2026

Governor’s Water Quality and Quantity Task Force

FINAL REPORT

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Appendices

Acronyms

Abbreviation	Definition
AF	Acre feet
BMP	Best Management Practice
CCA	Certified Crop Advisor
CEU	Continuing Education Unit
CI	Carbon Intensity
CSD	Conservation and Survey Division
CWA	Clean Water Act
CWS	Community Water System
DWEE	Department of Water, Energy, and Environment
DWPMP	Drinking Water Protection Management Plans
DWSRF	Drinking Water State Revolving Fund
EPA	U.S. Environmental Protection Agency
GWMPA	Ground Water Management and Protection Act
IMP	Integrated Management Plan
MCL	Maximum Contaminant Level
NARD	Nebraska Association of Resources Districts
NDED	Nebraska Department of Economic Development
NDEE	Nebraska Department of Environment and Energy
NDHHS	Nebraska Department of Health and Human Services
NeDNR	Nebraska Department of Natural Resources
NeRWA	Nebraska Rural Water Association
NIFA	Nebraska Investment Finance Authority
NiRIA	Nitrogen Reduction Incentive Act
NRC	Natural Resources Commission
NRCS	Natural Resources Conservation Service
NRD	Natural Resources District
NSAC	Nebraska Strategic Ag Coalition
ONE RED	Opportunity for Nebraska: Reducing Emissions and Decarbonization
PCAP	Priority Climate Action Plan
PWS	Public Water System
SWP	Source Water Protection
UNL	University of Nebraska-Lincoln
UNMC	University of Nebraska Medical Center
USGS	U.S. Geological Survey
WSF	Water Sustainability Fund
WHPA	Wellhead Protection Area
WHPP	Wellhead Protection Plan

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Dear Governor Pillen,

We, the members of the Water Quality and Quantity Task Force, are pleased to submit our final recommendations for your consideration. Over the past several months, our collective efforts have focused on assessing the current state of water resources in Nebraska and identifying actionable steps to ensure the protection and sustainability of Nebraska's water quality and quantity.

The results of our work have identified several proactive goals and action items that we believe are critical to advancing Nebraska's future water management. Our recommendations are rooted in extensive discussion across a diverse range of experts in the field with the aim of safeguarding our precious water supply for generations to come. Key recommendations include:

1: Expand water measurement across the State for groundwater and surface water.

2: Develop strategies to support large water users and continued economic growth in the State.

3: Expand water storage opportunities and management of water consumption.

4: Ensure nitrogen fertilizer recommendations are agronomically, economically, and environmentally appropriate for Nebraska producers.

5: Incentivize producers to increase the percentage of nitrogen applied in season versus out of season to improve overall nitrogen use efficiency.

6: Increase adoption of sensor- and model-based nitrogen recommendation technology.

7: Increase adoption of soil health practices which will allow producers to increase nutrient cycling and reduce overall nitrogen application rates over time. Improved soil health will also maximize water infiltration and crop utilization while minimizing runoff.

8: Support Nebraska producers by providing education on nitrogen fertilizer and irrigation best management practices to reduce nitrate leaching and to protect groundwater resources.

9: Develop consistent education, marketing, and outreach materials related to water quality, quantity, and public health for use across the State.

10: Provide support and resources to public and private drinking water well owners to ensure safe and reliable drinking water for Nebraskans.

11: Expand rural water systems and regionalization of water systems.

12: Establish a centralized clearinghouse to inventory and prioritize water quality and quantity projects across Nebraska.

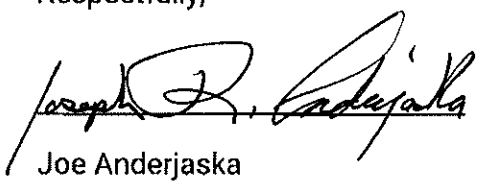
13: Identify and implement sustainable, diversified funding models to support the development, implementation, and maintenance of priority water projects in Nebraska.

14: Recommend funding priorities for ONE RED funding and other potential funding sources.

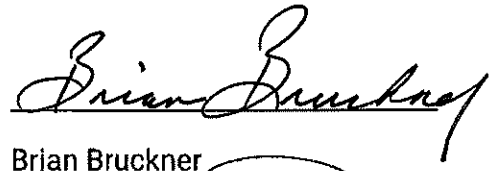
We request your support in implementing these recommendations as part of Nebraska's commitment to maintaining high standards for water quality and quantity. By doing so, we can safeguard the health of our communities, protect our environment, and support our economy.

We sincerely appreciate the opportunity to serve on this Task Force and hope to see these critical recommendations put into action under your leadership. Thank you for your ongoing commitment to the people of Nebraska.

Respectfully,

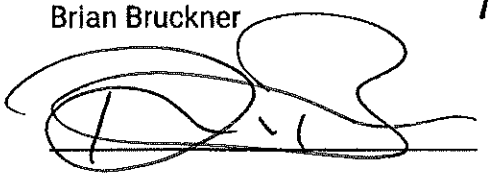


Joe Anderjaska



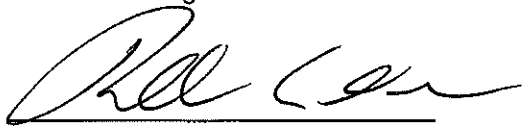
Brian Bruckner

Brittany Bartak

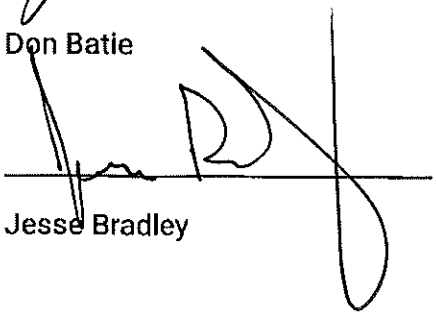


Devin Brundage

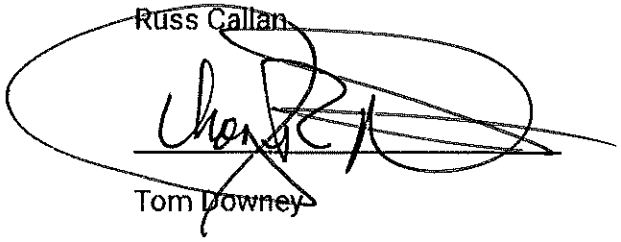
Don Batie



Russ Callan



Jesse Bradley



Tom Downey

Jessica Groskopf

Tim Mundorf

Brandon Hunnicutt

Scott Schaneman

Brian Kissinger

Dean Settje

Scott Knobbe

John Shadle

Steve Kyes

Marty Stange

Matt Manning

Annette Sudbeck

Executive Summary

The Governor's Water Quality and Quantity Task Force (Task Force) was convened to address interconnected water quality and quantity challenges, review existing water management authorities and programs, and develop actionable recommendations to reduce nitrate levels while supporting Nebraska's agricultural productivity and economic vitality. This Final Report of the Task Force (Final Report) includes:

- Details on Task Force formation and its four subcommittees;
- An overview of meeting schedules and materials;
- Background information on Nebraska's water management authorities related to water quality and quantity; and
- The Task Force's recommended goals, action items, and metrics for success to guide future efforts to reduce nitrate concentrations in groundwater and address water quantity issues.

In developing recommendations, the Task Force prioritized incentives, innovation, and education over new regulatory requirements, while acknowledging that additional regulatory measures may be necessary in the future if desired outcomes are not achieved. Building upon and expanding coordination among State agencies, Natural Resources Districts (NRDs), other entities, and existing resources was also a priority.

Task Force members recognize that addressing Nebraska's water quality and quantity challenges will require sustained commitment, cooperation, and flexibility. The Task Force's recommendations provide a proactive and practical framework for reducing nitrate levels in drinking water sources while respecting Nebraska's local governance structure and economic considerations. By emphasizing incentives, innovation, education, and measurable results—and by remaining open to additional tools, if necessary—Nebraska can make meaningful progress toward protecting public health and ensuring the long-term sustainability of its water resources.

Task Force Formation

Governor Pillen announced the Task Force when he testified on LB317 (2025),[1] a bill calling for the merger of the Department of Environment and Energy (NDEE) with the Department of Natural Resources (NeDNR), in part, to bring more meaningful and

[1] 2025 Neb. Laws, LB 317, passed on May 6, 2025, provides that on or after July 1, 2025, the Department of Natural Resources shall be merged into the Department of Environment and Energy, which shall be named the Department of Water, Energy, and Environment.

streamlined oversight around water use. The Task Force was charged with providing the Governor with actionable recommendations to improve water quality, with an emphasis on reducing nitrate levels in groundwater, and to ensure the long-term sustainability of the State's water resources.

Membership

Task Force Members

The following individuals were invited to serve on the Task Force by the Governor and represent a cross-section of interests, industries, and locations as illustrated in Figure 1.

Joe Anderjaska, Director, Middle Republican Natural Resources District

Brittany Bartak, Agronomist, Yield Plus Agronomics

Don Batie, current member and former President of the Natural Resources Commission, farmer

Jesse Bradley, Director, Department of Water, Energy, and Environment

Brian Bruckner, General Manager, Lower Elkhorn Natural Resources District

Devin Brundage, General Manager, Central Nebraska Public Power and Irrigation District

Russ Callan, General Manager, Lower Loup Natural Resources District

Tom Downey, President and CEO, Downey Drilling

Jessica Groskopf, Extension Educator, University of Nebraska

Brandon Hunnicutt, Chairman, Nebraska Corn Board

Brian Kissinger, Fort Kearny Consolidated Feedyard

Scott Knobbe, Knobbe Feedyards

Steve Kyes, Seed Corn Producer

Matt Manning, Chief Water Officer, Department of Water, Energy, and Environment

Tim Mundorf, Central Valley Ag

Scott Schaneman, General Manager, North Platte Natural Resources District

Dean Settje, Founder and President, Settje Agri-Services

John Shadle, Water Resources Advisor, Nebraska Public Power District

Marty Stange, former Environmental Supervisor, City of Hastings

Annette Sudbeck, General Manager, Lewis and Clark Natural Resources District

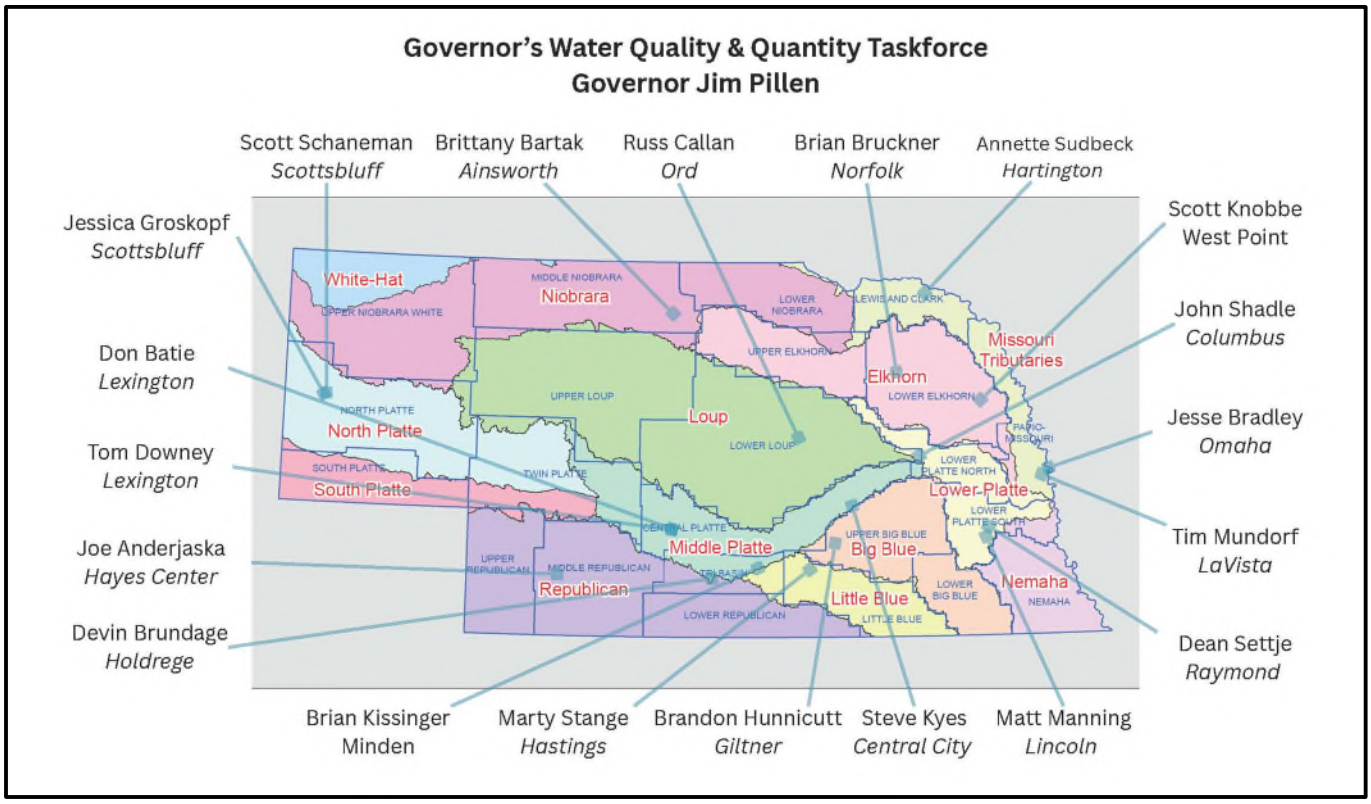


Figure 1. Locations of Task Force members.

Task Force Subcommittees

The Task Force organized its work through four subcommittees aligned with the primary issue areas identified early in the process. These subcommittees were: (1) Methods and Resources, (2) Nitrate Legacy and Drinking Water Access, (3) Water Conservation and Quantity, and (4) Financing and Incentives. Members selected their subcommittee assignments at the first Task Force meeting, with some choosing to participate in multiple subcommittees based on their interests, experience, and expertise. The subcommittees and their participating members are listed in Table 1.

Table 1. List of Subcommittees and members. Names in bold indicate the Subcommittee spokesperson.

METHODS AND RESOURCES	***NITRATE LEGACY AND DRINKING WATER ACCESS***
Joe Anderjaska	Brian Bruckner
Brittany Bartak	Tom Downey
Don Batie	Matt Manning
Jesse Bradley	Dean Settje
Russ Callan	**Marty Stange**
Brian Kissinger	Annette Sudbeck
Scott Knobbe	
Tim Mundorf	
Annette Sudbeck	
WATER CONSERVATION AND QUANTITY	***FINANCING AND INCENTIVES***
Joe Anderjaska	Brittany Bartak
Don Batie	Jesse Bradley
Brian Bruckner	Devin Brundage
Devin Brundage	Jessica Groskopf
Russ Callan	**Brandon Hunnicutt**
Steve Kyes	Scott Schaneman
Matt Manning	
John Shadle	
Scott Schaneman	

Process

Task Force Meetings and Subcommittee Meetings

From June 2025 through March 2026, the full Task Force met on a quarterly basis, while each of the four subcommittees met monthly, as shown in Table 2. Each subcommittee received presentations from subject-matter experts relevant to its focus area, including background on authorities, current challenges, and existing programs at the federal, State, and local level addressing water quality and quantity issues. This process allowed the Task Force to develop a shared understanding of the issues to identify recommended goals and corresponding action items for implementation. All meeting materials including agendas, presentations, and meeting minutes can be found in the Appendices to this Final Report and are available on the Task Force webpage.[2]

[2] https://dnr.nebraska.gov/water-quality-and-quantity-task-force.

Table 2. Overview of Task Force Meetings, Subcommittee Meetings, and presentations.

Date	Meeting Type	Presentation(s)	Presenter(s)
June 2, 2025	Full Task Force	Overview of State and NRD Initiatives on Water Quality and Quantity	Jesse Bradley (DWEE)
July 14, 2025	Nitrate Legacy and Drinking Water Access	—	—
July 16, 2025	Methods and Resources	—	—
July 16, 2025	Water Conservation and Quantity	—	—
July 21, 2025	Financing and Incentives	—	—
Aug. 20, 2025	Nitrate Legacy and Drinking Water Access	DWEE Clearinghouse and Related Information	Dave Miesbach (DWEE)
Aug. 21, 2025	Water Conservation and Quantity	—	—
Aug. 21, 2025	Methods and Resources	Lower Loup NRD: The Effect of Fertilizer Application Practices on Soil Nitrate and Water Quality	Chris Hobza (U.S. Geological Survey); Jason Moudry (Lower Loup NRD)
Aug. 22, 2025	Financing and Incentives	UNL Agricultural Budget Calculator	Jay Parsons, Glennis McClure, Sourav Barua (Nebraska Extension)
Sept. 24, 2025	Full Task Force	Producer Connect	Jennifer Swanson (Nebraska Association of Resources Districts)
		Central Platte NRD Nitrogen Use Efficiency Dashboard	Courtney Widup (Central Platte NRD)
		ONE RED Program Overview	Sarah Starostka (DWEE)

Date	Meeting Type	Presentation(s)	Presenter(s)
Oct. 21, 2025 (Virtual)	Water Conservation and Quantity	—	—
Oct. 22, 2025 (Virtual)	Methods and Resources	Sentinel Ag: Optimizing Nitrogen for Profit & Stewardship	Jackson Stansell (Sentinel Ag)
		Nitrate Recommendation Calculations	Tim Mundorf (Central Valley Ag)
Oct. 23, 2025 (Virtual)	Nitrate Legacy and Drinking Water Access	—	—
Oct. 23, 2025 (Virtual)	Financing and Incentives	—	—
Nov. 13, 2025	Financing and Incentives	UNL Extension Nitrate Initiatives	Crystal Powers (Nebraska Extension)
Nov. 13, 2025	Methods and Resources	Hillside Solutions & Soil Dynamics: On Farm Organics Management in Nebraska	Andy Harpenau (Hillside Solutions & Soil Dynamics)
Nov. 19, 2025	Water Conservation and Quantity	Lower Loup NRD Large Water User Study	Russ Callan (Lower Loup NRD)
Nov. 21, 2025	Nitrate Legacy and Drinking Water Access	University of Nebraska Medical Center: Nitrate in Groundwater and Our Health	Jesse Bell, Krista Brown (UNMC)
		DWEE Drinking Water Program Overview	Laura Johnson (DWEE)
Dec. 16, 2025	Full Task Force	—	—
March 25, 2026	Full Task Force	—	—

Background

Given the Task Force's charge to develop actionable recommendations for improving water quality and ensuring the long-term sustainability of Nebraska's water resources, providing a brief background is necessary to frame these recommendations. The following section summarizes Nebraska's current water governance framework,

management tools, and ongoing initiatives, offering context for the Task Force's process in developing action items that build on existing efforts while avoiding duplication. Information on water quality and quantity topics considered by the Task Force is also included. This section is not intended to be exhaustive; rather, it highlights key elements most relevant to the Task Force's work.

Water Management Authorities and Governance Structure

Water quality and quantity management in Nebraska is carried out through coordinated partnerships between the State and Nebraska's 23 local Natural Resources Districts (NRDs), shown in Figure 2. In general, the Nebraska Department of Water, Energy, and Environment (Department or DWEE) manages surface water resources, while each NRD has authority over groundwater within its boundaries. This locally led, State-supported structure is foundational to Nebraska's approach to both water quality protection and water quantity sustainability, and it directly informs the Task Force's charge to develop practical, implementable recommendations.

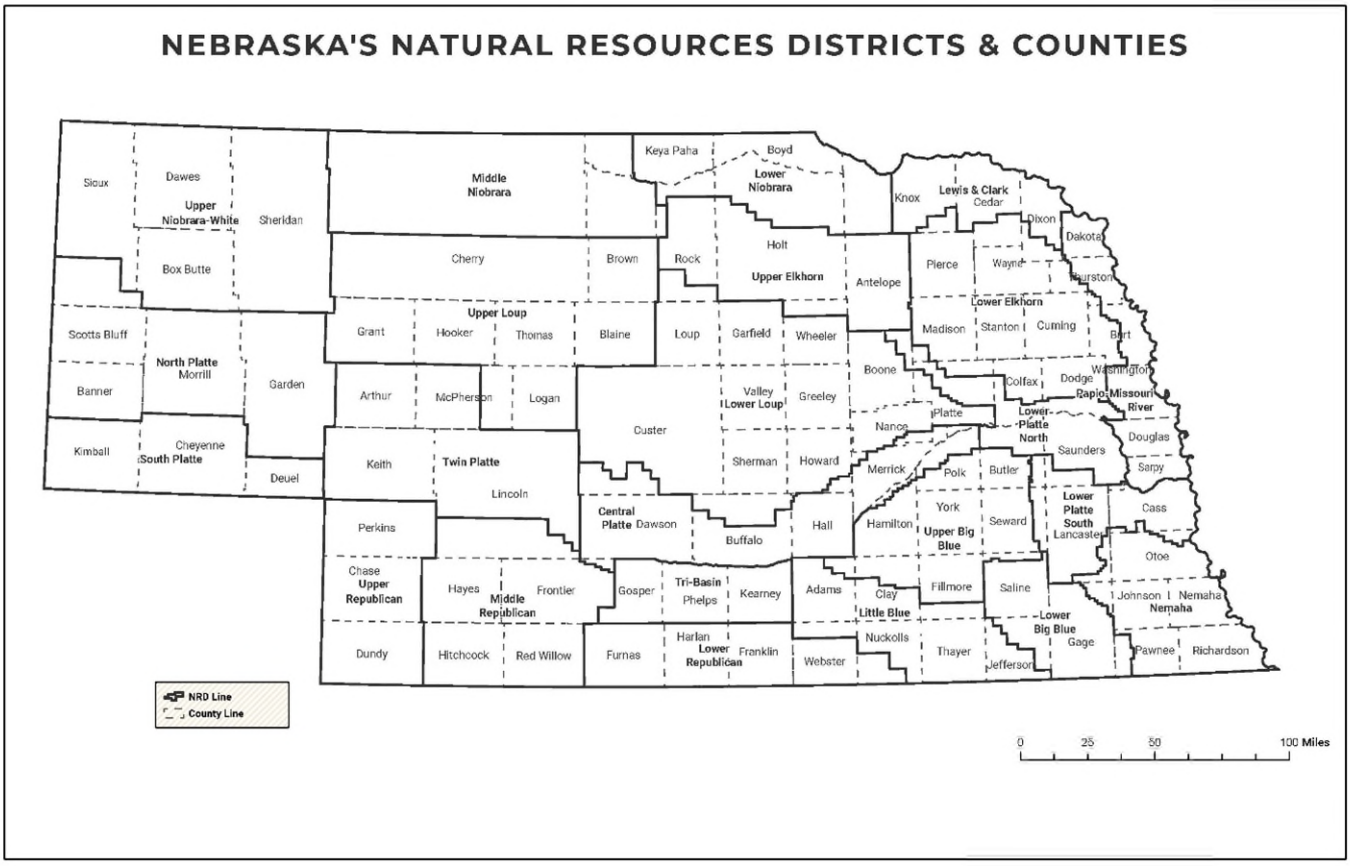


Figure 2. Nebraska Natural Resources District and county boundaries.

Pursuant to the Ground Water Management and Protection Act (GWMPA),[3] the Department is required to annually review, and, as necessary, evaluate the impacts of existing and new surface water and groundwater uses in each of the State's river basins.[4] This statutory responsibility provides the basis for identifying areas in which water supplies are under stress and where additional management requirements may be warranted. Similarly, for groundwater quality, the Department is required to prepare an annual report outlining the extent of groundwater quality monitoring conducted by NRDs during the preceding calendar year.[5] The data is analyzed by the Department for the purpose of determining whether ground water quality is degrading or improving and completing trend analysis.

Integrated Management Planning

Currently, all 23 NRDs are engaged with the Department in some phase of integrated management planning for hydrologically connected surface water and groundwater, as shown in Figure 3.

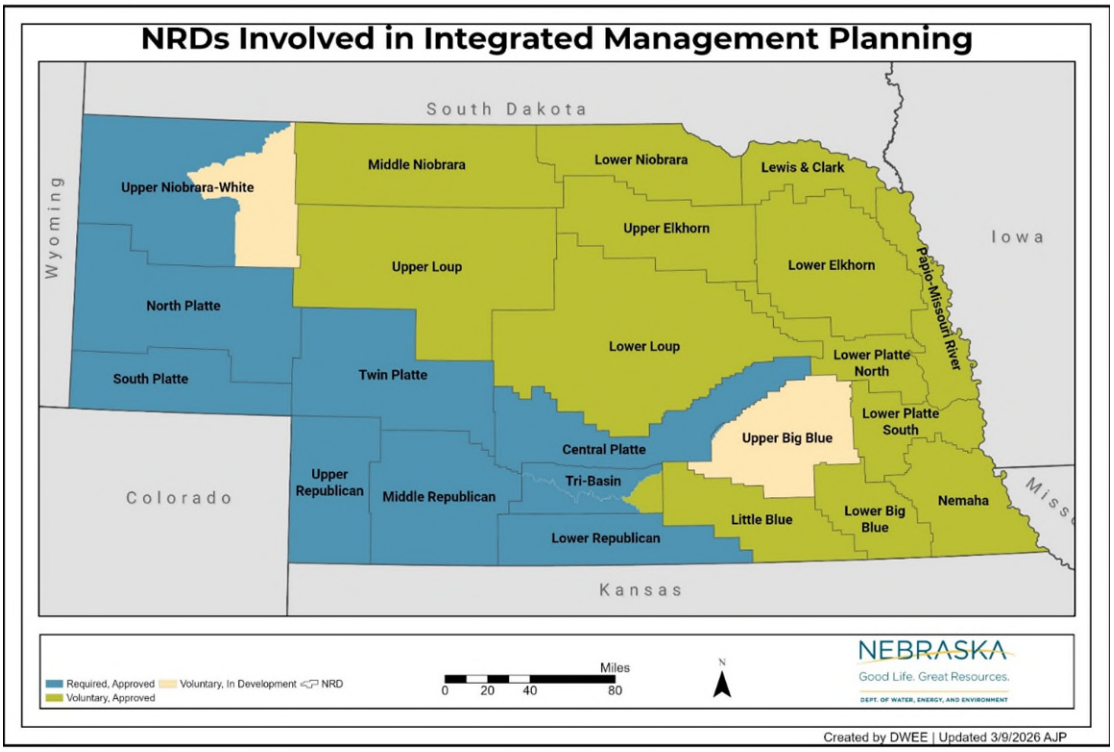


Figure 3. Natural Resources Districts with integrated management plans.

[3] Neb. Rev. Stat. §§ 46-701 to 46-756.
[4] Neb. Rev. Stat. § 46-713.
[5] Neb. Rev. Stat. § 46-1304.

Integrated management plans (IMPs) are required following a final determination by the Chief Water Office of the Department that an area is fully appropriated or overappropriated,[6] while voluntary IMPs may be adopted in areas that have not received such designation.[7] For purposes of this Final Report, a basin is considered overappropriated when it is subject to an interstate cooperative agreement among three or more states, the river basin is subject to a moratorium on the issuance of new surface water appropriations, and if the NRDs that have jurisdiction within the affected basin have closed the issuance of new water well permits or suspended the drilling of new water wells.[8] A fully appropriated basin is one in which current water use is equal to the current supply of water and is not expected to deplete the basin over the long term.[9] A hydrologically connected area describes an area where both surface water and groundwater interact with each other, either by surface water recharging the groundwater supplies, groundwater discharging into a stream or river, or both at the same time. Areas designated as fully appropriated or overappropriated are shown in Figure 4.

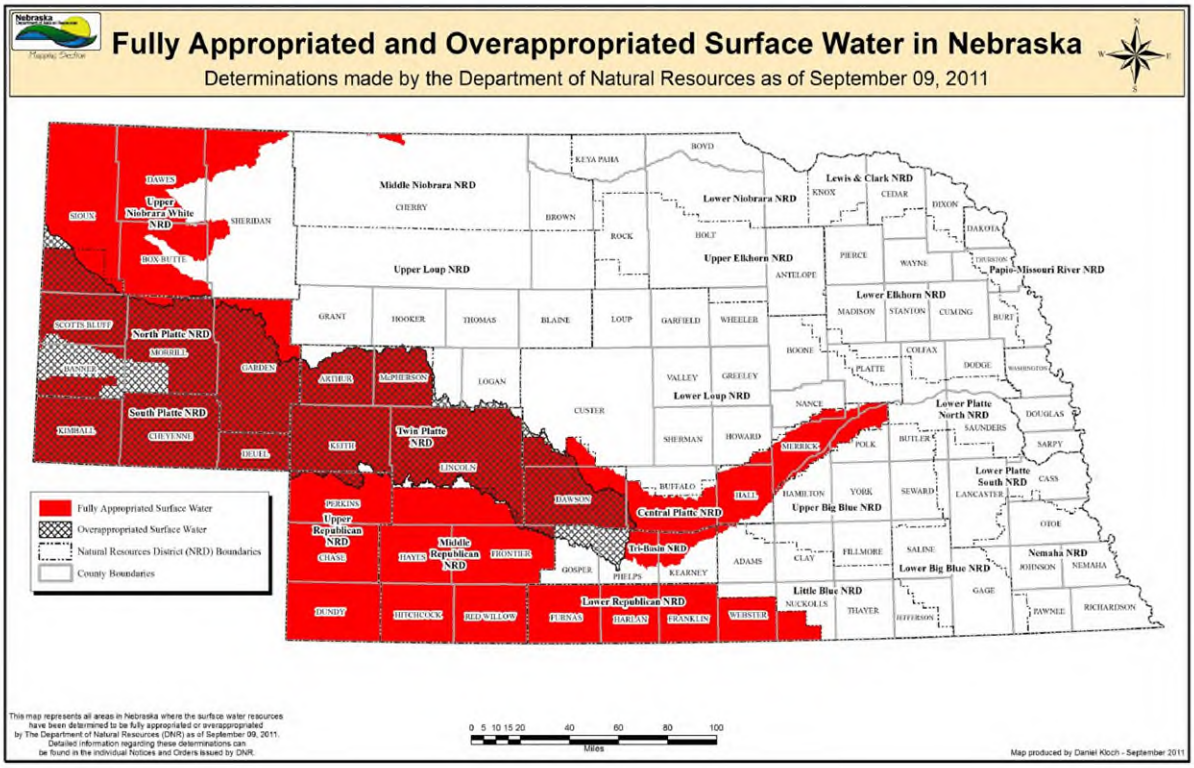


Figure 4. Areas designated as fully appropriated or overappropriated basins, subbasins, and reaches.

[6] Neb. Rev. Stat. § 46-715(1)(a).
[7] Neb. Rev. Stat. § 46-715(1)(b).
[8] Neb. Rev. Stat. § 46-713(4)(a).
[9] Neb. Rev. Stat. § 46-713(3).

Together, these designations and planning tools establish the landscape within which the Task Force evaluated water quantity challenges and developed recommendations intended to balance economic development with sustainable water use.

Water Quality

The Task Force was specifically charged with developing recommendations to improve water quality, with an emphasis on addressing elevated nitrate levels in groundwater. This reflects the fact that more than 85% of Nebraskans rely on groundwater as their primary source of drinking water and that nitrate contamination presents a well-documented risk to public health.

Throughout its process, the Task Force and its subcommittees heard from subject-matter experts to provide education on topics related to nitrate in groundwater, emerging technologies working to address the issue, existing NRD water quality programs, and public health impacts. These presentations informed the Task Force's understanding of both current challenges and feasible solutions. Presentation materials are included in the Appendices of this Final Report.

Nitrate in Groundwater

Nitrate exists in organic and inorganic forms, and is naturally occurring in the soil, though at very low levels. Elevated nitrate concentrations in drinking water can result from excess nitrogen applied at or near the land surface. Depending on local geology, nitrate can reach groundwater within months or may take more than 50 years. Once nitrate enters groundwater, it can persist for decades, and in some cases, longer depending on aquifer conditions and groundwater movement. Both inorganic and organic sources of nitrogen can become nitrate over time as they move through soil and water, combining with oxygen in the environment. Figure 5 illustrates the pathways nitrogen may take before reaching the aquifer.

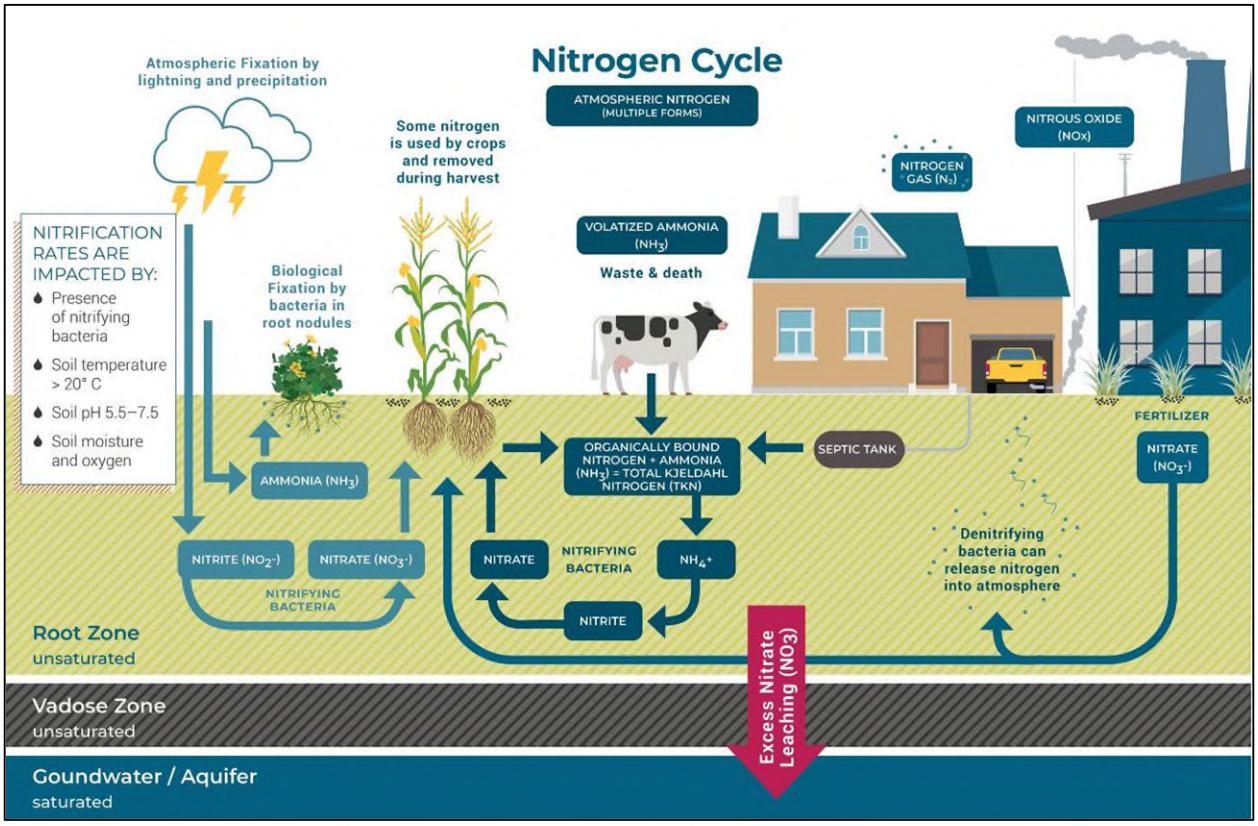


Figure 5. The Nitrogen Cycle (TKN = Total Kjeldahl Nitrogen).

Nitrate contamination has been a persistent issue in Nebraska, with increasing concentrations documented since the 1930s in areas such as the Elkhorn and Platte River Basins. Because of oxygen-rich conditions in groundwater across much of Nebraska, when nitrate leaches past the root zone, it can persist in the vadose zone for decades before entering the groundwater. This delayed response between surface activities and groundwater conditions underscores the importance of long-term, proactive strategies, as reflected in the Task Force's recommendations.

Nitrate Study

In 2023 the Nebraska Legislature, at the request of Governor Jim Pillen, appropriated funding through LB814,[10] for the former Nebraska Department of Environment and Energy (NDEE) to conduct a statewide water quality study. The study analyzed available nitrate samples from wells across Nebraska to identify areas of concern, collected additional data on nitrate in private domestic wells, and identified trends in nitrate concentrations in community water systems. The findings of this study provided important technical and policy context for the Task Force's work. Additional information

[10] https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB814.pdf.

about the study is available on the Department's Nitrate Drinking Water Study webpage.[11]

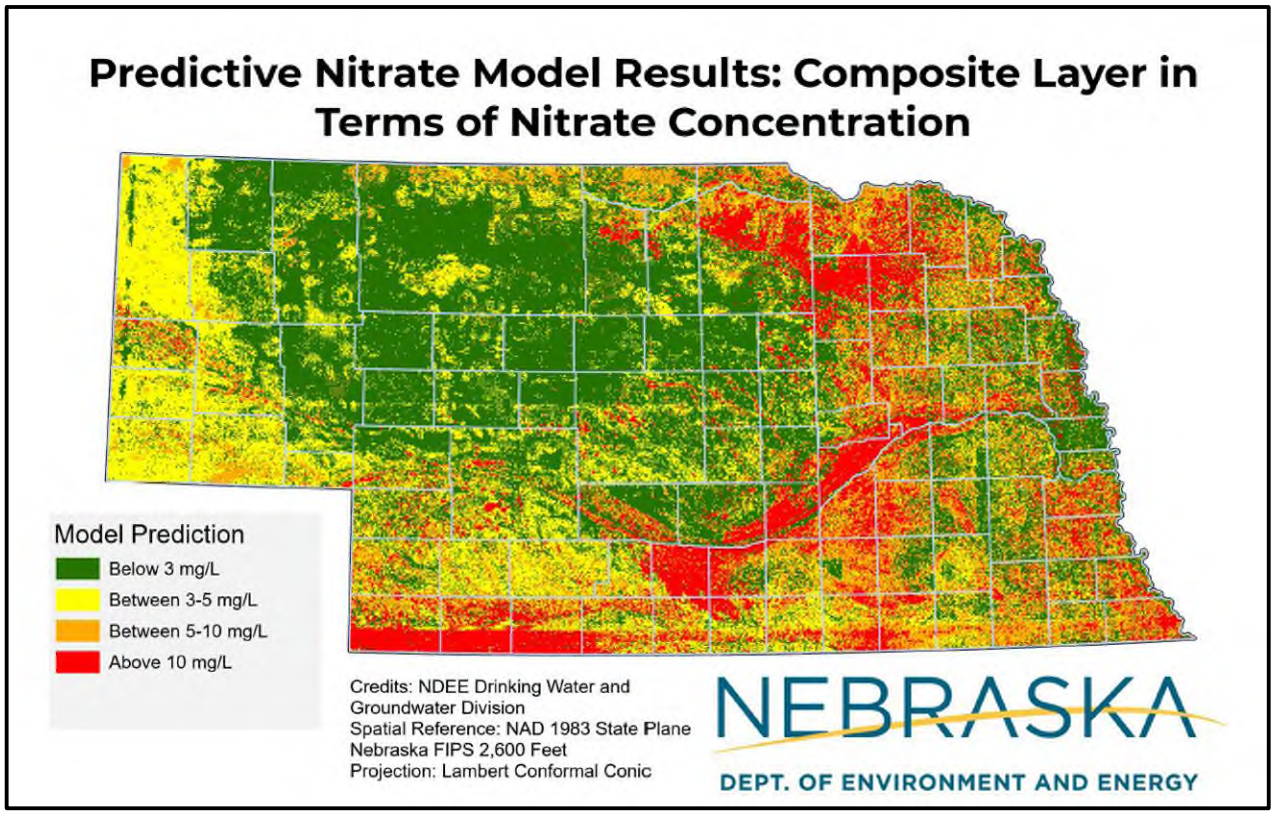


Figure 6. Predictive Nitrate Model Results: Composite Layer in Terms of Nitrate Concentration.

Existing State Programs

Resilient Soils and Water Quality Act

In 2019, LB925[12] created the Resilient Soils and Water Quality Act to protect and improve soil and water quality throughout the State. The legislation also resulted in the formation of the Nebraska Strategic Ag Coalition (NSAC or Coalition), a peer-to-peer group that continues to meet monthly. The Coalition connects producers with essential resources, peer networks, and opportunities that support resilient, profitable farming. By emphasizing best management practices (BMPs), the Coalition aims to improve soil and water health while empowering producers with the tools needed to adopt environmentally sound practices that can lead to more sustainable long-term operations. DWEE has continued to expand the Coalition's online platform[13] engaging

[11] https://dee.nebraska.gov/water-quality/nitrate-drinking-water-study.
[12] https://nebraskalegislature.gov/FloorDocs/107/PDF/Slip/LB925.pdf.
[13] https://nebraskastrategicagcoalition.org/.

producers across the State while also promoting educational tools and technical resources. The Coalition also facilitates connections to technical service providers and hosts events such as field days and conferences, creating a strong support network across Nebraska's agricultural community. The Resilient Soils and Water Quality Act also triggered the development of the Nebraska Soil Health Coalition and the Nebraska Grazing Exchange. Both entities are designed to support producer-led adoption of practices that strengthen soil health, water quality, and farm resilience.

Nitrogen Reduction Incentive Act (NiRIA)

Implemented by LB1368[14] in 2024, the Nitrogen Reduction Incentive Act (NiRIA) is an initiative aimed at encouraging producers to reduce the use of nitrogen fertilizers. The program is administered by DWEE in collaboration with local NRDs and offers financial incentives to producers who verify a reduction in nitrogen fertilizer application rates by the lesser of 40 pounds per acre or 15% of their baseline application rate. The program is administered in three priority areas, shown in Figure 7, and is offered to corn, sugar beet, and potato producers. In the first year, DWEE received over 1,300 applications totaling more than the original appropriated amount. The program has received additional funding from the Nebraska Corn Board for the 2026 growing season to continue the effort and expand a pilot nitrogen use efficiency (NUE) focused program in target areas, which is planned to roll out in 2026.

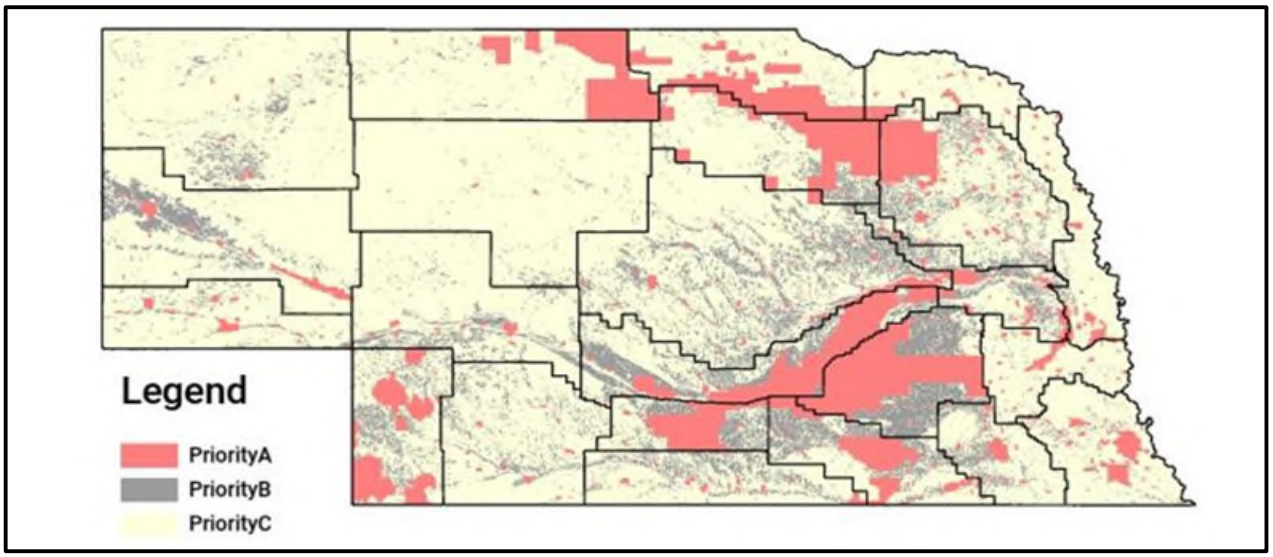


Figure 7. Map showing Priority Areas for the Nitrogen Reduction Incentive Program. Priority A includes wellhead protection areas and NRD Phase II or higher phase areas, Priority B includes areas throughout the State that have been certified to irrigate crops, and Priority C areas include all other areas of the State, including dryland.

[14] https://nebraskalegislature.gov/FloorDocs/108/PDF/Slip/LB1368.pdf.

State Revolving Fund (SRF) Programs for Drinking Water and Wastewater

The Drinking Water State Revolving Fund (DWSRF) program provides below-market rate loans, with forgiveness and grant assistance, to owners of public water systems (PWSs). The DWSRF is unique in that loans may also be awarded to privately-owned non-for-profit PWSs. Loan principal repayments revolve back into new loans, and interest earnings on the DWSRF are used to pay off Nebraska Investment Finance Authority (NIFA) bonds issued for the required EPA capitalization grant match. These funds play a key role in supporting PWSs investments in infrastructure and treatment systems that ensures safe drinking water for Nebraskans.

The Clean Water State Revolving Fund (CWSRF) program provides below-market loan financing with forgiveness assistance to municipalities for construction of wastewater treatment facilities and sanitary sewer collection systems to alleviate public health and environmental problems. The loan principal repayments revolve back into new loans, and interest earnings on the fund are primarily used to pay off the State match bonds.

More detailed information on the DWSRF and CWSRF regarding need, cost projections, and timing of loan activities is available in the annual Intended Use Plan on the department's website. [15]

Nonpoint Source Water Quality

The goal of the Nebraska Nonpoint Source Pollution Management Program is to protect and improve water quality impacted by nonpoint source pollution through an integrated statewide effort. The program is of particular significance because nonpoint source pollution is the most prevalent, widespread cause of water quality degradation in Nebraska, and is associated with runoff and percolation from agricultural and urban areas to waters of the State. The program is largely funded by the EPA through Section 319 of the federal Clean Water Act (CWA) and involves key federal, State, and local partners.

Source Water Protection

The purpose of the Source Water Protection (SWP) program is to protect water used as public or private drinking water for human health. The SWP program coordinates closely with the Clean Water Act 319 Program to engage with Nebraska's communities and producers to develop alternative 9-element Watershed Management Plans known as Drinking Water Protection Management Plans (DWPMPs) that proactively address nonpoint source contamination. SWP funds from the DWSRF are used to develop the plans, encourage community involvement through stakeholder groups, and hold public

[15] https://dee.nebraska.gov/sites/default/files/publications/IUP%20SFY%202026%20Final.pdf.

meetings to promote the projects. These plans are non-regulatory, community-based plans that provide an implementation strategy for protecting drinking water by reducing groundwater contamination. SWP funds have been distributed to complete 100 separate projects throughout the State since 2004. Projects include public education on SWP, workshops on BMPs, water conservation programs, contaminant identification and pathway removal, restoration of the SWP area, and water quality monitoring. Completed DWPMPs can enable entities in the planning area to request 319 funds through a competitive proposal process to implement projects to address the priorities identified in the plan.

Wellhead Protection Areas

Under the Wellhead Protection Area Act,[16] communities may voluntarily designate a wellhead protection area (WHPA) and adopt controls pursuant to the Wellhead Protection Area Act for the purpose of protecting the public water supply system. DWEE is the agency responsible for providing assistance to participating communities and is charged with wellhead protection plan (WHPP) approval.[17] Task Force members considered recent data evaluating the effectiveness of WHPAs when developing recommended goals and action items, including a recent study[18] using data from the Department's Groundwater Quality Clearinghouse.[19] There are 515 WHPAs delineated in Nebraska, as shown in Figure 8, of which 121 have approved WHPPs.

[16] Neb. Rev. Stat. §§ 46-1501 to 46-1509.
[17] Neb. Rev. Stat. § 46-1506.
[18] Jayasekera, Harshanee. 2025. "Do Wellhead Protection Areas Improve Groundwater Quality? Evidence from Nebraska." https://waterforfood.nebraska.edu/news-and-events/news/2025/10/do-wellhead-protection-areas-improve-groundwater-quality.
[19] https://clearinghouse.nebraska.gov/.

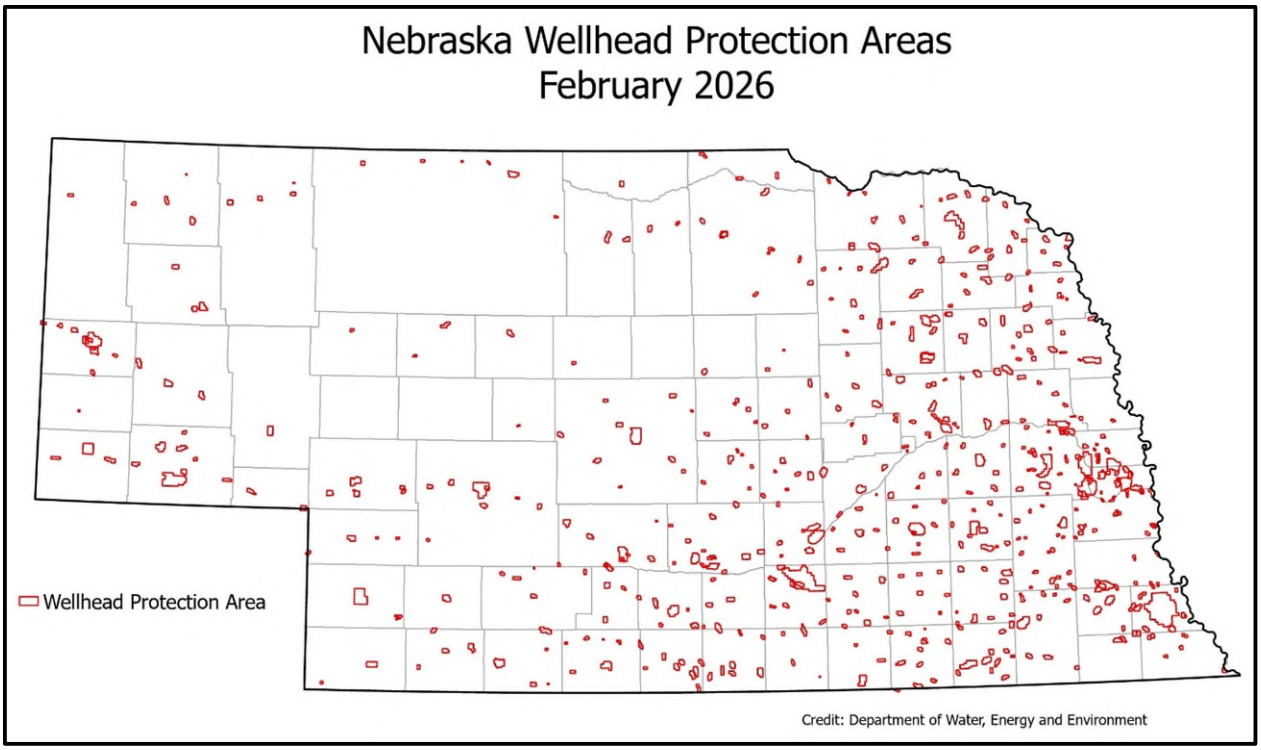


Figure 8. Wellhead protection areas in Nebraska.

Map source: https://www.nebraskamap.gov/datasets/87e5ea995bed4b6ba91ef4d5b2f2bb5e_0/explore.

Water Resources Cash Fund

The Water Resources Cash Fund (WRCF)[20] is administered by DWEE and is intended to be used in any area that has adopted an IMP to aid management actions taken to reduce consumptive uses of water, enhance streamflows, support groundwater recharge, or other activities that support plan implementation. The WRCF may also be used for implementation activities including for purposes of the Resilient Soils and Water Quality Act.

Water Sustainability Fund

The Water Sustainability Fund (WSF) is overseen by the Nebraska Natural Resources Commission (NRC) and annually awards funds to successful project applications that support the goals of the fund.[21] The WSF aims to support cost-effective projects that enhance water availability and quality by increasing aquifer recharge, reducing depletion, improving streamflow, and addressing threats to drinking water. It also promotes integrated water management, assists with sewer infrastructure upgrades, and ensures compliance with State and federal agreements while contributing to

[20] Neb. Rev. Stat. § 61-218.
[21] Neb. Rev. Stat. § 2-1506.

multiple water supply goals such as flood control, agriculture, recreation, and conservation.

ONE RED

The Task Force was provided the opportunity to learn about and consider related statewide initiatives that intersect with its charges. This includes DWEE's ONE RED program ("Opportunity for Nebraska: Reducing Emissions and Decarbonization"), which is working to identify voluntary measures and financial incentive programs that can achieve short-term and long-term emission reductions in all economic sectors by implementing technologies and systems to support industries across the State.[22] In July 2024, the U.S. Environmental Protection Agency (EPA) announced an award of $307 million to NDEE to implement selected measures from Nebraska's Priority Climate Action Plan (PCAP).[23]

The PCAP identifies high-impact actions for agricultural production, including the development of a Carbon Intensity (CI) score registry, incentives for regenerative agricultural practices, and support for precision agriculture technologies. Precision agriculture, in particular, provides producers with tools to optimize nutrient application, reduce losses to groundwater, and improve overall water use efficiency – objectives closely aligned with the Task Force's water quality and water quantity charges.

To achieve these objectives, the PCAP requires guidance from a Stakeholder Advisory Group, which will guide the development and implementation of these items. As such, the Task Force members completed a survey to provide input to the ONE RED Program to identify voluntary measures and financial incentive programs that align with Task Force goals related to implementation of new technologies, incentives, and systems to support producers across the State.[24] Task Force members will continue to provide input for a portion of the funding as identified in the goals and action items below.

Existing NRD Programs

Throughout the State, local NRDs have already taken practical steps to address water quality issues through existing statutory authorities and programs. Under the GWMPA,[25] NRDs are required to maintain groundwater management plans in which they conduct

[22] https://dee.nebraska.gov/aid/one-red-opportunity-nebraska-reducing-emissions-decarbonization.
[23] https://dee.nebraska.gov/sites/default/files/publications/Nebraska%20Priority%20Climate%20Action%20Plan.pdf.
[24] Survey results can be found in Appendix A.
[25] Neb. Rev. Stat. § 46-709.

groundwater quality monitoring to carry out the objectives of those plans. Many have implemented phased management areas as shown in Figure 9. NRDs also develop and maintain various targeted education and incentive programs designed to mitigate water quality issues.[26] The Task Force had the opportunity to become informed on existing NRD programs from Task Force members and other invited presenters. This resulted in the Task Force supporting and expanding existing programs within its goals and action items.

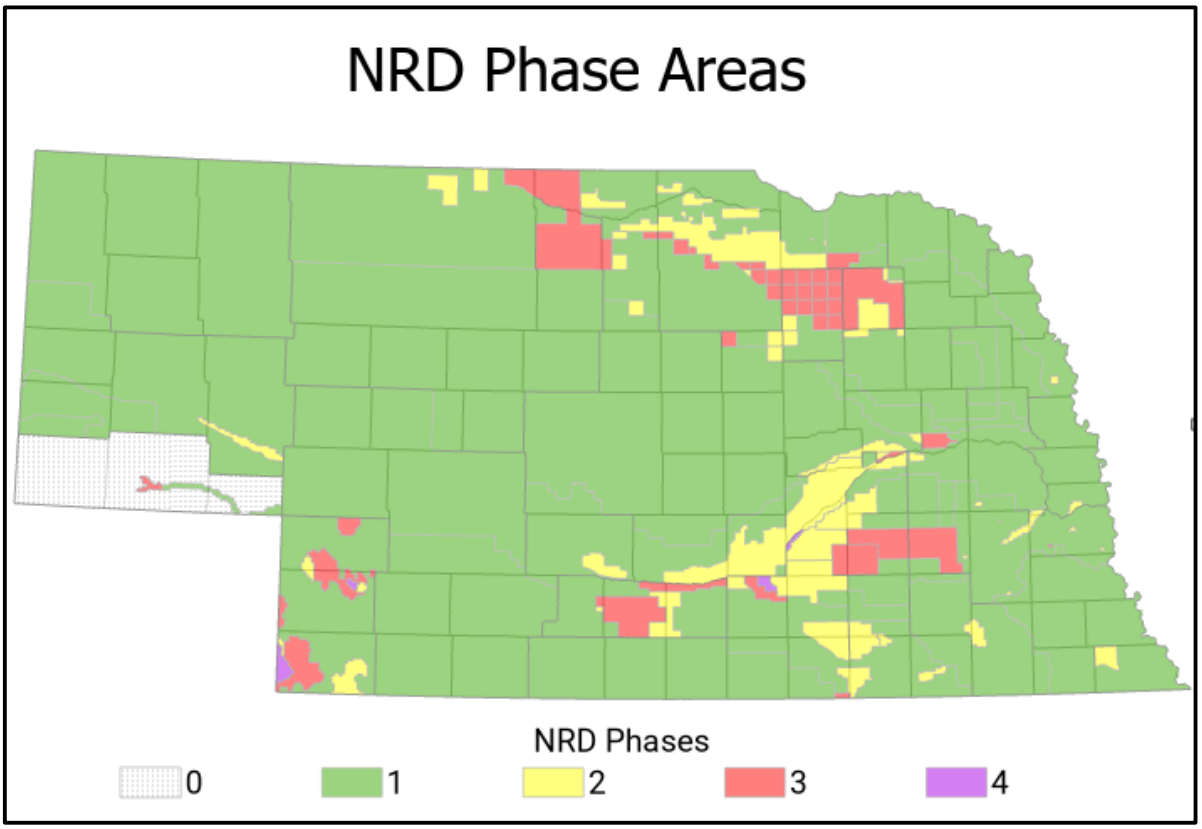


Figure 9. NRD Phase Areas.

Water Quantity

The Task Force also examined water quantity topics to promote the long-term sustainability of Nebraska's water resources. This evaluation included assessing the existing statewide framework for water measurement and identifying opportunities to improve data collection and monitoring, because effective water stewardship depends on understanding how much water is being used. The Task Force acknowledged and considered the importance of balancing water use across agriculture, industry,

[26] For more information on NRD programs see Appendix A or visit: https://www.nrdnet.org/nrds.

municipalities, and ecosystems. Discussions were further informed by long-term groundwater level data and historical trend analyses, as illustrated in Figure 10. This information is essential to sound management decisions regarding current and projected aquifer levels.

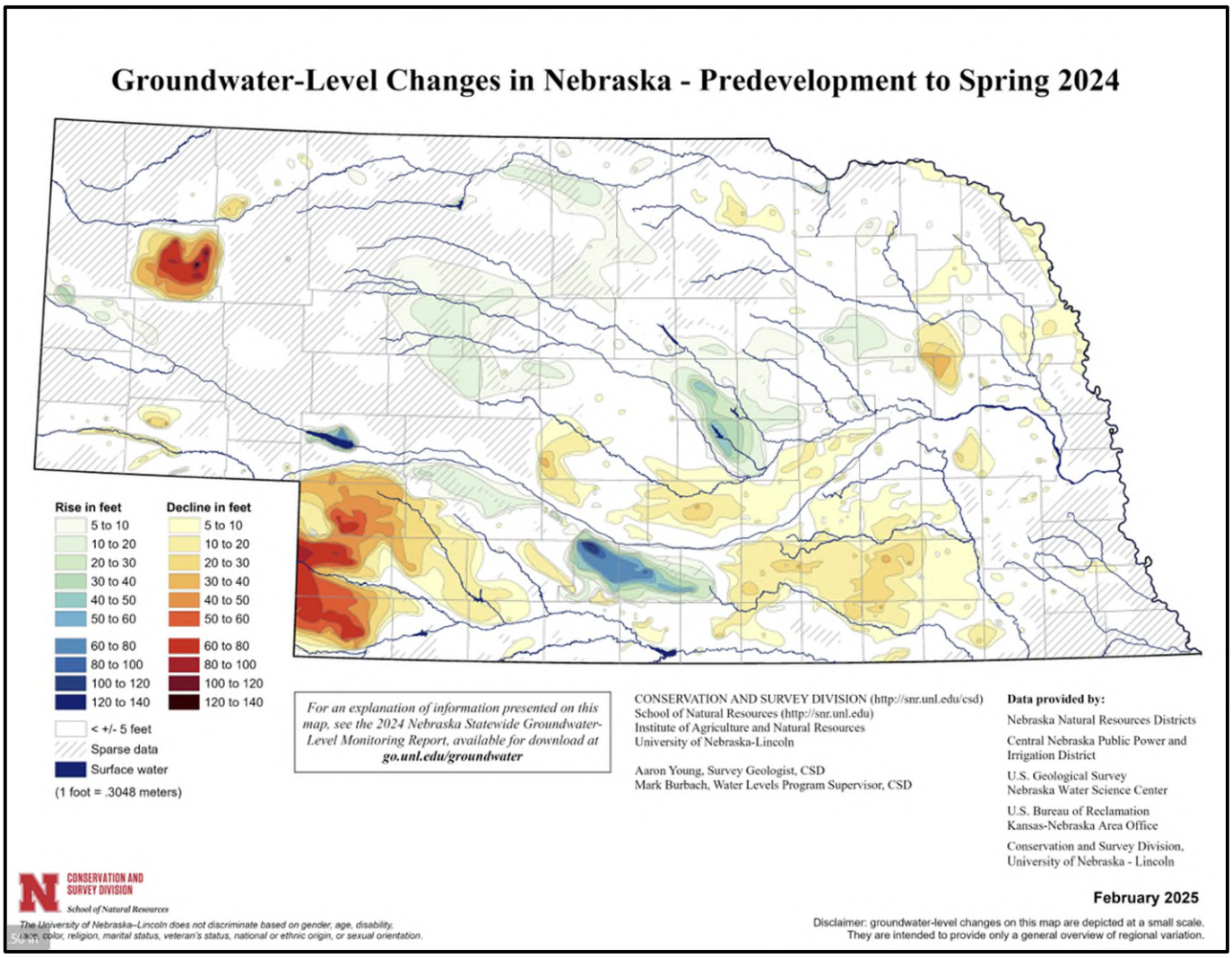


Figure 10. Groundwater level changes in Nebraska (Predevelopment to Spring 2024).

Water Measurement Data

The Task Force, with support from the Nebraska Association of Resources Districts (NARD), surveyed all 23 NRDs and utilized DWEE well registration data to establish a baseline of how water use is currently measured across the State. Tables 3 and 4 show the results from this survey. The results indicated that at least 53% of high-capacity

wells pumping greater than 50 gallons per minute (gpm) throughout the State are currently measured. This information was considered when developing recommended goals and action items related to increasing water measurement across the State.

Table 3. The total number of high-capacity wells pumping greater than 50 gpm in each NRD. Totals are broken down by well type.

High-Capacity Wells (Pumping >50 gpm)									
NRD	**Total**	**Aqua-culture**	**Commercial**	**Pit**	**Irrigation**	**Other**	**Livestock**	**Public w/ spacing**	**Public w/o spacing**
Central Platte	18719	4	94	6	18349	45	21	179	21
Lewis & Clark	1777	0	10	1	1688	3	28	37	10
Little Blue	7342	2	29	0	7142	23	22	118	6
Lower Big Blue	2590	0	15	1	2485	1	5	80	3
Lower Elkhorn	6316	2	99	4	5875	28	115	176	17
Lower Loup	10830	13	143	15	10394	24	74	152	15
Lower Niobrara	2756	0	2	7	2705	3	21	18	0
Lower Platte North	5003	3	73	7	4694	27	31	140	28
Lower Platte South	680	1	57	0	416	42	1	132	31
Lower Republican	3948	2	27	4	3802	8	35	70	0
Middle Niobrara	1316	2	2	1	1244	1	31	33	2
Middle Republican	2777	0	37	0	2641	15	28	56	0
Nemaha	943	0	21	0	772	21	13	112	4
North Platte	2796	51	35	1	2586	7	51	65	0
Papio-Missouri River	1636	7	81	0	1291	47	14	163	33
South Platte	1396	0	65	0	1270	3	0	51	7
Tri-Basin	5475	1	38	0	5364	10	16	43	3
Twin Platte	2573	1	68	12	2365	31	28	46	22
Upper Big Blue	12047	4	52	1	11728	89	52	121	0
Upper Elkhorn	4681	2	19	0	4567	0	37	53	3
Upper Loup	839	1	18	0	811	0	4	5	0
Upper Niobrara-White	2219	0	13	0	2120	3	25	50	8
Upper Republican	3398	0	14	0	3343	12	5	24	0
Total # of Wells	**102057**	**96**	**1012**	**60**	**97652**	**443**	**657**	**1924**	**213**
	DWEE Well Registration Database numbers (may include some inactive wells).								
	NRD provided records.								

Table 4. Total number of metered high-capacity wells pumping greater than 50 gpm in each NRD.

Metered High-Capacity Wells (Pumping >50 gpm)										
NRD	**Total**	**% of Wells Metered**	**Aqua-culture**	**Commercial**	**Pit**	**Irrigation**	**Other**	**Livestock**	**Public w/ spacing**	**Public w/o spacing**
Central Platte	635	3%	0	35	0	500	0	0	100	0
Lewis & Clark	264	15%	0	0	0	258	0	3	3	0
Little Blue	7342	100%	2	29	0	7142	23	22	118	6
Lower Big Blue	711	27%	0	0	0	631	0	0	80	0
Lower Elkhorn	6312	100%	1	59	4	5877	33	133	183	22
Lower Loup	1806	17%	1	15	0	1653	1	38	98	0
Lower Niobrara	255	9%	0	2	0	225	0	10	18	0
Lower Platte North	1587	32%	1	2	1	1441	6	25	109	2
Lower Platte South	516	76%	2	44	0	312	32	3	119	4
Lower Republican	3948	100%	2	27	4	3802	8	35	70	0
Middle Niobrara	287	22%	0	0	0	250	0	10	25	2
Middle Republican	2777	100%	0	37	0	2641	15	28	56	0
Nemaha	216	23%	0	0	0	216	0	0	0	0
North Platte	2522	90%	0	23	0	2436	0	0	63	0
Papio-Missouri River	125	8%	0	0	0	125	0	0	0	0
South Platte	1315	94%	0	20	0	1246	0	0	47	2
Tri-Basin	2649	48%	0	21	0	2577	5	4	39	3
Twin Platte*	2410	94%	0	45	0	2365	0	0	0	0
Upper Big Blue	12047	100%	4	52	1	11728	89	52	121	0
Upper Elkhorn	483	10%	0	0	0	430	0	0	53	0
Upper Loup	835	100%	1	18	0	811		0	5	0
Upper Niobrara-White	1905	86%	0	11	0	1840	0	2	50	2
Upper Republican	3398	100%	0	14	0	3343	12	5	24	0
Total of Metered Wells	**54345**	**53%**	**14**	**454**	**10**	**51849**	**224**	**370**	**1381**	**43**

*Includes the TPNRD Water Data Program where they partner with power companies to use smart meters and ethos devices on non-eclectic wells to measure run times, those are factored with pumping rates to calculate Realtime usage on all irrigation wells in the district.

Some districts highlighted that many non-metered wells are actively measured for water use via mechanisms other than flowmeters. One example is MNNRD, where the district requires water use reports for about two thirds of their irrigated acres, but they do not specify that it has to come from a flowmeter - they note that producers in the district often use engine hours or other pivot telemetry technology to measure water use.

Large Water Users

Task Force discussions focused on strategies to address large water users in the State, while balancing economic development priorities and ensuring growth is not hindered. All water users must obtain necessary permits from the local NRD and the State, where applicable. While there is no statutory definition for what is considered a large water user across the State, generally NRDs have rules regarding when large groundwater user rules are triggered. For example, in certain NRDs, if a user plans to pump over 500 acre feet per year, a hydrogeologic impact study may be required to determine the effects of the pumping on groundwater and surface water resources in the area prior to applying for a well permit. Additionally, different rules and laws apply across the State depending on whether the area is considered not appropriated, fully appropriated, or overappropriated.

As described in the goals and action items, there may be a need for continued conversations surrounding large water users – establishing more consistent message regarding "large water users" statewide, while allowing for regional variability as necessary.

Recommended Goals, Action Items, and Metrics for Success

The following goals and corresponding action items and metrics for success are the result of the Task Force's efforts, which are broken down further in this Final Report. In developing recommendations, the Task Force prioritized incentives, innovation, and education over new regulatory requirements, while acknowledging that additional regulatory measures may be necessary in the future if desired outcomes are not achieved. Building upon and expanding existing coordination among State agencies, NRDs, and other entities and resources was also a priority.

Goal 1: Expand water measurement across the State for groundwater and surface water.

Expanding water measurement is important for sustainable water management in Nebraska. The Task Force recommends beginning with voluntary participation supported by cost-share incentives while acknowledging that mandatory requirements may be considered in the future if desired outcomes are not achieved. Equally as important is educating water users on how to interpret and apply this measurement data, including benchmarking and informed decision-making to optimize water use. Existing measurement efforts will be leveraged to maximize efficiency, collaboration, and informed decision-making.

Action Items:

- Establish an incentive program that supports voluntary metering and measurement for both groundwater and surface water, followed by mandatory requirements if adoption rates do not increase as a result of incentives. The program should offer higher incentives initially, with the rate decreasing over time. The program should address surface water metering separately, considering differences in how surface water is measured.
- Develop recommendations for best management practices for the incentive program. This may include a list of approved metering and measurement devices, may incorporate industry standards, and may consider installation and maintenance details. Such specifications could be modeled after existing rules and policy documents from NRDs who have metering requirements in place.
- The Task Force recommends integrating measurement data within the benchmarking capability of Producer Connect or similar NRD databases. The

water use data should be reported at the NRD level for meaningful local insights, while the State (DWEE) should receive only aggregate information to ensure that individual producer data is not identified. When establishing reporting requirements, producer data privacy concerns must be considered and addressed.

- Develop educational materials and events for producers and agronomists pertaining to water measurement data, including how to use the data to improve producer production and practices, while recognizing that one-on-one interactions often produce more impactful results.
- Explore opportunities to share and leverage existing water-use data collected by pivot manufacturers. This includes identifying what data is already available and evaluating how it could support statewide water-management and reporting efforts for water use.

Metrics for Success:

- Increase in new metering and measurement devices implemented by 2029.
- Percent of statewide producers with water measurement in place and utilizing benchmarking capabilities.

Goal 2: Develop strategies to support large water users and continued economic growth in the State.

Water-intensive industries often serve as critical drivers of local and regional economies throughout the State, but demand can place pressure on water supplies. By implementing proactive planning and coordination, policymakers and stakeholders can support economic development while ensuring water availability for generations to come.

Action Items:

- Improve coordination between State Department of Economic Development, DWEE, NRDs, Power and Irrigation Districts, water and energy utilities, counties and municipalities for siting of new industries.
- Support NRDs in establishing more consistent messaging regarding "large water users" statewide, while allowing for regional variability as necessary.
- Facilitate resource sharing and continued dialogue among NRDs and surface water stakeholders – some of which may include statutory requirements and existing approaches established that could be used as an example.
- Develop a public facing portal for new industries to assess water availability and requirements.

- Convene a group of Nebraska water experts, surface and groundwater managers, to review and reevaluate existing water laws that allow for (or might hinder) continued economic growth.

Metrics for Success:

- Review coordination efforts no less than annually.
- Launch public facing portal within 18 months.

Goal 3: Expand water storage opportunities and management of water consumption.

Expanding water storage opportunities and improving the management of water consumption are essential strategies for enhancing water sustainability. By investing in new and existing reservoirs, aquifer recharge systems, underground storage, and other retention projects, the State can better capture and retain water during periods of surplus for use during droughts or high-demand periods. Education and outreach is also important, helping stakeholders understand the benefits of these water projects.

Action Items:

- Identify and promote existing recharge and storage projects and expand use of excess surface water flows for intentional groundwater recharge and underground storage.
- Invest in existing storage and recharge systems and construct new regional storage or recharge facilities where feasible and when funding is available.
- Educate public and stakeholders on water quality and quantity benefits, including, but not limited to topics such as water conservation and community water consumption; the benefits of recharge for not only quantity, but for water quality as related to nitrates in groundwater.

Metrics for Success:

- Launch publicly available maps identifying storage and recharge opportunities across the State.
- Acre feet (AF) of new/enhanced storage or recharge opportunities developed.

Goal 4: Ensure nitrogen fertilizer recommendations are agronomically, economically, and environmentally appropriate for Nebraska producers.

Nitrogen fertilizer recommendations aim to balance crop needs with responsible resource management. This approach helps ensure optimal crop production while minimizing adverse impacts to the environment and maintaining economic viability for producers. Ensuring that those who provide nitrogen recommendations are properly educated and certified is essential for making fertilizer decisions that are agronomically sound, economically efficient, and environmentally appropriate, especially in NRD Phase II through IV areas and Wellhead Protection Areas (WHPAs).

Action Item:

- Create a nitrogen management education and certification program for fertilizer salespersons or advisors who make nitrogen fertilizer recommendations within two years.
- Include nitrogen management training for Nebraska Certified Crop Advisors (CCAs) as continuing education units (CEUs) within two years.
- Incentivize producers applying commercial nitrogen within NRD Phase II, III, or IV areas and Wellhead Protection Areas to submit a nitrogen application plan to the local NRD. The plan must be created with an NRD staff member or a nitrogen advisor that has completed a nitrogen management education and certification program.

Metrics for Success:

- Nitrogen education and certification program established by 2 years.
- Increase in the number of participants in the nitrogen education and certification program.
- Increase in the number of nitrogen management plans approved by an NRD staff member or other certified advisor.
- Increase in the number of fields using nitrogen in an NRD Phase II, III, or IV, or Wellhead Protection Area having a certified nitrogen management plan submitted to the NRD before nitrogen is applied.

Goal 5: Incentivize producers to increase the percentage of nitrogen applied in season versus out of season to improve overall nitrogen use efficiency.

Increasing the percentage of nitrogen applied in-season, rather than out of season is critical for improving overall nitrogen use efficiency. This targeted timing not only supports better crop growth and higher yield potential but also lowers input costs by reducing for excess application that is needed when applying out of season. Shifting a greater share of nitrogen applications to in-season strengthens both farm profitability and soil and water health.

Action Items:

- Increase the number of fertigation systems or similar technologies by offering cost share dollars to producers in NRD Phase II, III, or IV areas and Wellhead Protection Areas by 2029. Incentives shall be available for both irrigated and dryland acres and consider the cost of pumps, tanks, controls, sprayer components, and other application components.
- Promote practices aimed at minimizing fall and spring pre-plant application of commercial nitrogen considering current UNL nitrogen recommendations (UNL Extension NebGuide G2365, Dec. 2024) and opportunities for reducing overall input cost. Prioritize NRD Phase II, III, or IV areas and Wellhead Protection Areas.
- Encourage NRD boards to review their current requirements regarding fall nitrogen recommendations, particularly in phase areas and Wellhead Protection Areas with increasing nitrate levels to ensure local policies support improved nitrogen management practices and protect water quality.

Metrics for Success:

- Increase in number of acres using fertigation systems or similar technology by January 1, 2029.
- Increase in number of acres in NRD Phase II, III, or IV, and Wellhead Protection Areas applying fertilizer in accordance with UNL recommendations.

Goal 6: Increase adoption of sensor- and model-based nitrogen recommendation technology.

Adopting sensor- and model-based nitrogen recommendation technologies such as Sentinel Ag, Adapt-N, or similar platforms provides real-time or field-specific insights into crop nitrogen status, soil conditions, and expected yield potential. By utilizing these

advanced tools producers are able to tailor nitrogen applications more precisely, improving fertilizer management, timing and placement of nitrogen applications, along with enhanced irrigation management. This approach enhances nitrogen use efficiency and reduces losses below the root zone and reduces loading to groundwater and surface water.

Action Items:

- Incentivize producers to implement sensor- and model-based technologies in at least one field in any NRD Phase II, III, or IV area or Wellhead Protection Area.

Metrics for Success:

- Increase in number of new adopters compared to overall producers within a targeted area.

Goal 7: Increase adoption of soil health practices which will allow producers to increase nutrient cycling and reduce overall nitrogen application rates over time. Improved soil health will also maximize water infiltration and crop utilization while minimizing runoff.

Promoting the adoption of soil health practices enables producers to enhance nutrient cycling and increase plant uptake of applied nitrogen. The implementation of these practices leads to healthier soils capable of maximizing water infiltration, optimizing nutrient availability for crops, and minimizing nutrient runoff and leaching. By investing in healthy soil practices, producers can achieve more efficient and sustainable crop production.

Action Items:

- Create and promote available incentives to enhance soil health practices and accelerate their adoption. Soil health practices are meant to accomplish one or more of four core principles for improving soil health: (1) minimize soil disturbance, (2) maximize the presence of a living root system, (3) maximize soil cover, (4) maximize biodiversity. For more information see: https://www.farmers.gov/conservation/soil-health and https://nebraskastrategicagcoalition.org/.
- Encourage the adoption of practices that will reduce annual nitrogen applications.

Metrics for Success:

- Increase in acres with cover crops.
- Decrease in acres with full or conservation tillage.
- Increase in acres with sampled manure or compost applied.
- Increase in number of producer to producer engagement opportunities.
- Increased utilization of water and soil tests (e.g., Haney test)

Goal 8: Support Nebraska producers by providing education on nitrogen fertilizer and irrigation best management practices to reduce nitrate leaching and to protect groundwater resources.

Continued education opportunities for Nebraska producers on nitrogen fertilizer and irrigation best management practices is important in protecting groundwater quality, specifically in NRD phase areas and Wellhead Protection Areas where nitrate levels are increasing. By focusing outreach on awareness and understanding of proper nitrogen application rates, timing, methods, and efficient irrigation strategies, producers can minimize nitrate leaching to groundwater and potentially increase profits.

Action Items:

- Within three years, provide one hundred percent of producers in NRD Phase II, III, or IV areas and Wellhead Protection Areas with education on nitrogen best management practices (BMPs) including: Use of inhibitors, in season application, reduced fertilizer rates, technology-based recommendation tools (models and remote sensing), soil health practices, and other recommended practices.
- Within three years, provide one hundred percent of producers in NRD Phase II, III, or IV areas and Wellhead Protection Areas with education on irrigation best management practices including: water meters and measurement devices; soil moisture probes (incorporate incentives e.g., incentive paid to the grower for up to 2 soil moisture probes); irrigation modeling, evapotranspiration (ET) monitoring, and other recommended practices.

Metrics for Success:

- Increase in number of producers receiving information on nitrogen and irrigation best management practices within the targeted areas.
- Increase in number of irrigation improvements made including number of added water meters, soil moisture probes, modeling or ET monitoring tools, and fertigation systems.
- Increased in number of acres covered by a nitrogen management plan which may include the following: Nitrification inhibitor, in season application, lower

application rates than in prior years, or advanced technology-based recommendation.

Goal 9: Develop consistent education, marketing, and outreach materials related to water quality, quantity, and public health for use across the State.

Developing consistent, statewide education, marketing, and outreach materials will support Nebraskans in furthering their understanding of key issues related to water quality, quantity, and public health, including nitrate contamination. Uniform materials and messaging ensure that communities receive clear, accurate information about safe water practices, potential health risks, and strategies to reduce nitrate levels in drinking water. This coordinated approach supports public awareness, encourages responsible water use and nutrient management, and leverages ongoing statewide efforts to protect both water resources and public health for the near and long term.

Action Items:

- Within six months, develop strategy for education materials to ensure consistent messaging and appropriate distribution is used throughout the State.
- Within 12 months, develop marketing and outreach materials for water quality, quantity, and public health with an emphasis on vulnerable areas and populations including but not limited to rural areas, newborns, children, and older populations. Public awareness activities may include public service announcements, ads, information kits and brochures, and promoted social media campaigns.
- Coordinate efforts with target audiences including public health agencies, medical professionals, lending institutions, real estate agents, schools, UNMC, UNL, NRDs, DHHS, community water systems, local governments, and others).
- Regularly review, assess, and update the education materials to ensure they are current, engaging, and relevant. Ensure the content reflects the best science, regulatory context, and on-the-ground practices.

Metrics for Success:

- Number of audience specific materials developed and distributed to partners.
- Number of new partnerships formed with target audience.
- Review materials, distribution lists, and list of agency partners no less than annually.
- Review outreach areas and identify where additional focus or modified outreach areas are needed.

Goal 10: Provide support and resources to public and private drinking water well owners to ensure safe and reliable drinking water for Nebraskans.

Ensuring safe and reliable drinking water for all Nebraskans requires a coordinated, proactive approach that supports both public and privately owned wells. By integrating existing State and local water planning efforts, strengthening community engagement, and expanding technical assistance, the State can better identify risks, address contamination concerns, and improve long-term water reliability. Enhanced data use and stronger partnerships with nutrient management staff will help protect vulnerable recharge areas and support informed decision-making. Continued efforts to connect well owners, communities, NRDs, and State agencies with resources will safeguard public health and promote sustainable drinking water management practices across the State.

Action Items:

- Leverage and integrate existing water planning efforts (capacity development, source water protection, wellhead protection, integrated management plans, and watershed plans) with UNL Extension and UNMC to create community driven stakeholder groups that inform and educate residents on the connection between drinking water quality and public health.
- Provide resources regarding the availability of water testing assistance, the need for ongoing annual sample collection, analysis, and interpretation of lab results for domestic well users.
- Utilize available DWEE and other data and tools to proactively support community water systems.
- Build upon existing local, State, and federal resources to establish Source Water Protection and Wellhead Protection Area Coordinator positions (nutrient management) that collaborate with NRDs, DWEE, Nebraska Rural Water Association (NeRWA), and Natural Resources Conservation Service (NRCS) to provide technical assistance and guidance on working agricultural lands that intersect with areas of recharge for public water supply wells.
- Identify NRDs with full-time nutrient management and source water protection staff, and available funding opportunities to expand these positions. Develop a report on NRDs without nutrient management staff, including estimated funding needs and opportunities for shared staffing across adjacent NRDs.
- Develop and implement nitrogen management plans for producers in WHPAs and summarize important variables contained within the plans for communities.

Metrics for Success:

- Percentage of the communities with WHPAs engaged in water planning efforts.
- Percentage of known (registered and non-registered) domestic wells sampled annually.
- Percentage of NRDs with full-time nutrient management and source water protection staff.

Goal 11: Expand rural water systems and regionalization of water systems.

Regionalization of water systems is a tool that could be utilized for those communities that do not have enough resources to continue to sustainably operate a public water system nor build and maintain water treatment systems. By combining water systems, an economy of scale can be realized and management efforts can be focused on maintaining high quality source water for those communities. The development of regional water systems will likely be a foundation for the expansion/development of future rural water systems.

Action Items:

- DWEE shall identify potential water system regionalization opportunities and report on findings. Include identification of communities based on water quality, status of assets, distance between systems, and fiscal health of the system needing support and those that could potentially provide potable water.
- Survey all Nebraska communities with their own groundwater wells and NRDs for potential water system regionalization opportunities.
- Evaluate regionalization opportunities for potential State Revolving Loan Funds and other funding opportunities. Identify loan and loan forgiveness conditions.
- Provide assistance with interpreting water quality monitoring data and understanding regional water quality trends.

Metrics for Success:

- Complete survey and reporting by DWEE within 24 months.
- Complete survey of communities and NRDs identified for potential water system regionalization and determine status and needs within 24 months.
- Completion of water system regionalization assessment alternative for those communities interested in regionalization opportunities.

Goal 12: Establish a centralized clearinghouse to inventory and prioritize water quality and quantity projects across Nebraska.

Establishing a centralized clearinghouse for water projects in Nebraska would create a coordinated platform to inventory, track, and prioritize initiatives addressing both water quality and quantity. Consolidating information on ongoing and proposed projects, funding opportunities, and regional needs, would serve as a valuable resource for State agencies, local governments, and other stakeholders to improve decision-making, reduce duplication of efforts, and ensure resources are directed to high priority projects. This approach can enhance Nebraska's ability to manage its water resources sustainably, support local communities, while protecting public health.

Action Items:

- Establish a clearinghouse platform to compile, organize, and maintain information on water project needs across the State.
- Designate a point person within DWEE responsible for maintaining the clearinghouse who shall be responsible for coordinating with the Department of Economic Development to capture public and private investment opportunities.
- Create and apply standardized criteria for prioritizing projects based on factors such as environmental impact, public health, regional needs, cost-benefit, urgency, and alignment with State and local water goals.
- Create and implement annual review process to update the clearinghouse, reassess priorities, and track project progress.

Metrics for Success:

- Point person assigned: Designation of Water Project Coordinator or equivalent role within six months.
- Clearinghouse launch: Minimum viable product established within six months and functional clearinghouse established within 12 months of the onboarding of the Water Project Coordinator.
- Complete annual review and maintenance of clearinghouse to best serve the State.

Goal 13: Identify and implement sustainable, diversified funding models to support the development, implementation, and maintenance of priority water projects in Nebraska.

The Task Force recommends identifying and implementing diversified funding to ensure that Nebraska's water systems can meet both current and future needs efficiently and

sustainably. By leveraging a mix of federal, State, local, and private resources, these funding strategies can provide consistent financial support while reducing reliance on any single source.

Action Items:

- DWEE will conduct a funding analysis to identify existing State, federal, local, and private funding sources.
- Work to secure financial resources that will assist with upgrades and improvements to ensure long-term financial stability but most importantly, to ensure that residents of the State have access to safe and reliable drinking water.
- DWEE will evaluate gaps, limitations, and overlap within existing funding mechanisms.
- Based on the findings from abovementioned analysis DWEE will collaborate with communities, irrigation districts, NRDs, and producers, etc. DWEE should also review available funding opportunities to determine when partnerships should be developed to pursue grants and other funding opportunities from the clearinghouse in Goal 12.
- Explore innovative funding models including but not limited to private funds (outside investments like Google, Frito Lay, Amazon, etc.); tax revenue; revolving loan funds; or bonds.

Metrics for Success:

- Funding analysis complete: Existing funding and funding gap analysis completed within 12 months.
- Funding alternatives identified: Identify alternatives or innovative funding models and present with pros and cons within 24 months.
- Dollars secured and new funding allocations (private donations and expanded grant opportunities)
- Maintain and update fund analysis and partnership opportunities with no less than annual reviews.

Goal 14: Recommend funding priorities for ONE RED funding and other potential funding sources.

Task Force members were surveyed to identify priorities for ONE RED funding and will continue to serve as a strategic advisory body for a portion of these funds, supporting the implementation of Task Force recommendations that align with grant requirements. The results of the survey can be found in Appendix A of the Final Report. The Task Force has identified as equally important the ongoing identification of funding mechanisms

and opportunities to leverage federal, State, local, and private resources for water projects in the long term.

Action Items:

- Develop a tiered incentive program based on ONE RED survey results, allowing each NRD flexibility in setting scoring criteria and prioritizing practices. The program should be simple and scalable for producers and crop consultants, outline clear steps to achieve measurable outcomes, and consider alignment with existing regulatory frameworks. This includes offsetting costs or prioritizing eligibility for practices that create strategic partnerships to incentivize compliance with NRD regulations or other laws.
- Communicate enhanced market value to producers and crop consultants by demonstrating how operating at an improved carbon intensity ("CI") score can create additional value for their commodities in other markets.
- Identify additional funding and incentive priorities that encourage greater adoption of innovative technologies by producers across the State.

Metrics for Success:

- ONE RED Incentive Program Established: Launch a minimum viable program within one year and provide incentives to producers for the 2027, 2028, and 2029 growing seasons in accordance with grant requirements.
- Continued Feedback: Provide annual feedback on funding utilization and priorities.

Implementation

Task Force members recognize that implementing the goals and action items identified under this charge is a substantial and complex undertaking. Accordingly, the items set forth in this Final Report are intended as recommendations and the need for continued discussion of specific topics may be necessary and, where appropriate, may materialize into future legislation or other policy development. Implementation of short-term goals will focus on enhancing partnerships and collaboration across the multiple groups represented on the Task Force and other key stakeholders across the State. The Department, through realignment conducted during the recent agency merger, will utilize the actions items of the Task Force to prioritize program activities and leverage in new and existing resources to support those efforts. Coordinated planning activities, such as IMPs, will be structured to align with Task Force goals and support implementation activities that are prioritized toward accomplishing those goals. Notably, many of the Task Force recommendations align with and build upon initiatives already underway

across the State. With the additional resources available through the ONERED program, significant emphasis will be placed on leveraging those resources toward implementation of the recommendations and action items identified by the Task Force. As shown in Table 5, several activities are planned for initiation in year one.

Table 5. Implementation activities, funding sources, and year one activities related to Task Force Goals and Action Items.

Implementation Task	Goal	Funding Source(s)	Year One Activities
Develop a resource inventory for measurement programs and resources	Goal 1	DWEE; NRDs	Identify current technologies available to producers for real-time water measurement and best practices associated with the implementation of those technologies.
Provide incentives for installation of measurement equipment and technologies	Goal 1	Water Resources Cash Fund; ONERED; NRCS	Stand up ONERED incentive options for producer enrollment
Enhance Producer Connect and other similar platforms to provide benchmarking information	Goal 1; Goal 4	Water Resources Cash Fund; ONERED	Continue to provide enhancements to Producer Connect that allow for benchmarking of nitrogen use efficiency and water application.
Establish a water availability dashboard to improve planned economic developments	Goal 2	Water Resources Cash Fund; ONERED	Develop dashboard to distribute key water availability data and other water related metrics for consideration in economic development strategies.
Convene a group of water experts to review current surface water and groundwater laws to ensure current regulatory frameworks are effective	Goal 2	DWEE; NRD; Public Power and Irrigation Districts; Water Users	Convene water users engaged in implementation of current regulatory frameworks to discuss and identify potential improvements
Create maps and other products highlighting current and potential additional opportunities to enhance groundwater recharge	Goal 3	DWEE	Survey water users to identify potential recharge opportunities across the State.
Create curriculum for agronomist providing nitrogen management recommendations and stand up online platform for distribution and tracking	Goal 4	Water Resources Cash Fund	Coordinate with UNL to create new curriculum and launch online portal through existing structure

Implementation Task	Goal	Funding Source(s)	Year One Activities
Incentivize producers to submit nitrogen management plans to NRDs annually	Goal 4	Water Resources Cash Fund; ONERED; NRD's existing and expanded activities	Provide support to complete updates to Producer Connect. Integrate tracking of NRD data with ONERED platform. Stand up ONERED incentive options for producer enrollment, requiring a nitrogen management plan
Provide incentives for installation of fertigation equipment	Goal 5	ONERED; NRCS	Stand up ONERED incentive options for producer enrollment
Coordinate water planning efforts between DWEE and NRDs to review quality and quantity programs and adjust programs as necessary	Goal 5	Water Resources Cash Fund	Discuss current planning frameworks between DWEE and NRDs and determine if modifications are necessary
Provide incentives for installation of sensor- and model-based nitrogen application methods	Goal 6	Water Resources Cash Fund; ONERED; NRCS	Stand up ONERED incentive options for producer enrollment. Work on pilot programs to promote technology adoption
Provide support and promotion for producer to producer education opportunities (soil health, irrigation management, and nitrogen management)	Goal 7	Water Resources Cash Fund; ONERED	Continue to expand producer to producer events in partnership with NRDs, UNL extension, and other entities
Provide education opportunities for producers on nitrogen management and irrigation management techniques to limit nitrate leaching	Goal 8	NRDs, Water Resources Cash Fund	Continue and expand education events in partnership with NRDs, UNL extension, and other entities
Develop consistent education, marketing, and outreach materials related to water quality, quantity, and public health for use across the State.	Goal 8; Goal 9	Water Resources Cash Fund; ONERED	Work with diverse groups to develop materials specific to producers, communities, and public health agencies
Support NRDs in implementing nitrogen management plan requirements with an emphasis on increasing one-on-one producer engagements	Goal 8; Goal 10	Water Resources Cash Fund; ONERED	Identify the current network of NRDs with these resources and develop a plan for coordinated efforts to expand these resources in priority areas
Review source water and well head protection plans to prioritize communities for engagement and targeted focus	Goal 10	DWEE; ONERED	Distribute information to communities in Nebraska illustrating current water quality trends for public water supply systems and develop "top tier" communities to target resources for

Implementation Task	Goal	Funding Source(s)	Year One Activities
			maintaining or improving water quality
Identify currently available funds for water testing of domestic wells and maintain a list of resources for private well owners	Goal 10	DWEE	Create a resource map for private well owners to understand risks and access to resources for testing and reverse osmosis.
Identify communities that may benefit from water supply regionalization	Goal 11	DWEE	Distribute a survey to identify a list of high priority communities/regions that could benefit from water supply regionalization and host initial engagements with those communities
Inventory water project priorities across the State	Goal 12	DWEE	Conduct a survey with NRDs, Irrigation Districts, communities, and other water users to identify priority water projects and benefits derived from those projects
Inventory available funding resources for water projects and potential partnerships that could strengthen funding opportunities	Goal 13	DWEE	Review and catalog available funding resources for local, State, and federal funds. Develop a list serve for distribution of upcoming funding opportunities.
Coordinate with Task Force to ensure ONERED implementation activities are aligned with Task Force goals	Goal 14	DWEE	Meet at least semi-annually with Task Force members to review current and planned ONERED implementation activities.