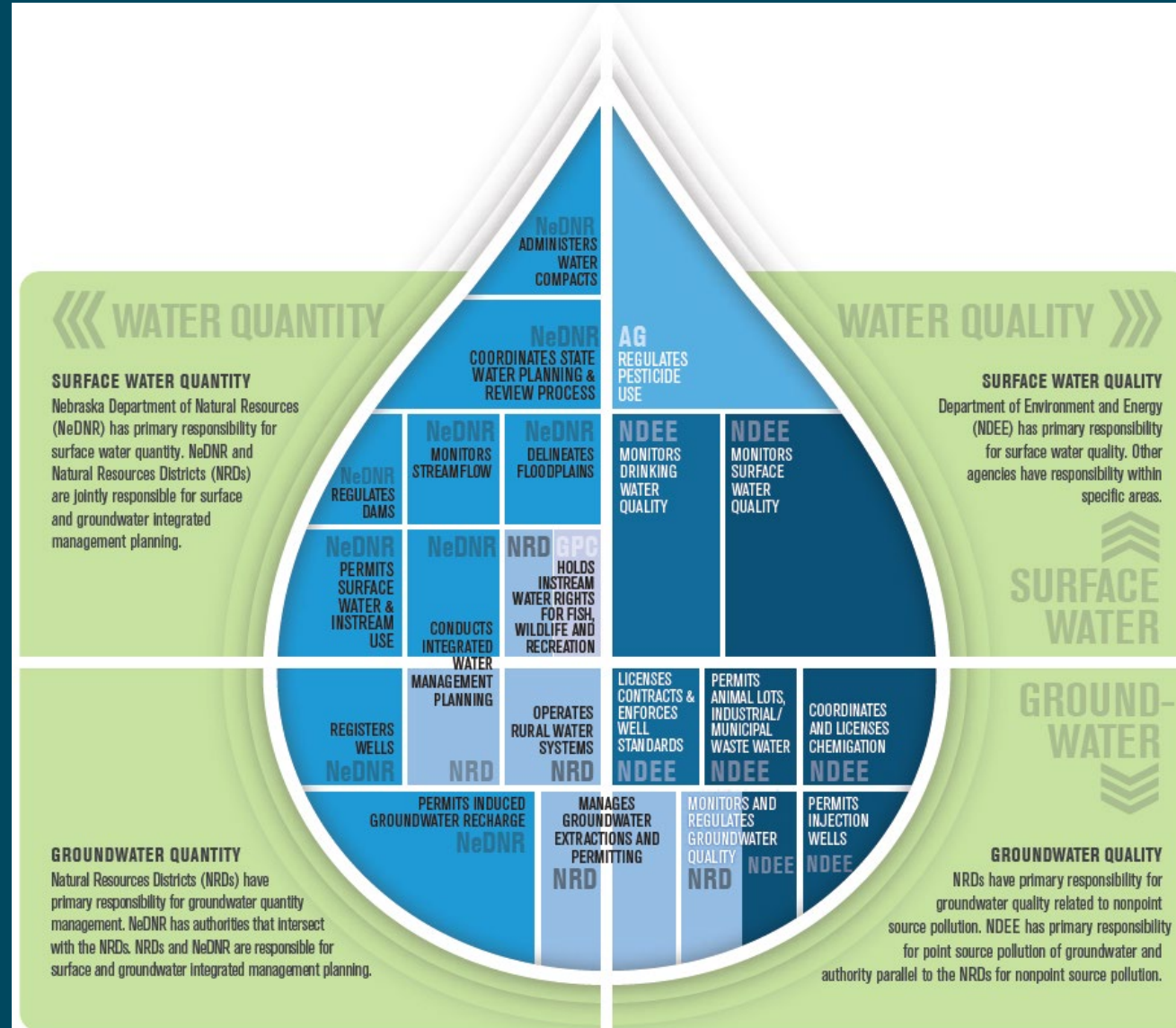


# Overview of State/NRD Initiatives on Water Quality/Quantity

June 2, 2025

Jesse Bradley

# Water Management Agencies



# State Programs

- Resilient Soils and Water Quality Act (Healthy Soils Task Force)
- Nitrogen Reduction Incentive Act
- Reverse Osmosis Program
- ONE RED
- Nitrate in Drinking Water Study
- Non-Point Source Water Quality
- SRF programs for drinking water and waste water
- Planning for well-head protection, source water protection, and integrated management
- Water Sustainability Fund



# Resilient Soils and Water Quality Act



# Resilient Soil and Water Quality Act

- Develop partnerships with other conservation organizations
- Support development of producer led education opportunities
- Streamline access to conservation resources and program information





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SUBMIT WEBSITE CONTENT

ABOUT THE COALITION

TECHNICAL SUPPORT

EDUCATIONAL RESOURCES

COST-SHARE OPPORTUNITIES IN YOUR REGION

EVENTS

## Our Mission

Learn more about the mission of Nebraska Strategic Ag Coalition

LEARN MORE

Technical Support

Educational  
Resources

Upcoming Events

Producer Networks

RESOURCES

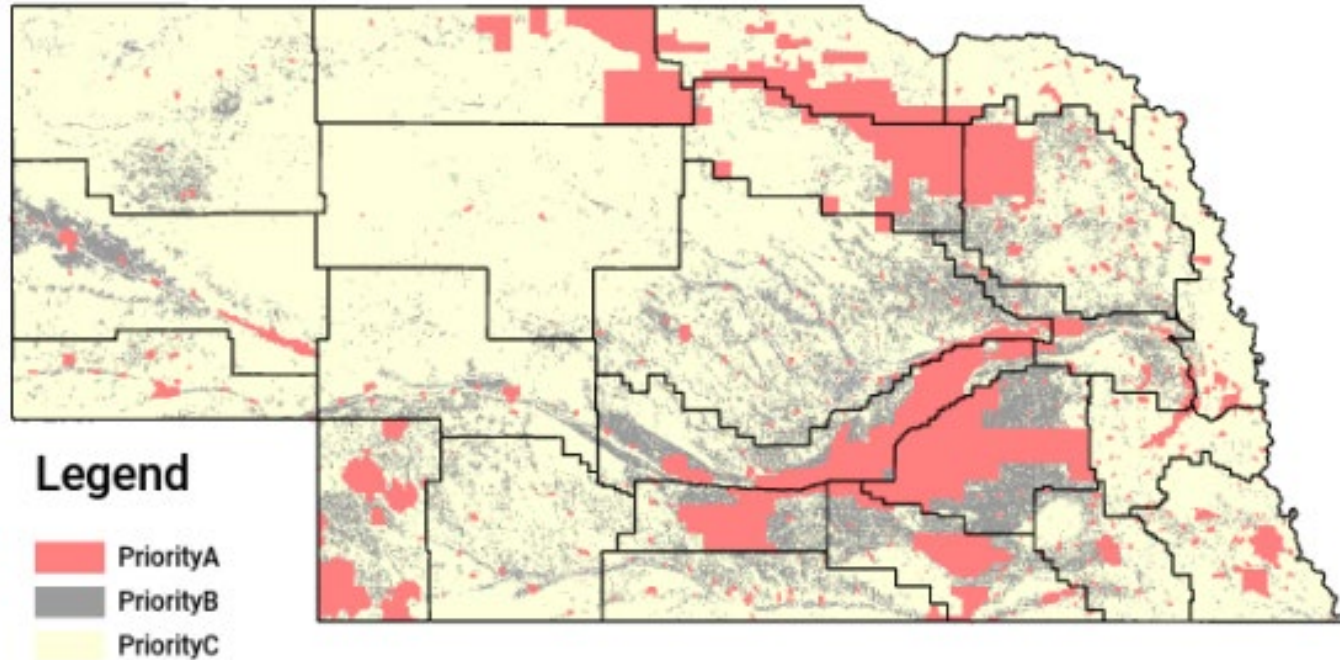
## Find Opportunities In Your Region

While many programs are available throughout Nebraska, some are especially

# Nitrogen Reduction Incentive Act (NiRIA) Program



# Nitrogen Reduction Incentive Act



## Priority Areas and Incentive Payments

The Department and NRDs have determined the program will operate under three priority areas (Figure 1) and **will be offered to corn, sugar beet, and potato producers**. **Priority A Area** will be wellhead protection areas and phase II, or higher phase areas established by an NRD, for purposes of water quality management. **Priority B Area** will be areas throughout the state that have been certified to irrigate crops. **Priority C Areas** will be all other areas of the state, including dryland. **Contact your local NRD to know which Priority Area you are in.** Figure 1 data is supplied by NeDNR permitted irrigated lands, wellhead protection areas, and NRD phase areas as of June 28, 2024.

## Nitrogen Reduction Incentive Act (NiRIA) Program Application 2024

Name of Producer: \_\_\_\_\_

Primary Contact: \_\_\_\_\_

Primary Contact Phone Number: \_\_\_\_\_

Primary Contact Email (if available): \_\_\_\_\_

Name of Natural Resources District (NRD): \_\_\_\_\_

Are you already enrolled in a federal nutrient management plan? ☐ No ☐ Yes

If yes, list what program(s): \_\_\_\_\_

Type of Crop: ☐ Corn ☐ Sugar Beet ☐ Potato

Legal Description (Submit one application per field): \_\_\_\_\_

Total Acres to Be Enrolled in this field (Limit of 280 acres): \_\_\_\_\_ Average Yield: \_\_\_\_\_

Crop Year: \_\_\_\_\_

Will you apply manure or lagoon water to this field? ☐ Yes ☐ No

If yes, attach documentation with the known amount of nitrogen in manure or lagoon water.

Do you apply nitrogen in the fall? ☐ Yes ☐ No

Identify the practice(s)/ product(s) you plan to implement to achieve the 40lbs or 15% reduction of commercial fertilizer by checking a box below. \*Note that the below options do not represent a ranked list and practices/products are subject to individual NRD approval.

- ☐ Reduction in Nitrogen Application
- ☐ Implementation of Biological Nutrition (Example: Proven40)
- ☐ Implementation of a Nitrogen Use Efficiency Technology (Example: N-Time)
- ☐ Implementation of a Nitrogen Stabilizer (Example: Agrotain)
- ☐ Other Please Describe: \_\_\_\_\_

Select type of documentation that will be used to determine baseline and to evaluate nitrogen reduction:

- ☐ NRD or producer crop reports (Priority A Areas)
- ☐ Submit all data required on local NRD phase reports for the prior 3 growing seasons (Priority B or C Areas)
- ☐ Complete soil sampling, as established by the NRD, prior to the cropping season (Priority B or C Areas)

\*Please note that individual NRDs may require additional information.

Applicant Signature (Receiving 1099): \_\_\_\_\_ Date: \_\_\_\_\_

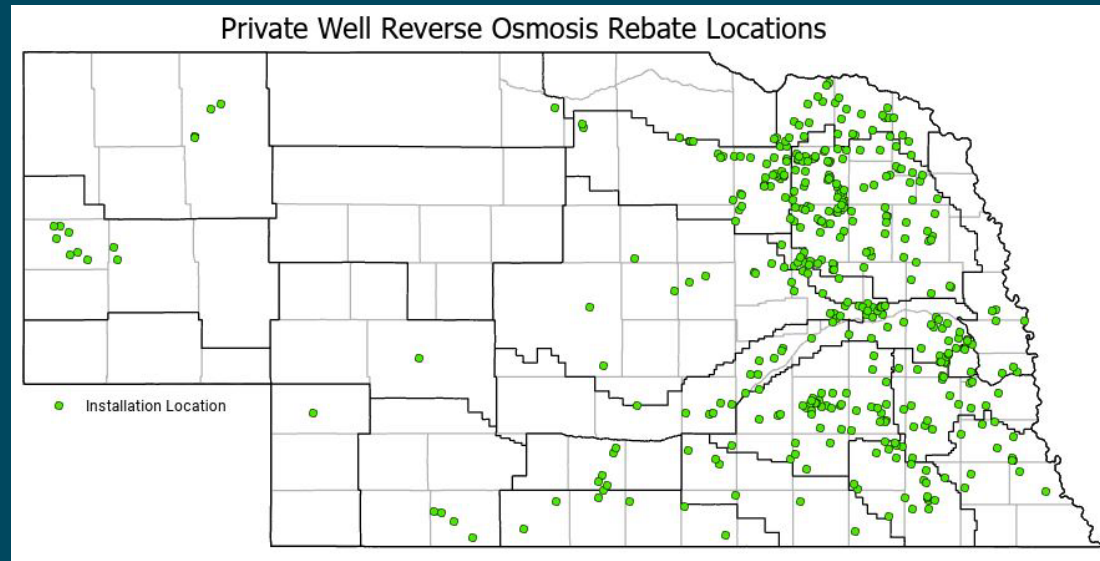
NRD Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# Reverse Osmosis Rebate Program

# Private Well Reverse Osmosis Program

- Private well reverse osmosis system rebates were available to property owners of private wells with drinking water levels above 10 parts per million of nitrate
- Eligible for up to \$4,000 in rebates per small treatment installation
- Opened January 2023, and closed May 2024
- NDEE received 370 applications requesting a funding total of **\$1.3M**





# ONE RED

# ONE RED

- In July 2024, EPA announced an award of \$307 million to NDEE
- \$160M to support data collection, regenerative, and precision ag. practices

## ONE RED

## Opportunity for Nebraska: Reducing Emissions & Decarbonization

**ONE RED Update—November 12, 2024.** Nebraska has been awarded \$307 million to implement the measures listed below over a five-year period. Participation in all incentive programs will be strictly voluntary and will not rely on new rulemaking or requirements. Program designs and timeframes for implementation will be worked out over the coming months.

Measure*	Funding	Metric Tons GHG Reduction	
		By 2030	By 2050
<b>Non-Residential Energy Efficiency Program:</b> Projects for industrial, commercial, agricultural, public, and nonprofit buildings and facilities.	\$30.3 MM	536,393	2,933,544
<b>Residential Pre-Weatherization Program:</b> Funding to address critical home repairs for low-income residents to allow eligibility for the Weatherization Assistance Program.	\$4.1 MM	13,103	72,405
<b>ONE RED Irrigation Engine Program:</b> Rebates to farmers to replace diesel irrigation pump engines with electric motors or pumps connected to the electric grid.	\$6.1 MM	14,291	124,901
<b>Rural Community Solar Program:</b> Solar arrays to provide partial power to water and waste-water facilities, reducing energy cost.	\$16.4 MM	9,183	25,148
<b>Non-Residential Solar Program:</b> Funds for solar projects in locations that do not displace other productive uses: industrial, commercial, and municipal rooftops; brownfield community solar; solar canopies over parking lots and cattle feedlots.	\$28.1 MM	12,180	29,481
<b>Ag Registry and Grants Program:</b> Three interdependent strategies: 1) Develop a Carbon Intensity (CI) Score Registry with incentives for participation; 2) Incentives for adoption of Regenerative Agriculture Practices to improve soil health and reduce N fertilizer use; 3) Incentives for Precision Agriculture equipment for more efficient production.	\$160.4 MM	25,128,828	155,051,209
<b>Anaerobic Digester/Biogas Hub Program:</b> Establish a regional biogas cleaning facility near an existing natural gas pipeline, with biogas supplied by digesters at nearby animal feeding operations to benefit multiple producers.	\$57.2 MM	261,907	2,007,957
<b>Biochar Incentive Program:</b> Funding for biochar processing facilities to convert woody organic waste into biochar to store carbon in soil.	\$4.4 MM	12,050	65,608
<b>TOTALS</b>	<b>\$307 MM</b>	<b>25,987,935</b>	<b>160,310,253</b>

\* The order of measures in this list does not indicate any NDEE preference or priority.

### SECTORS AFFECTED:

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Industry               | <input checked="" type="checkbox"/> Commercial and Residential Buildings  | <input checked="" type="checkbox"/> Waste and Materials Management |
| <input checked="" type="checkbox"/> Electricity Generation | <input checked="" type="checkbox"/> Agriculture/Natural and Working Lands | <input type="checkbox"/> Transportation                            |



More info:

NEBRASKA

# Nitrate in Drinking Water Study



# Nitrate Drinking Water Study

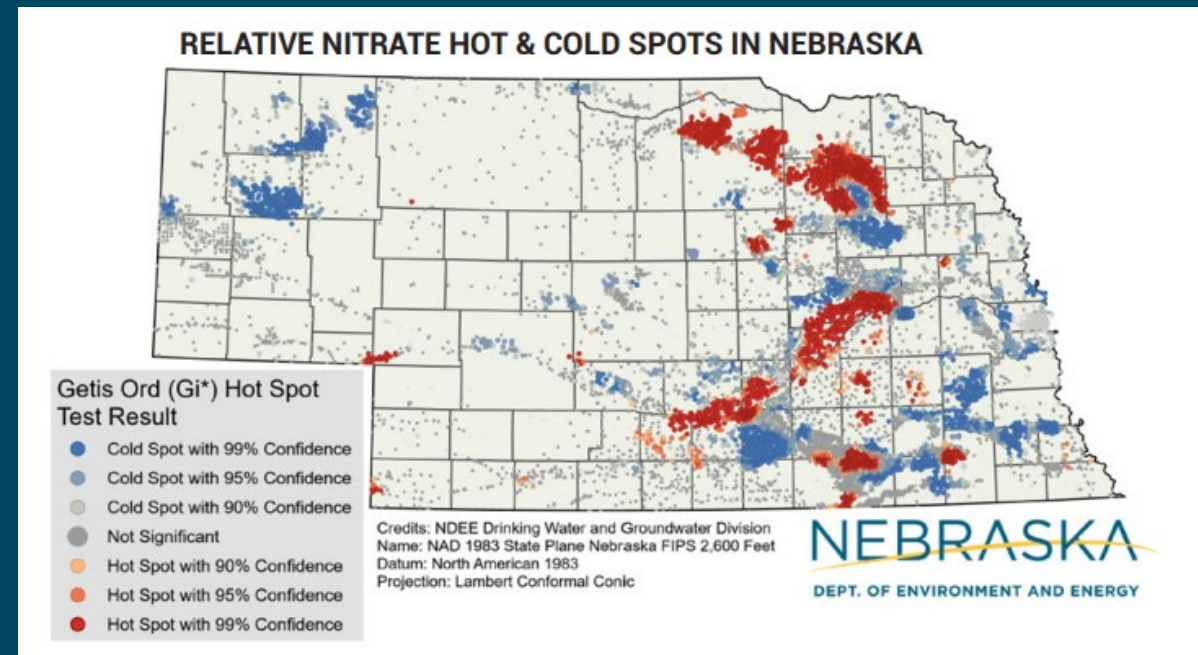
- Study analyzed available nitrate samples from wells across Nebraska to identify areas of concern, collected additional data on nitrate in private domestic wells, and identified trends in nitrate concentrations in community water systems.

## RESULTS:

**Private Domestic Wells:** Approximately 15% of the nearly 3,500 private domestic wells tested had nitrate levels exceeding the federal Safe Drinking Water Act (SDWA) limit of 10 milligrams per liter (mg/L).

**Public Water Systems:** About 1/3 of the 444 public water systems analyzed showed rising nitrate levels, indicating a growing concern for communities relying on these sources.

**Geographic Hotspots:** High-risk areas for nitrate contamination were identified, including the Platte River Valley, Elkhorn River Valley, Republican River watershed, and the Little and Big Blue River basins.




# Tools and Resources from the study

- An interactive, web-based GIS tool for NDEE and resource partners to assess nitrate risk
  - A nitrate outreach toolbox and guidance documents
  - A public water system assistance ranking system to target outreach and funding
  - Nitrate summary reports\* available to community water systems to show trends in their source water
- \*(English and Spanish)

## HEALTH EFFECTS

of Nitrate in Drinking Water

### WHAT IS METHEMOGLOBINEMIA?



- Nitrate can affect our body's ability to absorb oxygen from the blood.
- Bottle-fed babies under six months of age and people with certain gastrointestinal conditions are at the highest risk of getting methemoglobinemia.
- This illness can cause the skin to turn a bluish color and can result in serious illness or even death.

### IMMEDIATE (ACUTE) HEALTH EFFECTS

- The Safe Drinking Water Act (SDWA) set the **maximum contaminant level (MCL)** for nitrate in drinking water at **10 milligrams per liter** based on the acute risk of methemoglobinemia, or blue-baby syndrome, in infants.

### Nitrate Impairs Blood Oxygen Delivery

Nitrate interferes with the body's ability to absorb oxygen from the blood.

### LONG-TERM (CHRONIC) HEALTH EFFECTS

- EPA is reviewing research on other health effects of nitrate in drinking water in addition to methemoglobinemia. This could lead to changes to nitrate regulations in the future.
- Recent research links nitrate in drinking water to thyroid disease, neural tube defects, and certain cancers (Ward et al. 2018).

### DID YOU KNOW?

- Boiling water does not remove nitrate. Boiling actually concentrates nitrate in water, making it more harmful to drink.
- You should not cook with water that has nitrate above the MCL. Since nitrate does not easily absorb through the skin, you may use water with nitrate levels above the MCL for bathing, laundry, and washing dishes.

## SISTEMAS PÚBLICOS DE AGUA

sistemas públicos de agua (PWS) y nitratos

### LOS SISTEMAS PÚBLICOS DE AGUA SON...

¿Tu casa consume de manera constante agua potable?

NO: Si no consume agua potable, la SDWA no aplica.

SI: Si consume agua potable, la SDWA aplica.

¿El sistema de agua es comunitario?

NO: Si no es comunitario, la SDWA no aplica.

SI: Si es comunitario, la SDWA aplica.

¿El sistema es un sistema de agua comunitario?

NO: Si no es comunitario, la SDWA no aplica.

SI: Si es comunitario, la SDWA aplica.

¿El sistema es un sistema de agua comunitario?

NO: Si no es comunitario, la SDWA no aplica.

SI: Si es comunitario, la SDWA aplica.

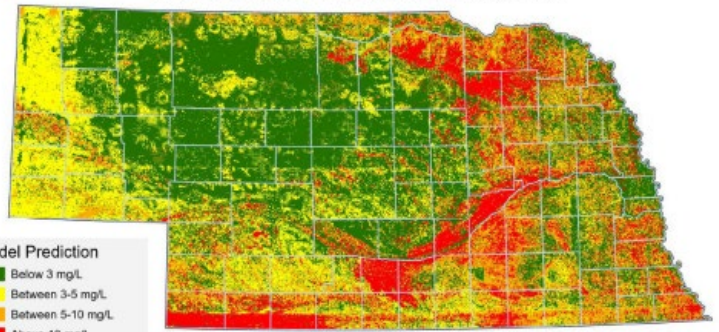
### ¿QUÉ SUCEDE CUANDO UN PWS VIOLA EL MCL DE NITRATO?

Los AC exigen legalmente el cumplimiento de la SDWA en un plazo de 3 años.

- Si no puede implementar soluciones de tratamiento, debe notificar a los clientes dentro de las 24 horas y proporcionar fuentes alternativas.
- A menudo, conlleva un gran aumento en las facturas de agua para los consumidores más vulnerables.
- El 93% de los CWS del estado se clasifican como sistemas pequeños que atienden a menos de 3,300 personas.

### LA PLANIFICACIÓN Y LA GESTIÓN A LARGO PLAZO PUEDEN PREVENIR LA CONTAMINACIÓN POR NITRATOS EN EL AGUA POTABLE.

## Predictive Nitrate Model Results: Composite Layer in Terms of Nitrate Concentration



Model Prediction

- Below 3 mg/L
- Between 3-5 mg/L
- Between 5-10 mg/L
- Above 10 mg/L

Credits: NDEE Drinking Water and Groundwater Division  
 Spatial Reference: NAD 1983 State Plane  
 Nebraska FIPS 2,600 Feet  
 Projection: Lambert Conformal Conic

## NEBRASKA

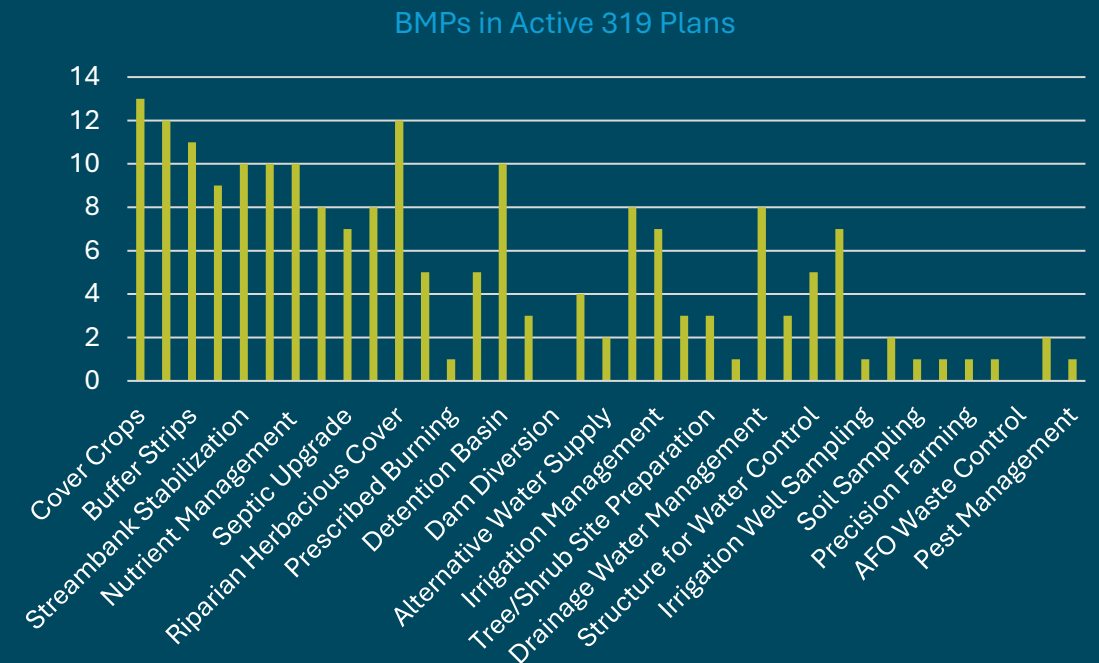
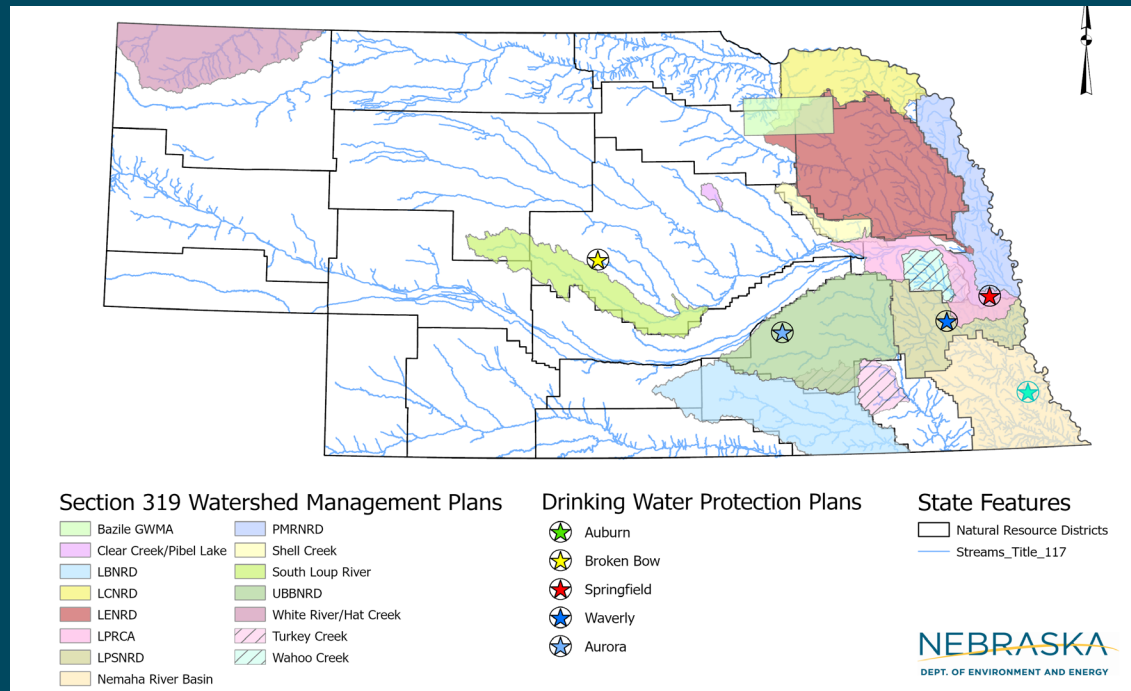
DEPT. OF ENVIRONMENT AND ENERGY

# Non-Point Source Water Quality

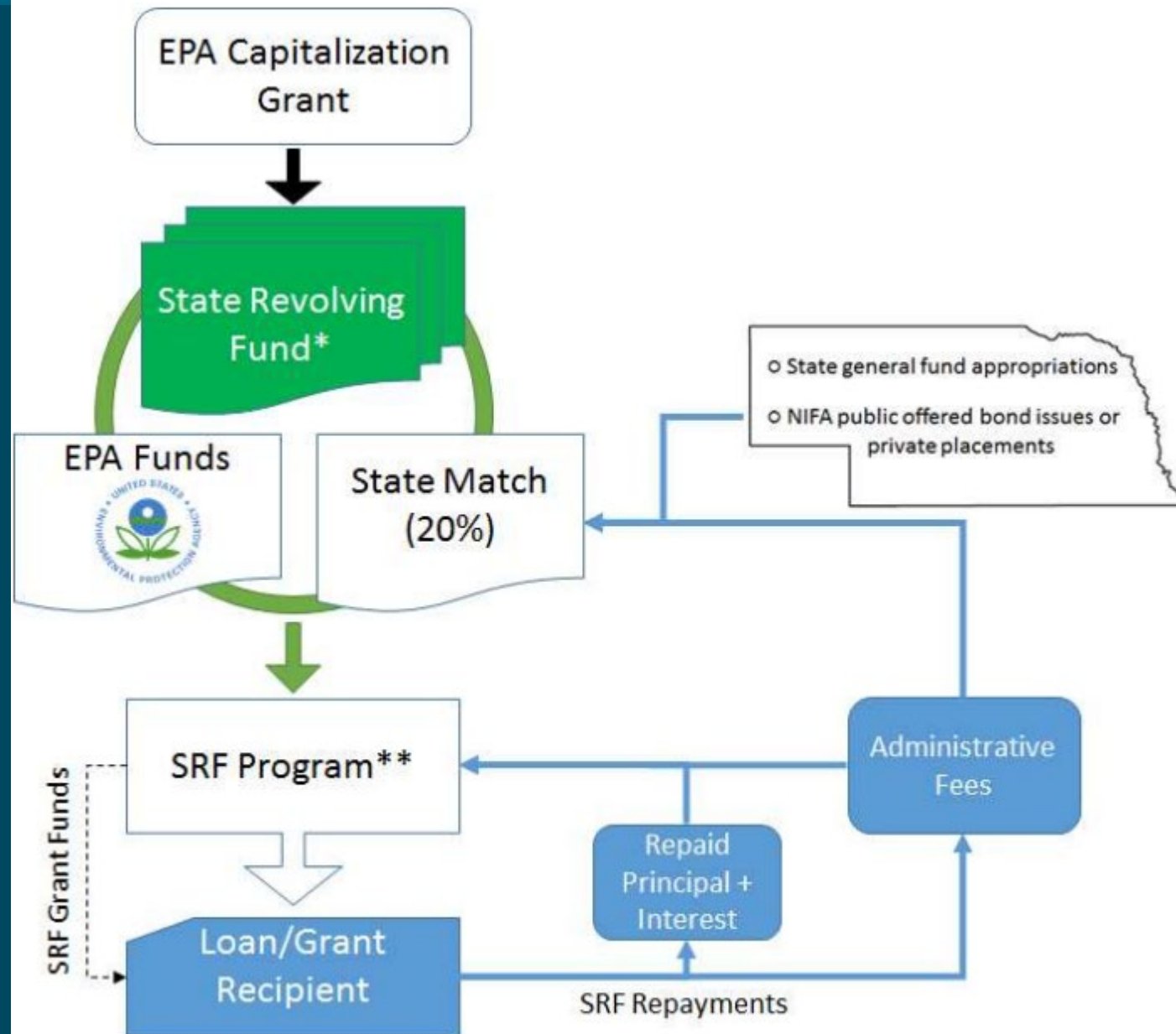


# Reducing nonpoint source pollution to state waters

- Two funding options:
  - Competitive projects (~\$300,000 for 2–3-years)
  - Small grants ( $\leq$  \$15,000 for around 1 year)
- Nebraska receives an average grant award of **~\$2.5 million from year to year.**



# State Revolving Funds (SRF) programs for drinking water and waste water



\* This occurs annually for both the Clean Water SRF (CWSRF) and for the Drinking Water SRF (DWSRF).



# Clean Water State Revolving Fund (CWSRF)

- The CWSRF was created to provide below market financing for construction of publicly owned (wastewater) treatment works (POTWs) and nonpoint source control systems
  - Construction of wastewater treatment facilities and sanitary sewer collection systems to alleviate public health and environmental problems
- **Just over \$21.8M** of program funding in 2026 fiscal year
- Projects include:
  - Wastewater treatment work projects
  - Nonpoint Source projects
  - Stormwater projects
  - Emerging Contaminants: testing and treating
  - Water conservation, efficiency, and reuse projects
  - Security measures at publicly owned treatment works
  - Technical assistance

# Drinking Water State Revolving Fund (DWSRF)

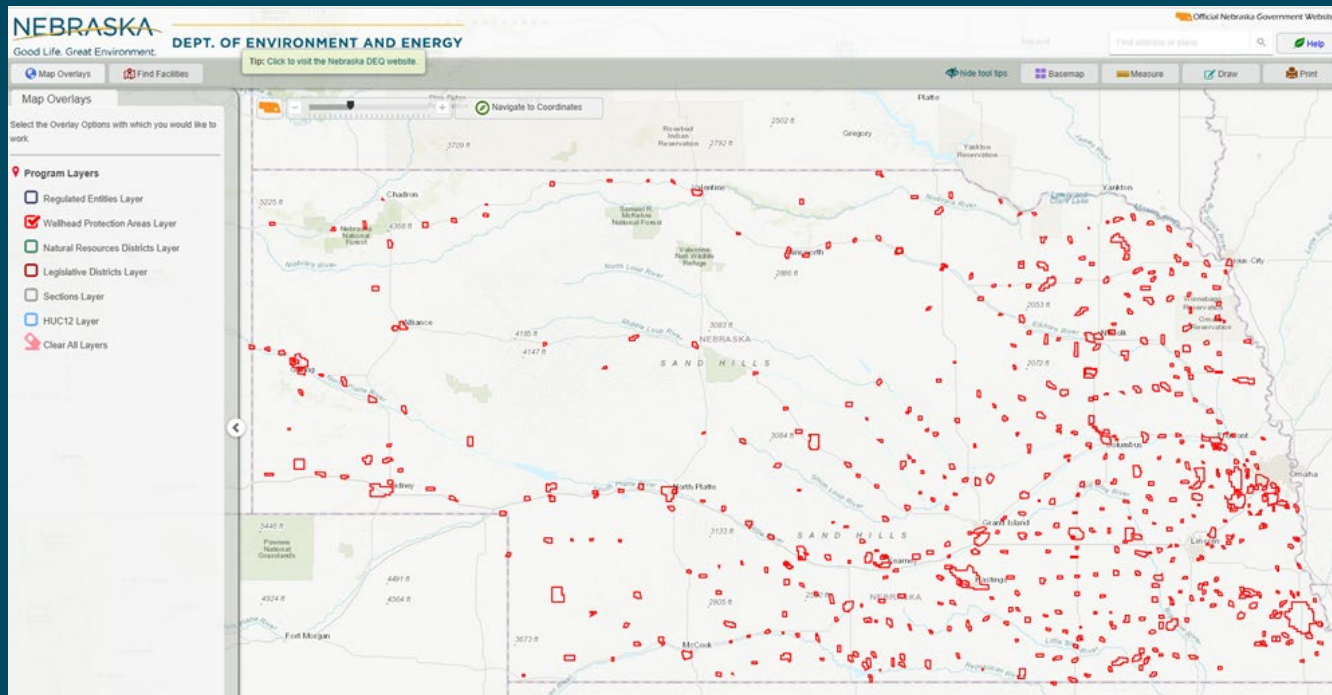
- The DWSRF was created to provide low-cost financing for construction of publicly or privately owned public water systems (PWS)
  - Construction of water works, and for land acquisition from willing sellers for source water protection. Funds can be used to plan, design and construct drinking water facilities
- **Just over \$72.1M** of program funding in 2026 fiscal year
- Projects include:
  - Treatment installation or upgrading for Public Water Systems
  - Transmission and distribution systems
  - Source water rehabilitation
  - Water Storage Options
  - Consolidation – interconnecting two or more water systems
  - Creation of new systems for homes with contaminated individual wells.
  - Emerging Contaminants: testing and treating
  - Lead Service Line: testing, education, replacement

# Water Planning

Well-head protection, source water protection, and integrated management

# Well-head Protection (WHP)

- Voluntary program, but every community water system with its own active source has a plan
- 516 WPH areas in Nebraska, 116 are approved



EFFECTIVE DATE  
APRIL 4, 2010

NEBRASKA DEPARTMENT OF  
HEALTH AND HUMAN SERVICES

179 NAC 7

CATEGORY	DISTANCE Feet
Water Well	1,000
Sewage Lagoon	1,000
Land application of municipal/industrial waste material	1,000
Feedlot or Feedlot Runoff	1,000
Underground disposal system (septic system, cesspool, etc.)	500
Corral	500
Pit Toilet/Vault Toilet	500
Wastewater Holding Tanks	500
Sanitary Landfill/Dump	500
Chemical or Petroleum Product Storage	500
Sewage Treatment Plant	500
Sewage Wet Well	500
Sanitary Sewer Connection	100
Sanitary Sewer Manhole	100
Sanitary Sewer Line	50

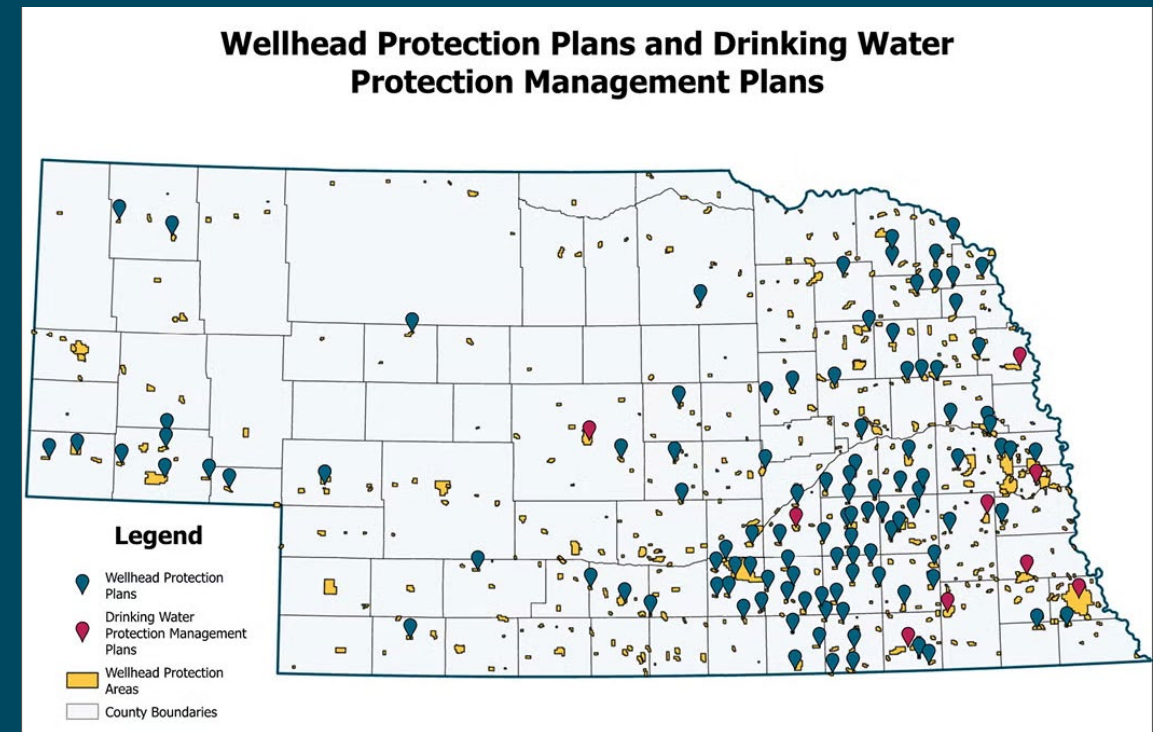
NOTE: If the distance requirements in 179 NAC 13 Attachment 2 are not met, the well is subject to testing to determine if it is ground water under the direct influence of surface water. If a well meets that definition, it is treated as a surface water source subject to all the requirements of the rules regarding surface water.

Budget in 2024 ~\$50K



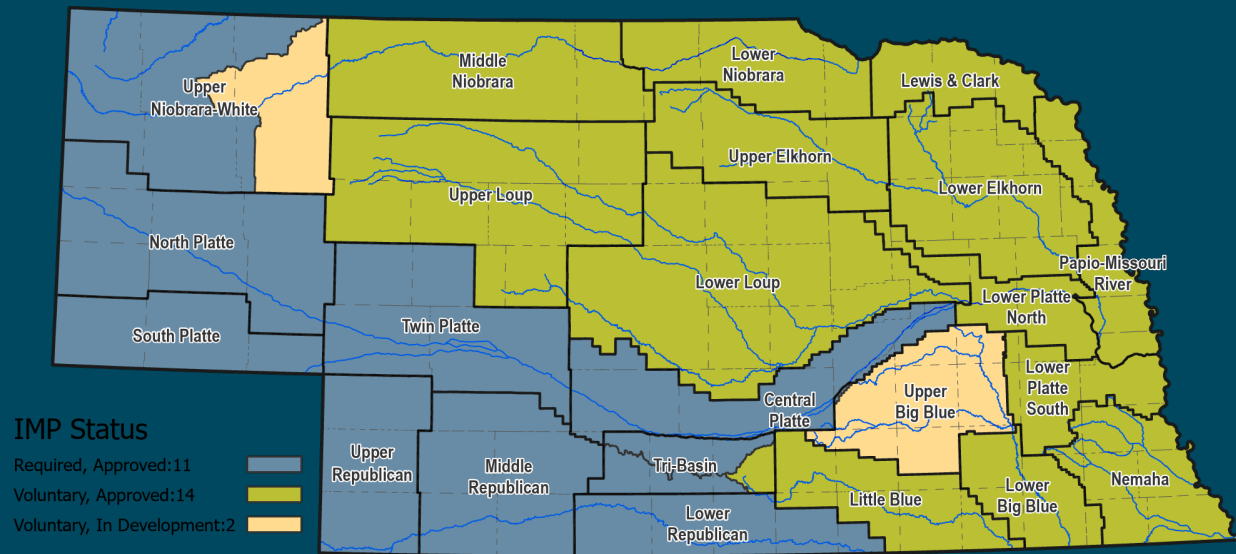
# Source Water Protection (SWP)

- Protecting water used as public or private drinking water for human health
- \$150,000 per year may be available to finance projects that protect public drinking water sources
- Projects include:
  - Public Education on Source Water Protection, workshops on Best Management Practice (BMP)
  - Implementation and evaluation of agricultural and urban BMPs
  - Water Conservation Programs
  - Contaminant source identification – research / investigation
  - Contaminant pathway removal (such as the proper decommissioning of unused wells, or structures to divert contaminated runoff from a source)
  - Restoration and/or conservation of the source water protection area
  - Water quality monitoring at critical points in protection areas

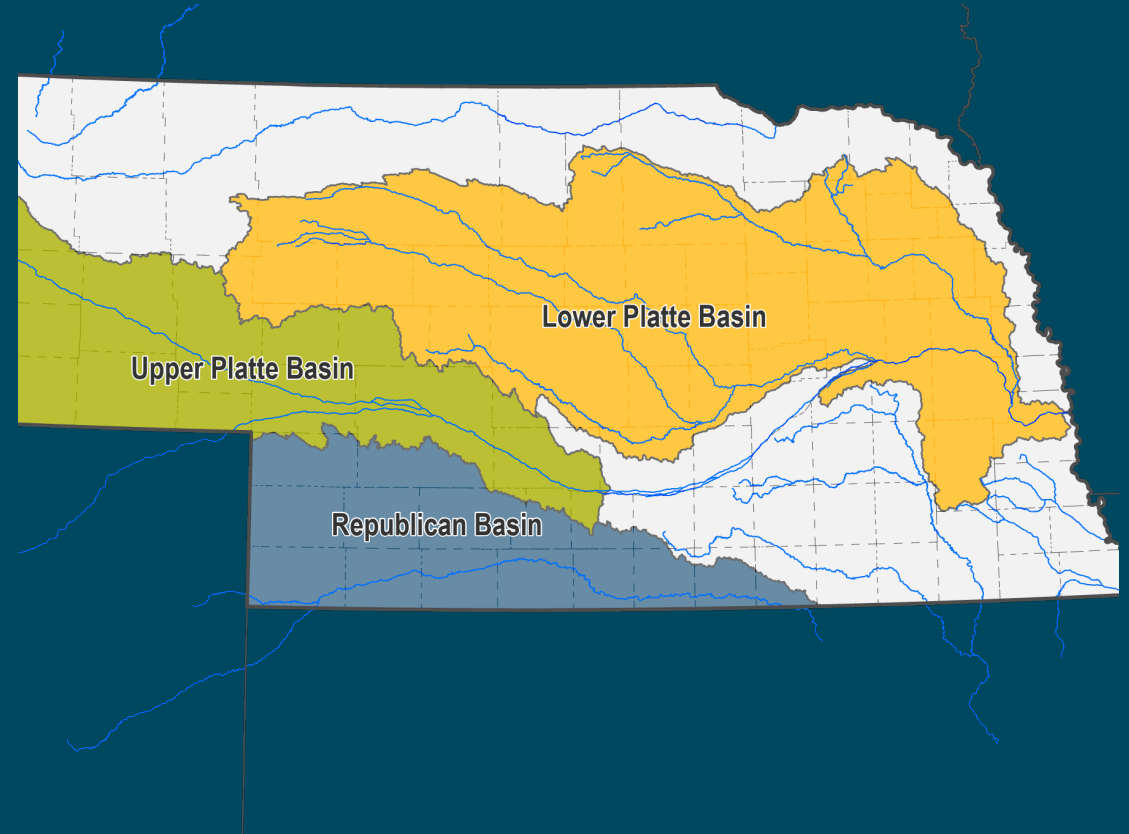


# Integrated Water Planning Areas

## ➤ Integrated Management Plan Areas



## ➤ Basin-wide Plan Areas



# Water Resources Cash Fund

- The fund is to be used in any area that has adopted an integrated management plan
  - To aid management actions taken to reduce consumptive uses of water;
  - To enhance stream flows or ground water recharge;

## Groundwater Recharge and Wetland Habitat Project (2017-2020)

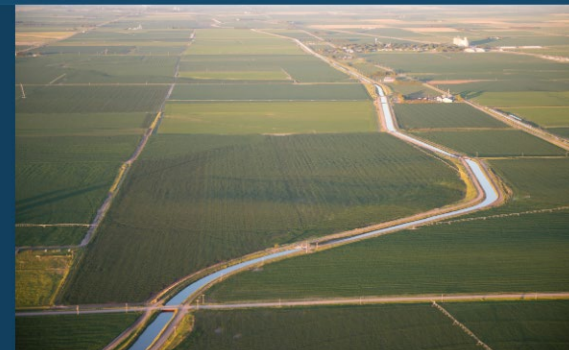
Parties: Tri-Basin NRD, CNPPID, USFWS, NeDNR

The **Groundwater Recharge and Habitat Project** increased groundwater recharge and water quality within the **Tri-Basin NRD** and enhanced wetland habitat in five **Waterfowl Production Areas (WPAs)**. CNPPID provided excess flows through their canal system to *improve wetland function and recharge the excess flows* within Tri-Basin NRD's boundaries. Tri-Basin NRD installed dedicated observation wells in the WPAs to ensure the project benefits were achieved.

## Platte Basin Habitat Enhancement Project (PBHEP) (2009-2019)

**Parties:** North Platte NRD, South Platte NRD, Twin Platte NRD, Central Platte NRD, and Tri-Basin NRD (Upper Platte NRDs), Nebraska Game and Parks Commission (NGPC), NeDNR

PBHEP was a shared venture to fund projects that help Nebraska meet its PRRIP compact obligations. Funding was primarily provided by the 5 NRDs (\$2 million) and NeDNR (\$2 million) with an average annual \$1 million grant from the Nebraska Environmental Trust (NET).



*The Phelps County Canal, part of the Central Nebraska Public Power and Irrigation District in south-central Nebraska. Photo courtesy of Nebraskaland Magazine/Nebraska Game and Parks Commission.*

## Groundwater Recharge from Excess Flows (2013-Present)

Excess surface flow projects can provide groundwater recharge year-round via a canal system or recharge pit. Excess surface flows are those beyond what is required to support existing uses in a basin. Diverted to a canal or pit, the water seeps through the sides and bottom, moving into the groundwater zone.

## Meeker-Driftwood Canal Automation Project (2020-Present)

**Parties:** Frenchman-Cambridge Irrigation District (FCID)

FCID began an **automation and remote signaling project on the Meeker-Driftwood Canal** in 2020. The project was given \$2 million in funding from the Colorado Settlement portion of the WRCF.

Upgraded flow measurement devices and newly installed control gates connect to a Supervisory Control and Data Acquisition (SCADA) radio telemetry network that can be remotely accessed. Results include:

- Decreases unintended operation spills,
- Increases water storage in the Swanson Reservoir, and
- Increases groundwater recharge.




# Water Sustainability Fund



# Goals of the Water Sustainability Fund

- Provide financial assistance to programs, projects, or activities that increase aquifer recharge, reduce aquifer depletion, and increase streamflow
- Remediate or mitigate threats to drinking water
- Promote the goals & objectives of approved integrated or ground water management plans
- Contribute to multiple water supply management goals including flood control, reducing threats to property damage, agricultural uses, municipal and industrial uses, recreational benefits, wildlife habitat, conservation, and preservation of water resources
- Assist municipalities with the cost of constructing, upgrading, developing, and replacing sewer infrastructure facilities as part of a combined sewer overflow project
- Provide increased water productivity and enhance water quality
- Comply with interstate compacts, decrees, other state contracts and agreements and federal law



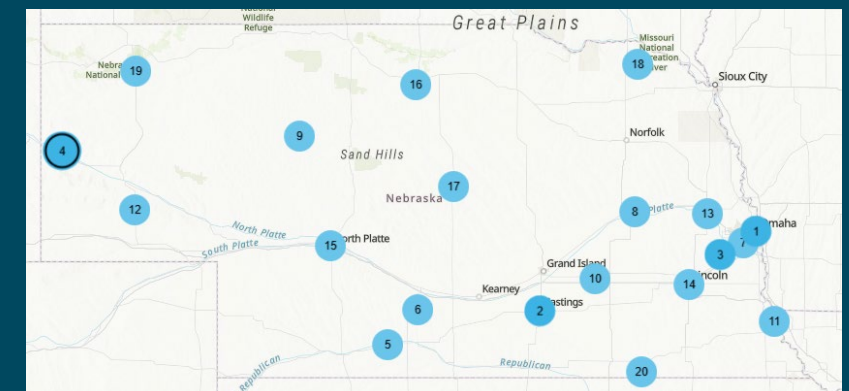
NATURAL  
RESOURCES  
COMMISSION

[Visit the Water Sustainability Fund Website](#)

**Water Sustainability Fund and the NRC**

"The Water Sustainability Fund is administered by the Natural Resources Commission (Commission) to provide financial assistance to eligible projects, programs or activities that lead to sustainability of Nebraska's water resources."

The Commission administers the Water Sustainability Fund to assist projects, programs or activities that meet the goals and are of the types of projects provided for Neb. Rev. Stat. § 2-1506(1) and 2-1506(2).



# THANK YOU

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