

Water Committee Meeting
Thursday, July 30, 2020 7:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. REGULATORY

2.A. GROUND WATER MANAGEMENT AREA

2.A.1. Variances

Christa Martin has a middle quarter on the N1/2 of Section 3-17N-7E (map attached). This tract is a couple miles north of Ames and the new Hwy 30 is going to split the property in half. She was wondering if irrigation would still be possible. This tract of land is dryland but was irrigated at one time. She would potentially need 2 wells and looking into what would be the most cost-efficient, a pivot or sub-surface drip. The well shown by DNR records was drilled in 1957 with static water level at 5 feet. She was wondering if she should apply for an variance this year or next as timetable will be decided by the DOT. Staff is wanting some thoughts from the Committee. Is this one or two variances? Allowing some leeway on the time that the wells are drilled and equipment installed? Allowing the old well to be treated as a replacement well (assuming it is actually there)?

The Committee felt if there will be potentially 2 wells on different tract, then 2 variances are needed, Each variance will be scored separately and ranked on their own merits with no guarantees of approval. If an extension is needed, it will be treated accordingly. Staff will investigate further if the original well is still there.

2.A.2. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Ray Lindhorst contacted the office regarding a well he owns in Platte County near Lindsay. The well is in the LPNNRD but irrigates ground in both LPNNRD and LLNRD. He would like to expand his system in LLNRD. Staff is asking for direction with how to proceed. LLNRD is still using acres as their method of determining water use, while we use the well.

The Committee asked staff to get a better understanding on what Lower Loup is needing to complete this transfer.

2.A.3. Variance Requests in the Non-Hydrologically Connected Area (Normal Development Area)

Variations are due August 15.

2.A.4. Variance Requests in the Restricted Development Areas

The Committee would like to view any AEM flights for the variance in section 23-14N-6E for the August Committee Meeting..

2.A.5. Well Permit Program

Staff has been handling numerous replacement well permits.

2.A.6. Municipal Well Permit

Platte Center has applied for a well permit to add an additional well. This community is struggling with high nitrates in the community wells.

2.A.7. Irrigation Runoff Complaint

Russ has handled a couple of pivot endguns watering the road plus water running into Linwood.

2.A.8. Nitrogen Management Areas Update

Staff gave an update at the Committee meeting on the equipment and data from the demonstration fields.

Staff has started the process for applying for a NET grant. Staff is still looking at a Source Water Grant through the NRCS for other projects. As one grant is federal funds and the other state, these grants working in conjunction could potentially help with the local match.

The following are the projects included the grant:

Cover Crops - \$160,000 (40 producer, maximin 80 acres, \$50/acre)
Tissue Sampling - \$2,000 (200 samples at \$10/sample)
Flow Meters - \$350,000 (350 meters at \$1000/meter)
Monitoring wells - \$100,000 (2 nested sites with 4 inch casing for sampling)
Field Mapping - \$10,000 (10 producers at \$1000/field)
High End Soil Moisture Sensors - \$20,000 (20 producers at \$1000/field)

The total amount of a NET grant would be \$642,000, which would be over 2 years and normally be about 25 percent for the LPNNRD. The LPNNRD requirement would be \$160,500 over a 2 year period.

2.A.9. Cost Share Programs

2.A.9.a. Irrigation Well Sample Kits

Staff has been sending out kits and received number of them back already.

2.B. CHEMIGATION

For 2020 we have 695 renewals and 52 new permit applications for a current total of 747. Inspections for 215 renewal permits have been completed.

2.C. LIVESTOCK WASTE PERMITS

The LPNNRD has received no livestock permit applications from NDEE since the last Water Committee meeting.

The Board did past a motion to stay neutral on livestock facilities and the NRD responsibility is with the permitting of high capacity wells. Manure application is usually treated as any commercial fertilizer, which soil sampling and manure analysis should be conducted and handled by NDEE.

Name	Livestock	Type of Permit	Legal Description	County

Description of permit application

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Well Estimates

new wells has been reviewed and approved for decommissioning since the last Committee meeting.

Well Owner	Type of Well	Cost Share Estimate	County
Mark B Gall	Irrigation	\$1,000	Butler
Matthew R Hilger	Irrigation	\$1,000	Butler

3.A.2. Plugged Wells

wells have been plugged, reviewed, and ready for cost share payment approval this month.

Well Owner	Type of Well	Cost Share Estimate	County

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Tile Drains

Other discussion?

3.B.2. Eastern Nebraska Water Resources Assessment (ENWRA)

Attached is a presentation given to the technical group on July 23. An update was given on current and potential future projects. Katie is planning on an update to the Committee/Board next year.

3.C. GROUND WATER QUALITY SAMPLING

Staff has been collecting water samples from the 53 statewide networks wells along

with doing extra water sampling in Dodge County and the Phase areas. This year staff is assisting with a project for UNL. Staff just collects water in an additional bottle at a site that the NRD is already sampling.

Project information:

An irrigation water quality survey for NRDs of Nebraska

Charles Wortmann, Soil Fertility Specialist, Department of Agronomy and Horticulture, UNL
cwortmann2@unl.edu

Substantial amounts of nutrients essential for crop growth are applied through irrigation in Nebraska. With the exception of nitrate-N, irrigation-applied nutrients have not been directly credited in fertilizer use decisions but some may be credited through the interpretation of soil test results. Information for some nutrients applied in irrigation water has been reported by county based on a survey of irrigation water quality done in the 1960's which presents the case for the need for a new survey and for analysis of all irrigation water sources <https://cropwatch.unl.edu/2019/crediting-essential-nutrients-applied-irrigation-water>. This article addressed only phosphorus (P), potassium (K), calcium (Ca), magnesium (Mg), sulfur (S), boron (B), and chloride (Cl). I propose that we conduct a new survey that addresses these nutrients and zinc (Zn), iron (Fe), copper (Cu), manganese (Mn), and molybdenum (Mo), as well as nitrate-N, ammonium-N, sodium adsorption ratio (SAR), electrical conductivity, pH, and bicarbonate concentration. Concentrations are not expected to change much over years and survey results will be valid for years. The objective is generate a database and a report similar to the attached but with sample results mapped by latitude and longitude with interpolation for 17 water properties.

3.D. Drought Map

A drought map for the week of July 28 with some information from NeDNR

According to the July 25th Palmer Drought Severity Index (Att 2), conditions in the Nebraska panhandle are -3.0 to -3.9, which indicate that the area is currently experiencing a "severe drought." But directly adjacent and east of the panhandle are areas in north and central Nebraska that are experiencing +3.0 to +3.9 PDSI, indicating a "very moist spell." Minimum stream flows on the Platte River at Ashland (Att 3), according to gage 0680100 are hovering above 3,000 cfs, with a maximum of up to 9,500 cfs, so drought conditions have not been met in eastern Nebraska at this time according to the drought triggers.

Also, the [Nebraska Climate Assessment Response Committee \(CARC\)](#) met today.

Presentations given at that meeting can be found at this link:

<https://carc.nebraska.gov/minutes.html>

Key points were:

- Warmer than normal conditions have dominated the state and region recently with regional temperatures averaging about 2-4 degrees F above normal the last 60 days.

- Almost the entire state of Nebraska has recorded below normal precipitation for 2020 so far with areas of northcentral Nebraska the anomaly with areas 4 inches above normal.
- Nebraska is currently showing 22.92 percent of the state in drought and this has been trending upwards over the last 3 months. Most of the drought is moderate (D1) with some pockets of severe in the Panhandle.
- The seasonal drought outlook has drought persisting in Nebraska through the end of October in the areas that are currently in drought. Some improvements could be seen in the far northwest part of the state as well as the extreme northeast.

4. SURFACE WATER PROGRAMS

4.A. STATE LAKES, FOR THE WEEK OF

Week of July 20th, 2020

This week's beach Bacteria and Harmful Algal Bloom results are now posted on the NDEE web page ([Current Health Alerts and Sampling Results For This Week](#)).

We have a larger number of Health Alerts than usual this week. Why, you may ask. Last year the EPA recommended lowering the concentration limit for Health Alerts associated with Harmful Algal Blooms (HABs). Over the past few years states, universities, and researchers have been working with the EPA to determine if the older criteria in place since the late 1990's was still a good benchmark for Health Advisories for beaches and other recreational waters. A lot of research has been conducted since the first criteria was issued. Using this newly gained knowledge about HABs and their affects on human health it was found that a lower human health criteria was needed. We have read the new recommendations as well as the associated research and believe the new human health criteria of 8 ppb is based on very good science. As such we adopted the new lower criteria of 8 ppb for this year. This means we have a few more lakes listed this week than we would have in years past. This certainly does not mean that the lakes are more dangerous than years past it is just science doing what science does, constantly testing what we know and making the necessary changes as we learn more

4.B. USGS STREAM FLOW GAUGING SITES

An invoice is attached for the annual payment on stream gauges and groundwater monitoring wells per agreement 20NRJFA00170. Some information is shown from the gauges.

The data is available at this website:
<https://waterdata.usgs.gov/nc/nwis/rt>

5. OTHER

Budget

5.A. NRCS Chief Matthew Lohr Visit to Nebraska

Our office was notified last week and confirmed on Tuesday of the NRCS Chief's visit to Nebraska on August 5th and 6th. While in the State, the Chief will be visiting one NRD and he has chosen Lower Platte North. The State NRCS office is excited to have the Chief visit and has scheduled a busy day beginning with a visit to LPNNRD and Lake Wanahoo. The draft itinerary is attached which has the Chief scheduled to be at the Wanahoo Education Building from 8:30 am - 12:30 pm on the 5th. While the NRCS would like to keep the attendance at a manageable number, they are extending an invitation to LPNNRD Directors and staff. Please let me know as soon as possible if you are interested in attending.

5.B. COMMENTS FROM THE PUBLIC