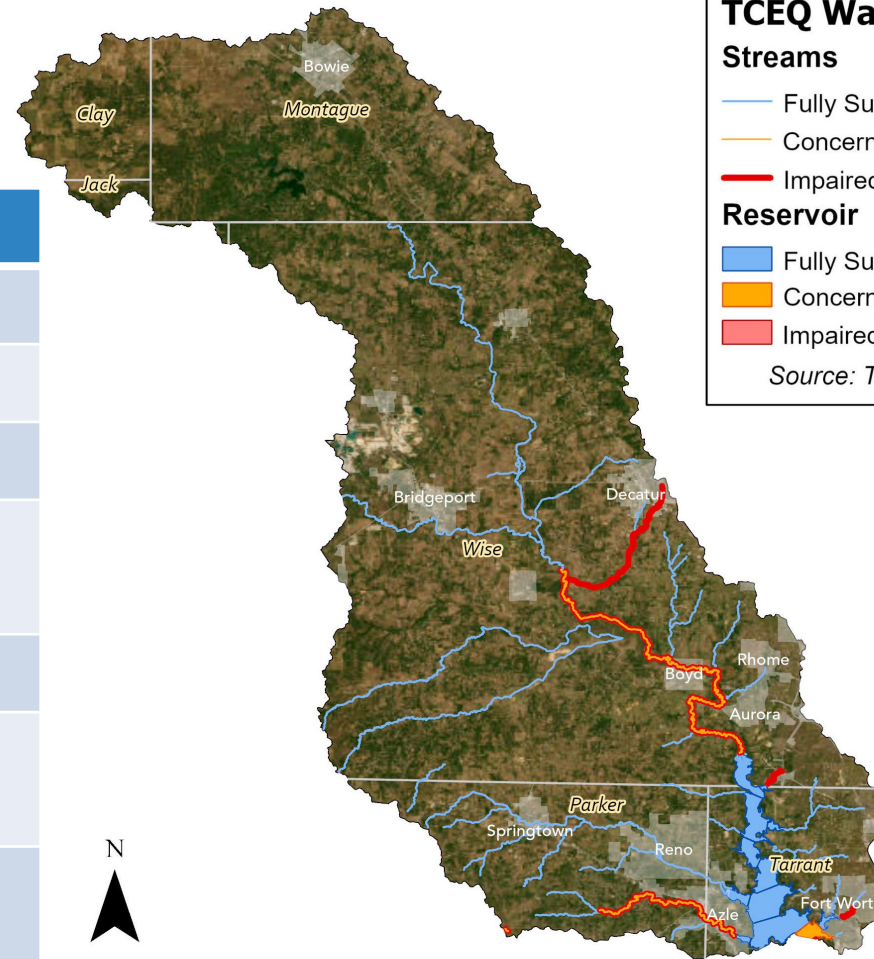
- ▶ Sediment: Quality and Supply issue
- ▶ State Volumetric Survey 2008
 - ▶ >15,000 ac-ft of sedimentation since 1934





Water Quality Issues

Segment	Impairment(s)	Concern(s)
Ash Creek	Bacteria	Nitrate
Dosier Creek	Bacteria	
Derrett Creek	Bacteria	
West Fork TR below BP	Bacteria	Chlorophyll-a
Martin Branch	Bacteria	
West Fork TR below EM	Dioxin in edible tissue	
Eagle Mountain Reservoir		Dissolved Oxygen



TCEQ Water Quality Status

Streams

- Fully Supporting
- Concern
- Impaired

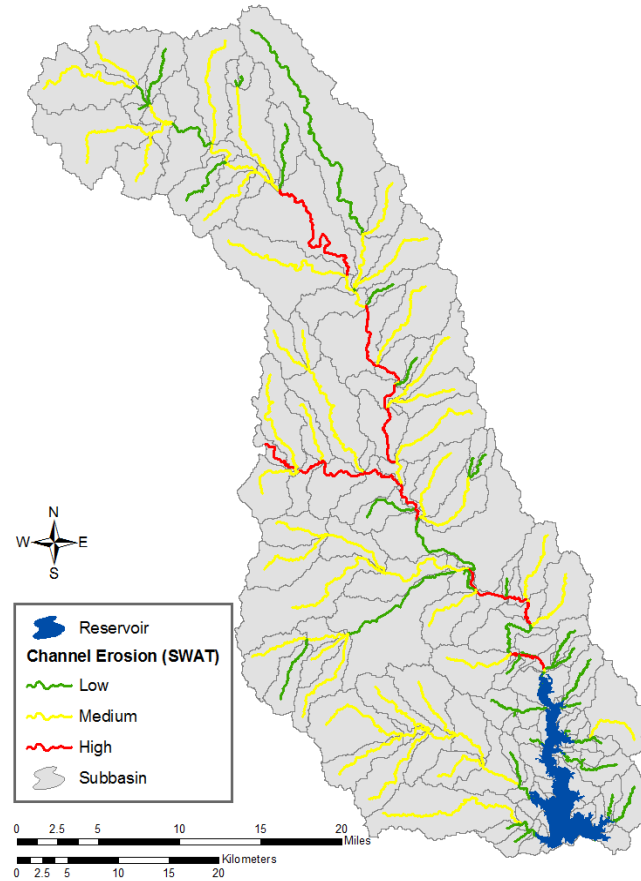
Reservoir

- Fully Supporting
- Concern
- Impaired

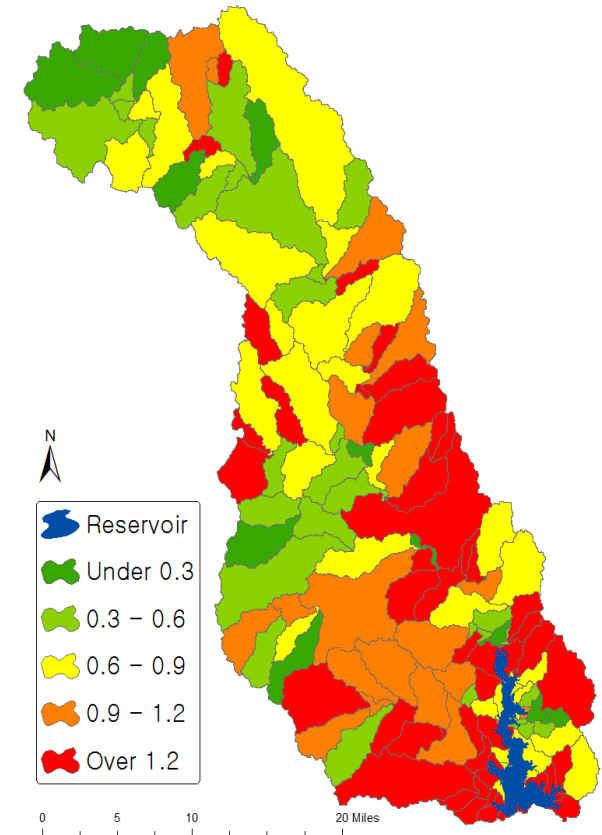
Source: TCEQ 2022 Integrated Report

EM WPP - Where We've Been

- ▶ Then: wrote WPP in 2010s
 - ▶ Agency review flagged for spatial distribution of data
 - ▶ Eagle Mountain Lake Conservation Initiative



Channel erosion estimation



TP loading (kg/ha) by overland flow



EM WPP - Where We Are

- ▶ Now: rewriting WPP
 - ▶ Reusing old pieces where appropriate
 - ▶ Integrating new data and refreshing modeling
 - ▶ Fitting all information and formatting to EPA Nine Elements guidance

- A. Identify problem & sources
- B. Reductions needed to reach goals
- C. Identify measures needed to achieve reductions
- D. Assistance needed
- E. Education & outreach plan
- F. Schedule
- G. Milestones
- H. Criteria for measuring progress
- I. Monitoring Plan



EM WPP - Where We're Going

We are here



▶ Next: so, so many things

Phase I: Watershed Characterization & Planning			Phase II: Implementation	
Public Education	Writing WPP Document	Informal Review	Agency Approval Process	Federal Grant Funds Available for Project Submittals
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<ul style="list-style-type: none">• Priority Selection• Recommendations for WPP				

EM WPP - Where We're Going

- ▶ Periodic meetings as new chapters are ready to review
- ▶ Next up:
 - ▶ Chapter 3: Water Quality Assessment
 - ▶ Initial modeling from Texas A&M, hopefully with modeling team as guest speaker
 - ▶ Chapter 4: Potential Pollutant Sources
 - ▶ This is a great place for people with boots on the ground to provide some ground-truthing to better inform or adjust the models
- ▶ Planning to do the next couple virtually
 - ▶ Open to other suggestions: continue holding at the library, move venues around the watershed?



Watershed Protection Programming

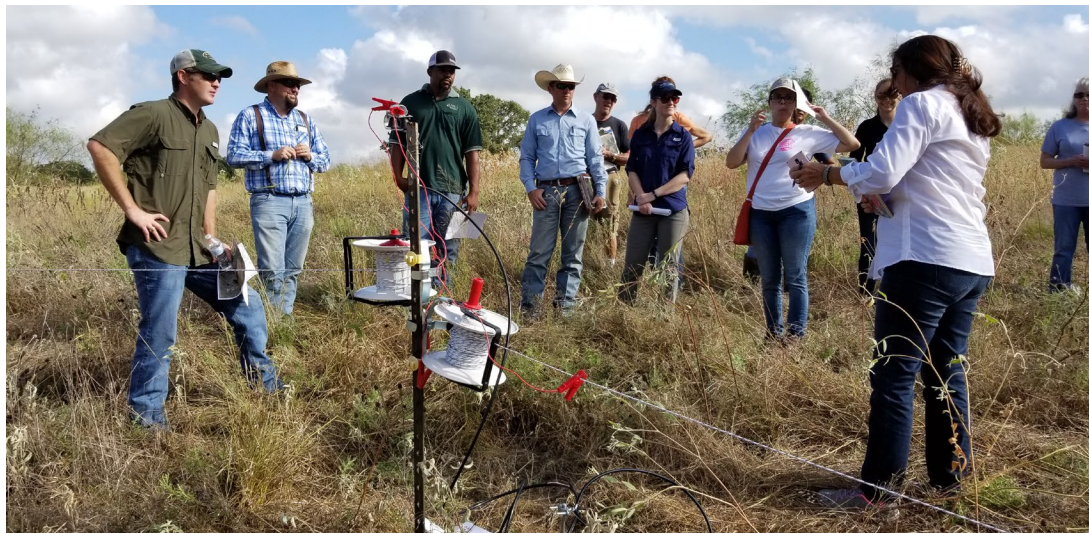
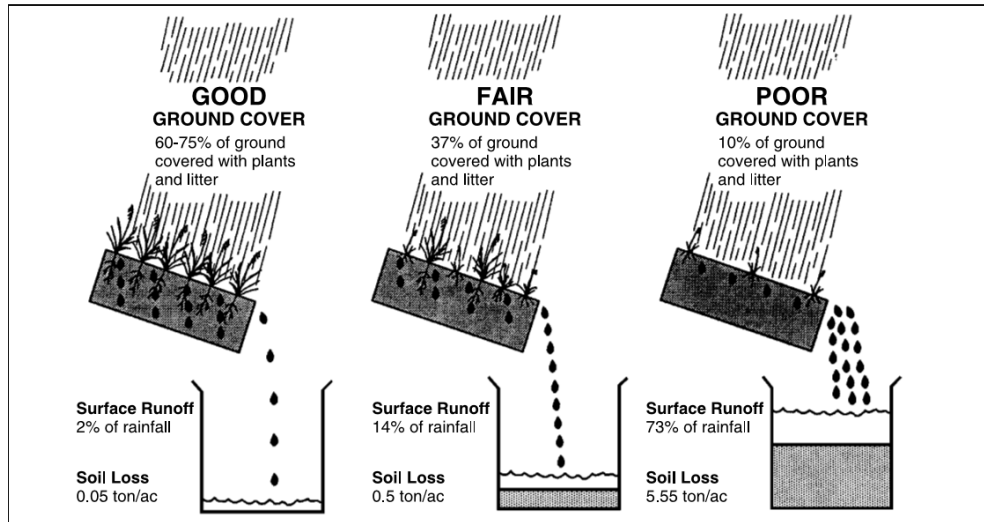
- ▶ Support for partners:
 - ▶ Natural resource agencies
 - ▶ Nonprofits
 - ▶ Municipal governments



- ▶ In the form of:
 - ▶ Workshop/event funding and co-programming
 - ▶ Speaking/teaching opportunities
 - ▶ Demonstration projects

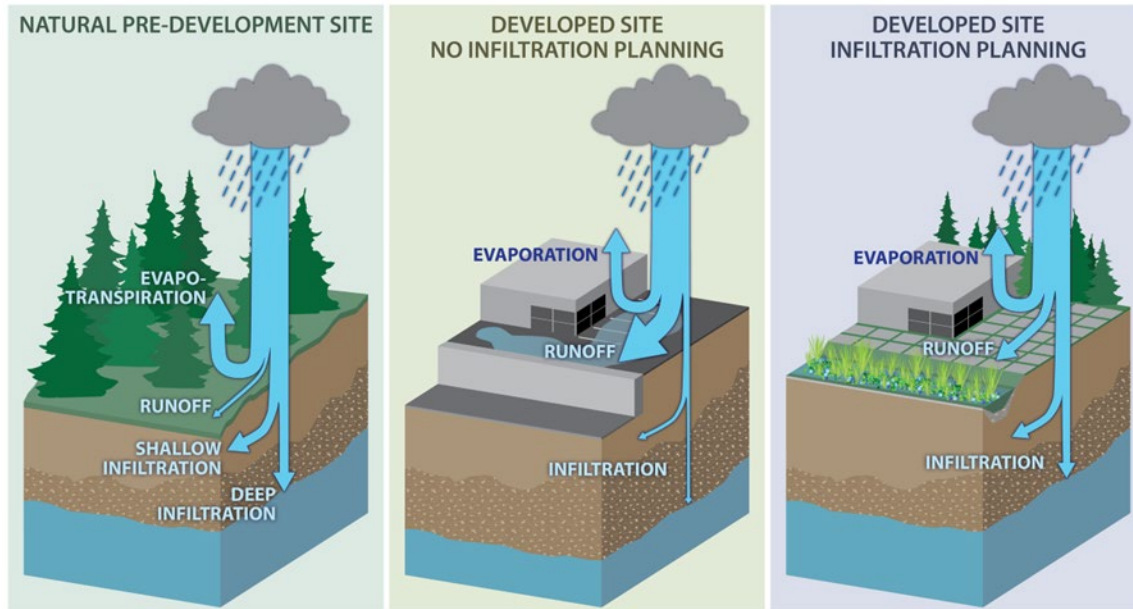


Watershed Protection Programming: Rural



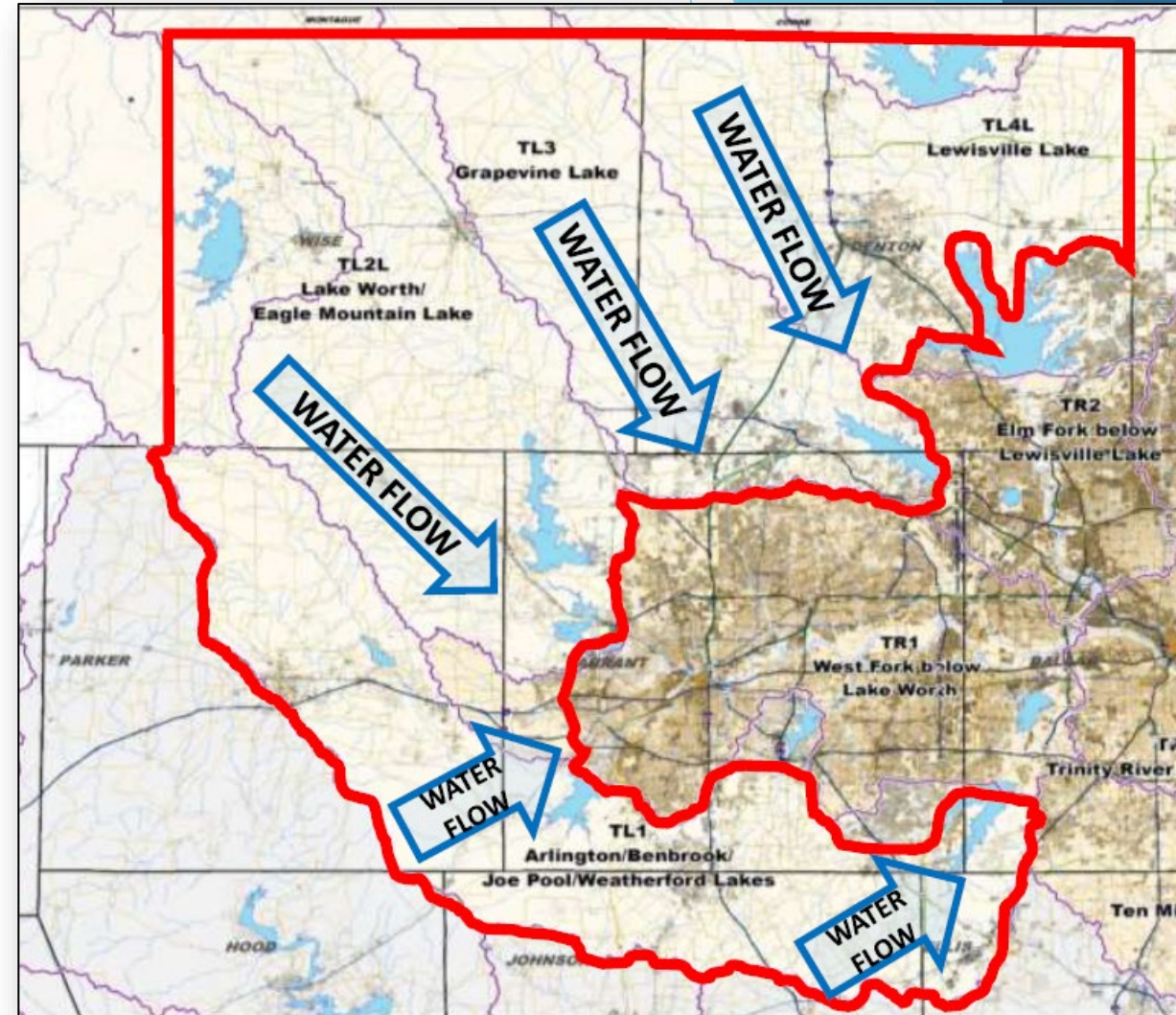
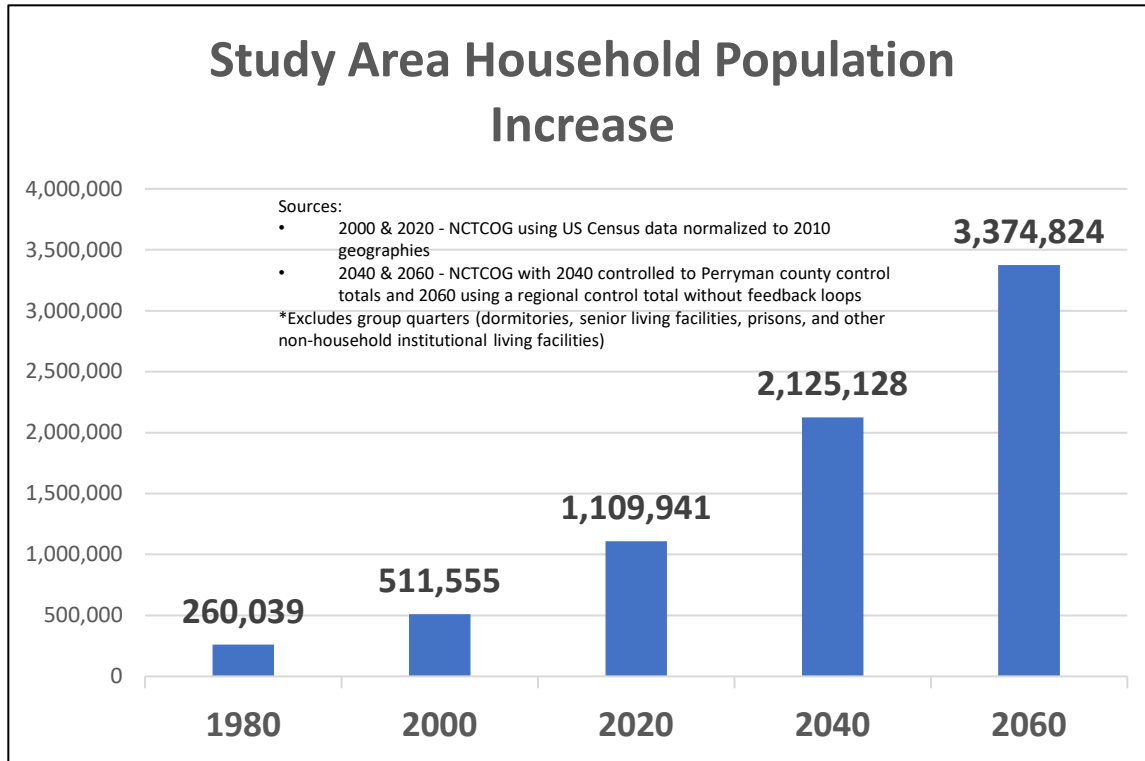
Watershed Protection Programming: Urban

- ▶ Building more sustainably with:
 - ▶ Green Stormwater Infrastructure (GSI)
 - ▶ Nature-Based Solutions (NBS)
 - ▶ Blue-Green Infrastructure (BGI)
 - ▶ Low-Impact Development (LID)





Watershed Protection Programming: Urban



Reviewing goals with stakeholders



Proactive Planning

- Reimagine transportation design to integrate stormwater, environmental, and flood reduction benefits
- Protect current and future infrastructure
- Develop model for replication

Reduce Flooding

- Reduce flooding downstream of rapidly growing upstream communities
- Increase resiliency to flooding disasters
- Inform decision-making
- Implement stormwater infrastructure with transportation infrastructure

Tools/ Resources

- Empower communities to adopt higher floodplain management standards
- Develop GIS based tools and resources

Local-Scale Innovation

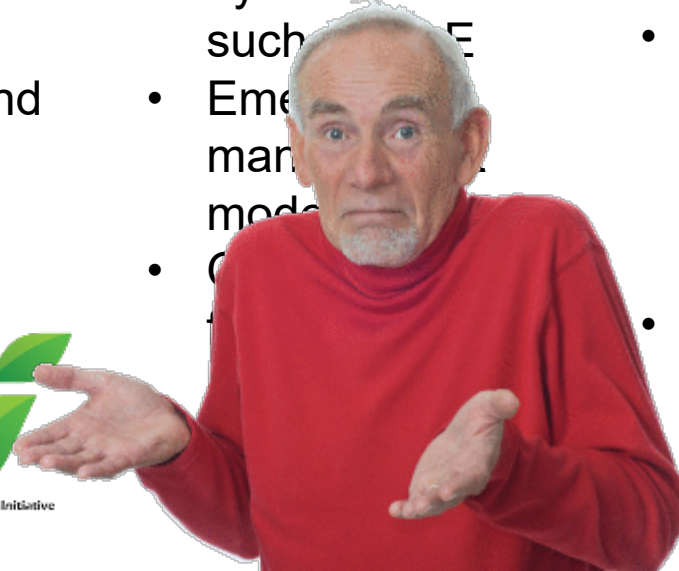
- Enhance Trinity River Watershed Hydrology Assessment
- Enhance existing hydraulic models such as HEC
- Emergency management models
- Community

Community Roadmap

- Produce planning-level designs for transportation, stormwater detention, and environmental
- Integrate these layers to identify what needs to be built and achieved benefits
- Establish ways to fund planned infrastructure



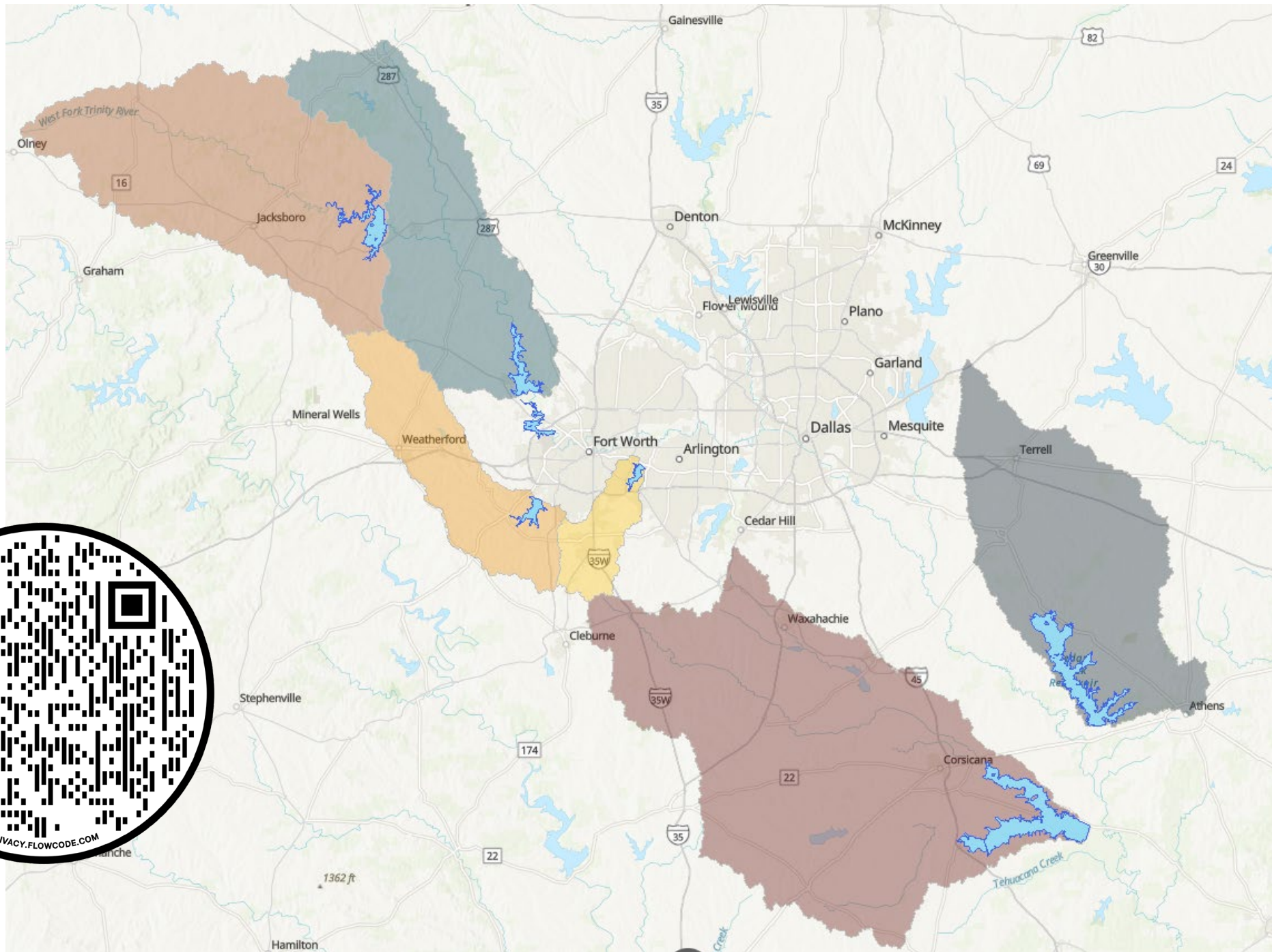
Integrated Transportation and Stormwater Management Initiative





Guided Review: Chapters 1 & 2

- ▶ **General readability**
 - ▶ Clarity (weird wording, technical information not explained well)
 - ▶ Grammar (hopefully not, but I'm not perfect)
- ▶ **Content**
 - ▶ Anything questionable or that might be incorrect
 - ▶ Anything potentially useful that's missing
- ▶ **Visuals**
 - ▶ Size, colors, legibility
 - ▶ Additional maps you'd like to see



Contact Info

- ▶ Katie Myers, Rural Programs Coordinator
 - ▶ Katie.myers@trwd.com
- ▶ General watershed inquiries: watersheds@trwd.com
- ▶ Our website: <https://www.trwd.com/watersheds/>

1.0 Watershed Management

1.1 Watersheds and Water Quality

A watershed is the land area that drains water to a common point such as a stream, river, lake, wetland, or ocean. Watersheds can be very small, such as part of a park that drains to the creek in your neighborhood. Many of these small watersheds combine to form much larger watersheds, such as major river basins that drain large portions of states, and in some cases, cover large portions of countries or continents. For example, several subwatersheds make up the Eagle Mountain Lake watershed, which is part of the Trinity River basin (Figure 1-1).

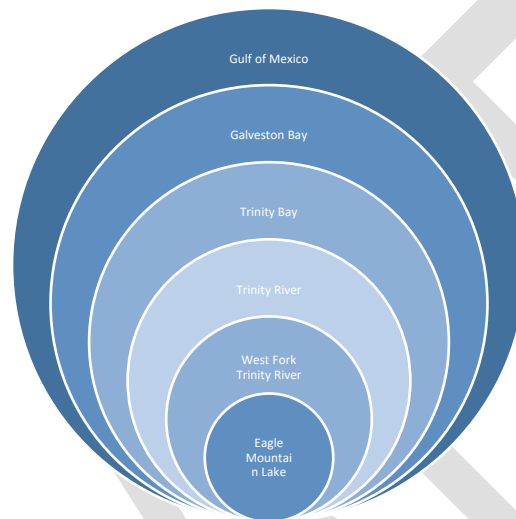


Figure 1-1 Conceptual interpretation of the EML watershed system

No matter where you are on the Earth, you're in a watershed. As runoff water from storms flows across the landscape, it picks up and carries sediment and various other substances as it flows to a waterway. This means that everything we do on the land affects both water quality and quantity, and the cumulative effects can impact the function and health of the whole watershed.

An effective watershed management strategy will show a measurable effect on the water quality of the receiving water body. To accomplish this, the strategy must account for and examine the full scope of human activities and natural processes that occur within the watershed's boundary.

1.2 The Watershed Approach

Watersheds usually contain parts of many municipalities and counties and may even cross state lines. This often makes it difficult for any one entity to approach and solve water quality concerns on their own. To address this constraint, state and federal agencies have adopted a *watershed approach* for managing water quality, which involves assessing the sources and impacts of water quality impairments at the watershed level.

A key component of the watershed approach is input from stakeholders, which includes anyone that has an interest in the watershed. These stakeholders may offer unique insights and experiences gained from either working, living, or recreating in the watershed. These insights supplement water quality monitoring data to help inform management decisions. As users of the watershed, stakeholders have a vested interest in the water quality, and will also be affected by the management decisions used to address water quality issues.

1.3 Watershed Protection Planning

A Watershed Protection Plan (WPP) is a watershed-based plan developed by the stakeholders to restore and/or protect water quality and designated uses of a waterbody through a combination of voluntary, non-regulatory water resource management measures. WPPs are an important part of the State's approach to managing nonpoint source (NPS)

pollution. This plan was developed by stakeholders to address growing water quality issues in Eagle Mountain Lake and to protect this major drinking water supply from further degradation. The plan provides a comprehensive analysis and planning vehicle for restoring and protecting water quality in Eagle Mountain Lake (EML).

Via the WPP process, stakeholders help select, design, and implement management strategies best suited for the watershed from the standpoints of economic feasibility, social acceptability, and scientific credibility. Public participation is critical throughout plan development and implementation, as ultimate success of any WPP depends on stewardship of the land and water resources by local landowners, business, residents, and municipal leaders in the watershed.

To support stakeholders who wish to utilize this watershed approach, the Environmental Protection Agency (EPA) has developed a list of [nine key elements](#) necessary for developing a WPP capable of addressing water quality issues. WPPs are reviewed by the State (TCEQ and TSSWCB) and then EPA to assess a plan's consistency with the nine elements. Acceptance of the WPP by EPA is necessary for implementation and future updates to be considered eligible for Clean Water Act (CWA) §319(h) funding. [Details about these elements, as well as the WPP chapters they correspond to, are provided in Appendix A: Key Elements of Successful WPPs.](#)

1.4 The Eagle Mountain Lake Watershed Protection Effort

Effective WPPs utilize local knowledge and expertise to guide the planning process, ensuring that the BMPs selected for implementation are relevant to the watershed’s issues, applicable to the environmental setting of the watershed, and feasible for the watershed residents, given available resources. If this process is followed, local stakeholders are more likely to modify their behaviors and adopt the BMPs identified in the Plan.

The EML watershed protection effort was initiated to address water quality concerns in both EML and its tributaries. Drinking water from EML is part of an integrated regional water system that serves approximately 2.3 million customers across 11 counties. Long-term analyses also indicate statistically significant relationships between nutrient and chlorophyll-a, or algae, concentrations in Eagle Mountain Lake and other lakes in the region. This relationship between “causal” and “response” pollutants allows for the use of both chemical and biological data to establish comprehensive water quality goals for the lake, as well as implementation milestones for the watershed.

1.4.1 Structure

The general EML WPP stakeholder is open to public participation without formal membership. Anyone with an interest in the watershed and water quality in EML or its contributing streams is welcome to attend and provide input at in-person or virtual stakeholder meetings. Specifically identified partners in Table 1-2 provide technical advice or develop technical materials such as modeling reports. To ensure that watershed interests are well-represented, there is a continued effort by the project team to maintain stakeholder representation that is well-distributed, both spatially throughout the watershed, and topically amongst multiple users with varying needs.

**Temporary note: contents of Table 1-2 will be adjusted as the WPP process progresses*

Table 1-2 Steering Committee membership and focus groups

Partner	Contributions
Natural Resources	
Texas A&M AgriLife Research	Modeling/Analytical Products
Texas A&M AgriLife Extension	Workshop support (ongoing)
Texas Water Resources Institute	Technical advice and workshop support
USDA-Natural Resources Conservation Service	Technical advice, data, and document review
Texas State Soil and Water Conservation Board	Technical advice, data, and document review
Soil and Water Conservation Districts	Data and technical advice
Texas Commission on Environmental Quality	Technical advice, data, and document review

Municipal	
North Central Texas Council of Governments	Data and coordination support
Non-Profit	
Save Eagle Mountain Lake	Community engagement

1.4.2 Coordinated Development of the Watershed Protection Plan

Partnership members were instrumental in identifying BMPs and strategies that proved useful from their diverse experiences. TRWD and its modeling partners at Texas A&M AgriLife used information from technical partners and general stakeholder meetings to recommend which BMPs were the best fit for the EML watershed and its residents.

Ultimately, this information was used to evaluate BMPs that should be implemented to achieve the desired water quality goals. This process involves continued communication between TRWD, its partners, and stakeholders as they identify measurable milestones and prioritize specific BMPs. Achieving improvements in water quality will not be a short-term effort and will continue long after the initial planning period is complete. Even after the Plan's water quality goals are achieved, continued preservation of these goals and long-term protection of the watershed is necessary. These programs and practices will require periodic evaluation of their results through continued water quality monitoring, which will be targeted to interim and long-term milestones. Through these evaluations, adaptive management techniques will be used to reassess the recommended strategies used in the watershed.

2.0 Watershed Overview

2.1 Geography

Permitted in 1928 for municipal, industrial, and irrigation use, Eagle Mountain Lake is one of four reservoirs owned by the Tarrant Regional Water District and operated for water supply, irrigation, flood control, and recreational purposes. The Tarrant Regional Water District (TRWD) system supplies raw drinking water for approximately 2.3 million people in the north Texas region. Construction on the Eagle Mountain Lake dam was completed in 1932, impounding flows from a 1,970 square mile watershed that extends across portions of Tarrant, Parker, Wise, Montague, Jack, Clay, Young, and Archer Counties. Approximately 1,110 square miles of this watershed is impounded by the Lake Bridgeport dam in western Wise County, which controls inflows to Eagle Mountain Lake from the western 56% of the watershed. Although flows and water quality passing through Lake Bridgeport are considered in modeling efforts, the planning and implementation described in this WPP apply only to the 860 square mile (550,000 acre) portion of the watershed not controlled by the Lake Bridgeport reservoir.

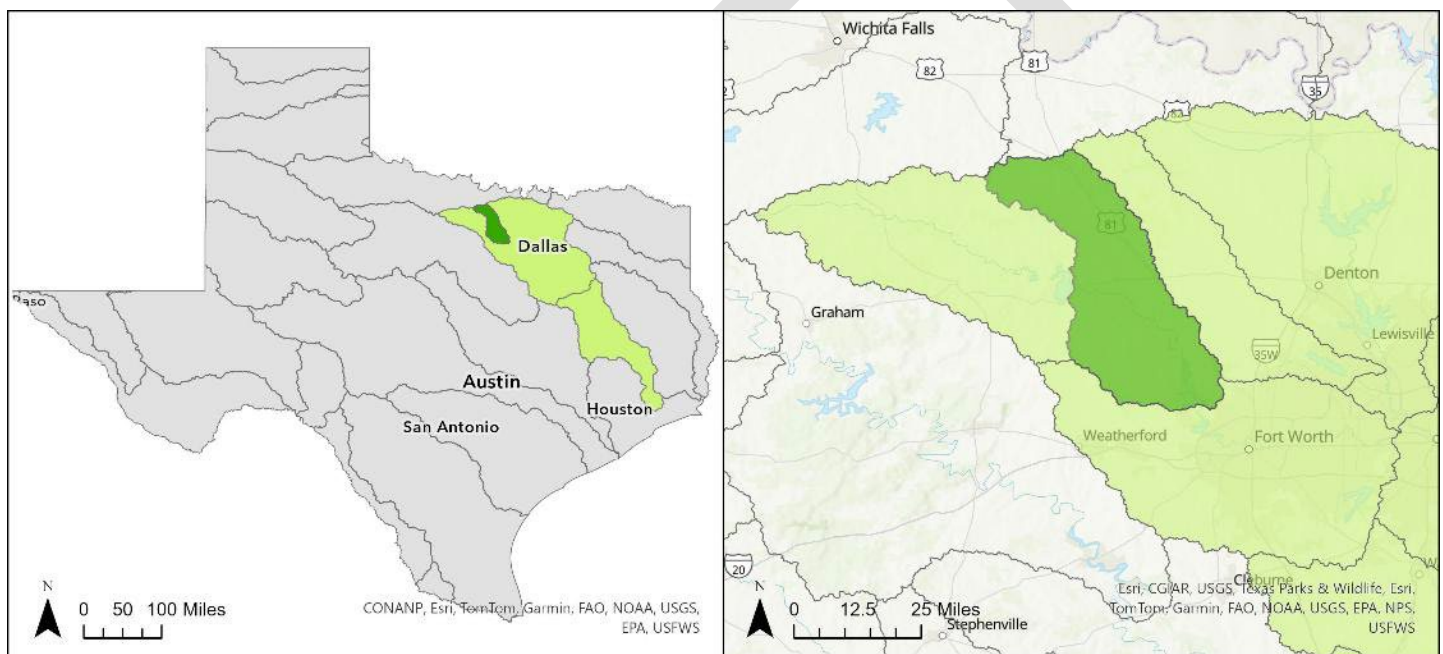


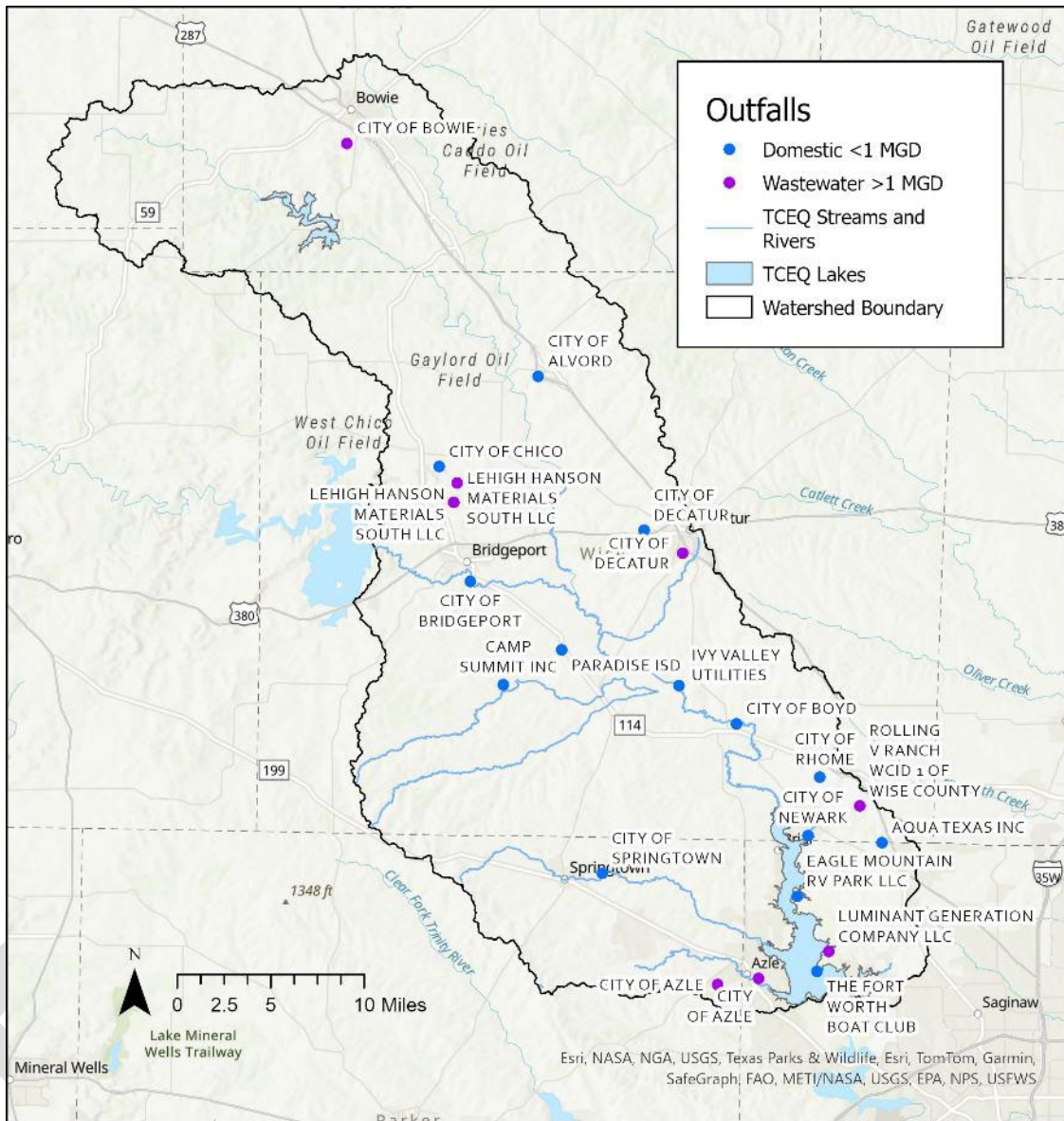
Figure 2-1 Location of the EML watershed within the Trinity River Basin in Texas

Data source: TWDB and TCEQ.

EML receives flow from the West Fork of the Trinity River, which supported by releases from Lake Bridgeport. It also has numerous perennial tributaries, notably Big Sandy Creek, Derrett Creek, Dosier Creek, Martin Branch, Walnut Creek. The intermittent tributary Ash Creek is also notable due to water quality impairments. These many creeks flow into both the

Watershed Overview

western and eastern sides of the lake, as well into the West Fork above EML. These incoming flows are comprised of stormwater runoff, as well as outfalls from 22 permitted municipal and privately owned facilities (Figure 2-2).



Water body data source: TCEQ; outfall data: TCEQ
 Figure 2-2 Wastewater Discharges to EML watershed

Databases maintained by TCEQ did not identify any discharges of cooling water, mining effluent, or concentrated animal feeding operation effluent in the watershed. Population estimates for the 18 municipalities throughout the watershed are shown in Table 2-1.

Table 2-1 Population centers in the EML watershed

City	2020 Population Estimate ^a	% of City Limits in Watershed ^b	Population in Watershed ^c
Fort Worth	918,915	3%	23006
Azle	13,369	99%	13209
Bridgeport	5,923	98%	5798
Bowie	5,448	99%	5398

Decatur	6,538	69%	4511
Springtown	3,064	100%	3064
Reno	2,878	100%	2878
Pelican Bay	2,049	100%	2049
Boyd	1,416	100%	1416
Aurora	1,390	100%	1390
Alvord	1,351	100%	1351
Rheme	1,630	68%	1108
Newark	1,096	100%	1096
Chico	946	100%	946
Paradise	475	100%	475
Sanctuary	337	100%	337
New Fairview	1,386	8%	116
Lake Bridgeport	339	7%	25

(a) U.S. Census Bureau estimate based on 2020 census data.

(b) Calculated using the Texas Department of Transportation 2022 city Transportation boundary dataset.

(c) Assumes uniform population density.

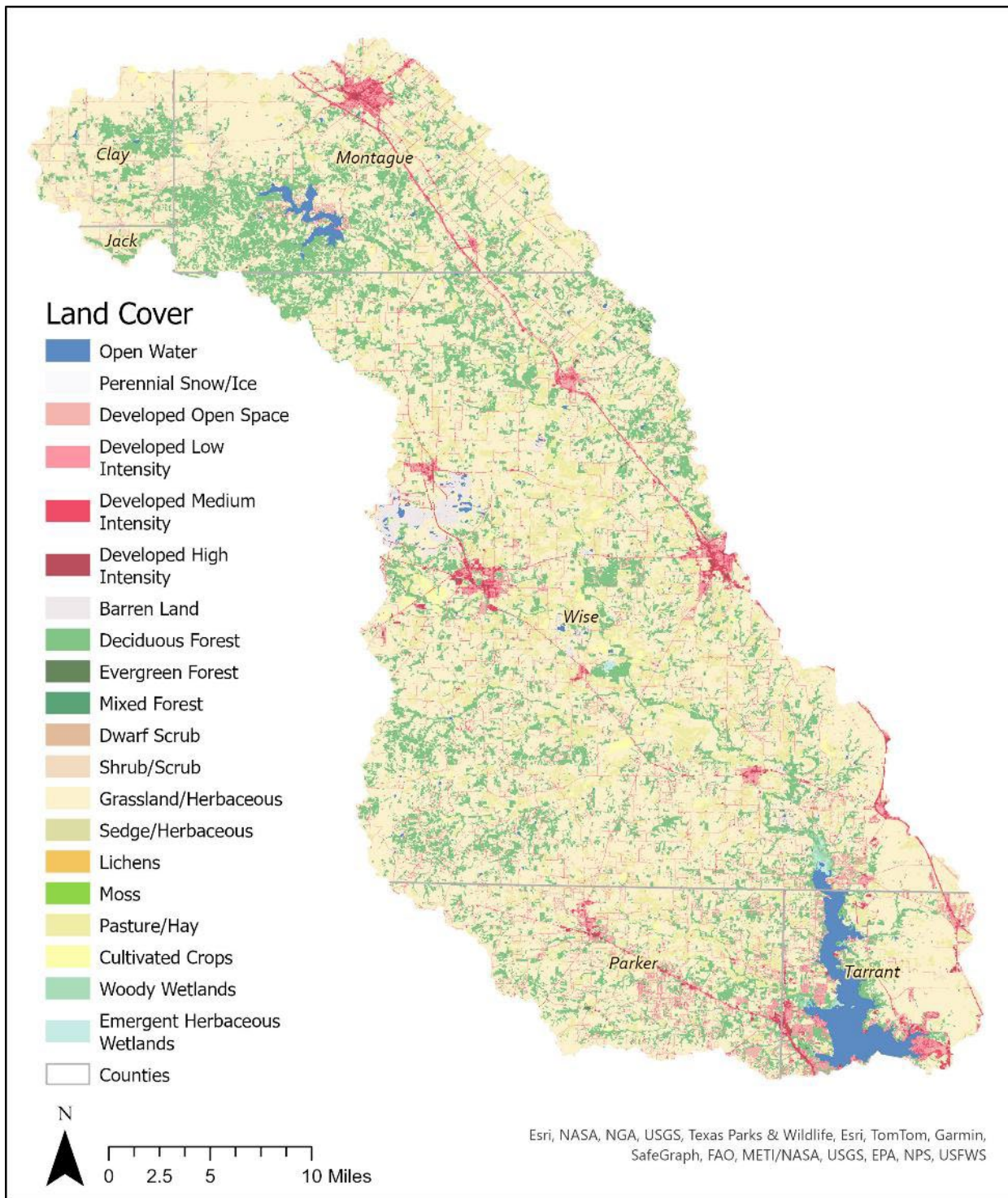
2.2 Geology and Soils

The majority of the watershed is underlain by units from the Trinity and Canyon groups. Soils vary across the watershed, but are overall dominated by sandy loams. Areas to the southeast edge of the watershed near EML have higher clay content. Intermittent zones of clay soils also occur in the western reaches of the watershed and past and present fluvial deposits result in narrow areas of silt-dominated soils.

2.3 Land Use and Land Cover

Agricultural production is the dominant land use in the Eagle Mountain Lake watershed and is a leading driver of water quality in the Eagle Mountain Lake watershed. Early agricultural systems were primarily row crops, such as cotton. By 1920, serious erosion was occurring, much of the topsoil was gone, and gullying was rampant. It is assumed that this trend continued until the 50's and 60's at which time the NRCS began structural erosion control practices as well as non-structural land management practices in the basin. At the same time, the number of cropping operations declined owing to the depression in the 1930's and then poor yields and market value for crops following this period. In Wise County as of 1983, only 11 percent of the land was devoted to crops, with the majority in range and pasture. Current land cover maps classify 9% of the total land cover as pasture and hay, and just under 1% in cultivated crops.

Although development is occurring in areas near the lake and around cities, developed land cover (including roadways) makes up less than 10% of the overall watershed area. These population centers compose most of the developed land in the area, which is shown as red areas in Figure 2-3. The EML watershed contains multiple parks, trails, and outdoor public spaces operated by various public and private entities including cities, Texas Parks and Wildlife Department, United States Forest Service, TRWD, and land trusts. Parks, trails, and open spaces provide multiple benefits to the watershed, but will also benefit from this WPP as the plan provides BMPs to reduce negative impacts to water quality.



Land data: USGS NLCD 2021

Figure 2-3 Land cover across the EML watershed

2.4 Ecology

The watershed is situated almost entirely within the Cross Timbers ecoregion, which a negligible portion in the far northwest portion of the watershed falling into the Central Great Plains. The Cross Timbers is a prairie system with wooded habitat scattered throughout. It supports grassland species such as little bluestem, big bluestem, and Indiangrass. Taller woody species like post oak and American elm occur in forested bands to the east and thin out to isolated trees or clusters of live oaks, Eastern red cedar, and other shrubbier species in the drier west.

The lake itself also has ecological value as habitat for aquatic life and food source for animals that feed there. EML has little aquatic vegetation compared to some other lakes in the region. EML is home to several sport-fishing favorites, including white, spotted, and largemouth bass, as well as crappie and catfish. EML is also home to a confirmed population of invasive zebra mussels, which can impact populations of native mussels and cause damage to boats and water supply infrastructure.

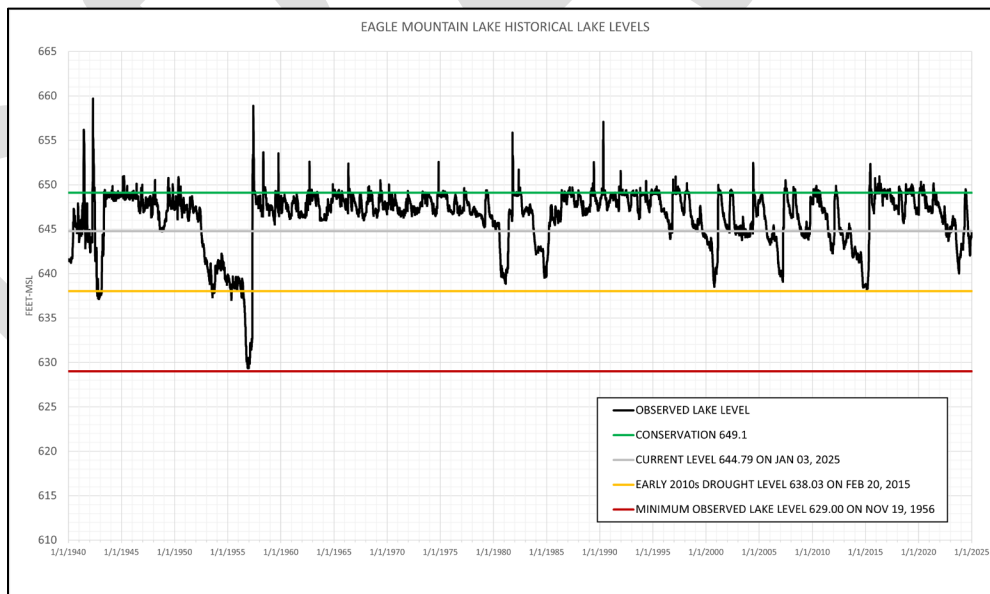
2.5 Climate

The mean annual daily temperature from the National Weather Service’s DFW regional database (<https://www.weather.gov/fwd/dfwclimo>) is 66.6°Fahrenheit (F) for the current 30 year period of record (POR). Temperatures are generally lowest in January and highest in August. Annual precipitation is highly variable across North Texas, even within the Cross Timbers ecoregion. Totals range from about 35 inches in eastern part of the ecoregion, which is where EML is located, to 25 inches in the western parts.

2.6 Surface Water

2.6.1 Eagle Mountain Lake

The normal conservation pool elevation for EML is 649 ft above mean sea level (MSL) and the flood pool elevation is 668 ft MSL. Historical lake elevations from 1940 to 2025 are provided in Figure 2-4. At conservation level, EML holds 179,880 ac-ft of water.



Data source: TRWD

Figure 2-4 Observed Water Surface Elevation in EML, 1940-2025

As noted above, EML receives flows from numerous sources: natural flow from the West Fork Trinity River and other creeks, as well as releases from Lake Bridgeport through the West Fork, and some effluent sources. In addition, EML receives water from other reservoirs in the TRWD water supply system in an effort to balance supply system-wide and

ensure that water is where it needs to be for delivery to customers. Typically, this water comes from TRWD's larger reservoirs in the wetter eastern part of north Texas.

The lake is also used regularly for aquatic and waterfront recreation, including at two TRWD-owned and -operated parks, Twin Points Park (summer only with an improved beachfront) and Eagle Mountain Park (year-round access and managed for ecosystem quality).

2.6.2 Lake Tributaries

EML is fed by the West Fork of the Trinity River, its tributaries, and numerous smaller creeks flowing directly into the lake. The West Fork flows into the western side of the watershed out of Lake Bridgeport. To the north, the watershed is drained by Big Sandy Creek and its tributary Brushy Creek across mostly unincorporated land. The creeks that drain directly into the lake, including notable streams like Ash Creek and Walnut Creek flowing into the western side of the reservoir and Dosier and Derrett flowing into the eastern side, drain land areas including communities from small enclaves to the fringes of the Fort Worth metropolitan area.

USGS monitoring stations on Big Sandy Creek above its confluence with the West Fork Trinity River, West Fork Trinity River near Boyd, and Walnut Creek near Reno provide flow data. Other flow data exist at other stations throughout the watershed within TCEQ Surface Water Quality Monitoring Information System (SWQMIS) that will be used to supplement the USGS dataset, where appropriate.