

IN THE LOUP

Groundwater Levels Reach All-Time Highs

Groundwater levels in the Lower Loup Natural Resources District have reached all-time highs, thanks to an unusually wet 2019. Following the record floods of the previous year, groundwater levels rose, on average, 1.82 feet.

In Platte County, where record water levels were recorded last spring, the average actually decreased overall -0.31 feet.

NRD General Manager Russ Callan said that the NRD data comes from annual spring monitoring of groundwater levels, a practice done by NRDs since their formation in 1972. Callan stated that NRD personnel have recorded groundwater levels at 444 sites and are also collecting long-term pressure transducers that record a reading every 8 hours.

He said that the groundwater level rises in 2019 and 2020 are notable, but said the past decade also includes significant declines, including the drought of 2012. The drop in groundwater levels during that drought took over 5 years to recover in some places. Additionally, Callan said that groundwater levels in the eastern portion of the lower Loup River Basin declined slightly this year when compared to Spring, 2019.

NRD Assistant Manager Tyler Naprstek said that the majority of groundwater levels in the spring



Districtwide Groundwater Levels Over the Last 10 Years

of 2020 were the highest readings ever recorded by the LLNRD, since starting in 1975.

NRD Cover Crop Cost-share Program Funded

The Lower Loup NRD has been pre-approved to receive a Nebraska Environmental Trust grant to implement a Cover Crop Cost-Share Program in Water Quality Area 28 west of Columbus in Nance and Platte Counties.

In 2002, readings in Area 28 triggered Phase III management by exceeding the 8.50 milligrams per liter threshold of nitrates in groundwater across sampled wells. The current average of groundwater nitrates is 18.8 mg/L in Area 28.

Cover crops have been beneficial in limiting nitrate movement through the soil profile, so the LLNRD is implementing the Multiple Species Cover Crop Cost-Share Program on irrigated cropland in Area 28 over the next 3 years.

To apply, eligible producers must adhere to the NRCS's cover crop standards. Payment will be a flat \$30/acre rate, with 50% paid after planting in the fall. The remaining 50% will be paid the following spring after inspection.

More details on the application process will come this summer. For more information on cover crops, contact Dan Ruterbories at (308) 728-3221.

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LLNRD Rec Areas Re-Opened to Camping

The Lower Loup NRD's two recreation areas, Pibel Lake Recreation Area south of Bartlett and Davis Creek Recreation Area south of North Loup, were re-opened to the public on May 20th.

NRD General Manager Russell Callan said that camping has resumed at both areas. He said social distancing and group-size recommendations of ten or less will be maintained to help ensure compliance with the state's public health directives amid the COVID-19 health situation.

Camp sites at Davis Creek Recreation Area can be reserved online at

ReserveAmerica.com. At Pibel Lake, no reservations are required.

Callan said that campers must maintain a 25 feet separation between RVs or occupy a designated camping stall. Tent camping has also resumed at both rec areas. The restrooms at both areas, along with the RV dump station and fish cleaning station at Davis Creek, have all re-opened. Playground equipment at both recreation areas will continue to be off-limits.

The Lower Loup NRD retains the right to scale back the number of campsites if social practices are not



Camping has resumed at the LLNRD's Davis Creek and Pibel Lake Recreation Areas

followed or if public health officials determine there is an increased incidence of the virus. The LLNRD will continue to evaluate the situation on an ongoing basis.

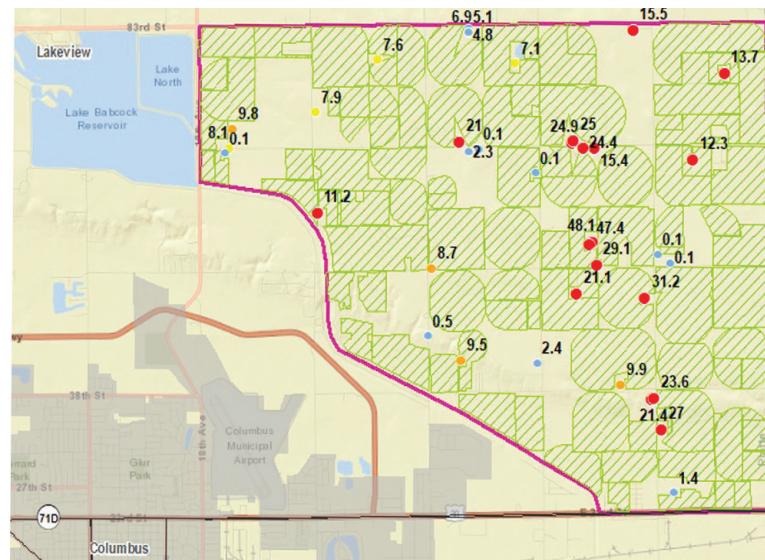
“Fingerprinting” Determines Nitrate Source

Water Quality SubArea 30 is the LLNRD's most recent addition to the District's Phase III regulatory requirements due to elevated nitrate levels in the groundwater, so it makes sense for producers to ask more questions, like “from where is the nitrate coming?”

One source for that answer is isotope sampling. Nitrate is composed of multiple stable isotopes of nitrogen and oxygen. Nitrogen from specific sources has been shown to have a unique isotope composition or “fingerprint” which has led to a number of studies investigating the utility of linking nitrogen sources to nitrate contamination.

NRD technicians will collect samples throughout Area 30 and Dr. Daniel Snow with the Nebraska Water Sciences Laboratory in Lincoln will analyze the samples to help

determine the origin of the nitrate and whether it originated from inorganic sources like commercial fertilizer or from organic sources such as animal waste.



Water Quality SubArea 30 in Platte County

The results will be summarized in a technical report including a summary of the nitrate isotope composition, trends, and interpretation of results, together with all collected water chemistry data.

A Message From The Manager

Welcome to this edition of "In The Loup." Thanks for allowing us time to tell you more about the work of the Lower Loup NRD.

While the LLNRD staff concentrates on the needs of our District on a daily basis, we also recognize that what happens elsewhere in the state affects us. That's why the NRD participates in the Lower Platte River Basin Coalition.

The Lower Loup NRD is one of seven Natural Resources Districts in the Lower Platte Basin that have signed an interlocal agreement with the Nebraska Department of Natural Resources to adopt, implement and maintain a Basinwide Water Management Plan. The LPRBC focuses on water use policies and practices that contribute to the protection of existing surface

water and groundwater uses while allowing for future water development.

The LPRBC agreement was approved in January, 2018, and will continue for a five-year period. The Lower Loup NRD is the sponsoring party for the coalition. The other NRD members are Lower Platte North NRD, Lower Platte South NRD, Lower Elkhorn NRD, Papio-Missouri River NRD, Upper Loup NRD, and Upper Elkhorn NRD.

The first action taken by the Lower Platte River Basin Coalition was development of a basinwide water management plan in 2017. The plan's purposes include providing guidance and a framework for coalition members to develop water use policies and practices that contribute to the protection of



*LLNRD General Manager
Russell Callan*

existing surface and groundwater uses, while allowing for future water development; assisting in the development and maintenance of a water supply and use inventory; and providing information for use in individual NRD Integrated Management Plans.

Options Considered for North Loup Flooding

Options to reduce flooding risks for the Mira Creek Watershed, including the Village of North Loup, have been identified and public comment taken on the proposed project.

NRD Manager Russell Callan said significant flood risk reduction could come from a combination of several options, including one large dam on the north tributary, a berm on the south side of the channel, cleanout of the Mira Creek channel from Highway 11 and downstream approximately one mile, along with interior drainage improvements, such as ditch and culvert cleanout, and culvert replacement.

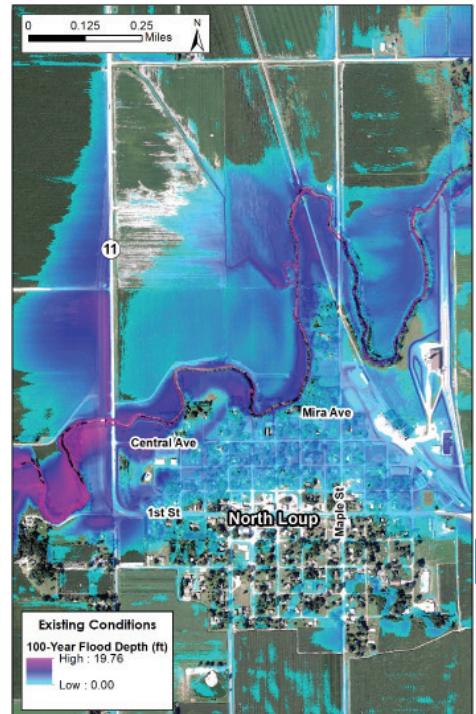
The next steps include incorporation

of public feedback into the draft study and then delivery of the final document to the LLNRD.

Should the project move forward, the LLNRD will then work with the North Loup Village Board to identify funding from local, state, and federal sources and create a schedule to proceed to final design and construction, which would take several years.

Those with questions about the study or the recommendations can contact the NRD office at (308) 728-3221.

100-year flood water depths in the Village of North Loup





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LLNRD Initiates New Recreation Incentives

The Lower Loup Natural Resources District (LLNRD) has initiated a new program to improve outdoor recreation opportunities and provide additional funding towards the Conservation Reserve Program (CRP). The LLNRD Access Incentives Program is a new cost-share fund that will assist landowners who are interested in enrolling property, currently in the CRP, into the Nebraska Game and Parks Commission's (NGPC) Open Fields and Water (OFW) program.

The OFW program is geared towards opening rangeland, pastureland, and wetlands to public access for hunting, fishing and trapping. LLNRD General Manager Russ Callan stated that the NRD is partnering with the NGPC to incentivize those fields that

are currently enrolled in CRP to provide additional funding for the landowner and to provide public access for recreation opportunities for the general public.

Callan stated the program was targeted towards the 33,230 acres enrolled in CRP across the LLNRD. Assistant General Manager Tylr Naprstek said that there are very few available OFW sites in the LLNRD, and such a program would assist by providing additional payments to participating landowners.

Naprstek stated that if a landowner



Photo: NGPC

chooses to enroll in OFW, the payment amounts vary from \$4 to \$8/acre, depending on the location, enrollment type, and habitat quality of the property in question. Contracts for OFW can vary from 1-5 years. NGPC biologists are responsible for determining the application's habitat quality. Callan stated that once the CRP ground is enrolled in OFW, the

incentive program would match the payment rate.

For more information, please contact the LLNRD office in Ord at 308-728-3221.