

Water Committee Meeting
Thursday, October 31, 2019 7:30 AM
Lower Platte North NRD Office
P.O. Box 126
Wahoo, NE 68066

1. UNFINISHED BUSINESS

2. Educational Presentation

Derek Brazka with Metos presented information on soil moisture sensors and data loggers.

3. REGULATORY

3.A. GROUND WATER MANAGEMENT AREA

3.A.1. Variance Request in the Hydrologically Connected Area (Limited Development Area)

Gary Miester and Ken Pestal is interested in pursuing a variance and have contacted staff at the NRD office. No response from Jerry Kobza.

Committee was Ok in letting this be delayed for a month

3.A.2. Livestock Well Permits

Ken Meister is asking for approval of a livestock well permit for a poultry operation in the NW1/4 NE1/4 Section 2-15N-1E, Butler County. Attached is some information from AEM flights along with a NDNR map showing well locations. The one irrigation well in this section is registered as a 1000 GPM well.

Committee discussed the possibility of receiving water levels from one of the new wells. Staff mentioned this is an area that more water levels would be helpful. Committee felt that a PVC tube be installed with a data logger would be appropriate.

3.A.3. Well Permit

At last Committee meeting, staff brought to the attention to the Committee on a situation which the new bypass around Fremont will be dividing an irrigated field. Sweetwater Inc. is asking for a new well permit and will not be adding any new acres. An application has been submitted to the District for approval. Attached is a map showing the scenario.

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

The technical group will be meeting on December 3rd at Lower Elkhorn NRD. Tentative agenda will include Database Update, Insight procedure update, Lower Platte/Missouri Tribes Model Update, NRD new irrigation acre allocation and next increment discussion.

3.A.5. 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 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	48% (22 of 46)	9% (4 of 46)	43% (20 of 46)

3.A.6. Richland - Schuyler Phase 2 Area

2018 is the third year of 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
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	0.80 to 35.9	7% (2 of 30)	13% (4 of 30)	80% (24 of 30)

3.A.7. Richland - Schuyler Phase 3 Area

2018 is the third year of this 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
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	26% (52 of 199)	11% (22 of 199)	63% (125 of 199)

3.B. LIVESTOCK WASTE PERMITS

The LPNNRD has received # 0 livestock permit applications from DEE since the last Water Committee meeting.

Name	Livestock	Type of Permit	Legal Description	County

Description of permit application

4. GROUND WATER PROGRAMS

4.A. DECOMMISSIONED WELL PROGRAM

4.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
Marvin L. Mueller	Irrigation	\$1,000	Platte

4.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

4.B. LOWER PLATTE NORTH NRD GROUND WATER STUDIES

4.C. GROUND WATER ENERGY LEVELS

As the NRD has received more data since setting the triggers, is this something that should be investigated? For example PV-1A initial elevation was 1415 with the lidar information showing 1421.1. Most of the wells are within 0.5 feet, but probably should review them all.

Committee thought staff could proceed on looking at the trigger levels.

4.D. GROUND WATER QUALITY SAMPLING

It has been brought to staff attention that some water standard might be changing. Staff talked to DEE and found that lead and copper rule might be changing. They also commented that a health level for manganese will be established but not enforceable. For infants it will be 300 ug/l and adults 1000 ug/l. If the drinking water exceeds these amount they recommend to not

consume the water. Nitrate levels is still 10 PPM (mg/l) with no immediate plan to change this number.

4.E. Water Flow Meters

At last month's Committee meeting the Committee didn't get much of chance to discuss the process of installing flow meters. Staff continues to investigate funding sources, with another option might be working with the NRCS.

****Committee would like more information on the grant with NRCS at the November Water Committee.****

More discussion questions:

> Who is going to do the meter installation?

-- Staff

-- Private

-- Contract

****Committee thought to continue the meter installation as the District is presently doing.****

> Who is going to handle the meter maintenance?

****Committee will like to continue a meter maintenance contract.****

> If the NRD does the tier cost-share, go district wide, by counties or management areas?

****Committee thought that after the management areas are completed then proceed by county.****

>What about check valves? State water standards states that if a hole is cut into the pipe to install a meter, a check valve needs to be in place. Also if a person is doing meter maintenance on a flow meter, once it is pulled out of the pipe the meter can't be re-installed without a check valve in place.

****Committee felt that if check valve is required then cost-share, like \$500, should be included for the check valve.****

The discussion from September's Committee Meeting recommended a tier cost-share with set amounts being explored. An example would be, if producers install meters in year 1 they would get \$1,000, year 2 - \$800 and year 3 - \$600. The installation of flow meters should be over a 3 - 5 year period with producers realizing that a date after this time, flow meters would become mandatory. 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.

Staff is in the process of obtaining information on how many meters are actually installed in the District.

At the NARD conference a presentation was shown on another option not utilizing a water flow meter. The Twin Platte NRD is working with Ollson and NDNR on getting water consumption by collecting electrical usage from the power company. The electrical rate number collected is calculated with the pumping rate from the well to provide water usage from the well. The grower would input irrigation method, crops planted and field operation and then receive a water budget on the field. The NRD contracted out to the local well drillers to provide the pumping rate from the wells for the producers. The cost for this project was estimated at \$3,500,000.

Another option that was reviewed at the conference was attaching a sensor to the pivot. This sensor would relay the amount of water going through the pivot nozzles and then using a formula with the pumping rate, the water use could be calculated. The cost of the sensor was about \$400.

5. SURFACE WATER PROGRAMS (Linwood)

5.A. USGS STREAM FLOW GAUGING SITES

Still looking at all options for the Fremont Bridge.

6. OTHER

Midwest Cover Crop Conference in Kansas City on February 12, 2020.

GMDA conference January 12-15.

6.A. COMMENTS FROM THE PUBLIC