

NWAT Advocates for More Reasonable Groundwater Regulation

With an estimated 46 trillion gallons lying below the land's surface, groundwater is essential to the quality of life in northwest Oklahoma. Historically, however, state regulation of this vital resource, which is owned by overlying landowners, has largely failed to acknowledge current-day usage of groundwater basins (i.e., aquifers).

In applying the state's 1978 groundwater law, the Oklahoma Water **Resources Board** (OWRB) calculates the total volume of water that can be withdrawn to preserve the designated life of the basin. This is called the maximum annual yield (MAY). The OWRB regulates the distribution of this water through the equal proportionate share (EPS) of water, typically one to two acrefeet of water/year per each acre of overlying land. Regular, updated studies of the state's hydrologic basins can result in a modified EPS, depending upon changes in water storage and related factors. Current law allows for full implementation of new withdrawal rates "as soon as practical" upon OWRB approval.

Unfortunately, this rather broad approach to regulation largely fails to acknowledge current aquifer development. Potentially premature restrictions in groundwater use, such as when the EPS is decreased as a result of an updated hydrologic study, can result in sudden reductions in groundwater availability for users, especially agricultural producers.

NWAP Strategy

Explore reform of state groundwater management/permitting, including alternate implementation of final maximum annual yield/equal proportionate share studies that allows for "phased" implementation based upon individual resource development.



Influenced by years of discussions with the OWRB and state lawmakers, this potential roadblock to agricultural production has been alleviated. Senate Bill 1294—originating from a 2015 Northwest Oklahoma Water Action Plan (NWAP) recommendation and sponsored by Senator Roland Pederson, of Burlington—was passed in

2018 authorizing delayed/gradual MAY implementation beginning when 25 percent of an aquifer's MAY is actually being used. Currently, only one groundwater basin in Oklahoma is more than 20 percent developed.

The flexibility enabled through SB 1294 not only provides a boost

to the agricultural industry and related economic development in northwest Oklahoma, it reduces the appurtenant threat to the private property rights of landowners. The Northwest Oklahoma Agriculture and Irrigation Association, a NWAT member, was a particularly strong advocate of the recommendation and subsequent legislation.

NWAT Sets Sights on Nitrate Problems

Excess nitrates, especially in groundwater sources, have long been a detriment to both municipal and rural water providers in northwest Oklahoma. To initiate potential solutions to the problem, the NWAP includes a priority initiative related to nitrate removal and reduction.

Virtually every NWAP community cites considerable challenges in treating supplies to levels required by federal drinking water standards for nitrates. Nitrates (and nitrites)

are nitrogen-oxygen compounds that readily combine with various other organic and inorganic compounds. They are used widely as fertilizer.

While the source of nitrates in local groundwaters remains debatable, the public health threat is certain. Once taken into the body, nitrates are converted to nitrites, which can render hemoglobin unable to carry oxygen. When present in excess of the regulatory maximum contaminant level (MCL), they pose a specific health risk to infants.

Nitrate water treatment presents unique challenges and disposal of the generated waste also presents major difficulties. The U.S. Environmental Protection Agency lists only anion exchange, reverse osmosis, and electrodialysis reversal as accepted potable water treatment methods for nitrate removal. And due to the typical production of high-strength brine residuals, sustainable application of these technologies is often limited due to inadequate disposal options.

NWAP Strategy

Identify options-including treatment, blending,

regulatory and other feasible strategies-to

alleviate high source nitrate levels in groundwater

supplies. Strategies will focus on assessment of

both regional and system-specific opportunities.

The City of Fairview, in particular, struggles with nitrates in their water sources. While the City investigates establishment of a nitrate reduction plant, they continue to blend their drinking water to maintain compliance with EPA standards.

NWAT members have met with Oklahoma Department of Environmental Quality officials to discuss development of a coordinated, cooperative strategy to identify nitrate sources, monitor trends and share engineering resources to address treatment and

disposal, including potential funding options. NWAT also sponsored a workshop in June 2017 to present an overview of the issue and receive input on the cheapest and most reliable voluntary solution for the region.

Subsequent discussions have led to pursuit of a pilot project including efforts to secure available federal funding-to test some of the latest treatment technologies.

Upcoming Survey to Assess Regional Water Supply, Emerging Issues

This summer, the NWAT will disseminate a brief survey to collect information on the water use behaviors and trends of NWAT members. Survey results will assist the Team in focusing future planning initiatives on the major supply, quality and infrastructure issues facing northwest Oklahoma's

various water interests and economies.

If you would like to receive a survey so that your community's or organization's water interests are accurately reflected in future regional infrastructure, supply and planning initiatives, call Lisa Powell at 580-233-4232.

Northwest Oklahoma Water Action Plan	PURPOSE
Water Provider Survev	supply system vulnerabilities
	(supply, infrastructure,
Provider Contact Information:	quality).
Provider:	Develop strategies to
Name /Position	mitigate vulnerabilities and other relevant tensor
Email: Phone	ouses reterant rooter
Flease answer all questions to the best of your ability considering aw genes. Should you require additional gooc, attach a sparate hoes your responses by including all relevant supporting discuments and i Improvement Fleas, Asset Hanggement Plans, infrastructure assess	atlable information and dista on your (s), You are also encouraged to supplement oformation, including Capitol nents, maps, GIS shapefiles, etc.
Current Water Supply (Permitted/Contracted Water):	
 Type: SW GW GW (checkone) 	
Source (name of lake, aquifer, provider):	
Quantity = (millio	in gallons/day, MGD] feet foreast AF70
=(acre-1 2 Type: SW □ 6W □ (checkane)	ioei/year, ar 13
Source (name of lake, aquifer, provider):	
Quantity = (millio	m gallons/day, MGD)
= (acro-1	feet/year, AFT]
3. Type: SW G GW (check one)	
Source (name of take, aquiter, provider):	m malloms (day: MGD)
=(acro-1	foet/year, AFY]
Customers:	
Number of Residential Customers Served =	
Number of Wholesale Customers Served =	
Water Demand:	
Current (average) =MGD	
AFY	
Peak Demand = MGD	
=AFY	
Total Water Produced in 2018 = (million gallous,)	4G)
Projected Future Demand (residential) =MGD	
=AFY	
Tear =	
Number of residential customers =	



Enid Making Progress on Kaw Lake Project

Fueled by a widely-supported bond issue passed in August 2016, the City of Enid has launched a landmark project to bring Kaw Lake water to the community.

A major initiative identified in the NWAP, the project will transition the city from its sole reliance on increasingly unreliable groundwater supplies to a more dependable blend of both surface and groundwater. to leverage future economic development, it also enhances water supply availability throughout northwest Oklahoma as additional users in the region

NWAP Strategy

Determine the current suitability of northwest Oklahoma water providers to meet anticipated long-term demands and develop individual plans to expand storage and distribution systems, where required, while achieving recommended system management, infrastructure maintenance and conservation practices.

Approximately

45,000 acre-feet of lake water is available for appropriation, an amount well beyond Enid's projected water demand in 2060. Kaw Lake, Oklahoma's ninth largest in capacity, has been surprisingly resilient to drought, including the recent episode in 2010-15 when the lake remained full. And its water is of good quality, which simplifies treatment.

While this infusion of supply places Enid in a better position



will be provided an opportunity to access this abundant new source.

The primary and most expensive feature of the project will be a new 65-mile pipeline. Water

treatment, storage and distribution facilities will also be constructed. The project, which was identified in the city's Comprehensive Water Master Plan as the most cost-effective option to answer Enid's future water needs, is currently

in the design, permitting and land acquisition phase. Construction bids will be let early in 2020. Completion of the project is anticipated as soon as 2022.

The current planning phase includes final project design and land acquisition, along with environmental permitting. It is anticipated that project bids will be let early in 2020.

Oklahoma Drought Monitor

June 4, 2019





Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week 05-28-2019	100.00	0.00	0.00	0.00	0.00	0.00
3 Month s Ago 03-05-2019	87.58	12.42	1.07	0.00	0.00	0.00
Start of Calend ar Year 01-01-2019	<mark>94.8</mark> 5	5.15	0.00	0.00	0.00	0.00
Start of Water Year 09-25-2018	72.93	27.07	9. 11	4.16	0.00	0.00
One Year Ago 06-05-2018	31.17	68.83	46.44	40.55	27.84	6.60

NWAT: The voice of northwest Oklahoma's water interests

The Northwest Oklahoma Water Action Team (NWAT), which created the Northwest Oklahoma Water Action Plan (NWAP) in May 2015, is committed to the conservation, development and sensible management of water resources and supplies for all users in the region. The Team includes representatives of municipalities, agriculture organizations, rural water districts, industry and the energy sector who are responsible for ongoing implementation of the NWAP. An overarching goal of the Team, as well as of the NWAP, is to ensure responsible water use consistent with regional economic development goals. The Team is chaired by Lisa Powell, Executive Director of the Enid Regional Development Alliance (ERDA), and advised by water consultants Duane Smith and Associates. NWAT receives additional technical support from relevant state agencies—including the Oklahoma Water Resources Board (OWRB) and Department of Environmental Quality (ODEQ)—and other organizations with regional interests. Read the Northwest Oklahoma Water Acti



organizations with regional interests. Read the Northwest Oklahoma Water Action Plan and keep updated on implementation activities at nwoka.com/projects/nw-water-action-team.

2019 NWAT STEERING COMMITTEE



Interested in joining other regional organizations to influence future water decisions in northwest Oklahoma?

Call the Enid Regional Development Alliance at 580-233-4232 to become a member of the Northwest Oklahoma Water Action Team.

The Regional Water Planning News is produced by the Enid Regional Development Authority and Duane Smith & Associates.

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American Farmers and Ranchers				
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Nemaha Environmental				
Northwest Oklahoma Alliance				
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Association				
Select Energy				
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