



UPPER BIG BLUE NATURAL RESOURCES DISTRICT

# BLUEPRINT



Big Blue River Near Milford

## “Pride in Nebraska’s Water”

How do we educate people on local water quality concerns and strategies for improvement? Are there solutions that are good for farmers and good for the broader community? And most importantly, how do we build trust and collaboration around these issues so that we are all working toward the same goal?

These and other questions were discussed at a recent stakeholder meeting on water quality hosted by the Upper Big Blue Natural Resources District. This type of meeting is required every five years in accordance with the district’s action plan.

More than 20 attended the day-long event

at the NRD office in York. Attendees came from across the district, from Hastings to Seward and places in between. They represented many sectors and demographics within the district, including healthcare, agriculture, banking, and municipal water systems. Many shared personal stories about water quality and its impact on their lives or their neighbors’. One thing they all had in common was an interest in maintaining the quality of the water in this district. A main goal of the day was to improve the relationship between all parties represented at the meeting, recognizing that each has a role to play in protecting Nebraska’s essential water resources.

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Controlled Burn at Pioneer Trails Recreation Area

# Groundwater Levels Continue to Decline, Yet Remain Above Allocation Trigger

During March and April 2024, NRD staff measured roughly 500 observation wells throughout the district to determine the average water level change, based on a weighted change from each well. For spring 2024 water level measurements, the NRD has determined that the average groundwater level change shows a decline of 3.08 feet from last spring. The spring 2024 average groundwater level is now 3.6 feet above the “Allocation Trigger.” Thus, there will be no allocation restrictions enacted at this time.

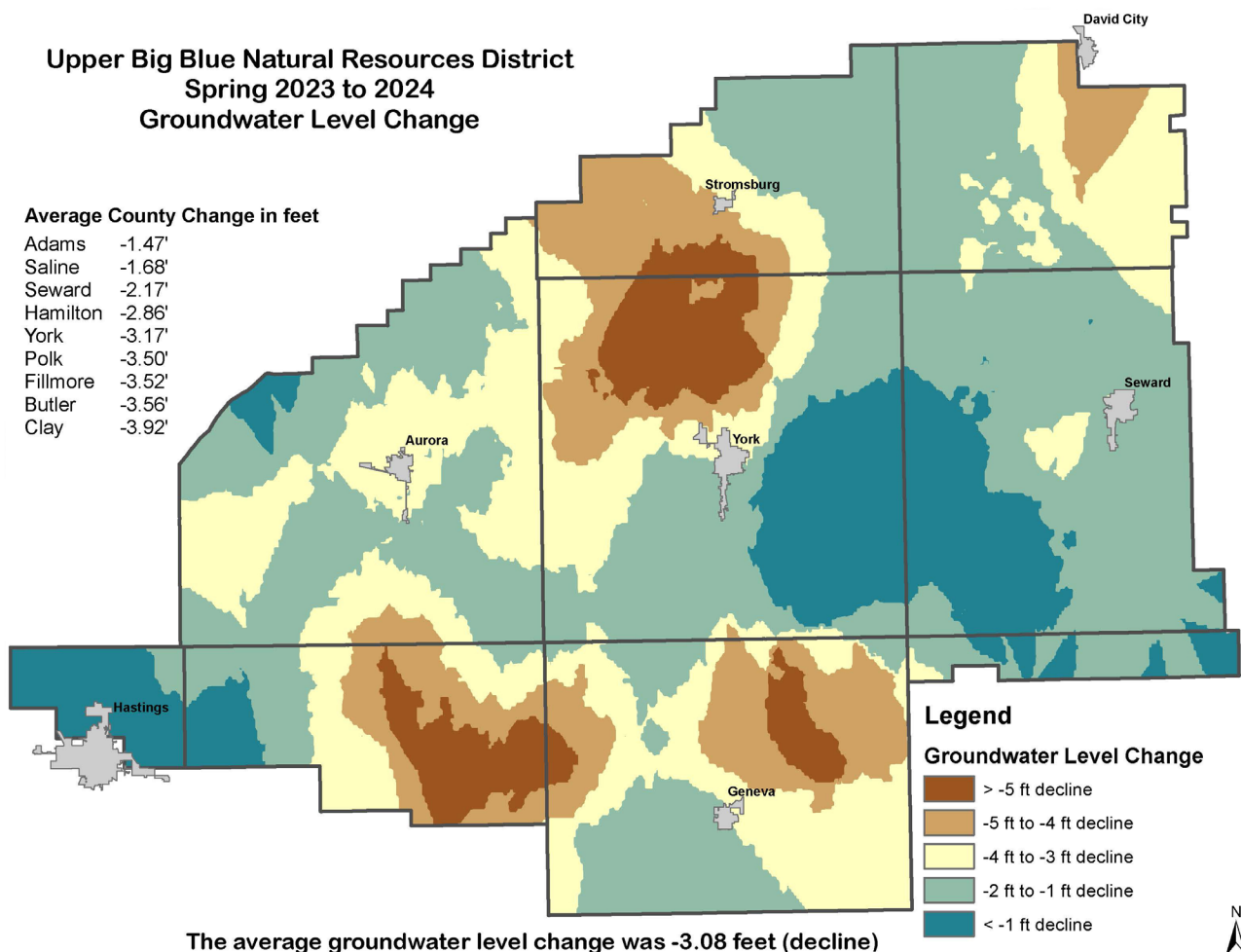
Observation wells are measured in the spring of each year, allowing the water table to rebound from the previous irrigation season. The wells that are measured are uniformly distributed throughout the district to provide an accurate profile of the average groundwater level change. Each well measured is assigned an area of the district based on

distances from other measured wells. This method gives the average groundwater level change a weighted average.

In spring 2023, the NRD reported an average decrease of 2.21 feet. Spring 2022 showed a decrease of 0.24 feet on average. Fluctuations from year to year are common throughout the district. The Upper Big Blue NRD sits above the High Plains Aquifer, which stretches from South Dakota to Texas. This portion of the aquifer is dynamic and factors like rainfall and pumping affect how the aquifer reacts.

In addition to the average change, the NRD also provides a more detailed look at water levels across the district. Water levels declined most significantly in York, Butler, Polk, Fillmore, and Clay Counties, each with a drop of more

**Upper Big Blue Natural Resources District  
Spring 2023 to 2024  
Groundwater Level Change**



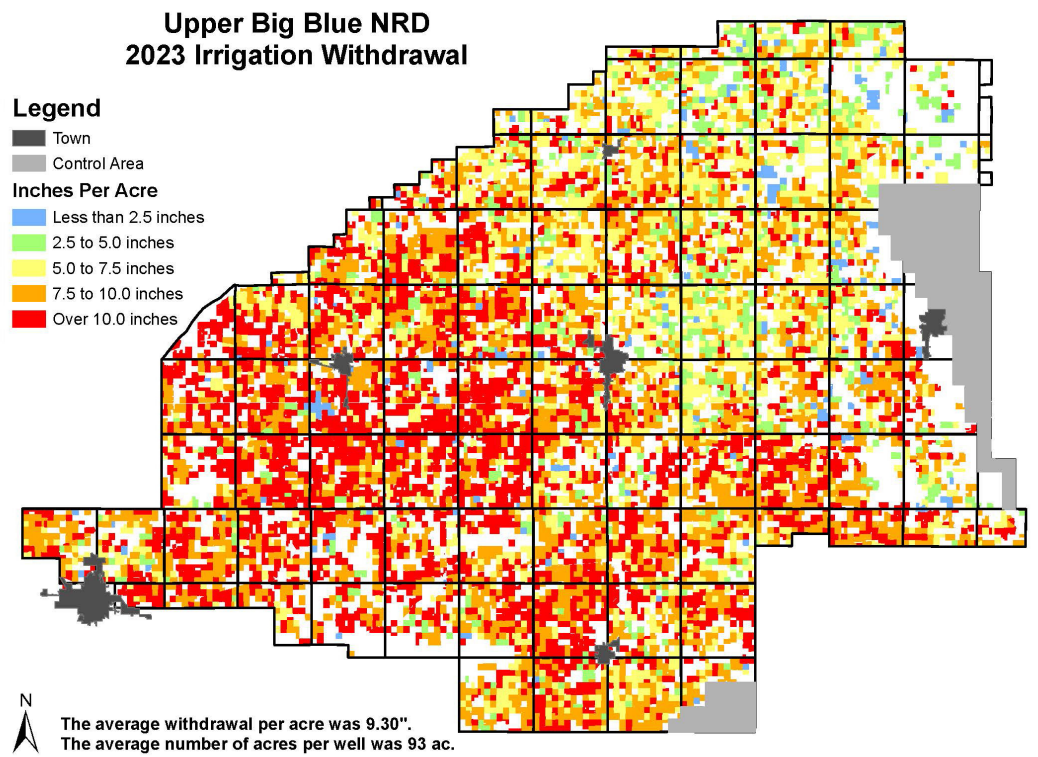
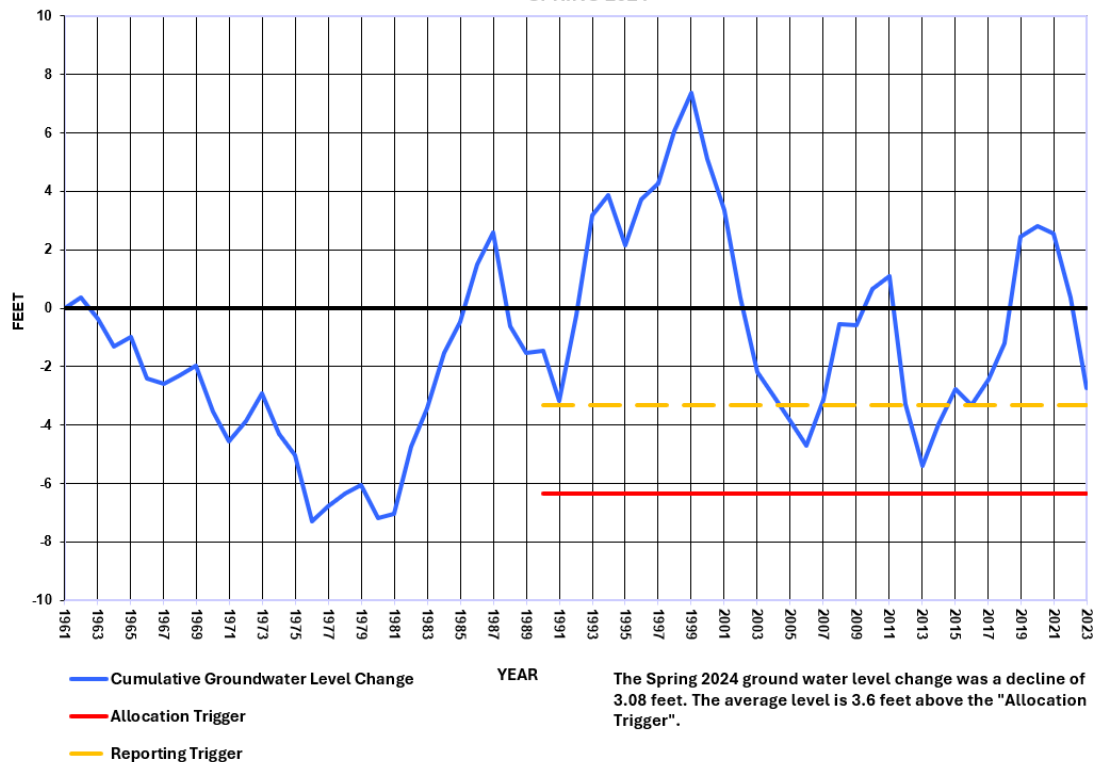
than 3 feet. Adams County saw the smallest decline, only dropping 1.47 feet. The rest of the district including Saline, Seward and Hamilton Counties all saw a decrease between 1 and 3 feet.

**Water use records enable informed management decisions and practices**

In recent years, producers have done an exceptional job of managing use of district water resources and cooperating with the NRD on conservation activities and monitoring. Along with NRD staff measuring observation wells, all groundwater users are required to annually report their water use. This is how the NRD maintains records on historic groundwater usage. Groundwater use records are very important to the district for making informed management decisions. The 2023 district average groundwater usage was 9.3 inches/acre. The district average groundwater usage is 6.2 inches/year since 2007.

The district’s goal is to hold the average groundwater level at or above the 1978 level. In 2005, the district average groundwater level reached the “Reporting Trigger,” initiating mandatory reporting of annual groundwater use to the district and certification of irrigated acres. If the district average water level falls below the 1978 level (“Allocation Trigger”), groundwater allocation will begin. ◆◆◆

**UPPER BIG BLUE NRD - AVERAGE GROUNDWATER LEVELS TRIGGERS COMPARED TO HISTORIC LEVELS SPRING 2024**



# Blue River Basin Model Completed

After several years of development, the Blue River Basin model is complete and is already being used to evaluate possible water use impacts in the Upper Big Blue NRD. Given the drought conditions in much of the district in the last growing season, this resource is especially timely as it will help the NRD board to “protect water supply for all beneficial purposes,” one of the 12 areas of responsibility shared by all NRDs.

The Upper Big Blue NRD partnered with the Nebraska Department of Natural Resources and three other NRDs in the Blue River Basin in this ambitious modeling project. Since 2017, the group has been working with an engineering firm to conduct a comprehensive survey of the Blue River and tributaries to identify the extent to which they are hydrologically connected—where groundwater and surface water interact. The balance between surface water and groundwater is a vital data point to understanding the water system in the district.

The model will help the participating NRDs and the Nebraska Department of Natural Resources efficiently evaluate the potential impacts of current and future groundwater pumping on aquifer levels and stream flows.

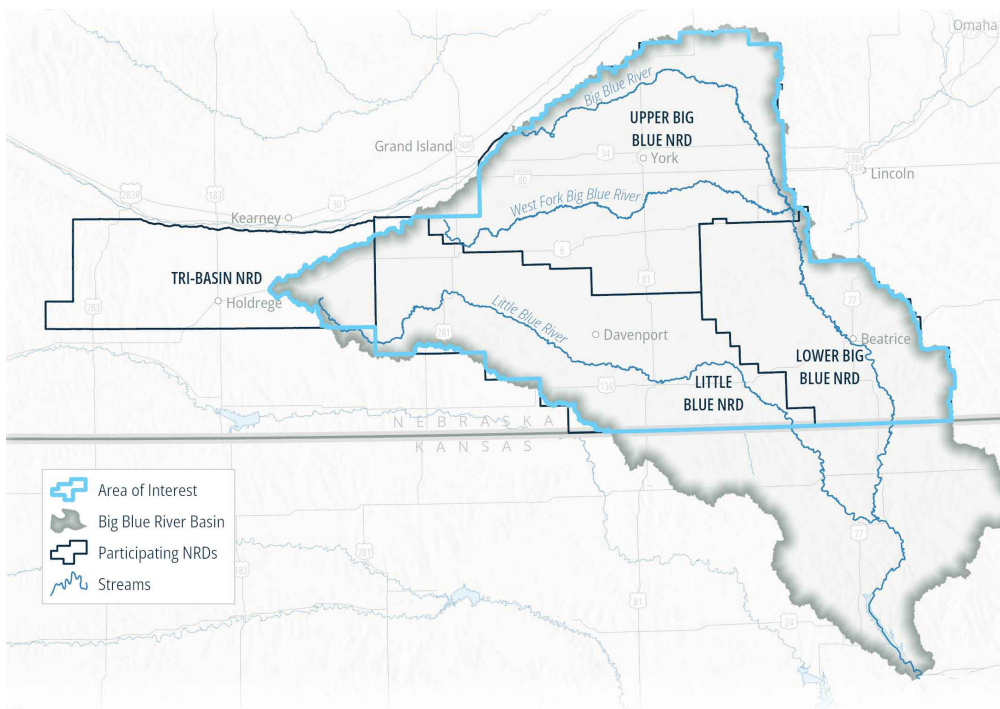
By collecting information about stream flow, groundwater recharge, land use in the basin, drought patterns, and average rainfall and water use, engineers created a computer model that allows users to run scenarios to test different variables. While there are planned improvements to the model, including the addition of stream gauges at additional sites, the model is already providing useful results. The model was recently utilized to determine the impact of a proposed fertilizer plant development in Hamilton County, which would be classified as a Large Water User. Such well permit applicants are required to complete a hydrologic evaluation to make sure that the water quantity in the area is sufficient to meet the needs of the business development without

causing aquifer depletion that would prevent existing users from accessing the water they need, including domestic and irrigation wells.

The model’s primary area of interest covers the entire Upper Big Blue, Lower Big Blue, and Little Blue NRDs as well as the Little Blue River Basin within the Tri-Basin NRD. The model also includes geographic areas around the perimeter of the NRDs (including areas in northern Kansas), but these perimeter areas are not modeled in detail.

The model was developed in part to estimate potential stream flow changes resulting from changes in aquifer levels and pumping, as well as to determine the appropriation status of different areas of the basin. Modeling in the Upper Big Blue Natural Resources District started in 2005 with an effort to produce a similar tool for the Platte River. At that time, the Nebraska Department of Natural Resources was looking for data about whether the Platte River basin (surface and ground water) was fully appropriated (meaning the balance of water use and water demand indicates that increased planning is needed) or over-appropriated. Part of the district between Phillips and the Platte River was deemed fully appropriated at that time based on the results of the modeling project. This outcome made apparent the value of groundwater modeling for planning and management.

When that study was complete, the focus shifted from the Platte River hydrologic interconnection to the Blue River. The newest model created relies on updated data and methodologies, reflecting the best available science, providing a more robust model.





The Blue River Basin Model has two main parts. The first part analyzes groundwater needs for agriculture, municipalities, and industries as well as the aquifer recharge, end-of-field runoff, and stream flow that results from these uses. The second part uses the data on groundwater needs to analyze the impacts of pumping on the aquifer and stream flow.

So, how accurate is the model and what are its limitations? The model was “calibrated” using available historical records of groundwater levels, pumping, and stream baseflows in the Blue River Basin from 1940 to 2017. The goal of calibration was not to precisely reproduce every

aspect of the historical record – no model can accomplish that. However, the calibration results showed accurate overall matches with historical records on a regional basis.

The model focused on regional hydrologic processes and water management.

To zoom in and see local-scale information, model refinement in the area of interest would be needed. Similarly, calibration results were better in some places than others. Additional data will be collected moving forward to improve model calibration. Now that the model is completed, the data regarding hydrologic connection will become part of the NRD’s voluntary Integrated Management Plan. Having this plan in place will allow the NRD to apply for additional funding through the Nebraska Water Sustainability Fund to make improvements in the district to reduce the threat to the water supply. ♦♦♦

## Rec Area Updates: Tornado Sirens, Playground, & Controlled Burn

Spring has been a busy time for improvements at NRD recreation areas. Tornado sirens were added to four of the Upper Big Blue NRD’s recreation areas for added safety for campers. These sirens were funded in large part through a grant from the Nebraska Emergency Management Agency. As originally identified in the 2019 Hazard Mitigation Plan created by the NRD, sirens have now been installed at Smith Creek, Bruce L. Anderson, Pioneer Trails, and Oxbow Trail Recreation Areas (*photo*).

A supply well was recently added to Oxbow Trail Recreation Area to supplement the natural spring fed lake. This step was taken to ensure the continued success of the fishery, which is often recognized as being one of the best in the area.

In March, the NRD conducted a prescribed burn on 7 acres of prairie at Pioneer Trails Recreation Area near Aurora (*photo on page 1*). According to the US Forest Service, this practice has many benefits. It reduces hazardous fuels, protecting human communities from extreme fires; minimizes the spread of pest insects and disease; removes



unwanted species that threaten species native to an ecosystem; provides forage for game; improves habitat for threatened and endangered species; recycles nutrients back to the soil; and promotes the growth of trees, wildflowers, and other plants.

Last year, the Bruce L. Anderson Recreation Area was upgraded with new playground equipment. A similar playground structure will be installed this summer at Smith Creek Recreation Area, as well as a new picnic shelter. A portion of the recreation area will be closed off from May through July for the installation of the playground and the new picnic shelter, but the rest of the facility will remain open.

### NRD Recreation Exploration

Nebraska’s NRDs are challenging outdoor enthusiasts to visit as many of the state’s 80 NRD recreation areas as they can between March 1 and September 16. Visit an NRD recreation area and submit a photo for a chance to win prizes! There are monthly drawings as well as a grand prize drawing. Full details at [www.nrdnet.org/recreation](http://www.nrdnet.org/recreation). ♦♦♦

# Irrigation Efficiency Considerations

Irrigation plays a vital role in Nebraska's agriculture. This is especially apparent in the Upper Big Blue Natural Resources District, which is the most heavily groundwater irrigated district in the state. In this district, 1.2 million acres are irrigated farmland, representing more than 12,000 active irrigation wells. However, irrigation can also put a strain on the area's water resources when rainfall amounts aren't enough to support a growing crop and irrigators turn to groundwater to fill the gap.

The district measures the groundwater levels each spring to determine the change from season to season. NRD staff also monitor annual water withdrawals and groundwater level changes (pages 2-3). When historic data is graphed, it's observable that if groundwater pumping is held at an average of just below 7 acre inches, there is little fluctuation in groundwater level (Graph 1). During the 2012 pumping season, where in-season rainfall totaled 7.6"\*\*, the average groundwater pumping was 12.2 acre inches, resulting in a groundwater level change of -4.38 feet. Comparatively, in 2023 using the same in-season rainfall data of 11.37"\*\* inches along with the average pumping of 9.3 acre inches, a groundwater level change of -3.08 feet was recorded.

The NRD Board of Directors has safety measures in place to ensure groundwater levels are sustainable for future generations of producers. Part of those safety measures would be the triggering of allocation in the event of prolonged drought conditions resulting in groundwater level declines. Currently, the NRD's rules and regulations allow for 30 acre inches of irrigation water use over three years for every certified acre in the event that allocation triggers are met. Looking at more than 10 years of data (Graph 2), it is evident that most producers in the district would be unaffected by an allocation event at current levels. For fields where irrigation efficiency could be challenging, there are a number of things that producers can do, especially in a time of water scarcity.

- **Upgrade your irrigation equipment:** Moving from gated pipe to center pivots can greatly reduce the amount of water you'll need to apply to raise a healthy crop. Adopting variable rate irrigation allows producers to better distribute irrigation applications across fields with elevation change and soil variability.
- **Water at the right time and rate:** Corn plants need water throughout the growing season, but they are most sensitive to water stress during the early stages of growth. Applying water too early or too late can reduce yields.

- **Add soil health and conservation practices:** Improving your soil's health by moving to no-till farming and adding cover crops will increase your soil's water infiltration and holding capacity. These practices also prevent soil from drying out rapidly. The NRD has a number of funding options available for producers who want to improve their soil health. Reach out to Kaleb Fritz or Seth Norquest (back page) for more details on these programs.
- **Make data-driven decisions about when to irrigate and how much:** Take the guesswork out of irrigation decisions. There are many options available from the NRD and other sources, including low-cost soil moisture sensors. Visit [www.upperbigblue.org/groundwater-programs](http://www.upperbigblue.org/groundwater-programs) for details on the discount program or call the office at (402) 362-6601.
- **Know your actual well output:** an ultrasonic flow meter can quickly determine your real well output. This information can help you make better irrigation management decisions. The Upper Big Blue NRD has an ultrasonic flow meter. Call the NRD and ask for Erin Lee, water resources technician, to schedule a time for staff to measure your well output.

By using more efficient irrigation practices, growers can save water, reduce costs, and protect the environment. ◆◆◆

*\*Calculated using the York 2W weather station hosted at Recharge Lake from April 1 – September 30.*

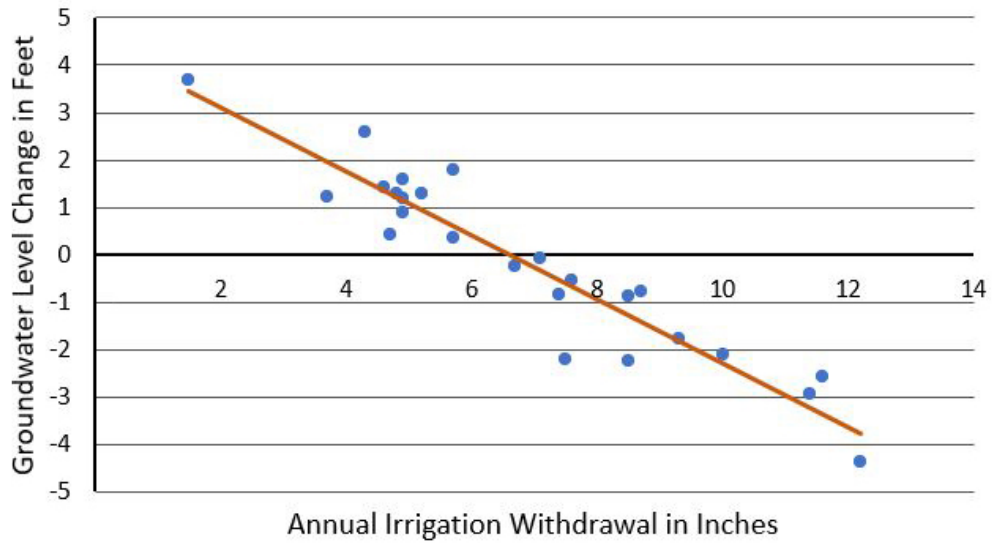
Reminder to producers in Zone 4 (including parts of York and Polk Counties): All operators of land within a Phase II Management Area are required to install irrigation scheduling equipment in at least one field in a Phase II area.



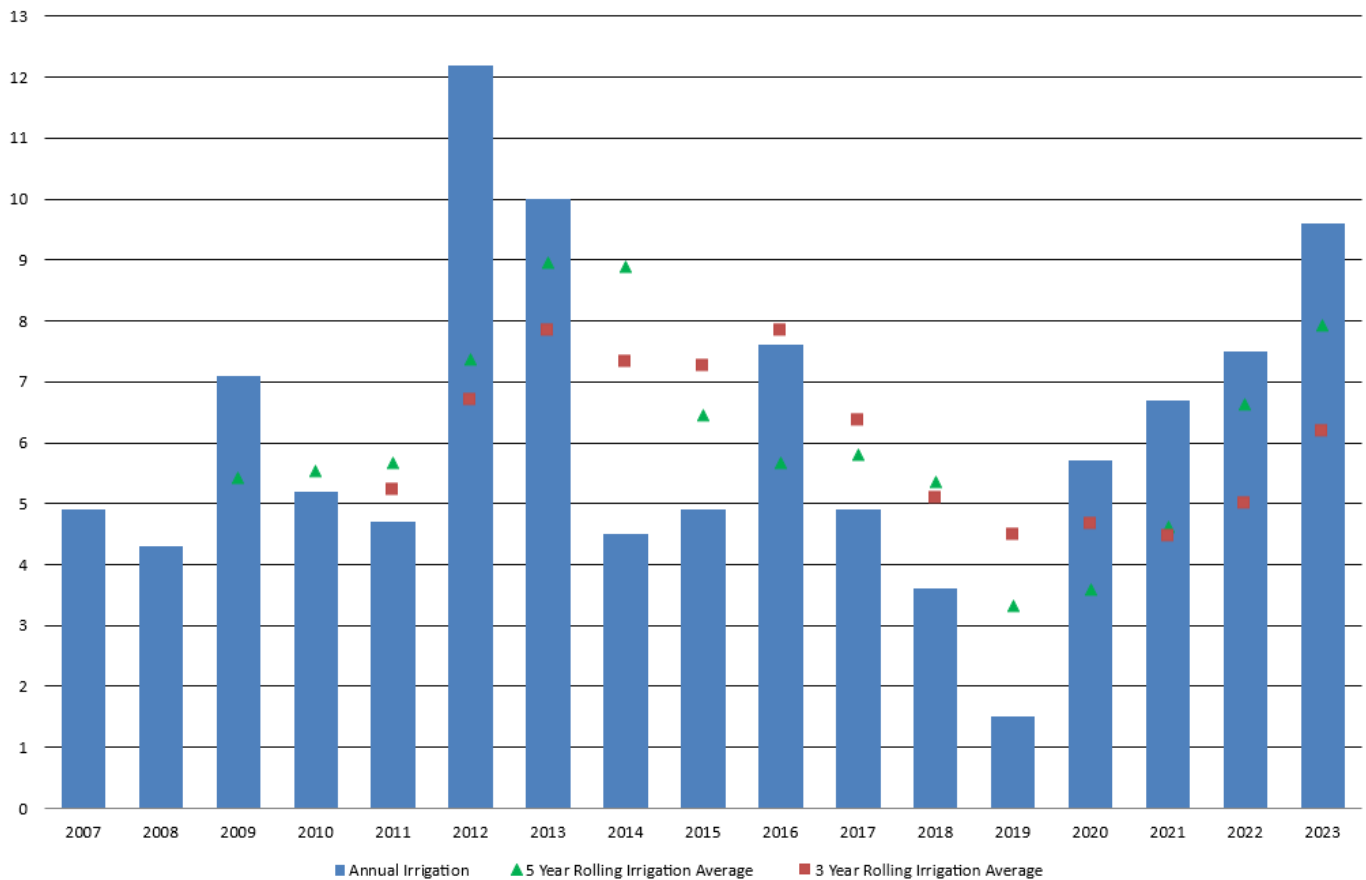
**Graph 1:** Annual irrigation withdrawal in the Upper Big Blue NRD plotted against groundwater level change. Based on measured data, the graph shows that if pumping is held to just below 7" annually we see little fluctuation in groundwater level change.

**Graph 2:** Average irrigation withdrawal in the Upper Big Blue NRD from 2007 to 2023, showing that most producers would be unaffected by allocation limits most years.

Groundwater Level Change vs. Annual Irrigation Withdrawal



Upper Big Blue NRD Average Irrigation Withdrawal (In./Ac.)



# From Carbonomics to Carbon Intensity Scoring

## Regenerative Agriculture Conference Explores Conservation ROI

Sustainable, regenerative, decarbonized—no matter what you call it, Nebraska’s farmers are increasingly being asked to produce enough food, fuel, and fiber for a growing global population, while reducing their impact on the environment. How do farmers incorporate practices that are proven to be good for the land as well as their bottom line, and what supports are in place to help them make the transition from conventional practices to more sustainable ones?

These questions were the topic of a recent regenerative ag conference held in Seward, Nebraska. More than 300 people attended the event, which was hosted by the Little Blue, Lower Big Blue, Lower Platte South, and Upper Big Blue Natural Resources Districts. The event featured keynote speakers Keith Berns, co-owner of Green Cover Seed, and Mitchell Hora, founder and CEO of Continuum Ag, as well as a local producer panel. The conference drew attendees primarily from the eastern half of Nebraska, but also saw participants from Iowa, Kansas, and Colorado.



Topics covered included soil health, cover crops, no-till, soil microbes, erosion prevention, carbon intensity scores, and potential funding for producers moving from conventional practices to regenerative ones. In addition to the speakers, attendees had time to visit with event sponsors representing a broad spectrum of products and services in the regenerative ag space.

### “Carbonomics”

Keith Berns challenged the audience during his introductory keynote address with a thought exercise: Imagine if you went home today to find that half of your land was gone, and you suddenly had to make do with a lot less.

While no one is coming to steal your fields, American farmers are already in this scenario, due to soil degradation. “We’ve lost half of our topsoil from water erosion and wind erosion,” Berns said, showing a dust bowl photo of billowing clouds of soil. “Of the soil that we

have left, we’ve lost more than 50 percent of the carbon, the organic matter that’s in our soil,” which leads to a significant decline in soil productivity.

Changing weather patterns with heavier rainfalls punctuated by longer periods of drought make it more essential than ever to have a healthy functioning soil system that can take in and hold moisture, he said. How do we restore the soil to maximum productivity and increase water holding capacity? By treating the soil like a country’s economy. Berns went on to describe in detail “Carbonomics,” the economy of the soil with the currency of carbon.

Plants, animals (soil biota), and the soil each have a distinct role to play in this economy, whether they are producers or consumers. When producers and consumers are balanced and everyone is ‘working’, then you have a ‘low unemployment rate’ and a healthy system. Plants capture sunlight and use it to produce carbon. In that way, a farmer’s success is tied to how well they convert sunlight into something of direct value, like a bushel of soybeans. To improve soil productivity, you must add more carbon into

the system via photosynthesis. An easy way to do this is to make sure there is something growing on the soil year-round through the use of cover crops.

When we provide a plant externally with what the soil system should provide for them naturally, you make the soil economy less functional, Berns explained, likening this scenario of increased inputs to “agricultural welfare.” When the soil economy is working, there should be enough nutrients and plant defenses occurring naturally that there isn’t a need for large quantities of fertilizer or herbicides.

“Your biggest energy expense on the farm isn’t diesel. It’s nitrogen,” Berns told conference attendees. While the atmosphere is full of nitrogen, it isn’t directly accessible to the plants. To access the nitrogen, farmers need to support the “nitrogen factories” in the soil, including legumes as well as soil microbes like azospirillum and azotobacterium.

What kills these nitrogen-fixing microbes?



Products like pesticides, fungicides, herbicides, and strong chemical fertilizers, as well as practices such as excessive tillage or monocropping. In this way, conventional agricultural practices are reducing the natural nitrogen fixing bacterial activity of the soil.

“Tillage is an act of war on your soil,” explained Berns, as it takes out the transportation and communication infrastructure of the soil.

“There’s a lot going on under our feet out there,” Berns said.

### **Carbon intensity scoring: the next big thing in ag?**

Being able to quantify your carbon score is essential to making regenerative agricultural practices pay.

That was the main message from keynote speaker Mitchell Hora. Hora is a seventh generation Iowa farmer and the founder and CEO of Continuum Ag, which seeks to equip farmers with data about their soil health and quantify the financial return on their soil health investments.

Data equals dollars, Hora told the farmers in the room. You can’t sell what you can’t measure. As financial institutions work toward carbon neutrality, pledging to decarbonize their portfolios, a new opportunity for agriculture is emerging.

Carbon intensity scoring quantifies the carbon footprint per agricultural unit, whether that is per bushel of soy, pound of beef, or gallon of milk. Selling a low carbon commodity is selling a data story, said Hora, who recommended that before a farmer reports any data on their practices, they understand the value of that data and how it will be used.

Changes are already evident in the carbon conversation in the biofuel industry. There’s money from the federal government for clean fuel, and so a low carbon intensity score is a new unit of measure for businesses to reduce their carbon footprint. Tax credits for lower carbon intensity fuel will soon be available to ethanol plants. Farmers need to figure out their individual carbon intensity score to understand the value they are providing, and to get a piece of the profits that are coming to businesses.

“Decarbonizing agriculture is a huge opportunity to bring money to middle America,” Hora said. “Farmers will absolutely rise to the occasion to decarbonize, but we want our fair share.”

According to the US Department of Energy, the typical bushel of corn has a carbon intensity score around 29g GHG/MJ (greenhouse gas emission per megajoule).

However, according to Hora’s calculations, the average farmer’s carbon intensity score in their network is around 11g GHG/MJ. Due to conservation practices including long term use of cover crops and no-till, the Hora Farm’s carbon intensity score is -4.1g GHG/MJ. Buying corn with a lower carbon intensity score will increase the value to the ethanol plant when it comes to future tax credits, worth millions each year. Therefore, products with a lower carbon intensity score will be able to be sold at a premium.

Beyond the future financial windfall from decarbonization that Hora predicts for the agricultural industry, regenerative practices also make sense financially in the near term.

“Soil health principles have been marketed wrong. They aren’t just defense against problems like erosion and lost productivity. They are offensive management tools,” he said, noting how reduced tillage and inputs, as well as increasing plant diversity have improved his family’s farm.

Building soil organic matter makes you resilient to unpredictable weather, said Hora. Cover crops will keep your soil alive when you aren’t getting rain and will keep your soil from running off the farm when there’s too much rain. A cheap measure of soil health on the Hora Farm is that they haven’t had to replant a crop due to flooding in ages. Their water infiltration rate is an incredible 4 inches in under 5 minutes.

Hora is a realist. He recognizes that sometimes inputs like anhydrous and Roundup are needed, but they are damaging to the soil system and come with a cost, so they should be used as a last resort. “We are on this journey, and it’s a long journey,” he said. Practice changes take patience and humility. He recommends that farmers new to these practices implement them slowly and expect slow results, allowing for flexibility to experiment and make changes over time.

*For producer panel insights, photos, and recordings of speakers, visit [www.upperbigblue.org/soilhealth](http://www.upperbigblue.org/soilhealth). ♦♦♦*



# Water Quality Stakeholder Event

...Pride in Nebraska's Water, cont. from page 1



The event included an update from NRD staff on water quality over the past few decades in the district and a review of the current rules and regulations around this topic. Staff asked attendees: are the current rules sufficient to address the problem, or are there new ideas that the Board of Directors should consider? Two members of the NRD board were in attendance as spectators, but did not participate in discussion, as their role was to listen to others' ideas only.

There were many questions asked by participants, including what are the acute and long-term impacts for human health of drinking water that has impaired quality due to contaminants such as uranium, selenium, and nitrate? What can be done to remediate for water quality impairments, and what can be done to prevent further contamination?

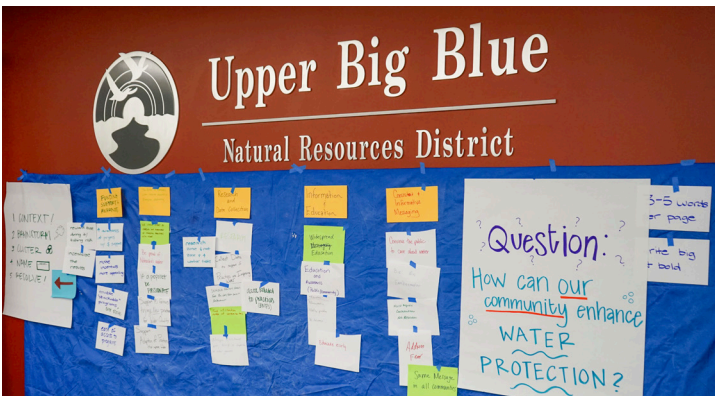
Several in attendance discussed the challenges of those connected to the agricultural industry, either as producers,

bankers, or fertilizer and equipment salespeople, in finding the balance between sustainability and profitability. In order to see a real change in agricultural practices that harm water quality (such as over application of nitrogen fertilizer), attendees suggested it will take system-wide reform that refocuses the conversation in agriculture to profit per acre instead of yield goals. Attendees discussed the need for more precision agriculture solutions such as fertigation, as well as funding for practices like cover crops and filter strips.

Part of the day's discussion also involved education and outreach. What are the best ways to reach those in the agriculture industry, as well as those working in municipal water supply, those with private wells, and the general public on water quality topics? How do we measure what's working? And how do we increase the trust that all parties have in each other and in the NRD?

The final takeaways from the event were that the future of Nebraska's water resources depends on collaboration and that all who call this state home should be proud of Nebraska's water and work to protect it.

The stakeholder meeting was organized and moderated by JEO Consulting, who will summarize the day's conversations for NRD staff to incorporate into the district's update to the groundwater action plan, which will go before the NRD Board of Directors for review. ♦♦♦



## Recognitions

Several NRD Directors were recently recognized for their years of service. John Miller of Aurora (left), Lynn Yates of Geneva (center), and Bill Stahly of Milford (right) were each presented a plaque for 15 years.



# Notice of Adoption

## District Rule 5 Change

On March 21, 2024, the Upper Big Blue NRD adopted changes to District Rule 5 – Groundwater Management Area Rules and Regulations. The amended District Rule 5 became effective on April 22, 2024. The geographic area affected by the Rule 5 changes includes the entire Upper Big Blue Natural Resources District except an area generally south and west of Milligan in Fillmore County, and those areas generally located east of the Big Blue River in Butler and Seward Counties. Detailed maps are available at the District Office. A general description of the adopted changes is as follows:



Chapter 15, Allocation to Agriculture Users under Paragraph 01. To add the following 01.01 Certified acres that have been converted to renewable energy site/s or to an industrial site/s shall be ineligible for and prohibited from pooling. ♦♦♦



## Reverse Osmosis Rebate Funding Available

Private well reverse osmosis system rebates are available to property owners of private wells with drinking water test levels above 10 parts per million (ppm) of nitrate.

**State funding:** Applicants will be eligible for up to \$4,000 in rebates per small treatment installation that is effective in the removal of nitrate to a level below 10 ppm. Testing costs, purchase price of the system, and installation costs are eligible expenses that can be included in a rebate application. **NRD funding:** Applicants will be eligible for up to \$500 for a point of use system. See [www.upperbigblue.org/RO](http://www.upperbigblue.org/RO). ♦♦♦

## BLUEPRINT



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# Cost-Share Program Changes Ahead



The amount of funding available for some NRD cost-share programs is increasing, including for land treatment, well decommissioning, and flow meter repair.

**Aquifer Quality Well Abandonment Cost-Share Assistance Program (AQWACAP):** the cost-share amount for well decommissioning will increase from the current rate (60 percent of total cost, up to \$750), to 60 percent of total cost, up to \$1,000 per well, effective July 1, 2024.

**Flow Meter Repairs:** The cost-share amount for water flow meter repairs will increase from the current rate (50 percent of total cost, up to \$300), to 50 percent of total cost, up to \$500 per flow meter, effective July 1, 2024. The revised program will allow new flow meters to be included in the cost-share program in addition to refurbished meters.

**Land Treatment:** The Private Dams Program provides planning, design and financial assistance for the construction or reconstruction of dams located on private property. Public benefits include flood control, sediment and erosion control, water conservation, groundwater recharge, and fish and wildlife enhancement. The cost share amount has increased from 75 percent, up to \$50,000, to 75 percent, up to \$75,000 per project. ♦♦♦

## Grant-Funded Positions Provide Support for Conservation Practices

The NRD has recently added two staff positions that will assist producers in adding conservation practices to their acres. Both positions are entirely grant funded and will serve a similar function, though their funding sources and titles are distinct.

Seth Norquest will serve as the precision conservation specialist, funded through a partnership between the Illinois Corn Growers Association and USDA-NRCS. Norquest is new to the NRD, but not new to the area.

He has spent the last few years as a research technologist with the University of Nebraska-Lincoln, working with the On-Farm Research Network. Prior experience also includes research and sales with local co-ops. Norquest holds degrees from UNL in

agronomy and crop science.

Norquest will be working with producers to enroll acres in the Precision Conservation Management Program, which serves farmers by providing economic analysis of on-farm conservation practices. The program aims to help farmers understand the economic values of adopting practices such as cover crops, nutrient timing, and tillage practices. PCM is funded by the USDA-NRCS – Regional Conservation Partnership Program. Along with applied economics, water quality outcomes and carbon sequestration values are generated.

Kaleb Fritz will serve as the integrated water program coordinator, funded through a partnership with the Rainwater Basin Joint Venture and USDA-NRCS. Kaleb joined the NRD in 2023 as a water conservationist, working with producers to improve irrigation and nitrogen management to protect water quality and quantity. Previously he worked for Green Plains Inc in quality assurance. He holds a degree in business administration from Chadron State College.

In this new position, Fritz will work one-on-one with producers to identify agronomic solutions to address water quality and quantity issues, assist producers with enrollment in conservation programs, and host Conservation Program Forums for ag industry leaders.

If you are a producer or land owner in the district and are interested in funding and support for adding practices to your acres, you can reach out to Norquest and Fritz at (402) 362-6601 or via email at [snorquest@precisionconservation.org](mailto:snorquest@precisionconservation.org) and [kfritz@upperbigblue.org](mailto:kfritz@upperbigblue.org). ♦♦♦



Seth Norquest



Kaleb Fritz