

Water Committee Meeting  
 Thursday, January 2, 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. Well Permit Program

2.A.1.a. Well Permits Approved

Wells Permits Approved: 5

Landowner	Number of Wells	Number of New Irrigated Acres	Type of Well	County	Subarea
Selma Schmit Limited Partnership	1	0	Irrigation	Butler	Bellwood
Kenneth Meister	1	0	Livestock	Butler	David City
Dan Lutjens	1	0	Livestock	Platte	Lower Shell Creek
Bruce L & Amy M Williams	1	0	Livestock	Saunders	Morse Bluff
Tim & Terry Foltz	1	0	Irrigation	Platte	Platte Center

The total number of approved permits for 2019 is 31

Location of Approved Well Permits for 2019: Correct as of 12/31/2019

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler	1	2	1	0	0	0	4

<b>Colfax</b>	0	2	0	0	0	0	2
<b>Dodge</b>	2	1	0	0	0	1	4
<b>Boone</b>	6	0	0	0	0	0	6
<b>Madison</b>	0	0	0	0	0	0	0
<b>Platte</b>	1	5	1	0	0	0	7
<b>Saunders</b>	2	1	3	0	1	1	8
<b>Total</b>	12	11	5	0	1	2	31

### 2.A.2. Expansion of Acres Request

The District has received two applications for acre expansions from an existing well. These are requests for new acres without increasing consumptive use.

#### Request #1:

Chad King would like to add 40 acres to his existing 224.98 acre system in S23-22-5W, Boone County. The irrigated acres are serviced by well G-044537. Assuming nine acre inches per year for the current system, the additional 40 acres will set the annual allocation at 7.64 acre inches.

#### Request #2:

Steve Johnson would like to add 50 acres to his existing 198.73 acre system in S3-13-8E, Saunders County. The irrigated acres are serviced by well G-135474. Assuming nine acre inches per year for the current system, the additional 50 acres will set the annual allocation at 7.19 acre inches.

### 2.A.3. Surface Water to Groundwater Conversion

Roger Harder asked the Committee to consider converting surface water irrigation to groundwater irrigation. The tract is located in the NW1/4 23-14N-6E, which is SE of Weston. This is right on the edge of the LPNNRD blue/red area, so it would be eligible to be considered for a variance for a new irrigation well. The deadline for variances in the red area is August 15.

### 2.A.4. Lower Platte River Basin Water Management Plan Coalition (LPRBC)

A technical meeting was held in Norfolk on December 3rd. The group discussed the online reporting in which HDR will be coming to each NRD to work with them, so information can be uploaded correctly. Another issue was how each NRD handled water use for a livestock facility. A standard will be developed, so there is consistency throughout each NRD.

The group then discussed the V-IMP and the agreed depletion numbers in the initial plan and what would be the process for the next 5 years starting in 2022. The Lower Platte NRD got 2276 acre feet (AF) which 1138 AF was designated for groundwater depletion. At

the present time the LPN has used 886.57 AF for irrigated acres and approximated another 100 AF for livestock facilities. Each year the NRD and DNR reallocate according to total use. No surface water allocation has been used, so at the present time LPNNRD has approximately 536 AF available for 2020-21 and DNR has 752 AF available for surface water. (attached is a depletion chart)

The group discussed the next 5 years allotment and with the AEM flights not incorporated into the Platte-Missouri Trib Model an extension was discussed beyond 2022. If extension is granted for another 5 years, no new allotment would be issued. The extension would allow DNR and the NRDs to work on regional models to refine the HCA area.

2.A.5. Voluntary Integrated Water Management Plan - LPNNRD

Staff will be meeting with DNR for the quarterly review on January 7.

2.A.6. Cost Share Programs

2.A.6.a. WaterSmart Grant for Remote Sensing

Quotes for proposals were due December 31 at 4:30 pm. Staff and Committee reviewed the information from the four proposals received. Discussion considered initial cost, annual costs and reliability. The LPNNRD was awarded a WaterSmart Grant from the Bureau of Reclamation for \$105,452, with the Bureau paying 50% of the total equipment cost or a maximum of \$52,726. The grant included options of adding remote reads for meters and evapotranspiration (ET) information. Staff and Committee felt that knowing what might work and the efficiency would be invaluable information, as the NRD moves forward with online reporting and newer technology. The quotes just looked at remote reads on water level data loggers.

Staff has received an updated quote from METO USA company that included the obtaining remote reads from dataloggers, flow meters and ET information. The quote including this equipment is \$38,075.34, which staff would recommend approving, so the grant process with the Bureau of Reclamation is not delayed.

2.A.7. Bellwood Phase 2 Area

2019 is the seventeenth year for the Phase 2 Area. [In 2015 this area was reduced from 32 sections to 21 section.] Six shallow vadose zone samples (Giddings Rig) were collected in November.

Year	Nitrate-nitrogen Range	Percent Nitrate-nitrogen 0 to 8.0 ppm	Percent Nitrate-nitrogen 8.01 to 10.00 ppm	Percent Nitrate-nitrogen greater than 10 ppm
2004	0 to 25 ppm	46.3% (44 of 95)	8.4% (8 of 95)	45.3% (43 of 95)
2005	0 to 25 ppm	47% (44 of 94)	15% (14 of 94)	38% (36 of 94)
2006	0 to 24 ppm	41% (29 of 71)	14% (10 of 71)	45% (32 of 71)
2007	0 to 31 ppm	48% (48 of 100)	9% (9 of 100)	43% (43 of 100)

2008	0 to 28 ppm	53.75% (43 of 80)	7.5% (6 of 80)	38.75% (31 of 80)
2009	0 to 22 ppm	45.5% (41 of 90)	15.5% (14 of 90)	39% (35 of 90)
2010	0 to 35.7 ppm	48.65% (54 of 111)	11.71% (13 of 111)	39.64% (44 of 111)
2011	0 to 26.6 ppm	51% (56 of 110)	6% (7 of 110)	43% (47 of 110)
2012	0 to 28.9 ppm	57% (61 of 107)	9% (10 of 107)	34% (36 of 107)
2013	0 to 25.8 ppm	50% (53 of 107)	9% (10 of 107)	41% (44 of 107)
2014	0 to 22.3 ppm	51% (55 of 108)	13% (14 of 108)	36% (39 of 108)
2015	0 to 32.3 ppm	43% (31 of 72)	8% (6 of 72)	49% (35 of 72)
2016	0 to 35.1 ppm	34% (25 of 74)	11% (8 of 74)	55% (41 of 74)
2017	0 to 23.5 ppm	36% (27 of 74)	15% (11 of 74)	49% (36 of 74)
2018	0 to 30.9 ppm	40% (25 of 63)	11% (7 of 63)	49% (31 of 63)
2019	0 to 24.5	46% (22 of 48)	10% (5 of 48)	44% (21 of 48)

One 2019 requested water sample kit remains outstanding: Kit #19-5227, Joe Birkel.

#### 2.A.8. Richland - Schuyler Phase 2 Area

2019 is the fourth year of this Phase 2 Area. There are 45 registered active irrigation wells in the ten sections of this area. Two deep vadose zone samples (tracked by GeoProbe) were collected in December. A hearing is scheduled for January 30 at 8:30 am to move this area up to a Phase 3 Area.

Year	Nitrate-nitrogen Range	Percent Nitrate-nitrogen 0 to 8.0 ppm	Percent Nitrate-nitrogen 8.01 to 10.00 ppm	Percent Nitrate-nitrogen greater than 10 ppm
2016	1.47 to 41.8 ppm	29% (10 of 34)	9% (3 of 34)	62% (21 of 34)
2017	2.44 to 25.4 ppm	23% (8 of 35)	(0 of 35)	77% (27 of 35)
2018	1.75 to 29.3 ppm	25% (5 of 20)	10% (2 of 20)	65% (13 of 20)
2019	0.23 to 35.9	11.4% (4 of 35)	14.3% (5 of 35)	74.3% (26 of 35)

#### 2.A.9. Richland - Schuyler Phase 3 Area

2019 is the fourth year of this Phase 3 Area. This Phase 3 area went into effect September 1, 2015. The 55 sections of this area first went into a Phase 2 Area in 2004. Nine shallow vadose zone samples (Giddings Rig) were collected in November. Four deeper vadose zone samples (tracked GeoProbe) were collected in December. The LPNDRD entered into a signed contract with EA Engineering for \$24,458.33 to conduct the vadose sampling. An invoice for 30% of the project is attached for \$7,937.50 with NRD staff submitting this to Nebraska Environment Trust for 100% reimbursement. The invoice came in after the Water Committee.

Year	Nitrate-nitrogen Range	Percent Nitrate-nitrogen 0 to 8.0 ppm	Percent Nitrate-nitrogen 8.01 to 10.00 ppm	Percent Nitrate-nitrogen greater than 10 ppm
2004	0 to 47 ppm	30% (42 of 139)	10% (14 of 139)	60% (83 of 139)
2005	0 to 120 ppm	31.3% (74 of 236)	10.2% (24 of 236)	58.5% (138 of 236)
2006	0 to 53 ppm	28% (50 of 181)	14% (26 of 181)	58% (105 of 181)
2007	0 to 99 ppm	32% (75 of 231)	10% (22 of 231)	58% (134 of 227)
2008	0 to 46 ppm	28% (53 of 190)	12% (23 of 190)	60% (114 of 190)
2009	0 to 57 ppm	33% (72 of 216)	6% (13 of 216)	61% (131 of 216)
2010	0 to 57.5 ppm	31% (70 of 229)	7% (15 of 229)	62% (142 of 229)
2011	0 to 65.8 ppm	28% (67 of 241)	9% (21 of 241)	63% (153 of 241)
2012	0 to 52.6 ppm	29% (70 of 241)	9% (21 of 241)	62% (150 of 241)
2013	0 to 94.0 ppm	25% (63 of 252)	9% (23 of 252)	66% (166 of 252)
2014	0 to 101.0 ppm	27% (68 of 251)	9% (22 of 251)	64% (161 of 251)
2015	0 to 53.3 ppm	23% (55 of 238)	12% (29 of 238)	65% (154 of 238)
2016	0 to 50.5 ppm	25% (58 of 228)	10% (22 of 228)	65% (148 of 228)
2017	0 to 53.4 ppm	25% (60 of 238)	6% (14 of 238)	69% (164 of 238)
2018	0 to 56.9 ppm	26.5% (50 of 189)	6.3% (12 of 189)	67.2% (127 of 189)
2019	0 to 39.4	25% (53 of 209)	11% ( 22 of 209)	64% (134 of 209)

One 2019 requested water sample kit remains outstanding: Kit #19-5302, Randy Kassmeier.

#### 2.A.10. LPNNRD Operator Certification

Twenty-eight producers passed the Online Test in 2019.

Winter Classes:

- Thursday, January 9 - 3:30 pm at Fremont Extension Office
- Wednesday, January 22 - 4:30 pm at ENREC - Mead (in between pesticide classes)
- Wednesday, January 29 - 1 pm at Ag Hall - Columbus (flyer attached)
- Tuesday, February 11 - 9:30 am at Fairgrounds - David City (during Ag Show)
- Tuesday, February 25 - 9 am at Village Hall - Lindsay
- Wednesday, February 26 - 1 pm at Oak Ball Room - Schuyler (flyer attached)
- Tuesday, March 17 - 9 am at Ag Hall - Columbus
- Thursday, March 19 - 6 pm at ENREC - Mead

### 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
Selma Schmit Limited Partnership	Irrigation	\$1,000	Butler
Tim Foltz	Irrigation	\$1,000	Platte
Wesch Trust's x 5 (Gerald Irrevocable; Dean Irrevocable; Dean Revocable)	Irrigation	\$2,981.23	Dodge

### 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
John L. Bender	Irrigation	\$1,000	Platte
Yindrick Farms LLC	Irrigation	\$1,153.77	Butler
K Four J Farms LLC	Domestic	\$364.51	Saunders
Steven V. Frahm	Domestic	\$260.07	Saunders

## 3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

### 3.B.1. Eastern Nebraska Water Resources Assessment (ENWRA)

Invoice for ENWRA dues for \$30,000 and geo-cloud for \$3,400 is attached. This is part of the 5 year agreement of the interlocal agreement passed at the LPNNRD Board May 2017. (Agreement is attached)

Discussion at technical meeting on December 11 was on regional geological models to use in a numerical model, which an example would be the Platte Missouri Trib model. This model is the one NeDNR is using for HCA determination.

A geological model would combine AEM data, text holes, well logs etc. This would help fill in gaps between the flight lines in determining boundary conditions and the extent of the isolated aquifers. The ENWRA group felt that each NRD could look at areas of concerns and work regionally. The group did feel that a standard be developed so consistency would be developed in looking at the information.

### 3.C. Water Flow Meters

#### New proposal

- Year 1 - All wells in Nitrate Management Areas
  - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
  - Second year \$600 cost-share only, with Year 2 in new area would be occurring also.
- Year 2 - Dodge, Colfax and Butler County
  - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
  - Second year \$600 cost-share only, with Year 3 in new area would be occurring also.
- Year 3 - Platte, Boone and Madison
  - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
  - Second year \$600 cost-share only, with Year 4 in new area would be occurring also.
- Year 4 - Saunders County
  - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
  - Second year \$600 cost-share only,
- After the fifth year no cost share available and all meters not installed would be required to install at their cost.

LPNNRD would set a date that all high capacity wells are required to have meters during the fifth year.

#### Original Meter Proposed Policy:

##### Cost-share

- Year 1 - \$1000 cost-share for the flow meter and extra \$500 for a check valve if needed.
- Year 2 - \$800 cost-share for flow meter and extra \$500 for a check valve if needed.
- Year 3 - \$600 cost-share for flow meter and extra \$500 for a check valve if needed

##### Installation

- Year 1 - All wells in Nitrate Management Areas
- Year 2 - Dodge, Colfax and Butler County
- Year 3 - Platte, Boone and Madison
- Year 4 - Saunders County

Meter Details (this would stay the same)

- Meter Installation handled by Private Companies
- Meter Maintenance will be contracted out with about 1000 meters a year.

Quote seen at a water conference "If water is not measured it can't be managed."

The purpose of installing flow meters for the LPNNRD is to get a better understanding of sustainable aquifers for future generations. This will also allow the LPNNRD to be pro-active instead of re-active if water consumption becomes an issue. A producer can utilize the flow meter on how the well is actually performing and increase irrigation management efficiency. The Committee recommended to start setting aside funding, like \$200,000 a year, into a sinking fund for the purpose of a grant match.

### 3.D. McCrometer Flow Meters

Representative from McCrometer will be present to update the Committee on flow meters offered by the company.

## 4. OTHER

### 4.A. COMMENTS FROM THE PUBLIC