

Nebraska Surface Water Monitoring Council (NSWMC)

Tuesday April 15, 2025

10:00 AM – 12:00 PM

NDEE Office: 245 Fallbrook Blvd (Room 023)

Hybrid Meeting

1. Welcome and Introductions

a. In attendance in person: Tara Anderson (NDOT), Kara Valentine (NDEE), Brian Barnes (NDEE), Dan Ross (NDEE), Brent Dinkel (USACE), Jessica Corman (UNL), Tom Buell (NDEE), Blayne Renner (NDOT), Craig Romary (NDA), Dave Schumacher (NDEE), Erik Prenosil (NDEE), Kate Bird (NDEE), Sean Kruse (NDEE), Dillon Vogt (JEO), Anni Poetzel (UNL), Cydney Calhoun (NDEE), Katie Hickie (NDEE), Justin Haas (NDEE), Tom Heatherly (NDEE), Michael Gude (LLCHD), Troy Gilmore (UNL), Jennifer Swanson (NARD), Nathan Schaepe (USGS), Dick Ehrman (LPSNRD), Mike Archer (NGPC), Alexa Davis (DNR), Jeremy Ghele (DNR)

In attendance online: Brenda Densmore (USGS), Noah Havorka (NDEE), Mike Sousek (LPSNRD), Laura Johnson (NDEE), Jessica Russell (NDEE), Steve Herdzina (LPNNRD), Brandon Beethe (LPNNRD), Connor McFayden (NDEE), Brett Roberg (NGPC), Doug Hallam (LENRD), Amanda Grint (PMNRD), Tim Olson (LENRD), Craig Matulka (LPSNRD), Tom Mountford (NRCS), Ann Briggs (UNL), Daniel Snow (UNL), Dustin Wilcox (NARD), Daniel Kroll (NDEE), Lisa Lauver (LENRD), Ryan Chapman (LPNNRD), Thad Huenemann (NGPC)

2. Agency Updates Round Table

3. Presentations

Dave Rus (USGS) - Microbial Source Tracking in the Lower Platte River (USGS paper forthcoming)

The USGS recently completed a monitoring study of the lower Platte River that included microbial-source tracking analyses. These and other components of the monitoring results will be presented.

Tom Heatherly – Nebraska Water Quality Index (Presentation Attached)

A water quality index is a value that defines the chemical quality of streams. It is a composite index that combines individual parameters that have been monitored regularly and are germane to the focus of the index. The usefulness of a WQI is in the way it combines potentially thousands of individual data points into single values that are much more digestible to water quality managers, policy makers, and to the public. Additionally, a single, objective value of water quality has much potential for detecting trends in water quality and measuring the success of stream and landscape restorations. This presentation details the development of the

Nebraska Water Quality Index (NWQI) and shows how this index is useful or detecting trends in water quality across the state.

4. Monitoring council(s) business

a. Meetings of interest

- i. Nebraska Water Center <https://watercenter.unl.edu/conferences-and-events>
 - 1. Spring Water Seminar Series
 - 2. Fall Water Conference – October
- ii. American Fisheries Society – San Antonio Texas, Aug 10 – 14
- iii. North American Lake Management Society – Myrtle Beach, Nov 4-7, 2025
<https://www.nalms.org/nalms2025/>
- iv. Midwest Fish and Wildlife Conference – Fort Wayne, IN, January 2026
<https://www.midwestfw.org/>

Nebraska Surface Water Monitoring Council (NSWMC)
Agency Updates
Spring Meeting, 4/15/2025

Nebraska Department of Environment and Energy

Dave Schumacher david.schumacher@nebraska.gov

Ambient Stream Monitoring Program

- Network of 101 fixed stations. 6 Missouri River locations collected by USACE.
- Main stem and tributary streams.
- Thirty-four parameters analyzed at each sampling location.
- Samples are collected monthly, year-round.
- The South Platte and Middle Niobrara NRDs assist by collecting samples for this program.
- Long-term changes to water quality can be assessed.

Public Beach Monitoring Program

- 56 public beaches at 50 lakes across Nebraska will be sampled weekly May through September for microcystin and *E. coli* in 2025.
- Wagon Train Lake will be dropped from the list of lakes sampled in 2025 due to low water levels after undergoing renovation.
- Cub Creek Reservoir will be added back to the list of lakes sampled in 2025 after undergoing renovation.
- Numerous sampling partners assist each year by collecting samples for this program. These include: Central District Health Dept., NPPD, USACE, the Upper Republican, Lower Republican, South Platte, Middle Niobrara, Lower Loup, Nemaha, and Lower Elkhorn NRDs.
- NDEE contracted with ESRI to develop a new PBMP Beach Watch GIS interactive map app. that will be launched this year on the NDEE website.

Basin Rotation Monitoring Program

- Geographically focuses water quality sampling in one to three major river basins per year.
- Weekly monitoring of rivers and streams from May-September.
- Fourteen parameters analyzed at each sampling location.
- In 2025, NDEE will sample 40 sites within the Middle Platte and Loup River basins.
- The Upper and Lower Loup NRDs will be assisting by collecting samples for this program in 2025.

Stream Biological Monitoring Program

- Diversity and numbers of resident aquatic macroinvertebrate and fish communities are evaluated to assess the overall health of streams.
- Sites are chosen within the framework of the basin rotation schedule.
- Approximately 40 sites are planned to be sampled in 2025 within the Middle Platte and Loup River basins.

Fish Tissue Monitoring Program

- Assess fish tissue for toxins, such as mercury and polychlorinated biphenyl compounds (PCBs).
- Current fish tissue consumption advisories at 137 locations (130 lakes and 7 river/stream segments).
- In 2025, sampling will be conducted within the Middle Platte and Loup River Basins.
- Each year the NGPC assists in sampling some of the large reservoirs during their fall surveys.

Ambient Lake Monitoring Program

- Consists of a core of 31 long term trend lakes that are monitored by NDEE (24), United States Army Corps of Engineers (4), and the Lower Loup (1) and Nemaha (2) NRDs to characterize and assess a variety of different lakes and reservoirs within the state.
- Additionally, each year 3-4 basin lakes are targeted for sampling for 2 consecutive years within a set of river basins that follows NDEE's six-year basin rotation scheme with at least one lake sampled within each river basin.
- Swanson Reservoir, Hugh Butler (Red Willow) Reservoir, Lone Star Reservoir, Oxbow Trails Reservoir, and Big Indian Lake (11A) are basin lakes that enter the last year of monitoring in 2025.
- Davis Creek Reservoir, Elwood Reservoir, and Ravenna Lake are added as basin lakes for 2025.

Fish Kill and Citizen Complaint Investigations

- Dead fish and other surface water concerns are relayed to NDEE throughout the year.
- On-site investigations and water quality sampling performed at sites of many of the complaints.
- Eight fish kills investigated from July 1, 2023, to June 30, 2024: Two resulted from discharges, one from a spill, four were from low dissolved oxygen levels and one resulted from an unknown cause.
- Sixty-four complaints of surface water pollution were taken by the Monitoring Section in the last year, many were forwarded to other NDEE programs.

NRD Watershed Special Studies

- NDEE has partnered with several NRDs on Watershed Special Studies with strategic plans to monitor the sources and quantities of pollutants entering these systems from specific sub-watersheds.
- Information gathered allows a complete assessment of stream segments where data is insufficient to determine if all designated uses are met.
- Allows finer calibration of predictive models to allocate pollutant loads to specific sub-watersheds and to quantify load reductions from sub-watershed conservation projects.
- Sampling partners of Watershed Special Studies in 2024 include the Lower Big Blue NRD – Turkey Creek Special Study.

Regional Monitoring Network

- Collaboration between the USEPA and numerous states, tribes, and other organizations to collect continuous stream discharges and temperatures and other chemical and biological data.
- Data are used as baselines for long term comparisons of stream condition.
- Having many sensors deployed nationwide that collect continuous data allows USEPA and other partners to detect significant yet subtle trends in stream condition.
- NDEE has been monitoring 7 streams since May 2017.
- Each location has a sensor that collects water level and temperature every thirty minutes, typically bolted to a post driven into the stream bottom.
- Each of the study locations is also sampled as part of the NDEE Ambient Stream Monitoring Program.

Other NDEE Updates

- Jesse Bradley was named the Department's interim director in February.
- LB 317, which would merge NDEE and NDNR and create the Department of Water, Energy and the Environment was introduced this legislative session. The bill was voted out of committee and passed the first floor vote.
- Other legislative bills of interest are LB 247, which would raise fees in the Integrated Solid Waste Management Act to pay for Department obligations under Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. LB 309 would create an "extended producer responsibility" program for lithium batteries. LB 309 has since been added to LB 36.

US Army Corps of Engineers

Brent Dinkel Brent.A.Dinkel@usace.army.mil

Salt and Papillion Creek Reservoir Monitoring:

- Continued monitoring at Branched Oak, Wagon Train, Ed Zorinsky, and Glenn Cunningham in coordination with the NDEE.
- Reduced monitoring at all other reservoirs (more comprehensive every third year).
- Zebra mussel eDNA sampling conducted in June at all reservoirs.
- Hypolimnetic withdrawals paused in 2025 at Cunningham and Standing Bear. Potentially used at Conestoga pending pool elevations go up. Intent is to remove legacy nutrients from reservoirs to address algal bloom concerns. Releases have shown promising results, however recent reservoir emptying for renovation projects are resulting in downstream ammonia concerns at Cunningham and Standing Bear leading to the 2025 pause. As a result, additional stream sampling will be conducted in downstream reaches of dams to evaluate rate of ammonia metabolism/uptake.

Beach Watch Monitoring:

- Continued beach watch monitoring at Lewis and Clark, Lake Yankton, and Glenn Cunningham in coordination with the NDEE

Missouri River Monitoring:

- Continued monitoring along the Missouri River downstream of Fort Randall Dam to Rulo, NE in coordination with the NDEE.

Nebraska Department of Natural Resources

Jeremy Gehle jeremy.gehle@nebraska.gov

Cooperation with USGS HIVIS camera stations.

- Platte River near Duncan
- Elkhorn River at Waterloo
- Missouri River at Decatur
- Missouri River at Cottonwood Cove Marina near Blair
- Missouri River at Blair

DNR streamgage camera monitoring program. Photos taken every 15 minutes.

Existing DNR stations

- Elkhorn River at Neligh
- Lincoln Creek near Seward

Planned DNR gaging station deployment

- Niobrara River near Nenzel
- Niobrara River near Butte
- Gering Creek at Lockwood Road
- North Platte River at Bridgeport (Main Channel)
- North Platte River at Lewellen

- North Platte River at North Platte
- South Platte River at North Platte
- Platte River near Cozad (North Channel)
- Wood River near Alda
- Middle Loup River at Rockville
- Loup River at Columbus
- Union Creek at Madison
- Pebble Creek at Scribner
- Logan Creek at Pender
- Elkhorn River near Winslow
- Republican River at Highway 47 Bridge at Cambridge
- Republican River at Riverton
- Big Blue River at Beatrice
- Big Sandy Creek at Alexandria

Nebraska Association of Resource Districts

Jennifer Swanson JSwanson@nrdnet.org

Washington D.C.: NARD and NRD directors, managers, and staff just returned from Washington DC where we met with federal partners and state delegation to discuss various natural resources programs and funding. Below are some key points from our discussion:

- **Government Funding:** A Continuing Resolution (CR) has been passed to fund the government through September 2025, maintaining 2024 funding levels.
- **Farm Bill:** The Farm Bill is expected to be extended through September 2025. There is bipartisan support for retaining the \$20B allocated to conservation programs, which may be incorporated into a reconciliation bill focused on tax changes.
- **IRA Funding:** IRA funding has significantly increased state allocations, particularly for Climate Smart initiatives. Although IRA funding is currently in a holding pattern, we are moving forward with Farm Bill funding, making payments on existing contracts, and signing new contracts.
- **USDA-NRCS Staffing:** The USDA-NRCS is currently under a hiring freeze, with staffing reviews underway. While some nonessential positions are being eliminated, the agency is working to streamline operations, reduce paperwork, and ensure continued support for producers. Payments are expected to unfreeze soon, and efforts to simplify processes are ongoing.

NRD Basin Tour: The NRD Basin Tour is June 9-10th touring projects in the Niobrara Basin. Registration will be available on our website once details are finalized. [2025 NRD Basin Tour | Nebraska's Natural Resources Districts](#)

Groundwater Technician Training: The online Groundwater Technician Training is LIVE! New hires can now access the online training and take their examination throughout the year instead of only in March. This should help improve efficiency in hiring and training new employees.

Producer Connect: Phase 1 of Producer Connect is complete. Producer Connect, a web and mobile application suite, allows producers to access their crop reporting data and includes a fertilizer recommendation. This collaborative effort aims to empower agriculture producers to optimize inputs, which will enhance agricultural profitability, water quality and irrigation efficiency.

NRDs will be working with producers over the next few months to get them signed up to use the online platform. Producer Connect will be utilized to submit crop report forms in Phase 2 and higher water quality areas this fall.

This is a collaborative project with 17 NRDs, the Nebraska Corn Board, NRCS, Corteva, Central Valley Ag, and the Nebraska Cooperative Council.

Nebraska Department of Agriculture

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- Atrazine registration review. The public comment period recently closed for the atrazine interim registration review decision and EPA will be reviewing those comments for issuing a final decision soon. The main changes over current labels in this proposed interim decision (my brief interpretation) were a reduction in the annual application rate of 0.5 pounds active ingredient per acre and the inclusion of label restrictions requiring drift and runoff mitigation measures (think BMPs) when the application is within a specified distance of non-managed land (there is a definition of managed land). This language is similar to language EPA is rolling out as part of its endangered species protection program (more below), which is being implemented to satisfy court agreements under the endangered species act. The atrazine registration is not fully a part of this rollout because of the timing of registration decision (It was started before the endangered species agreement was finalized). In addition, the level of restrictions that may be required is dependent on where you are located – watersheds with higher potential for atrazine in runoff will require more mitigation. Much of the southeast Nebraska is in the higher risk watersheds and the rest of eastern Nebraska is in the medium level. There is a high-quality national map available that I can send if desired.
 - I can send an overview of the water quality level of concern that was used for this assessment and background on the cycle of ups and downs the last few years as administrations changed... It's hard to connect these levels to water quality standards, but the value used in this assessment is somewhat in line with the Nebraska aquatic life standard of 12 ppb.
 - Atrazine Registration Review [Regulations.gov](https://www.epa.gov/pesticide-registration/atrazine-registration-review)
- EPA's Endangered Species Protection Program and ecological mitigation measures. As mentioned above, EPA finalized a workplan and is rolling out strategies to address the court agreement that was signed. I have a (long) article at [Endangered Species Protection: Coming to a Label Near You | CropWatch | Nebraska](#) that should help explain it if you are interested (and have some time).
 - State pesticide agencies and many, many partners are trying to develop outreach and guidance to applicators to ensure compliance with these label restrictions.
- [Nebraska Buffer Strip Program](#) – the program is still in place and there are funds available for filter strips and riparian forest buffer strips, the two practices allowed on eligible acres. There is a fairly recent summary by NRD at this link, but I can provide a current one at any time.
- As always, if there are monitoring data for pesticides (new or historical) that are not already in a publicly available database, please let me know and I can help you submit them to EPA for use in future risk assessments.

US Geological Survey

Dave L Rus dlrus@usgs.gov

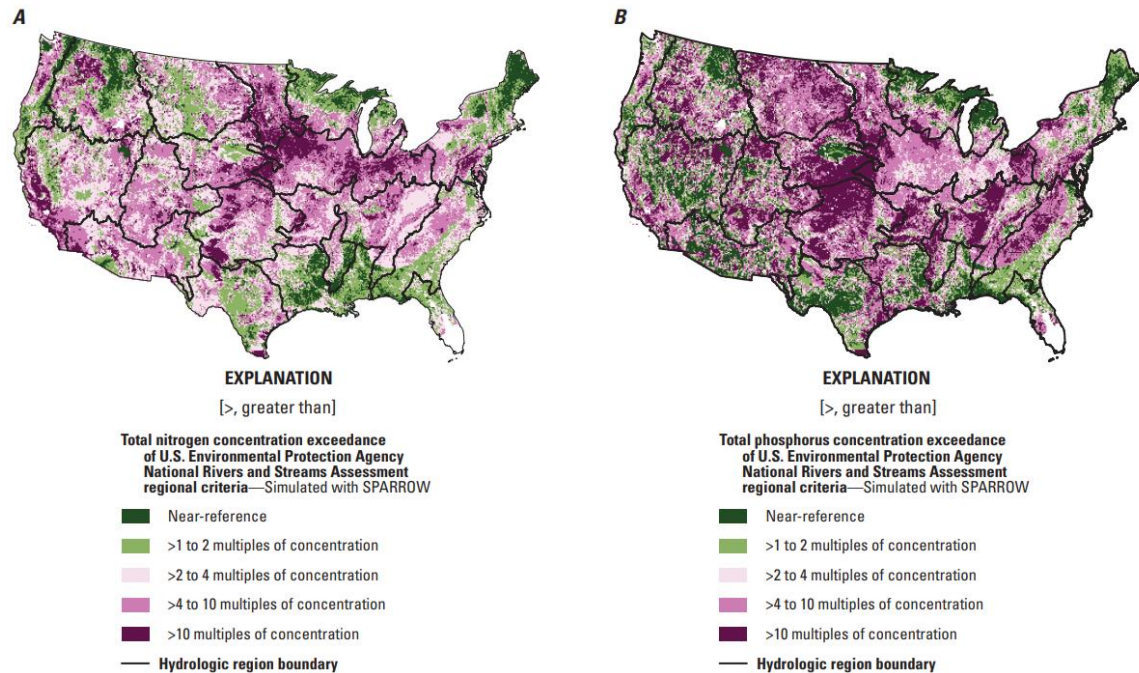
1. Water quality – SW - data collection:
 - 1.1. 2024: 15,950 results so far across ~175 samples; (Major ions, trace elements, nutrients, field parameters, bacteria, pesticides, PFAS)
 - 1.2. Ongoing sampling at National WQ Network sites (Maple Cr, Elkhorn R, Platte R, and Dismal R) as well as samples collected at the Salt Cr at Waverly and the Salt Cr at Ashland
 - 1.3. Continuous WQ monitoring sites:
 - 1.3.1. Four sites in Lower Platte R corridor, Niobrara River near Sparks, pH and WT monitor on N Platte River @ Scottsbluff.
 - 1.3.2. Sites in [USGS Dashboard](#)

1.3.3. Also have real-time water temperature on Platte at Venice and Overton, Dismal nr Thedford, and Niobrara at Verdel

1.4. PFAS sites: Dismal River nr Thedford

2. Surface water quality reports in progress

2.1. Recent report on Status of WQ in the US 2010-20 ([USGS Professional Paper 1894-C](#)). Lots of good information. Here's an excerpt of nutrient enrichment modeling:



Note: SPARROW, SPAtially Referenced Regressions On Watershed attributes

2.2. Nutrients and microbial source tracking – Platte at Ashland – Dave Rus POC

2.3. Arsenic characterization in the Lower Platte River and alluvial aquifer – Matt Moser POC

2.4. Sediment characteristics downstream of the dam failure at Spencer – Nathan Schaepe POC

3. Accessing USGS sample data online has changed. Are people still finding the data that they need?

3.1. USGS portal, [Download Samples - USGS Water Data for the Nation](#)

3.2. Water Quality Portal, [Water Quality Data Home](#)

3.3. [Web Tools - Water Resources | U.S. Geological Survey](#)

4. Central Plains Water Science Center Quarterly Seminar

4.1. Join us **April 16th, 2025, at 12 pm** for our quarterly seminar with USGS researcher Ted Stets over *The Integrated Water Availability Assessment, 2010-2020*. This presentation will provide background information and highlights on the recent Integrated Water Availability Assessment, which was published in January. The assessment brings together aspects of water supply, water use, and water quality. These components of water availability are considered individually and then synthesized for a combined national-scale analysis of water availability. An index of water availability, called the supply and use index, is used to determine areas more prone to water limitations. We find that heavily cultivated areas of the Central and Western US including the High Plains, CA Central Valley and Mississippi Alluvial Plain among others have the highest probability of water limitation from the supply and use index. In all, we find that 26 million people in the Conterminous US live in areas especially prone to water limitation. The presentation will be via [Microsoft Teams](#) (linked here, or you can contact Dave Rus, dlrus@usgs.gov, for a meeting invite)

Some recent water-quality reports of potential interest – not all USGS

Erickson, M.L., Miller, O.L., Cashman, M.J., Degnan, J.R., Reddy, J.E., Martinez, A.J., and Azadpour, E., 2025, Status of water-quality conditions in the United States, 2010–20 (ver. 1.1, February 2025), chap. C of U.S. Geological Survey Integrated Water Availability Assessment—2010–20: U.S. Geological Survey Professional Paper 1894–C, 85 p., <https://doi.org/10.3133/pp1894C>.

Gribben, K.C., Johnson, K., Greenberg, P. et al. Environmental contamination associated with biofuel production involving pesticide-coated seed corn as feedstock: a survey of community environmental and health impacts. Environ Health 24, 17 (2025). <https://doi.org/10.1186/s12940-025-01174-7>

Nebraska Game and Parks Commission

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Aquatic Habitat

- Removal of Carter P Johnson Dam at Ft. Rob.
- Possible removal or modification of Valentine Mill Pond Dam

Rivers and Streams

- Continued monitoring of Cool Water Streams in North Central and Northwest portions of the state
- Assisting NDEE with Biological Monitoring at 6-8 sites

Water Policy

- Niobrara NRDs and NGPC have assumed the water rights associated with Spencer Dam as an instream flow right on the Niobrara River
- Application for the trans-basin water diversion of Platte River water to Republican River is still open at DNR. NGPC has significant concerns about invasive species, i.e. bigheaded carp species. Carp are currently present at the North Plate Diversion Structure. We are working with CNPPID to remove that population and also evaluate migration above the structure.

