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Lower Loup Natural Resources District

IN THE LOUP

Hundreds of wells are measured by LLNRD technicians each year to gauge groundwater changes.

Listed below are the average changes in groundwater levels by county (in feet):

- Boone County +0.76
- Buffalo County -1.67
- Custer County -0.09
- Garfield County -0.09
- Greeley County +0.28
- Howard County +0.58
- Loup County -0.13
- Merrick County +0.16
- Nance County +0.50
- Platte County -0.11
- Rock County -1.48
- Sherman County -0.06
- Valley County +0.13
- Wheeler County -0.81

Inside this issue:

Groundwater Levels Show Minimal Declines

The sharp decline in groundwater levels in the Lower Loup Natural Resources District following the drought that ended in 2013 has slowed drastically. The Lower Loup Natural Resources District reports that, across the district, groundwater levels dropped an average of just 0.06 feet. In 2013, district-wide levels dropped an average of 2.58 feet.

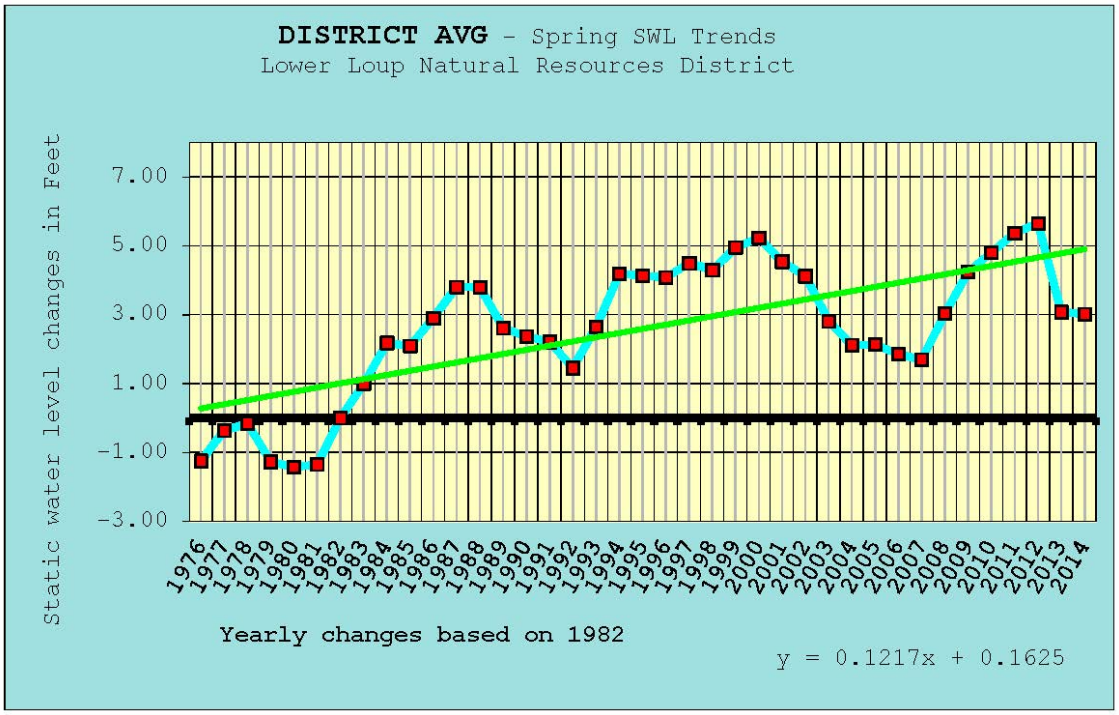
NRD Assistant General Manager Russell Callan said that the NRD staff is investigating some areas where groundwater levels are not rebounding as well as in the rest of the district. Northern Buffalo County readings were down an average of 1.67 feet. In Custer County, wells averaged a decrease of 0.09 feet. However, notable declines were found in southwest Custer County.

Callan said that LLNRD technicians spent weeks early this spring collecting data on the static water levels in the NRD. He said that hundreds of wells are measured, some from each of the counties in the NRD, a practice the district has undertaken for decades.

Callan said that when observed over multiple decades, average groundwater levels in the district continue to trend upward, even when including data from the recent drought.

Callan said that Lower Loup NRD staff has continuously compiled data for each county and for each water quantity area in the district. He said that the water quantity areas are regions within the NRD that have similar water quantity features.

The complete LLNRD Static Water Level Report is available on the NRD web site, www.llnrd.org.



Changes to the certification of irrigated acres in the Lower Loup NRD must be reported and forms must be submitted with updated information.

Keep Irrigated Acres Certification Current

In order to maintain up-to-date records regarding irrigated acres, the Lower Loup NRD reminds patrons to report any updates to their certifications.

LeeAnn Smith, Water Programs Assistant, said that there are a number of instances that would lead to a certification update. Examples include when all or part of a certified field is sold; a change in how land is deeded (including land placed in a trust or LLC); or when a field boundary is changed. This would occur when land is moved from one location to another inside a parcel. This situation would also require an updated HEL determination from the NRCS.

Smith said that a certification update is also required following any approved variance from NRD groundwater management rules.

To begin the updating process, the landowner should contact Smith at the LLNRD and the proper form will be prepared and sent out.

In addition to the LLNRD certification form, the landowner will also need to report the change to their county assessor's office, where they will receive a document from the assessor required for completion of certification. All paperwork must then be returned to the NRD.

When the NRD has processed all paperwork, a copy of the approval is returned to the landowner and a copy is filed with the Nebraska Department of Natural Resources. For more information, contact Smith at the Lower Loup NRD at (308) 728-3221.

Nebraska's NRDs...
Protecting Lives
Protecting Property
Protecting The Future

LLNRD employees Tylr Naprstek (right) and Brian Kolar (left) install a security casing around a monitoring well in Greeley County as part of ongoing groundwater monitoring projects.

Partnerships Are Key In Conservation Issues

Partnerships between the Lower Loup Natural Resources District and various local, state, and federal agencies are allowing for a coordinated approach to tackle a number of conservation issues in the Loup Basin.

Recently, the Lower Loup NRD partnered with the Nebraska Department of Environmental Quality (NDEQ) and hired JEO Consulting Group of Lincoln to assemble a watershed management plan for the Clear Creek-Pibel Lake drainage area. The plan identifies several management practices recommended for implementation across the area to address the concerns at Pibel Lake.

The NDEQ and LLNRD are also working together with UNL's Conservation Survey Division (CSD) to develop several statewide groundwater monitoring wells and corresponding test-hole sites across the District. CSD will log these test holes to discover the base of aquifer and any confining layers and provide NDEQ and LLNRD with recommendations for the various depths to develop dedicated monitoring wells for each site. These wells will be monitored for various groundwater concerns including nitrates, ammonium, chloride and pesticides.

The United States Geological Survey (USGS) is also constructing test-holes to the base of aquifer as a prelude to the many studies that will be taking place in the South Loup River Basin. The USGS and LLNRD have long-term data recorders set up in wells in this area to study groundwater irrigation adjacent to the river and an active stream gauge monitoring flows near Arnold.

The District continues to work with the Natural Resources Conservation Service (NRCS) on irrigated acres transfers. Each transfer request to the LLNRD requires an approved NRCS conservation plan before it can be enacted.

Finally, the Lower Loup and Upper Loup NRDs are working conjointly with the Nebraska Department of Natural Resources (NDNR) to start developing an integrated management plan for water resources throughout the Loup River Basin. NRD and NDNR staff have begun discussions regarding the components for the plan and a timeline for plan work has been proposed.

A Message From The Manager

Welcome to another edition of *In the Loop*. I am glad to share with you information on the work of the LLNRD and want to thank you for reading this newsletter.

In earlier editions, I have introduced some of the employees who get the work of the NRD done each day. In this issue, we go a little south and take a look at the folks in the St. Paul and Fullerton field offices.

As I have mentioned previously, the Lower Loup NRD's field offices are located in your local Natural Resources Conservation Service (NRCS) offices. The NRCS is our federal partner in getting conservation on the land and NRD staff works in partnership with NRCS staff to provide services to the public.

Peggy Griffin has been with the LLNRD for 24 years, serving as the District Secretary in St. Paul. In Fullerton, Jeanne Horacek has served residents of Nance County for five years. Their duties include serving as receptionists for the NRCS office and working with the public on both federal and NRD programs.

The secretaries are the NRD's local contacts for constituents in their areas. NRD field office secretaries are familiar with all our programs and can offer information on cost-share assistance, well and chemigation permitting, irrigated acres questions, and other programs of the District.

Mike Lorenz has been the NRD's agronomy technician for nine years, handling water quantity and quality monitoring in the LLNRD's Groundwater Quality Area 28, a strip of land south of the Loup River in Platte and Nance Counties. He works with landowners to assist them in meeting requirements in place for the area.

I urge all of you to take time to visit your local NRD Field Office whenever you have a question. Take the opportunity to meet our staff and allow us to assist you in any way we can to uphold the NRD motto -- protecting lives, protecting property, protecting the future.

CORRECTION

In our last issue, I stated that all the proponents testifying for LB-1074 argued that groundwater irrigation needs to be shut down. Not all those testifying for the bill made that argument.

Leon "Butch" Koehlmoos is the General Manager of the Lower Loup Natural Resources District.

Visit the new Lower Loup NRD Web Site! www.llnrd.org

LLNRD Water Samples To Be "Fingerprinted"

As part of its Wellhead Protection Program, the Lower Loup NRD continues to monitor the quality of community groundwater supplies.

According to Jason Moudry, Water Programs Specialist, during the summer of 2014, in addition to routine sampling efforts, the LLNRD will also be sending a number of water samples to the University of Nebraska Water Sciences Laboratory for stable isotope analysis.

Moudry said the lab at UNL defines this type of analysis as a "fingerprinting" method for tracing the sources of contaminants such as nitrate. By understanding the isotopic composition, the UNL Water Science Lab can determine if the nitrate source originated from inorganic sources like commercial fertilizer or from organic sources such as animal waste.

Moudry stated that, through a 319 grant sponsored by the Nebraska Department of Environmental Quality and with funds from the Lower Loup NRD, approximately 36 samples will be collected from various priority wellhead protection areas where nitrate contamination is a concern.

LLNRD Wellhead Protection Coordinator Jason Moudry said isotope analysis of water samples in the District will help determine the origin of nitrate contamination.

IN THE LOUP is a publication of the Lower Loup Natural Resources District. It is published quarterly by the LLNRD and is distributed to the residents of the 16 counties that make up the District. IN THE LOUP is edited by Larry Schultz, NRD Information/Education Coordinator.

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Water Meter Program Underway in Water Quality Area

As of this month, applications for 63% of the total irrigation systems in Area 28 had either been completed or requested cost-share from the Lower Loup Natural Resources District's program for flow meters on all irrigation systems in the Groundwater Quality Management Area 28.

Area 28 is a strip of land south of the Loup River stretching from Columbus to northeast of Palmer. Tylr Naprstek, NRD Water Modeling Coordinator, who oversees the program, said that the cost-share program is currently being offered at a 100% rate for equipment and parts in 2014. Cost-share becomes 75% in 2015 and 50% in 2016.

Naprstek said that the cost-share covers both the flowmeter, which must be installed to manufacturer specifications, and straightening vanes. Straightening vanes are especially useful in locations that do not have sufficient in-line spacing required to allow for the flow to be conditioned for an accurate reading.

Naprstek said that, according to a multi-year environmental impact study the LLNRD completed with Olsson Associates of Lincoln, better irrigation management and scheduling was a key factor in controlling the ongoing nitrate leaching problem in Area 28.

Naprstek said that, aside from a straight reduction of fertilizer, which may not be feasible, flowmeter installation and better irrigation scheduling are a proven way to better manage nitrates in the groundwater. The study also listed other alternatives to address the problem, including converting from flood to pivot system irrigation, better nitrogen application timing, more crop rotation, required cover crops, and a more robust manure management program.

Lower Loup NRD officials are hopeful that these transitions will be viewed positively since landowners will be better able to track their irrigation water applications. Better nutrient and water management will save irrigators in Area 28 financially in the long term through reduced fertilizer application and irrigation costs.