

HOA Roundtable Water System Status

August 28, 2023



Lack of Adequate Water Supply and Water Infrastructure is a Regional, State and National Issue

- Forney Lake WSC and RCH WSC have enacted a total ban on outside watering.
- The City of Rockwall and the City of Forney have enacted restrictions that limit watering to twice a week (similar to the Heath Stage 1 restrictions).

Alert

No Outside Watering until Further Notice
August 03, 2023

Due to dramatically increased use we are requesting that there be no outside watering until further notice. Your cooperation in conserving water is appreciated.

Ok, Got It!

7-24-2023 All Outdoor Watering is Prohibited

RCH Water Supply
Committed to Providing Clean, Safe Water for All Our Customers

Home Customer Service Forms & Reports News & Notices Resources

EVERY DROP COUNTS

All automated outdoor watering is banned to ensure we remain below our contract limits

City of Forney Watering Schedule
Landscape watering limited to no more than two days per week beginning May 1st, but conservation is still a priority

The NTMWD Board action requests that Member Cities and Customers (including indirect customers) implement the following water conservation strategies:

- Sprinkler or irrigation systems are prohibited from operating between the hours of 10 am and 8 pm year round.
- Foundations, new landscaping, new plantings (first year) of shrubs, and trees may be watered for up to two hours on any day by a handheld hose with spray nozzle, a soaker hose, or a dedicated zone using a drip irrigation system.
- Limit landscape watering with sprinklers or irrigation systems to no more than two days per week as needed per the following water schedule.

Last Digit of Address	Primary Watering Day	Additional Watering Day
0, 2, 4, 6, 8	Monday	Thursday
1, 3, 5, 7, 9	Tuesday	Friday
Schools, Parks, Athletic Facilities, Places of Worship, Medians, ROW's, & Designated Open Spaces	Wednesday	Saturday or Sunday

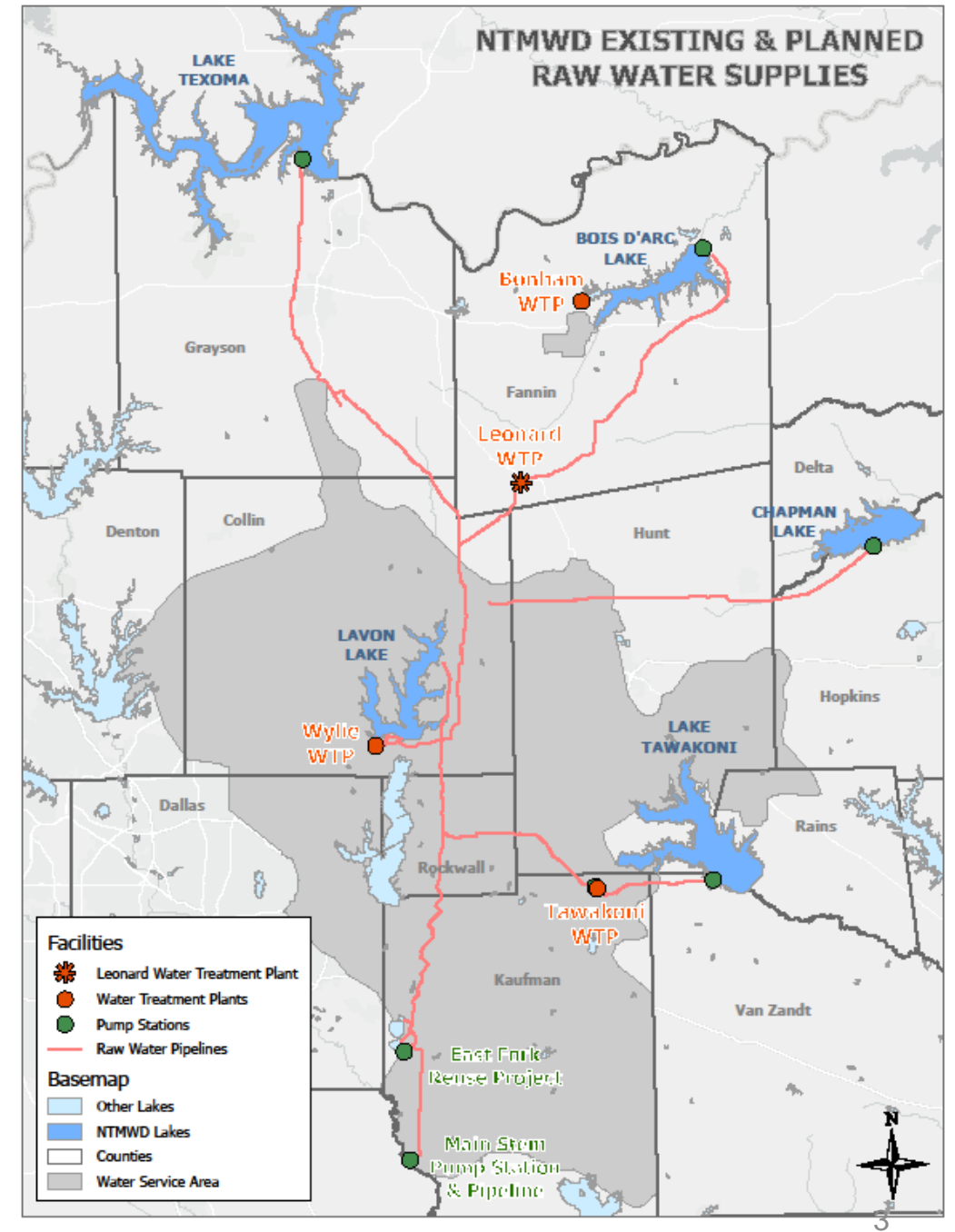
North Texas Municipal Water District (NTMWD) System

NTMWD owns and operates:

- Six water treatment plants.
- 610+ miles of water transmission pipelines
- 18 Major Pump Stations (raw and treated water)
- Two major water supply sources owned and operated by the NTMWD, **Bois D' Arc Lake** and East Fork Reuse Project.

NTMWD also has water rights and draws major supplies from four COE operated lakes. Lake Lavon, Texoma, Chapman (Cooper) and Tawakoni.

NTMWD **does not** draw from Lake Ray Hubbard!



Water Supply: NTMWD and City of Rockwall

- NTMWD supplies water **to 2 million residents**, a number expected to grow to 3.7 million residents in the next 50 years.

	2010 Population	2020 Population	Numeric Change 2010-2020	Percent Change 2010-2020
United States	308,745,538	331,449,281	22,703,743	7.4%
Texas	25,145,561	29,145,505	3,999,944	15.9%
Florida	18,801,310	21,538,187	2,736,877	14.6%

	2010 Population	2020 Population	Numeric Change 2010-2020
NTX Area	6,426,214	7,708,190	1,281,976
As % of TX	25.6%	26.4%	32.0%

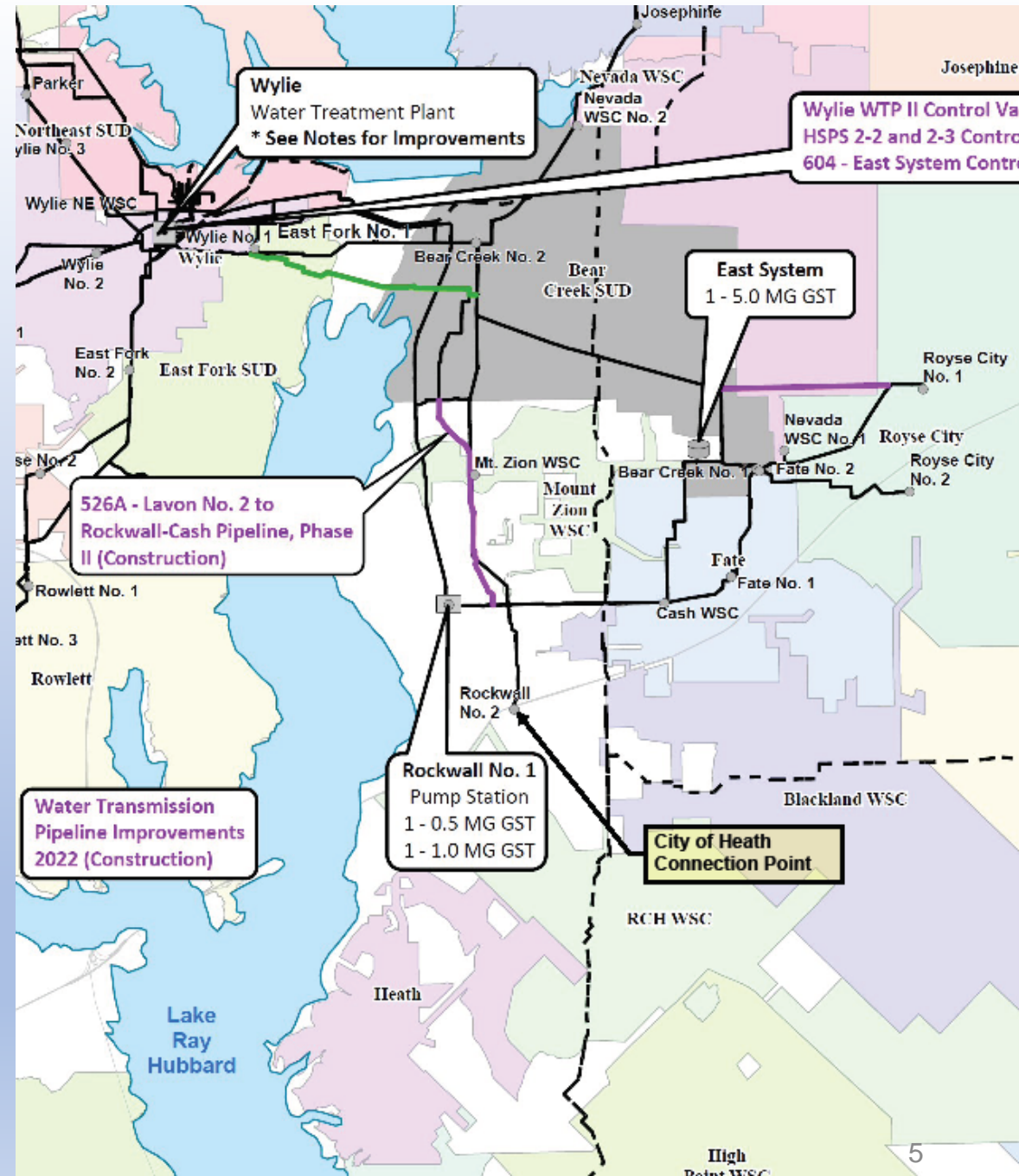
We are all competing for the same water. Very few close economical sources remain to be tapped.
 Bottom line: water will become more expensive and its use more restricted.



North Texas Municipal Water District (NTMWD) System

**NTMWD service
population is more than
2-million and is
increasing by
55,000 per year.**

Population of Rockwall County January 1, 2022, was 120,000



Existing Heath Water Supply

- City of Heath is an **indirect** customer city of the NTMWD system, since Heath does not have a direct connection to the NTMWD water transmission system, nor does Heath have a water supply contract with the NTMWD.
- The City of Heath receives **all of its water** from the City of Rockwall at a single location. At this location Rockwall also receives a portion of its water from the NTMWD. This NTMWD delivery point is known as **Rockwall No. 2**.
- At present the City of Rockwall, RCH WSC, Blacklands WSC and the City of Heath all received water from NTMWD delivery point Rockwall No. 2.
- For Heath, RCH and Blacklands this is the **exclusive water source**.



Supply Contracts and Commitments:

- The City of Heath water supply contract with the City of Rockwall expired without renewal October 27, 2021. The **expired** contract commits Rockwall to supply up to **5.5 million gallons per day (MGD), with conditions**.
- Email from the City of Rockwall Director of Public Works on 7-18-2022 increased this amount to **6.0 MGD**.
- Heath Transfer Pumps lockout further transfer when the amount pumped from Rockwall exceeds 6.0 MGD in any 24-hour period. **Heath is limited to a maximum of 6-MGD for the foreseeable future**. Lacking a contract with Rockwall, this amount may decrease.
- A letter was sent June 21, 2022, from the City of Rockwall legal counsel to City of Heath legal counsel asked Heath to “...**start investigating options for direct delivery from NTMWD.**”



Supply Contracts and Commitments:

- Phone conversations with NTMWD staff on June 31st indicated NTMWD ability to supply Rockwall No. 2 delivery point is “somewhat constrained, especially in the near term.”
- Aretha Adams, Heath City Manager appealed to the City of Rockwall this past week for additional supply capacity above the 6.0-MGD limit imposed during the summer of 2022. Rockwall checked with the NTMWD and the appeal was denied due to NTMWD supply constraints to delivery point Rockwall No. 2. Rockwall relayed information that the NTMWD was pumping 20-MGD to Rockwall No. 2, but this was not sustainable, and the NTMWD would need to reduce the supply to 15 to 18-MGD in the next few days.
- Earlier conversations with City of Rockwall staff indicated that the NTMWD did intend on making limited improvements to supply to the Rockwall No. 2 delivery point sometime in 2025 to bring total **maximum capacity** to an estimated 22-MGD. Beyond 2025 Rockwall staff is not aware of any additional NTMWD system improvement that would increase the supply to Rockwall beyond 22-MGD.
- Maximum capacity does not imply sustainable output. Other system dynamics could and will likely constrain sustained supply levels **below these maximum values**.



Supply Contracts and Commitments:

- Rockwall's demand is increasing as predicted by 2.5% per year primarily due to additional development.
- A 2018 Water Study Evaluation by FMI projected Heath's demand to increase by 4.5% per year. We are trending below that projection at approximately 3% per year. However, we are taking over some RCH meters on Rabbit Ridge and one other location (about 20-meters).
- NTMWD struggled to meet Rockwall's demand (including customer cities) the summer of 2022. Some of the NTMWD supply issues during 2022 stem from unscheduled plant shutdowns that restricted their water treatment plant output. This caused system wide issues and made NTMWD supply barely adequate to meet Rockwall's demand (including Heath, RCH and Blacklands). Rockwall's contract limit with RCH is approximately 2.1-MGD; however, at times RCH demand has significantly exceeded this amount (high of 3.0-MGD in July 2022). Blackland's demand has stayed within their contract amount (approximately 1-MGD). In addition, Blackland in is working with NTMWD for a direct connection that should come online in 2024.



Stages of Water Restrictions

- Stage 1 Initiation:** City water usage exceeds 75% (4.5-MGD) of the daily water supply limit for two days in a seven-day period.
Twice a week irrigation or sprinkler use.
- Stage 2 Initiation:** City water usage exceeds 90% (5.4-MGD) of the daily water supply limit for two days in a seven-day period.
Once a week irrigation or sprinkler use.
- Stage 3 Initiation:** City water usage exceeds 95% (5.7-MGD) of the daily water supply limit for two days in a seven-day period, or any set of conditions where it appears that the City water demand will exceed the ability of City water system or water supply.
Once every other week irrigation or sprinkler use.

Date	Day of Week	Transferred from Rockwall to Heath Ground Storage (MGD) SCADA
August 11, 2023	Friday	5.567
August 12, 2023	Saturday	4.280
August 13, 2023	Sunday	4.127
August 14, 2023	Monday	5.911
August 15, 2023	Tuesday	5.304
August 16, 2023	Wednesday	5.900
August 17, 2023	Thursday	5.638
August 18, 2023	Friday	5.995
August 19, 2023	Saturday	4.381
August 20, 2023	Sunday	3.280
August 21, 2023	Monday	6.003
August 22, 2023	Tuesday	6.003
August 23, 2023	Wednesday	5.267






Stage 3

Optional Restrictions

- The City Manager has authority to limit all customers to a maximum daily water usage regardless of historical water usage. Customers exceeding this maximum daily water usage limit shall be in violation of the Plans. If a customer has more than one water meter serving a lot or tract of land the combined usage of all water meters for the lot or tract shall be used to determine the customer's usage limit.
- The City Manager has authority to initiate load shedding of non-critical water demand (such as irrigation meters) to prevent loss of pressure in the City water system below the mandatory 20 pounds per square inch (psi).
- The City Manager has authority to prohibit water use for construction purposes and may declare a moratorium on all grass or landscape planting until Stage 3 is terminated.
- The City Manager has the authority to double the water rates for all Usage Rate tiers for usages over 50,000 gallons a month.

Loss of System Pressure Consequences

- Federal and State regulations require issuing of boil water notices if the water system falls below 20-psi.
- Will require closure of all businesses and facilities that require clean water to maintain sanitary health conditions (restaurants, schools, spas, health care, portions of grocery stores, etc.)

 **Texas Commission on Environmental Quality**
Water Supply Division
September 2017

Boil Water Notices

A Boil Water Notice (BWN) is issued as a precaution or notification to protect consumers from drinking water that may have been contaminated with disease causing organisms (also called pathogens). BWNs are typically issued when an unexpected condition has caused a potential for biological contamination of potable drinking water in a public water system.

BWNs are instituted by public water systems (PWSs) as specified by Title 30 Texas Administrative Code (TAC) §290.46(q) in the event of:

- low distribution pressures (below 20 pounds per square inch (psi)),
- water outages,
- microbiological samples found to contain *E. coli*,
- failure to maintain adequate disinfectant residuals,
- elevated finished surface water turbidities,
- or other conditions which indicate that the potability of the drinking water supply has been compromised.



Summer Water Use

Lawn and Landscaping Irrigation

- During the winter Heath's water use is between **0.5-MGD and 1.5-MGD**. This can be considered Heath's **base water demand** for bathing, cooking, laundry and other essential domestic uses.
- The difference between this water base demand and summer peak demand is almost completely due to lawn and landscaping irrigation.
- **Without restrictions peak water demand rises to over 7.0-MGD** during the summer.
- Analysis of other uses (such as construction, pool filling, water main flushing, etc..) shows these uses contribute less than 1% of City water demand.

Lawn and Landscaping Irrigation is almost exclusively the driver of summer peak water demand.



What Can the Public and HOA's Do?

- **Stay informed** on City and Regional Water Issues. City webpage <https://www.heathtx.com/water-wise/> has lots of information.
- Homeowners and HOA's can transition to **drought tolerant (Xeriscaping) planting materials** to reduce irrigation water demand. This has the added benefits of lower water bills and reducing risk of landscaping loss during times of extended water restrictions. There are numerous resources for this type of transition.
- Homeowners and HOA's are encouraged to do annual maintenance on all irrigation systems to ensure there are no leaks or damaged heads. Upgrade controllers with required rain sensors and other advanced features to minimize water use. Know how to program your irrigation controller.
- HOA's can change landscaping restrictions to encourage **drought tolerant (Xeriscaping) planting materials**. State law states that HOA's (Texas Property Code, Section 202.007(a) may not prohibit "using drought-resistant landscaping or water conserving turf."
- Do not plant or install sod from May through September. This timeframe is generally when water restrictions will be in place.



Can the City Stop Additional Building By Enacting a Moratorium?

- A building moratorium has been discussed in detail at several City Council meetings. The state of Texas has strong property rights and development vesting laws that protect builders from such a moratorium if a final plat has been approved by City Council.
- There are several hundred new lots in development with approved final plats that are legally entitled to building permits.
- Staff is working to bring to City Council a landscaping ordinance that would require the installation of drought tolerant landscaping and turf and encourage Xeriscaping to minimize irrigation water demand from future construction.



Alternate Water Supply Study

1. Evaluate all alternate sources of potable water supply including, direct NTMWD connection, and supply from other neighboring cities/entities including Forney, Terrell, Dallas, FLWSC, etc...
 - a. Study for these alternate sources of potable water should evaluate potential pipeline routes, difficulty in obtaining easements for transmission mains, outline processes each entity would require to obtain water.
 - b. Study should also examine and evaluate relative political issues, permitting and administrative issues and their impact on obtaining an alternative water supply.
 - c. Study should analysis current and future water rates, contract minimums and demand charges, availability, O&M costs, CIP costs, operational flexibility and redundancy.
 - d. Impacts of a second source of water to the City Water System Master Plan and Water CIP.
2. Evaluate all alternate sources of non-potable water that could be used as part of a separate raw/reuse distribution system that could supply all or part of the City for irrigation purposes only. These options should include wells, raw water from Lake Ray Hubbard, raw water from the NTMWD line.
3. Examine and develop interlocal agreements (ILA) and emergency operations procedures for temporary emergency connections with adjacent water suppliers for a short-term emergency water supply.
4. Evaluate the impact of implementing landscaping and irrigation regulations and develop a model landscaping and irrigation ordinance for the City to adopt for all future development to limit the impact of development and redevelopment on adding additional irrigation demand to the City of Heath water system.





Questions and Discussion