



# IN THE LOUP

## New Irrigated Acres To Be Awarded in 2022

Landowners in three river basins in the Lower Loup Natural Resources District (LLNRD) may apply for new groundwater irrigated acres for 2022. A total of 3,000 new irrigated acres will be available - 1,500 in the North Loup, 750 in the Beaver, and 750 in the Middle Loup.

The Lower Loup NRD Board of Directors approved the new acres at their May meeting. The Board also voted to award 30 bonus points for new acre applications for fields located in an area of rising groundwater levels in Loup, Garfield, Valley, Sherman and Greeley Counties.

Applications for new irrigation will be accepted Sept. 1-20, 2021 only. A non-refundable fee of \$500 will be required with each application and only one application will be allowed per field.

As in the past, applications for new irrigation will be ranked using criteria approved by the LLNRD Board. Criteria includes stream depletion factors, the status of groundwater and surface water, the number of acres being developed, and the soil classification. No new irrigated acres will be granted in a community's wellhead protection area.

Available Irrigated Acres	
North Loup Basin	1,500
Beaver Creek Basin	750
Middle Loup Basin	750

New surface water irrigation may also result following the approval of new groundwater acres. Callan said that under the Integrated Management Plan developed by the Lower Loup NRD and the Nebraska Department of Natural Resources (DNR), one surface water acre of new irrigation could also be developed for every three new groundwater irrigated acres.

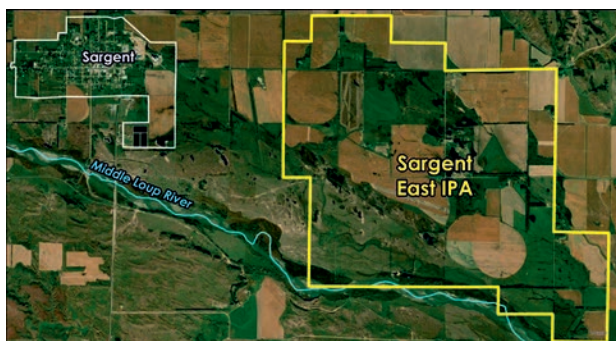
## LLNRD Board Ends Sargent East Project Plans

Following a lengthy discussion, the Lower Loup NRD Board of Directors voted to end consideration of the Sargent East Improvement Project Area at its July meeting. The decision followed submission of a petition to the Board requesting that the project be terminated.

Russell Callan, NRD General Manager, told the Board that benefits from the proposed drainage project were figured for each landowner involved based on the amount of their

land that was included in the project. Callan said that one landowner, who had the most benefits from the project, and therefore the largest portion of the total \$1.32 million cost, had submitted the petition to stop the project.

When the project was developed, it was determined that it did not provide public benefits, only private ones, which meant the IPA process had to be used. The Board voted unanimously to end the project.



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# AEM Flights Approved for Nance County Area

Aerial ElectroMagnetic (AEM) flights in an area of Nance County has been approved by the LLNRD Board of Directors. The flights will help define where the aquifer is limited and where there is low transmissivity. Funding through the Water Sustainability Fund will be sought to cover the costs.

NRD Assistant General Manager Tylr Naprstek said the project would cost roughly \$417,000. He said that the flight lines would be further apart so the study would cover a larger area.



**AEM flights are captured by a helicopter towing survey equipment.**

According to Cam Conrad, Water Modeling Coordinator, the study area would be about 250 square miles with the same coverage for flight lines, spread out further to approximately 3 miles apart.

The area appears to have limited aquifer potential and low transmissivity. The AEM survey allows for a more science-based process to define the aquifer boundaries. Flight data would be collected in late summer 2022 and mobilization costs would be scheduled subject to additional projects by other NRDs in the state.

# NRD Offers Cover Crop Cost-Share Programs

Two cover crop programs have been implemented for water quality management by the Lower Loup NRD. Cost-share has been implemented in the Clear Creek-Pibel Lake Watershed to limit sediment and nutrient runoff into the lake with a goal to remove it from the impaired waterbody list. The cost-share program in Area 28 encourages the use of cover crops on irrigated cropland as a nutrient management tool, since cover crops have been shown to be beneficial in limiting nitrate movement through the soil profile.

Cover crops have been planted on 7,400 acres in the Clear Creek-Pibel Lake Watershed over the past three years, and 5,735 acres planted in Water Quality Management Area 28 over the past two years. The cover

crops planted in these areas have reduced erosion from winter winds and water runoff, stabilized fallowed fields after the 2019 floods, and been utilized as an additional forage source for grazing cattle.

To apply for cost-share, forms



**Apply for cover crop cost-share.**

supplied by the LLNRD are to be used and planting can't commence until after District approval. The cost-share payment is a flat \$30/acre rate and split into two payments, with 50% of the payment paid after planting in the fall. The

remaining 50% is paid in the spring after ensuring the cover crop has been established.

The Clear Creek-Pibel Lake Cover Crop Program is partially funded through the Nebraska Department of Environment and Energy Nonpoint Source Management 319 Grant Program. The Area 28 Cover Crop Cost-Share Program is partially funded through a Nebraska Environmental Trust grant. The Nebraska Legislature created the Nebraska Environmental Trust in 1992, providing over \$349 million in grants to over 2,400 projects in the state. Contact Jason Moudry for program details, 308-728-3221.



# A Message From The Manager

Welcome to another edition of “In The Loup.” We are happy to share information on the work of the Lower Loup NRD.

Each summer, the Lower Loup Natural Resources District provides assistance to irrigators with information on managing a crop’s water use.

That management requires knowledge of a crop’s current water use, data which is provided via the University of Nebraska-Lincoln’s Northeast Research and Extension Center (NREC) on the Lower Loup NRD’s web site, [www.llnrd.org](http://www.llnrd.org).

Crop Water Use can be found under the Resources tab on the tool bar near the top of the NRD home page.

The information is essential to convert water into grain or feed in the most efficient manner possible. The goal is to apply only enough water to meet the crop’s full water use.

If the combination of rainfall and irrigation water is not enough to meet the crop water use, yield reductions occur. When too much water is applied, the excess percolates past the root zone, carrying with it nitrates and other chemicals to the groundwater.

Inefficient use of water can prove costly to irrigators. Excess water results in a loss of nitrogen fertilizer, which in turn results in diminished



**LLNRD General Manager  
Russell Callan**

yield. With the high price of fuel today, the cost of pumping extra water can have a major impact on the farmer’s bottom line.

Contact the Lower Loup Natural Resources District headquarters at 308-728-3221 for more information.

## Drought Management Plan Being Developed

The Lower Loup NRD is reinitiating development of a comprehensive drought management plan for the District. Due to the COVID-19 pandemic, the plan was temporarily halted because of the difficulty of gathering large groups of people for their input.

Stakeholder participation is a key factor in the plan. That group will work to develop innovative strategies for alleviating drought conditions and to identify the severity levels of drought. A “drought tournament” will be completed. It’s an engagement strategy involving large groups of people from various backgrounds to outline how a drought impacts livelihoods and to produce different

alternatives to manage drought. Other plans such as the NRD’s Groundwater Management Plan, Integrated Management Plan and Hazard Mitigation Plan are crucial.

Public engagement provides helpful insights on fitting the best management practices into local culture with NRD support. A stakeholder group consisting of both surface and groundwater



**Drought of 2012, Davis Creek  
(photo courtesy Garry Wells)**

irrigators, emergency management personnel, community leaders, zoning board members, government representatives, realtors, and specialized industry representatives is being assembled for the drought tournament. Historical data from 2012 and the drought of the early 2000’s will be used to develop recommendations.

The final plan will include a history of drought monitoring, stakeholder recommendations on potential drought management, assessment and evaluation of drought levels, and additional monitoring and offset recommendations for the future. Once finalized, a copy of the plan will be available at [www.llnrd.org](http://www.llnrd.org).



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### Nebraska's NRDs . . .

**Protecting Lives, Protecting  
Property, Protecting the Future.**

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# Nebraska Chemigation Act Enforced by NRDs

Applying chemicals or fertilizer via irrigation equipment was first allowed under the Nebraska Chemigation Act in 1987. It was designed to protect groundwater and surface waters of the state from contamination. It also covers fertilizers that are mixed with irrigation water for widespread application to row crops. It is important to remember that any chemicals used with irrigation legally fall under the Chemigation Act.

Anyone who uses chemigation in Nebraska needs a permit at each irrigation site (surface AND groundwater) and must have a State of Nebraska chemigation applicators license. This license needs to be renewed every 4 years.

Any site that has never had a prior

chemigation permit, where the June 1st reapplication deadline was missed, or the application has changed, requires a new permit. All new permits require an inspection from a Lower Loup NRD technician prior to the application of chemicals to ensure the source of the water is protected from backflow.

Any site with a permit from the previous year with the same applicant is considered renewal and is inspected once every 3 years. During inspections, the NRD will check for a properly operating mainline check valve, a mechanical or electrical interlock with the chemigation pump, a properly operating chemical injection valve, and a low pressure drain with a 20' hose flowing away from the water source.

On average, the Lower Loup Natural Resources District receives over 300 new permit applications and around 2,800 renewal applications. NRD employees inspect over 1,000 chemigation sites annually each summer. For more information regarding the chemigation program, please contact the Lower Loup NRD.



**NRD Technician Dan Ray checks chemigation.**