

Water Committee Meeting
 Wednesday, August 29, 2018 5:00 PM
 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. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Deadline is September 15 for variance requests.

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

The District has four applications for new acres in the non-hydrologically connected area (see table below). The Board has the authority to approve up to 70 acre feet of new development in this area.

App Number	Applicant	Type	Location	Subarea	Acres	Ranking Score	Acre Feet	Comments
LPN-NDV-018-0048	Kyle Osmer a	Expansion	NW 1/4 15-14-5E	Weston	23.0	381.2	5.18	
LPN-NDV-018-0047	Anthony Meister	Expansion	NW 1/4 15-15-1E	David City	67	370	15.08	57% Class 6+ Non HEL
LPN-NDV-018-0046	Randy Fendrich	New	SW 1/4&NW1/4 17-15-3E	David City	140	318.6	31.5	
LPN-NDV-013-0015	Lawrence Hynek	New	NW1/4&NE1/4 3-16-5E	Prague	150	275	33.75	Previously Denied Until AEM

								Completion
				Total	38		85.	Up to 70
				s=	0		51	Acres
								Feet

- Area B - Kyle Osmera
- Area C - Anthony Meister
- Area D - Randy Fendrich
- Area A - Lawrence Hynek

Committee Discussion: The variance for Randy Fendrich falls within David City Wellhead Protection Area. The Wellhead Protection Ordinance requires approval by David City.

2.A.3. Approved Well Permits

Wells Permits Approved: 3

Landowner	Number of Wells	Number of New Irrigated Acres	Type of Well	County	Subarea
Don Kavan	1	85	Irrigation	Saunders	Morse Bluff
Jerald Kracl	1	0	Irrigation (Replacement)	Colfax	Schuyler
Doris Moser Credit Trust	1	0	Irrigation (Replacment)	Dodge	North Bend

The total number of approved permits for 2018 is 15

Location of Approved Well Permits for 2018: Correct as of 6/27/2018

County	Irrigation - New	Irrigation - Replacement	Stock	Commercial	Municipal	Other	Total
Butler	1	0	1	0	0	0	2
Colfax	0	1	0	0	0	0	1
Dodge	1	1	0	0	0	0	2
Boone	1	0	0	0	0	0	1
Madison	2	0	0	0	0	0	2
Platte	2	1	1	0	0	0	4
Saunders	2	3	0	0	0	1	6
Total	9	6	2	0	0	1	18

2.A.4. Irrigation Letter Request

Staff received a call for a site that is going up for auction this fall that is presently dry land. This tract is in the HCA area and would be eligible for a variance in the Fall of 2019. They would like a letter from the NRD saying that the parcel would be eligible for an irrigation well and allowed to be irrigated. Staff gets calls like this a couple times a year. Should staff go ahead and send a letter saying that at this time it is OK or not OK? Who should sign the letter?

The Committee felt that a letter should not be sent.

2.A.5. SQS#2 - UNL Collaboration

In early April, Andersen and Oaklund did field recon of SQS #2 with UNL to see if the area would be conducive for a master's research thesis. Following permission from various landowners staff has been installing data logger shelter over gravel pack tube at selected irrigation wells in cooperation with UNL. For her master's thesis Jackie Polashek, a UNL student, is compiling water level data for comparison/integration with the existing AEM flight data. Her advisor at UNL, Jesse Korus, grew up in the Lindsay area. Staff has

installed data logger at six sites. UNL will purchase ten Level Troll data loggers and cables to be used at additional sites in her research study area. Upon completion of her master's the equipment will then become LPNNRD property. As the water level data sets are collected and evaluated, one or more could then be candidates for remote sensing.

2.A.6. LPNNRD Certification

One online test request has been received in August. Producer passed test and a certification card was mailed.

Cert #	Cert date	Name	Re-cert	Comments
7133	8/6/2018	John Dietrich	new	

2.A.7. Cost Share Programs

As producers are beginning to use remote soil moisture sensors for irrigation scheduling, does the Board want to consider this an option for cost-sharing? At this time there is \$10,000 dollars budgeted for cost-sharing. The District already cost-share on watermark sensors and this would be another option. The average cost for this equipment is about \$1600 without installation. The District could set aside \$4000 of the \$10,000 for a 50/50 cost-share if this is something the District wants to promote. The last couple of years only couple of producers have asked for cost-share on the Watermark sensors.

The Committee directed staff to proceed with the remote sensing cost-share and set up a program for ranking and taking applications for the Committee to review before final approval.

2.A.7.a. Irrigation Well Sample Kits

313 irrigation kits have been mailed out so far this year. Precipitation slowed the requests as producers have waited to irrigate. 220 samples have been received (17 so far this week). The results for 160 samples have been received from the lab and these results were mailed to producers.

2.A.8. Bellwood Phase 2 Area

2018 is the sixteenth year for this Phase 2 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
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 19.9 ppm	33% (16 of 49)	12% (6 of 49)	55% (27 of 49)
2018	0.14 to 21.3 ppm	30% (6 of 20)	20% (4 of 20)	50% (10 of 20)

2.A.9. Richland - Schuyler Phase 2 Area North Phase 2

2018 is the third year of this Phase 2 Area. There are 45 registered active irrigation wells in the ten sections of this new 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 23.6 ppm	19% (4 of 21)	(0 of 21)	81% (17 of 21)
2018	2.89 to 21.3 ppm	36% (4 of 11)	9% (1 of 11)	55% (6 of 11)

2.A.10. Richland - Schuyler Phase 3 Area

2018 is the third 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.

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
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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	27.15% (38 of 140)	6.42% (9 of 140)	66.43% (93 of 140)
2018	0 to 56.9 ppm	26.61% (33 of 124)	5.65% (7 of 124)	67.74% (84 of 124)

2.A.11. NET Grant Update

Staff will be submitting a NET Grant this week.

The Committee wanted to include cost-sharing for remote soil moisture sensors in the grant. As the grant is only for the phase areas these would be the only producers eligible.

2.B. CHEMIGATION

For 2018 we have 619 renewals and 90 new permit applications for a current total of 709. Inspections for 209 renewal and 87 new permits have been completed.

The breakdown by County for the Total Number of Renewals within the LPNNRD.

County	Number of Renewals
Boone	55
Butler	89
Colfax	42
Dodge	96
Madison	7
Platte	102

Saunders	228
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The breakdown by county of the number of renewal inspections completed.

County	Number of Renewal Inspections Completed
Boone	11
Butler	20
Colfax	22
Dodge	51
Madison	6
Platte	44
Saunders	55

The breakdown, by county for the 90 new chemigation permit applications, are listed below:

County	New Chemigation Applications
Boone	3
Butler	21
Colfax	17
Dodge	22
Madison	
Platte	8
Saunders	16

3. GROUND WATER PROGRAMS

3.A. DECOMMISSIONED WELL PROGRAM

3.A.1. Well Estimates

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

Well Owner	Type of Well	Cost Share Estimate	County
Beebe Production Enterprises LLC	Irrigation	\$327.23	Dodge
Beebe Seed Farms	Irrigation	\$376.88	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

3.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

3.B.1. Platte and Elkhorn River Valley Integrated Water Monitoring

The LPN and PMRNRD contracted with the USGS to conduct a water flow study between the Platte and Elkhorn Rivers. A draft final report for the study should be available near the end of the year. The final invoice is attached for payment.

3.C. DAKOTA MONITORING WELLS

Staff has collected water samples from the three recently drilled Dakota wells. Since these samples were collected from the screen length at the bottom of these wells (>800') weighted hydrosleeves were put into each well and left overnight. Staff followed this recommended procedure at each of the wells. The three samples were collected the week of August 13-17. Samples were taken to Midwest Lab in Omaha. Results have not yet been received.

3.D. GROUND WATER ENERGY LEVELS

Staff took summer measurements on 56 wells in the WANN Basin on August 21. The wells averaged 0.81 ft lower compared to 2017 summer readings and down 2 feet compared to 2018 spring readings.

3.E. STATEWIDE NETWORK SAMPLING

Adequate precipitation has allowed some producers to not have to run their well in 2018.

That, coupled with hail events in Platte County, has reduced the number of samples collected this year. So far 33 of the 53 sites have had nitrate samples collected: 21 of 33 were less than 8 ppm (64%); 4 of 33 were between 8 and 10 ppm (12%); 8 of 33 were greater than 10 ppm (24%). Two producers called earlier this week and indicated that they may irrigate yet this week.

4. SURFACE WATER PROGRAMS

4.A. USGS STREAM FLOW GAUGING SITES

An invoice is attached for the NRD yearly payment to USGS for 2 streamgages sites and one real-time groundwater monitoring site.

4.B. STATE LAKES, FOR THE WEEK OF

Lakes being tested in the Lower Platte North are not on the list.

Week of August 20th, 2018

This week's beach Bacteria and Harmful Algal Bloom results are now posted on the NDEQ web page (<http://deq.ne.gov>).

No lakes tested over 20 ppb this week!!!!!! Rockford needs to be below 20 ppb next week before being removed from the HEALTH ALERT list.

Long time readers of the BeachWatch Listserv will recall that rainfall has a tendency to pick up bacteria on its path into the lake. As a result we always see more beaches with high *E. coli* after rain events. So considering a good number of us sampled in a tsunami Monday the list of beaches with elevated *E. coli* readings is long. Use your best judgment if you plan on visiting one of those beaches this week/weekend.

You may have heard that Olive Creek Reservoir near Kramer suffered a very extensive fish kill last week. Our friends over Nebraska Game and Parks (NGPC) investigated and found the cause was due to what is often called a Summer Kill. Summer kills unfortunately are a fairly common occurrence in eutrophic lakes (lakes that have an excess of the nutrients, nitrogen and phosphorus) this time of a year. I could write out a large essay on why eutrophic lakes suffer from summer kills but I doubt I could improve on what NGPC's Daryl Bauer wrote for his Barbs and Backlashes Column. So I will refer you to that:

<http://magazine.outdoornebraska.gov/2018/08/summer-kill/> .

CAUTION: SPOILER ALERT... an overgrowth of algae caused the fish kill. To be specific blue green algae (aka Harmful Algal Bloom) caused this fish kill. Olive Creek Reservoir doesn't have a swimming beach and you can't water ski there but this shows that HABs not only can affect human health but also the ecosystem health of the lake that they inhabit.

ONE Lake will be on "Health Alert" this week. NDEQ in conjunction with numerous

collaborators monitor public beaches and sample for microcystin, a toxin produced as a result of a Harmful Algal Bloom. A lake that exceeds 20 ppb of microcystin will be placed on "Health Alert". That lake will remain under "Health Alert" Status until such time that it has tested below 20 ppb for two continuous weeks.

If a lake is under a Health Alert, signs will be posted recommending people avoid full body contact activities such as swimming, wading, skiing, jet skiing, etc.

Lakes that tested high for *E. coli* bacteria this week are listed below. *E. coli* bacteria levels measured above 235 colonies/100 ml of sample are considered a higher risk for illness when swimming. Considering the more rapid changes in bacteria conditions, signs are not posted with these higher levels although we want people to be aware and use their own judgment on their use.

For further information about our BeachWatch Program, E.coli, HABs and the microcystin toxin please visit the links on our BeachWatch website. (<https://deq-iis.ne.gov/zs/bw/>).

5. OTHER

5.A. COMMENTS FROM THE PUBLIC