Summer 2025

## Staff Update—New Clerk at Auburn NRCS Office

The Auburn NRCS office welcomed Toni Niedermeyer as their new office clerk in June. Toni lives near Talmage and has always called the farm life home. She's a proud mom of three sons—two of whom are farmers—and a grandma to eight grandchildren. In her free time, Toni enjoys baking, cooking, and spending time with family. If you stop by the office, be sure to give her a warm welcome!

## Is your well registered?

Registering your well helps Nebraska maintain accurate groundwater data and supports responsible water management across the state. All wells built after 1993—including domestic wells—are required to be registered with the Nebraska Department of Water, Energy, and Environment (DWEE).

The Nemaha NRD encourages private well owners to check the Interactive Registered Groundwater Wells Map on DWEE's website: **dnr.nebraska.gov/groundwater**

## Upcoming Events

August 14th: Nemaha NRD Board of Directors Meeting & Public Hearing

September 1st: Labor Day Holiday, NNRD office closed

September 9th—11th: Visit the NRD Booth at Husker Harvest Days

September 11th: Nemaha NRD Board of Directors Meeting & Budget Hearing

*Insight is a publication of the Nemaha NRD. Requests to be placed upon the Insight mailing list and/or comments regarding information in this publication should be directed to Maddie Million at 62161 Hwy 136 Tecumseh, NE 68450 or at mmillion@nemahanrd.org. For more information on the Nemaha Natural Resources District please visit our website at www.nemahanrd.org*

Nemaha NRD
nemaha
NATURAL RESOURCES DISTRICT
62161 Hwy 136 • Tecumseh, Nebraska 68450

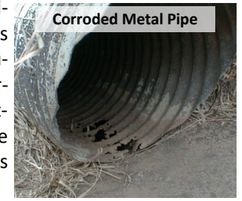
Protecting Lives, Protecting Property, Protecting the Future – Since 1972
For a listing of staff and directors please visit our website at www.nemahanrd.org/about

# Insight

Nemaha Natural Resources District

## Modern Solutions for Aging Watershed Infrastructure

The Nemaha NRD is home to more than 400 dams, many of which are now over 60 years old. As these structures age, the wear of time is becoming increasingly visible—especially in the outlet pipes. Corrosion is most common in the upper portions of the corrugated metal pipes, where the combination of moisture, air, and soil creates ideal conditions for rust to form and gradually weaken the metal. Over time, rust perforates the riser, holes develop in the outlet, and welds begin to fail. Eventually, the structural integrity of the entire system is at risk.


Corroded Metal Pipe

These structures were originally designed with a 50-year lifespan, based on anticipated sediment buildup and water flow. Now that many have exceeded that timeframe, repairs are essential to maintain flood control and protect surrounding roads, homes, farmland, and communities.

### Choosing the Right Repair Method

Several approaches are available to address pipe deterioration. Each method has its place depending on the pipe's condition, location, and expected lifespan:

- Asphalt Coating: A protective layer of asphalt is applied to the inside of the pipe to slow corrosion. While inexpensive, this is a short-term solution and doesn't improve structural strength. It may need to be reapplied after several years.
- Anode Coating (Cathodic Protection): This method helps slow down corrosion by attaching small metal pieces, called anodes, that attract the corrosion away from the pipe. It can extend the life of the pipe by 25 years or more, but only works well if the pipe is still in good structural condition.
- Full Pipe Replacement: The traditional method involves excavating and replacing the entire pipe. While effective, it is time-consuming, expensive, and highly disruptive to the land. Replacement can take 30 days or more per site and often requires restoring damaged land after installation.


Outlet Pipe in Action

- UV-CIPP: A modern and highly effective solution now being used is Ultraviolet Cured-In-Place Pipe (UV-CIPP). This trenchless technology eliminates the need for digging by restoring the pipe from the inside. A resin-saturated liner is inserted into the existing pipe and cured using ultraviolet light, forming a strong, jointless, corrosion-resistant pipe within the old structure.

### UV-CIPP: Long-Term Repair Without the Mess

Unlike surface coatings, UV-CIPP provides full structural renewal. It adds strength, improves hydraulic performance, and extends the structure's life by an estimated 75+ years—longer than the original design.


Installing the UV Liner

Since 2023, 24 structures in the Nemaha NRD district have been relined using UV-CIPP: 5 in 2023, 7 in 2024, and now 12 in 2025. These projects are scheduled in the springtime (April–May), before crops are planted, to ensure easy access to structures since many of them are located in or around crop ground. The Brownell watershed near Syracuse was the first focus area, with structures that were finished in the early 1960s. Structures in the Wilson Creek watershed are scheduled for relining in 2026, followed by sites in the Upper Big Nemaha watershed near Adams and Firth,.

UV-CIPP is also a major time-saver. According to Aaron Stalder, Nemaha NRD Resource Specialist, "A key advantage of this process is the time savings. This year, 12 sites were completed in just two weeks. Each site can be finished in a single day, whereas traditional pipe replacement could take 30 days or more per site. It causes less disruption, minimizes downtime, is much more efficient, and is also more affordable."

UV-CIPP allows us to extend the life of critical infrastructure efficiently and with minimal disruption—ensuring these watershed structures continue to serve their purpose for decades to come.


Before Lining

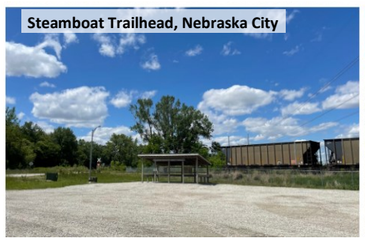

After Lining

# Quarterly Recreation Roundup


Tree Maintenance Along the Trail

## Upgrades at the Steamboat Trace Trail

The relocation of the Arbor Station shelter and construction of the adjacent trailhead near OPPD is nearly complete. The Nemaha NRD is working closely with OPPD and the Otoe County Roads Department to finalize new signage for the site, including a partnership sign, approved county road bike crossing signage, NRD rules and regulations, updated informational signage and kiosk, and the addition of new picnic tables in the shelter area. Steve Bartels, Nemaha NRD Field Representative and Recreation Coordinator, shared his appreciation: "The NRD is grateful for the hard work completed by OPPD."


Steamboat Trailhead, Nebraska City

This new facility is located next to the north trail access point. The NRD will also be installing limestone screening at the access location, with material already staged onsite. Scheduled trail maintenance will continue throughout the season. Reoccurring storms caused significant damage to large trees along the trail, and several removals required the use of a bucket truck. Trail users who encounter fallen or impassable trees are encouraged to report them to the NRD office.

**Stay Safe—Check the Beach Monitoring Results First!**

Be sure to check the weekly beach monitoring results for toxic algae and E. Coli. before swimming.
Link on our website at:
www.nemahanrd.org
*And remember...When in doubt, stay out!*

## Recreation Area Upgrades

Maintenance work is ongoing across all Nemaha NRD recreation areas, including tree trimming, leveling camping pads, and targeted weed spraying to keep facilities safe and welcoming for visitors.

## Kirkman's Cove

Plans are in place to replace the concrete boat dock tiles, build and install a new kayak launch, add solar lighting at the boat ramp area, and construct a new kiosk at the south entrance. Recent hazard tree limb removal has been completed with the help of a bucket truck.


Kirkman's Cove

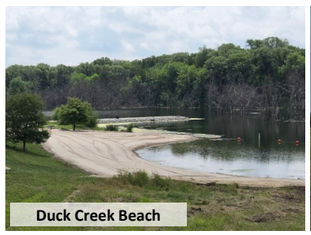

Iron Horse

## Iron Horse Trail Lake

Yellow stair markers were painted to improve visibility and safety. Significant tree trimming took place on the primitive camping side to increase lake visibility. The NRD will be working on building and installing a kayak launch.

## Duck Creek Recreation Area

Duck Creek has seen a major beach renovation with the west side expanded to create more space for visitors and beach activities. A new outlook shelter and sidewalk were added at the upper-level electrical campsites, providing visitors extra space to relax and take in the scenic lake view.


Duck Creek Beach


Duck Creek Shelter

## Wirth Brothers Lake

A new concrete restroom was installed at Wirth Brothers Lake.


Wirth Brothers Lake

Summer 2025

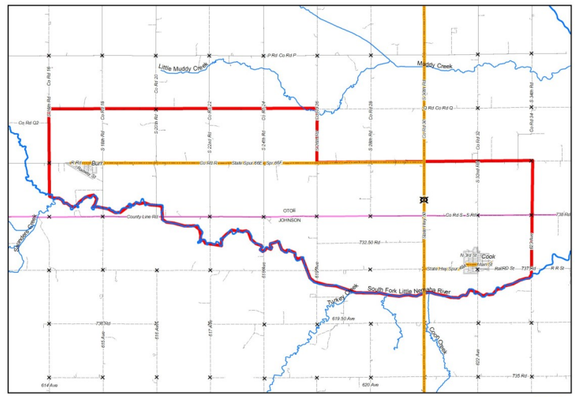
## Irrigation Efficiency Program

The Nemaha NRD, in partnership with Otoe County Rural Water District #3, is piloting an Irrigation Efficiency Improvement Program aimed at reducing groundwater use and improving water delivery on existing center pivots. With support from the Nebraska Environmental Trust and the Water Sustainability Fund, a total of $120,000 in funding was made available to assist local producers.

This voluntary program offers 100% reimbursable cost-share for nozzle upgrades that meet efficiency standards—at least 96% distribution uniformity, 10 PSI operating pressure, and less than 1% runoff. A flowmeter is required and must be maintained for five years.

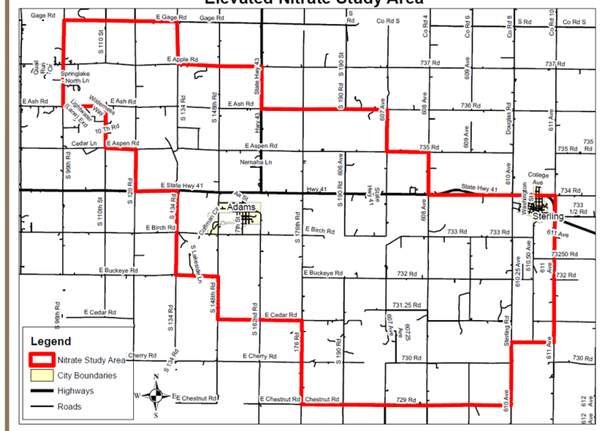
The first round of upgrades is now complete, and participating producers are helping to evaluate the program's impact over two growing seasons. Center pivot irrigators between Burr and Cook, north of the South Fork of the Little Nemaha River, may still be eligible. The program is open on a first come, first serve basis and will be pre-approved based on funds available each year.

For more information, contact the Nemaha NRD at (402) 335-3325.




Nemaha NRD
The Nebraska Environmental Trust
"preserving NATURAL NEBRASKA" for future generations
NATURAL RESOURCES COMMISSION

## Nitrate Study Area Update




In November 2024, the Nemaha NRD Board designated a study area between Sterling and Adams due to concerns about rising nitrate levels in groundwater. The goal of the study was to collect as many domestic well water samples as possible to evaluate nitrate concentrations and assess potential risks to water quality.

We are pleased to share that data collection for the study is complete, with samples gathered from a wide range of domestic wells throughout the area. The water staff are analyzing the results to identify trends and determine whether nitrate levels are elevating, and if so, to what extent. This analysis is a critical step to understanding the scope of any groundwater contamination. Once finalized, the findings will help inform potential next steps, which may include additional monitoring, public outreach, or groundwater management strategies to protect water quality in the region.

Why was the tree such a great conservationist?

Because it was ***outstanding in its field!***

# Nebraska Forest Service Reports on Chlorosis

**Chlorosis in Oak, Maple and Birch Trees**

*By Jennifer Morris, Forest Health Specialist & ISA Certified Arborist, Nebraska Forest Service*

Chlorosis is a term used for leaves or needles of trees that have lightened in color or have turned yellow. Chlorosis can be caused by an iron deficiency in the plant. Pin oak, silver maple, and birch trees are most commonly affected by iron deficiency. High pH levels in the soil can make iron and other micronutrients unavailable to plants. The ideal pH range for most trees is 5-7, and the pH of soils in our state can be over 8. Soil compaction, root disturbance and even higher levels of other nutrients like nitrogen, can also make iron unavailable.


Chlorosis on Oak

Iron deficiency causes yellowing of leaf tissue, keeping the veins and midrib of the leaf a darker green. When unaddressed, this deficiency can lead to leaf scorch, twig dieback, and if severe, eventual death of the tree over time.

To help counteract iron deficiency, additional iron can be introduced into the soil. Usually soil treatments use a chelated iron product or have a mixture of iron sulfate and sulfur. Sulfur will help to lower the pH (temporarily), allowing the tree roots to pick up the available iron. Trunk injections and implants of iron are also available, but we suggest contacting a professional arborist if injections or implants are necessary.

For additional information on chlorosis or treatments, contact your local NRD, Extension Office or the Nebraska Forest Service.