



Summer 2024
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Tri-Basin Topics

A quarterly publication of Tri-Basin Natural Resources District

NITRATES CONTAMINATE GROUNDWATER

Nitrate levels in parts of Nebraska, including areas within the Tri-Basin Natural Resources District, are on the rise.

The Safe Drinking Water Act requires that nitrate concentration in drinking water does not exceed 10 milligrams/liter (often cited as 10 parts per million, or 10-ppm). That threshold was established to prevent methemoglobinemia (blue baby syndrome), a disease that deprives infants of oxygen, evidenced by the development of a bluish-gray tint to the skin. This condition can lead to coma and death.

Researchers at the University of Nebraska Medical Center have published scientific data showing that prolonged exposure to drinking water containing even less than the 10-ppm threshold is associated with increased occurrence of birth defects, thyroid disease, and kidney, ovarian, bladder, and colorectal cancers.

Excess fertilizer originally applied to farm fields is a major source of nitrate pollution in groundwater and surface water sources in Nebraska. Knowingly applying more

fertilizer than crops can use is wasteful financially and a threat to human health.

In addition to health concerns, the cost of treating nitrate contaminated water is expensive for communities, with costs typically passed onto customers. Rural residents with contaminated domestic wells also incur high costs for treating their water, installing new wells, and/or purchasing bottled water.

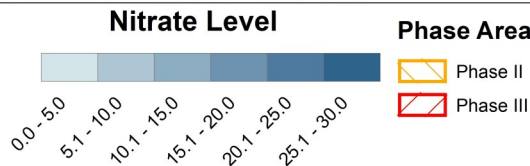
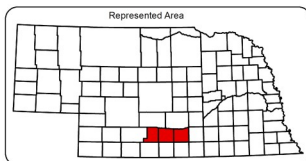
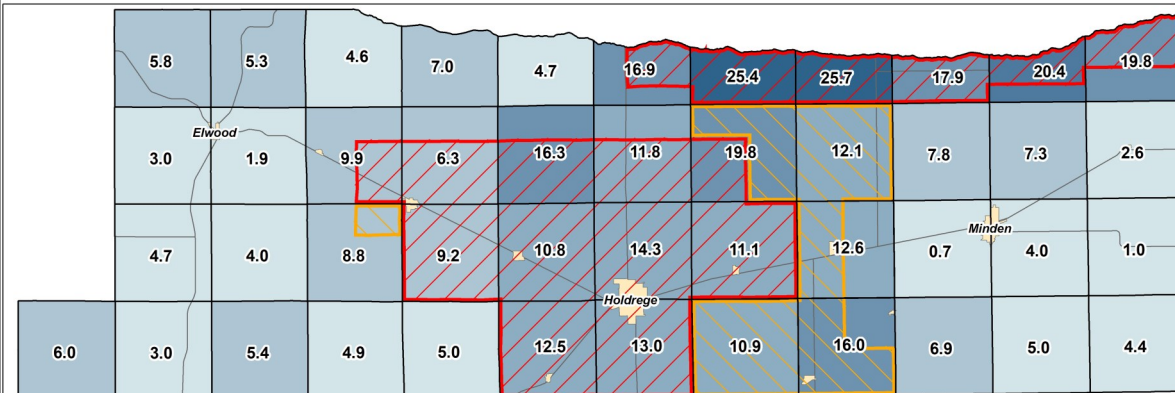


The preferred solution is to prevent nitrate pollution from reaching water resources in the first place.

There are many agricultural practices that producers implement to limit the amount of fertilizer applied to crops while saving money and preserving yield. Soil health can also benefit when practices such as no-till or conservation tillage, rotational grazing, and planting cover crops are used.

Tri-Basin NRD staff are available to assist ag producers and answer questions about these and other practices, available cost-share programs, free domestic water testing, and the latest findings in nitrate research.

Tri-Basin Natural Resources District 2022 Average Sampled Nitrate Level by Township



"Dedicated to Conservation of our Natural Resources"

<http://www.tribasinnrd.org>



Manager's Message

by John Thorburn

Groundwater Declines Cause Concern in Kearney County

Declining groundwater levels in townships in eastern Kearney County have been a matter of concern for Tri-Basin NRD for nearly two decades. Grant (T5N, R13W) and May (T6N, R13W) townships are already classified as Phase 2 for groundwater quantity management. Groundwater levels in Eaton Township (T7N, R13W) have declined to the point that it now qualifies for Phase 2 designation as well.

Townships in the Little Blue River basin qualify for Phase 2 designation if a three-year rolling average of springtime groundwater levels fall more than five feet below 1981-85 average spring groundwater levels. After a township is designated as Phase 2, groundwater levels must return to 1981-85 average levels before it is redesignated back to Phase 1.

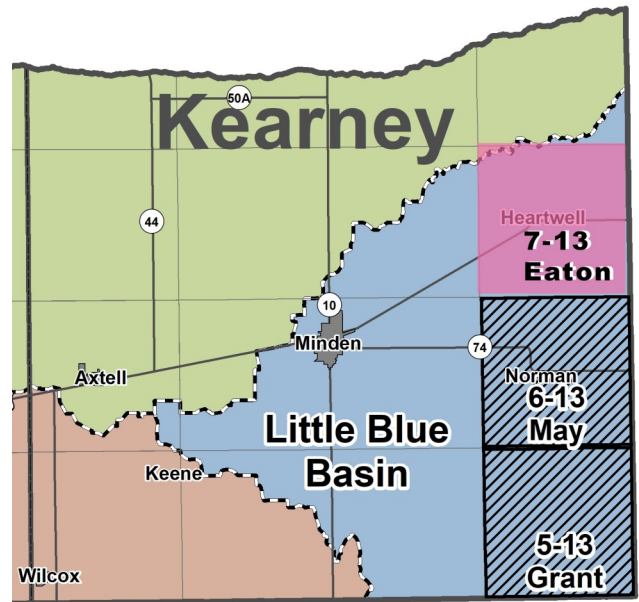
In a Phase 2 township, landowners need to report water use annually to the NRD. For this reason, it will be necessary for landowners to install flowmeters on all active irrigation wells. The NRD allows landowners three years after designation to comply with this requirement. Cost-share assistance for flowmeter purchase and installation is available. Contact the NRD office or your local USDA-NRCS office for details.

The other main feature of Phase 2 groundwater quantity management is a prohibition on transfers of certified irrigated land from outside the Phase 2 area. Transfers of certified irrigated acres within and between

Phase 2 townships are still allowed, with NRD board approval.

We want landowners and operators to understand why we believe these restrictions are necessary in Eaton Township. We will hold an informational meeting at the Heartwell Community Building on **Wednesday, September 4 at 2 PM**. The NRD board will also hold a public hearing on whether to designate Eaton Township as Phase 2 prior to the September 10 NRD board meeting. The hearing will be held beginning at 7:30 PM.

Tri-Basin NRD's rules for groundwater quantity management are based on the principle that we need to be proactive in our response to groundwater declines. When we identify long-term trends that indicate sustained groundwater level declines, we want to stabilize and, hopefully, reverse them, to make sure that our groundwater supplies are sustainable. We want to have groundwater available for human consumption and irrigation not just today, but for the foreseeable future.



Conservation Award Nominations

Please consider nominating a district resident for one of our conservation awards. Recipients will be recognized at the Tri-Basin Biennial Recognition Banquet. Award categories include:

- Soil Stewardship
- Water Stewardship
- Wetland Stewardship
- Tree Planter
- Range Management
- Friend of Conservation
- Outstanding Conservationist

Nomination form can be found at www.tribasinnrdr.org nominate or you may contact us at 308-995-6688.

Free ET Data Texting

ET Data (Evapotranspiration Data) texts go out Monday through Friday from June through August. Texts contain: *Daily (D) and Future 3 Days (F3d) estimated water use for both Corn and Soybeans (Beans) at three locations across the district: Holdrege 5N (Hld), Axtell 5NE (Axt) and Smithfield 2E (Smfld).* *Additional Weekly Text for all three locations includes: Weekly Precipitation (Wk Precip), Corn Growing Degree Days (Corn GDD), and Beans Growing Degree Days (Beans GDD)*

To subscribe text **START** to **308-216-8188**. Call Sasha at 308-995-6688 with any problems.

New Faces at Tri-Basin

For the past 26 years, Tri-Basin NRD has provided college students with the opportunity to gain experience in natural resources management. Summer interns gain experience in invasive plant species ID and control techniques, water sampling methods, wildlife habitat monitoring, irrigation system efficiency testing, and help maintain drainage improvement project areas, or IPAs. Interns also assist staff from the USDA Natural Resources Conservation Service. TBNRD currently has two interns.



Hailey Fuqua and Megan tenBensel

Megan tenBensel is from Cambridge, Nebraska, and is studying wildlife biology with a minor in environmental sciences at the University of Nebraska-Kearney. She specifically intends to study botany and rangeland ecology and plans to graduate in May of 2026.

Megan is active in activities such as Christian Student Fellowship, Undergraduate Research Fellows, and the UNK Fish and Wildlife Society. Megan enjoys outdoor activities such as running, hiking and showing Boer goats.

Hailey Fuqua, from Kearney, Nebraska, is studying wildlife biology at the University of Nebraska-Kearney. She is specifically interested in studying waterfowl and is planning to graduate in May of 2026. Hailey is involved in the UNK Fish and Wildlife Society, Undergraduate Research Fellows, and is a member of the Nebraska Ornithologist Union. Hailey's interests and hobbies include hunting and archery.



Carrie Putnam

Carrie Putnam started her new role as the Integrated Water Program Specialist for Tri-Basin NRD in April. She was born and raised in Northeast Missouri where her family raise registered Simmental cattle. She is a 2005 graduate of the College of the Ozarks with a Bachelor of Science in Agriculture and Animal Science.

For the past 15 years she has lived in Overton, NE. Prior to working at the Tri-Basin, she was the Supervisor of the Feed Forage and Environmental Department at Ward Laboratories in Kearney, NE.

The Integrated Water Program Specialist helps find sustainability solutions for both water quality and quantity management that are efficient and profitable. Talking to producers about what resources are available and what will best fit their current needs. She is able to help address issues or concerns that they have and help direct them to the right place to get answers or help. She will reach out to producers throughout the year but if you have any questions that she can help with please feel free to reach out to her via email or cell phone, whichever you prefer. Her email is cputnam@tribasinncrd.org or you can call her at the NRD office.

Jane Crofton is the Junior and Senior High Science Teacher at Elwood Public School. This summer she is assisting the Tri-Basin as a seasonal Water Resources Technician.

Jane grew up in North Bend and attended Midland Lutheran University for her undergraduate degree and University of Nebraska-Omaha for her masters in Physical Science Education. Jane has been a great addition to our staff.

When Jane isn't teaching students about science she enjoys spending time with her family. She is married to Craig and has two



daughters: Brooke, a junior at Hastings College and Kara, a sophomore in high school. Running to her girls activities keeps her busy but she also finds time to read and be outside taking care of her flowers.

Jane Crofton



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RETURN SERVICE REQUESTED

Nebraska's NRDs: Protecting Lives, Protecting Property, Protecting the Future

Calendar

August 13 NRD Board Meeting, 9:30 p.m.
 UNL West Central Research & Extension Center,
 North Platte, NE

August 23-September 2 Nebraska State Fair

September 2 NRD Closed for Labor Day

September 4 ... Eaton Twp Meeting, 2 p.m. Heartwell, NE

September 10 NRD Board meeting, 7:30 p.m.*

September 10-12..... Husker Harvest Days

September 19 Rainwater Basin Conservation Day

October 2..... Land Judging Contest

October 8..... NRD Board Meeting, 7:30 p.m.*

October 14..... NRD Closed for Columbus Day

* Times are tentative. All meetings are at TBNRD office in Holdrege unless otherwise noted.

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Joe Bilka, Vice Chairman	Holdrege
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Jeff VanEperen	Water Resources Technician

A mailing list is maintained and requests to be placed on the list should be sent to the above address. Comments and suggestions may be addressed to the General Manager.

USDA is an equal opportunity provider, employer, and lender.

Get Tri-Basin Topics in your inbox instead of your mailbox!

To request an electronic version of this newsletter, send an email shahn@tribasinrd.org.