



LOWER ELKHORN

Natural Resources District



Lower Platte River Basin Coalition Plan – Annual Report (March 2019)

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1.0 Introduction

The Lower Elkhorn Natural Resource District covers approximately 2,591,300 acres; with predominant land uses divided among agriculture (76%), pasture/grassland (20%), and small areas of forests, open water, wetlands, and urbanized areas (<4%).

The District’s Board of Directors approved the interlocal agreement which effectively adopted the Lower Platte River Basin Water Management Plan on November 21st, 2017. This action, along with the six other Natural Resource Districts and the Nebraska Department of Natural Resources, set forth a collective effort to work cooperatively towards the management and development of the water resources within the Lower Platte Basin.

Since 2009, the Lower Elkhorn NRD has utilized a managed-growth philosophy when considering the decision to allow new groundwater uses for agricultural irrigation purposes. Prior to 2009, no restrictions were in place that limited property owners regarding the development of agricultural land for irrigation purposes. Current policy requires an approved variance from the District before expanding irrigated acres. No limitations have been enacted on the approval of permits for high-capacity ground water wells for other uses; such as commercial, industrial, livestock, or municipal wells, however, any request to construct a new well for any of those purposes is reviewed for any potential impacts to existing groundwater supplies and/or impacts to groundwater quality.

The Lower Platte River Basin Water Management Plan provides guidance to the partners in respect to the amounts of (excess) available water that can be allotted for new uses (depletions). Coalition partners have, in return, agreed to adhere to the suggested limits for the first five-year increment of the plan. Table 4.1 (below) lists the allowable depletions for each sub-basin of the Lower Platte Basin and Table 4.2 of the Plan (below) breaks it down into the available amount for each Natural Resource District. As listed in Table 4.2, the amount of water available during the first five-year increment, to be shared between the Lower Elkhorn Natural Resource District and the Nebraska Department of Natural Resources is 4,514 Acre-Feet of allowable new depletions.

Basin	First 5-year Increment Allowable Development (Depletions) - Peak Season (AF) ^{1/2}
Loup Basin	8,651
Elkhorn Basin	6,018
Lower Platte Sub-basins	4,138

TABLE 4.2. FIRST 5-YEAR INCREMENT ALLOWABLE NEW DEVELOPMENT (DEPLETIONS) BY NRD			
NRD	Sub-Basin	First 5-year Increment Allowable New Development (Depletions) - Peak Season ¹	
		% Sub-Basin	AF
Upper Loup NRD	Loup River	32%	2,768
Lower Loup NRD	Loup River	68%	5,883
Upper Elkhorn NRD	Elkhorn River	25%	1,504
Lower Elkhorn NRD	Elkhorn River	75%	4,514
Papio-Missouri River NRD	Lower Platte River	21%	869
Lower Platte South NRD	Lower Platte River	24%	993
Lower Platte North NRD	Lower Platte River	55%	2,276

¹The allowable new depletion is for all new uses. Apportionment between new surface water and groundwater uses will be made according to each individual NRD Integrated Management Plan.

This report and its enclosed content will serve to fulfill the annual data collection and reporting requirement of the Lower Platte River Basin Management Plan, as indicated in *Section 5.0 – Plan Review and Monitoring, Lower Platte River Basin Management Plan.*

2.0 Certified Irrigated Acres

The District did not formally begin the process of certifying irrigated acres until January of 2013. Since that date, the District has formally certified 7,992 irrigated tracts of private property that have associated irrigated acres and meet the pre-determined criteria for certification purposes.

Rule 14 of the Lower Elkhorn Districts Rules & Regulations for the Enforcement of the Nebraska Groundwater Management and Protection Act indicates that the District will certify, as irrigated, any tract of land greater than two acres that (1) has been irrigated any one out of ten years, from 1999 to 2008, (2) is currently enrolled in a federal, state, or local conservation program and was classified as irrigated land by the local County Assessor within one year prior to being enrolled in such a program, (3) has otherwise been allowed to develop under an approval granted by the District’s Board of Directors since 2007, (4) has otherwise been allowed to develop under an approval granted by the NDNR since 2007, or (5) is irrigated from a lagoon constructed in compliance with a Clean Water Act permit.

Table 1.

LENRD CERTIFIED IRRIGATED ACRES BY SOURCE				
COUNTY	GROUNDWATER	SURFACE WATER	WASTEWATER	TOTAL ACRES BY COUNTY
ANTELOPE	435.94	-	-	435.94
BURT	15,394.49	1,077.36	1,505.06	17,976.91
CEDAR	47,847.92	529.80	432.94	48,810.66
COLFAX	24,291.40	407.87	2,089.13	26,788.40
CUMING	55,927.54	2,040.74	14,171.63	72,139.91
DAKOTA	-	-	-	-
DIXON	14,957.89	422.12	191.79	15,571.80
DODGE	64,232.48	3,786.60	2,295.04	70,314.12
KNOX	11,122.15	70.00	-	11,192.15
MADISON	118,627.28	2,216.48	3,280.49	124,124.25
PIERCE	154,704.99	1,478.37	476.94	156,660.30
PLATE	23,852.31	-	2,190.44	26,042.75
STANTON	38,126.38	2,490.03	1,780.61	42,397.02
THURSTON	10,790.00	373.87	503.76	11,667.63
WAYNE	47,529.88	913.42	1,761.00	50,204.30
TOTAL IRRIGATED ACRES BY SOURCE	627,840.65	15,806.66	30,678.83	
TOTAL IRRIGATED ACRES	674,326.14			

As indicated by the data in Table 1, groundwater is the primary water source for agricultural irrigation in the Lower Elkhorn NRD with current inventory totaling **627,840.65** acres irrigated by this source. The District is also home to many livestock operations, comprised of beef cattle (feedlot and cow/calf), dairy, swine, and poultry operations; for both egg and meat-bird production.

Current production trends for livestock and poultry operations indicate that large numbers of animals are situated on individual farms, which will require large volumes of water necessary for production. Many of these operations are also required to have operating permits to comply with the Clean Water Act requirements. Some of these locations will apply groundwater, as necessary, alongside animal waste/lagoon effluent for irrigation of growing crops.

To date; certification records show that surface water irrigation comprises the smallest increment of the total irrigated acreage in the District, estimated at **15,806.66**. Comingled sources of water have been tracked through the process of certification of acres, and current data indicates there are approximately **14,386** acres of land that are listed as utilizing both groundwater and surface water for irrigation sources.

3.0 Municipal, Commercial/Industrial and Livestock Uses

Prior to January 1, 2019, the District has only required the reporting of annual groundwater usage reports from new Municipal, Commercial/Industrial, and Livestock wells that were constructed with an approved permit, dated July 29th, 2007 or later. However, recent modifications to the Lower Elkhorn Natural Resource District Groundwater Management Plan Rules & Regulations requires the installation of a Flow Meter for wells classified as Commercial/Industrial, Livestock, and Municipal use by January 1st, 2019. Also required is the annual reporting of groundwater usage data on all wells classified for these other uses beginning in the year 2020 (see **Appendix A**).

Appendix A

Commercial/Industrial, Livestock, and Municipal Wells

Owner	Legal Description	Well Registration Number	Well Use ID
Battle Creek Farmers Coop-Osmond	SE1/4 36-28-3W	G-095475	(C)
Cedar View Country Club	NW1/4 9-28-3E	G-066053	(C)
Central Sand & Gravel	SE 35-24-1W	G-184547	(C)
Central Valley Ag- Oakland	NE1/4 13-22-8E	G-142875	(C)
City of Clarkson	5-20-3E	G-046488	(C)
City of Stanton	NE1/4 28-23-2E	G-178508	(C)
Continental	NE1/4 32-24-1W	G-061139, G-119720, G-061138	(C)
Continental	NE1/4 32-24-1W	G-061138, G-061139, G-119720	(C)
Eldorado Hills Golf Course	N1/2 20-24-1W	G-076681	(C)
Elkhorn Valley Ethanol	SW 12-24-1W	G-136620, G-136619	(C)
Eveland Supply Company	SW1/2 32-20-7E	G-157552	(C)
Fairplay Golf Course	SW 16-23-1W	G-081316	(C)
Fairplay Golf Course	SW 16-23-1W	G-081315	(C)
Helena Chemical Company	NW 14-24-1W	G-184553	(C)
Husker Ag LLC	NW 6-27-3W	G-119048	(C)
Husker Ag LLC	NW 6-27-3W	G-119049	(C)
Indian Trails Country Club	NW1/4 2-22-5E	G-067518	(C)
James Pruss	SW1/4 36-21-4E	G-094804	(C)
Lone Star	SE 26-23-4E	G-180554	(C)
Louis Dreyfus Company	SW 12-24-1W	G-136620, G-136619	(C)
Lyman-Richey Corporation	SE1/4 35-24-1W	G-184547	(C)
Madison High/Middle School	NE1/4 5-21-1W	G-074715	(C)
Michael Foods Inc	32-27-5E	G-066234B	(C)
Michael Foods Inc	32-27-5E	G-135652	(C)
Nebraska DOR	NE1/4 36-24-1W	G-112989	(C)
Nebraska DOR	NW1/4 2-27-4W	G-108610	(C)
Nebraska DOR	NW1/4 30-23-9E	G-143219	(C)
Norfolk Iron & Metal	SE 11-24-1W	G-074328	(C)
Oakland Golf Club	SW 36-22-8E	G-055760	(C)
Oakland Golf Club	NW 36-22-8E	G-076375	(C)
Pierce Community Golf Course	SW1/4' 21-26-2W	G-074312	(C)
Pierce Community Golf Course	SW1/4 21-26-2W	G-181014	(C)
Todd Zohner	NW1/4 26-22-1E	G-168539	(C)
Tyson Fresh Meats, Inc	32-22-1W	G-042591	(C)
Tyson Fresh Meats, Inc	32-22-1W	G-042590	(C)
Cardinal Health	SW 3-23-1W	G-102698	(P)
Cardinal Health	SW 3-23-1W	G-102699	(P)
City of Battle Creek	SW1/2 18-23-2W		(P)
City of Battle Creek	SW1/2 18-23-2W		(P)
City of Clarkson	SE 5-20-3E	G-056749B	(P)
City of Clarkson	SE 5-20-3E	G-117824	(P)
City of Hooper	17-19-8E	G-129110, G-030519, G-129111	(P)
City of Laurel	NW 4-28-3E	A-010579B	(P)
City of Laurel	SW1/2 5-28-3E	G-156087	(P)
City of Madison	SW 32-22-1W	G-030268A	(P)
City of Madison	SW 32-22-1W	G-089227	(P)
City of Madison	NW 32-22-1W	G-151070	(P)
City of Madison	SW 32-22-1W	G-030268B	(P)
City of Norfolk	NE 25-24-2W	G-029259	(P)
City of Norfolk	NE 25-24-2W	G-029258	(P)
City of Norfolk	SW 30-24-1W	G-049058	(P)
City of Norfolk	NW 26-24-1W	G-070115	(P)

City of Norfolk	NW 26-24-1W	G-070116	(P)
City of Norfolk	NE 31-24-1W	G-122246	(P)
City of Norfolk	NW 26-24-1W	G-070112	(P)
City of Norfolk	NW 31-24-1W	G-074818	(P)
City of Norfolk	NW 26-24-1W	G-070114	(P)
City of Norfolk	SW 30-24-1W	G-049057	(P)
City of Norfolk	SW 30-24-1W	G-049312	(P)
City of Norfolk	SW 30-24-1W	G-049313	(P)
City of Osmond	SW 31-28-2W	G-113667	(P)
City of Osmond	SE 31-28-2W	G-182760	(P)
City of Osmond	NW 31-28-2W	G-182762	(P)
City of Pierce	SW 27-26-2W	G-073291	(P)
City of Pierce	NE 27-26-2W	G-073290, G-032940	(P)
City of Pierce	NE 28-26-2W	G-139524	(P)
City of Plainview	NE 4-27-4W	G-115909	(P)
City of Plainview	SW 33-28-4W	G-028161	(P)
City of Plainview	SW 33-28-4W	G-028160	(P)
City of Plainview	SE 33-28-4W	G-028162	(P)
City of Randolph	30-28-1E	G-072698	(P)
City of Stanton	20-23-2E	G-130926	(P)
City of Stanton	28-23-2E	G-117626	(P)
City of Stanton	29-23-2E	G-090295	(P)
City of Tilden	SW 30-24-4W	G-067389	(P)
City of Tilden	24-24-5W	G-121103	(P)
City of Wayne	SE 1-26-3E	G-062208	(P)
City of Wayne	SE 12-26-3E	G-028981	(P)
City of Wayne	SW 6-26-4E	G-062209	(P)
City of Wayne	NE 14-27-3E	A-016927	(P)
City of Wayne	SE 12-26-3E	G-028980	(P)
City of Wayne	NE 14-27-3E	A-016525	(P)
City of Wayne	SW 12-27-3E	G-155312	(P)
City of Wisner	SW 1-23-4E	G-030087	(P)
City of Wisner	NW 1-23-4E	G-088652	(P)
City of Wisner	SE 2-23-4E	G-030086	(P)
Henningsen Foods Inc	SE 22-24-1W	G-099004	(P)
Logan East Rural Water District	SE 25-22-7E	G-099139	(P)
Logan East Rural Water District	NE 32-22-8E	G-074079	(P)
Logan East Rural Water District	NE 32-22-8E	G-075059, G-099139, G-074079	(P)
Logan East Rural Water District	NE 32-22-8E	G-075059	(P)
Sanitary & Improvement District 1	NW 16-24-1E	G-092157	(P)
Sanitary & Improvement District 1	SW 10-24-1E	G-120029	(P)
Sanitary & Improvement District 1	SE 8-24-1E	G-073386	(P)
Village of Bancroft	NW 36-24-7E	G-113468	(P)
Village of Bancroft	SW 36-24-7E	G-094051	(P)
Village of Belden	NW 16-28-2E	G-070579	(P)
Village of Coleridge	SW 9-29-2E		(P)
Village of Coleridge	NW 9-29-2E		(P)
Village of Craig	24-21-9E	G-099287, G-060974, G-099288	(P)
Village of Craig	30-28-1E	G-070063	(P)
Village of Dixon	SW 8-28-4E	G-063086B	(P)
Village of Dodge	NE1/4 8-20-5E	G-070575	(P)
Village of Dodge	NW1/4 8-20-5E	G-027475	(P)
Village of Hoskins	NW 27-25-1E	G-075808	(P)
Village of Hoskins	SW 27-25-1E	G-071973	(P)
Village of Leigh	SE 18-20-2E	G-170503	(P)
Village of Leigh	SE 18-20-2E	G-073168	(P)
Village of Meadow Grove	26-24-4W		(P)
Village of Meadow Grove	26-24-4W		(P)
Village of Meadow Grove	26-24-4W		(P)
Village of Pilger	SW 25-24-3e	G-080465	(P)
Village of Pilger	NW 2-23-3E	G-041187	(P)
Village of Snyder	18-20-6E	G-113687	(P)
Village of Snyder	18-20-6E	G-113688	(P)
Village of Wausa	NW 15-29-2W	G-125312	(P)
Village of Wausa	NW 15-29-2W	G-089662	(P)
Village of Winside	NE 3-25-2E	G-028002A	(P)

Village of Winside	NE 3-25-2E	G-114915	(P)
Bernhard Schole	E1/2 25-20-7E	G-157995	(O)
Michael Foods Inc	NW 20-27-5E	G-139882	(U)
Michael Foods Inc	SW 27-27-5E	G-139881	(U)
Michael Foods Inc	SW 27-27-5E	G-066183	(U)
Michael Foods Inc	SW 27-27-5E		(U)
Michael Foods Inc	NW 20-27-5E	G-032615	(U)
Michael Foods Inc	NW 20-27-5E	G-072033	(U)
Allen Meister	SE 13-21-5E	G-173781	(S)
Anderson Livestock LLC	NE1/2 15-26-2W	G-177894	(S)
Bellar Feedlot	SE1/2 7-23-5E	G-164607	(S)
Brad Maas	NE1/2 27-24-2E	G-148561	(S)
Diamond 6 Feeders	NW 25-21-6E	G-133186	(S)
Feyerherm Farm Inc	NE1/4 23-22-6E	G-180839	(S)
Harry Knobbe Feedyards	NE 8-21-6E	G-107762	(S)
Holland Feedlot Inc	NW 17-23-4E	G-052175	(S)
Holland Feedlot Inc	SW1/2 18-23-4E	G-156546	(S)
Holland Feedlot Inc	SE1/2 1-23-3E	G-163372	(S)
Kreikemeier Farms	SE 31-21-6E	G-144111, G-148039	(S)
Lone Star	SW 26-23-4E	G-180554	(S)
Muller Farms	NW1/2 28-20-7E	G-147266	(S)
Pat Nebuda	SE1/2 7-22-7E	G-148559	(S)
Patrick Meiergerd	SW1/4 29-22-5E	G-181904	(S)
Paul Ridder	NE1/2 7-21-6E	G-168667	(S)
SC Sows LLC	SW1/4 24-23-3E	G-184541	(S)
Tim Hunke	SE 30-22-6E	G-176689	(S)
Ulrich Cattle Co	NE 11-21-5E	G-162917	(S)
Ulrich Cattle Co	NE1/2 11-21-5E	G-162917	(S)
Urwiler Feedlots	NW 36-24-4E	G-115381	(S)
Weborg Farms	SE1/4 23-24-6E	G-181422	(S)

Listed are the respective owners for each Flow Meter located at the listed PLS Legal Description, Well Registration Number, and Well Use ID following NDNR code prompt: (C) Commercial/Industrial Use; (P) Public Water with Spacing Protection; (S) Livestock; (U) Public Water without Spacing Protection. End of the Year 2018 Water Use is not required to be reported until January 1st, 2020.

Wastewater Discharge

The District is also tasked with gathering an inventory of the methods utilized by various communities within its boundaries for wastewater treatment (Table 2) and will also be tracking the number of gallons that are discharged to a river or stream post-treatment.

Community	Discharge System	Land Application	Discharge Source	Total Discharge (2018)
City of Battle Creek	Mechanical Plant	N/A	Elkhorn River	6,044,400 Gal
Village of Bancroft	Mechanical Plant	Sometimes	Logan Creek	30,000,000 Gal
Village of Beemer	Mechanical Plant	Yes	Elkhorn River	24,000,000 Gal
Village of Beldon	Lagoon CR	N/A	N/A	-----
Village of Carroll	Lagoon CR	N/A	N/A	-----
City of Clarkson	Lagoon D	Yes	Maple Creek	3,900,000 Gal
Village of Concord	Lagoon CR	N/A	N/A	-----
Village of Cornlea	Septic Tank	N/A	N/A	-----
Village of Craig	Lagoon CR	Yes	N/A	-----
Village of Creston	Lagoon CR	Yes	N/A	-----
Village of Dixon	Lagoon CR	Yes	N/A	-----

<i>Village of Dodge</i>	Mechanical Plant	Yes	Trib. Pebble Creek	15,259,000 Gal
<i>Village of Emerson</i>	Mechanical Plant	Yes	Middle Creek	5,600,000 Gal
<i>Village of Foster</i>	Septic Tanks	N/A	N/A	-----
<i>Village of Hadar</i>	Lagoon CR	N/A	N/A	-----
<i>*City of Hooper</i>	Lagoon D	N/A	Elkhorn River	-----
<i>Village of Hoskins</i>	Lagoon CR	N/A	N/A	-----
<i>Village of Howells</i>	Lagoon D	N/A	Maple Creek	28,030,690 Gal
<i>City of Humphrey</i>	Lagoon CR	Yes	N/A	-----
<i>City of Laurel</i>	Mechanical Plant	Yes	Logan Creek	50,300,000 Gal
<i>Village of Leigh</i>	Lagoon CR	Yes	N/A	-----
<i>City of Lyons</i>	Lagoon D	N/A	Logan Creek	162,070,000 Gal
<i>City of Madison</i>	Mechanical Plant	N/A	Union Creek	12,915,142,000 Gal
<i>Village of McLean</i>	Lagoon CR	N/A	N/A	-----
<i>Village of Meadow Grove</i>	Mechanical Plant	N/A	Elkhorn River	13,105,200 Gal
<i>Village of Nickerson</i>	Lagoon D	N/A	Elkhorn River	4,838,726 Gal
<i>City of Norfolk</i>	Mechanical Plant	Yes	Elkhorn River	1,136,000,000 Gal
<i>City of Oakland</i>	Mechanical Plant	N/A	Logan Creek	76,977,488 Gal
<i>City of Osmond</i>	Lagoon D	N/A	North Fork Elkhorn River	19,390,000 Gal
<i>Village of Pender</i>	Mechanical Plant & Lagoon	N/A	Logan Creek	3,468,000 Gal
<i>City of Pierce</i>	Lagoon D	N/A	North Fork Elkhorn River	26,500,000 Gal
<i>*Village of Pilger</i>	Lagoon D	Yes	Elkhorn River	-----
<i>City of Plainview</i>	Lagoon D	N/A	Dried Creek	600,000 Gal
<i>City of Randolph</i>	Mechanical Plant	Yes	Logan Creek	46,041,107 Gal
<i>Village of Rosalie</i>	Lagoon CR	Yes	N/A	-----
<i>City of Scribner</i>	Mechanical Plant	Yes		
<i>Village of Sholes</i>	Septic Tanks	N/A	N/A	-----
<i>Village of Snyder</i>	Mechanical Plant	Yes	Trib. Pebble Creek	
<i>City of Stanton</i>	Mechanical Plant	N/A	Elkhorn River	20,094,000 Gal
<i>Village of Thurston</i>	Lagoon D	N/A	Trib. Logan Creek	4,500,000 Gal
<i>City of Tilden</i>	Lagoon CR	Yes	N/A	-----
<i>Village of Uehling</i>	Lagoon CR	Yes	N/A	-----
<i>City of Wakefield</i>	Lagoon D	N/A	Logan Creek	14,457,240 Gal
<i>Village of Wausa</i>	Mechanical Plant	Yes	North Fork Elkhorn River	41,393,000 Gal
<i>City of Wayne</i>	Mechanical Plant	N/A	Logan Creek	146,796,800 Gal
<i>City of West Point</i>	Mechanical Plant	Yes	Elkhorn River	169,644,000 Gal
<i>Village of Winside</i>	Lagoon D	N/A	Logan Creek	10,128,775 Gal
<i>Village of Winslow</i>				
<i>City of Wisner</i>	Mechanical Plant	Yes	Elkhorn River	69,067,400 Gal
<i>Woodland Park</i>	Lagoon CR	N/A	N/A	-----

Table 2: Discharge Method and Quantity by Community. “Lagoon D” are communities with lagoons that discharge; “Lagoon TE” are communities with lagoon systems that are totally enclosed (i.e. all water lost is due to land application/evaporation). “N/A” fields represent that the system does not comply with that data field

In compliance with the reporting requirement within the plan, listed below in Table 4 are wells that have been installed since January of 2018 within the District that would be classified as Livestock, Commercial/Industrial or Public Water Supply. Flow Meters have been or will soon be installed on any of the listed wells below that classify as a high-capacity well.

WellReg Number	Use	Status	Completion Date	Owners Name
G-185547	(S)	(I)	1/19/2018	Sholes Piggery
NA: 251668	(S)	---	1/25/2018	Sholes Piggery
G-186131	(P)	(I)	5/21/2018	City of Pierce
G-184941	(S)	(A)	3/21/2018	David D. Volk
G-185822	(S)	(A)	5/18/2018	Knobbe Limited
NA: 252648	(S)	---	6/15/2018	Mark Olmer
G-185426	(S)	(I)	6/15/2018	Mark Olmer
G-185302	(S)	(I)	5/30/2018	T & E Ag LLC
G-185303	(S)	(I)	6/08/2018	Lorraine Pichhinke
G-185500	(S)	(A)	4/24/2018	Norma Simon
G-185493	(S)	(I)	6/18/2018	Larry Faltin
G-186445	(S)	(I)	9/07/2018	Dale Svehla
G-185855	(S)	(I)	9/10/2018	Warrick & Sons Inc
G-185876	(S)	(A)	5/11/2018	Louis Bierman
G-185877	(S)	(A)	7/16/2018	Bill Willers
G-186000	(S)	(A)	9/27/2018	Mark & Lois Fleer
G-186288	(S)	(I)	11/2/2018	Douglas/Renee Sunderman
G-186214	(S)	(A)	6/06/2018	Josh Perrin
G-186275	(S)	(A)	9/25/2018	Warren Hale
G-186282	(S)	(A)	6/19/2018	Memory Lane Poultry
G-131566	(P)	(A)	1/9/2018	Nucor Steel Inc
G-186444	(S)	(I)	10/19/2018	Doug Kapels
G-186450	(S)	(A)	6/18/2018	Memory Lane Poultry
G-186451	(S)	(A)	8/3/2018	Memory Lane Poultry
G-186536	(S)	(A)	10/16/2018	Memory Lane Poultry
Total			25 Wells Processed with DNR in 2018	

Table 4: Commercial/Industrial, Municipal, and Livestock Wells (2018). "Use" identification is defined from the Nebraska Department of Natural Resources: (P) Public Water Supply with Spacing Protection and (S) Livestock, "Status" identification is defined as follows: (A) Active, (I) Inactive. NA: – Well Registration is not yet assigned/available; the Well Identification (WellID) is served in its place. "----" symbol; information is missing from the database or does not follow "status" code prompt.
Source: [LENRD](#) & [NDNR](#)

A total of 25 wells are represented in the table above.

4.0 New Groundwater Consumptive Uses

Previous to participation in the Lower Platte River Basin Management Plan, the only accounting for new groundwater consumptive uses by the Lower Elkhorn Natural Resource District would be the new irrigated acres located within the hydrologically connected areas authorized by an approved Variance from the District, and most importantly those acres approved under the prior requirements of LB 483. The District has required an approved variance to expand irrigated acres districtwide since early 2009. A variance is required for both the Hydrologically Connected and Non-Hydrologically Connected portions of the District, which under the current boundaries (as recognized by the District and the Nebraska Department of Natural Resources) equals approximately a 1/3rd (Hydrologically Connected) and 2/3rd (Non-Hydrologically Connected) split.

In August of 2018, the Lower Elkhorn Board of Directors authorized a sign-up period to receive applications for Standard Variances to Expand Irrigated acres within the District. This authorization would allow for the development of up to 2,500 new irrigated acres or 451.35 AF of new depletions within the hydrologically connected portion of the district and up to 2,500 new irrigated acres in the non-hydrologically connected area.

In November of 2018, the Board of Directors voted to allow up to 2428.56 new groundwater irrigated acres in the hydrologically connected portion of the District, and up to 2515.29 new groundwater irrigated acres in the non-hydrologically connected portion of the District. For accounting purposes, only the new depletions located with the current hydrologically connected need to be accounted for and reported to the Coalition.

4261 AF Available – 291.96 New Depletions = 3969.04 AF Remaining

5.0 Transfers

The Lower Elkhorn Natural Resource District did not receive or approve any groundwater use transfer requests during this reporting period, therefore no data is provided for this section.

6.0 Permits for High Capacity Wells

Table 5 illustrates the well permits issued for 73 high capacity wells in the Lower Elkhorn NRD between January 1, 2018 through December 31, 2018.

NRD Permit Number	County	Use	Replacement	WellReg Number
LE-10-69-R	Cuming	(C)	Yes	G-067518
LE-13-44-R	Colfax	(I)	No	G-185205
LE-18-01-R	Stanton	(P)	Yes	G-131566
LE-18-02-R	Colfax	(I)	Yes	G-135825
LE-18-03-R	Stanton	(I)	Yes	G-035060
LE-18-04	Platte	(I)	No	WNC
LE-18-05	Platte	(I)	No	G-184625

LE-18-06	Dodge	(I)	No	G-185862
LE-18-07	Madison	(I)	No	G-185878
LE-18-08	Madison	(I)	No	G-184926
LE-18-09	Cuming	(I)	No	G-184892
LE-18-10-R	Wayne	(I)	Yes	G-098363
LE-18-11	Madison	(I)	No	G-184883
LE-18-12	Burt	(I)	No	G-184879
LE-18-13	Madison	(I)	No	G-184886
LE-18-14	Madison	(I)	No	G-184887
LE-18-15	Cedar	(I)	No	G-185974
LE-18-16	Wayne	(I)	No	WNC
LE-18-17	Madison	(I)	No	G-185306
LE-18-18	Dodge	(I)	No	G-185671
LE-18-19	Dodge	(I)	No	WNC
LE-18-20	Madison	(I)	No	G-184973
LE-18-21	Pierce	(I)	No	G-185122
LE-18-22	Cuming	(I)	No	G-184893
LE-18-23	Colfax	(I)	No	G-185672
LE-18-24	Cuming	(I)	No	G-185585
LE-18-25	Cuming	(I)	No	WNC
LE-18-26	Burt	(I)	No	WNC
LE-18-27-R	Madison	(I)	Yes	G-043325
LE-18-28-R	Platte	(I)	Yes	G-001729
LE-18-29-R	Madison	(I)	Yes	G-062955
LE-18-30	Dodge	(I)	No	G-184856
LE-18-31	Wayne	(I)	No	G-185457
LE-18-32	Wayne	(I)	No	WNC
LE-18-33	Stanton	(I)	No	WNC
LE-18-34	Cedar	(I)	No	G-185456
LE-18-35	Platte	(I)	No	WNC
LE-18-36	Wayne	(I)	No	G-185571
LE-18-37	Wayne	(I)	No	G-185572
LE-18-38	Knox	(I)	No	G-184902
LE-18-39-PWS	Pierce	(P)	No	WNC
LE-18-40	Pierce	(I)	No	G-185016
LE-18-41-L	Dodge	(S)	No	*WNC
LE-18-42-L	Dodge	(S)	No	*WNC
LE-18-43	Burt	(I)	No	G-186227
LE-18-44-L	Cuming	(S)	No	G-185822
LE-18-45-R	Stanton	(I)	Yes	G-058553
LE-18-46-L	Madison	(S)	No	WNC
LE-18-47-L	Madison	(S)	No	G-185426
LE-18-48-R	Knox	(I)	Yes	G-067388
LE-18-49-L	Dixon	(S)	No	*WNC
LE-18-50-L	Dixon	(S)	No	*WNC
LE-18-51	Cuming	(I)	No	G-185119
LE-18-52-R	Madison	(I)	Yes	G-084823
LE-18-53-R	Platte	(I)	Yes	G-035232

LE-18-54-L	Colfax	(S)	No	WNC
LE-18-55	Wayne	(I)	No	G-185815
LE-18-56-R	Burt	(I)	Yes	G-052723
LE-18-57-L	Dodge	(S)	No	WNC
LE-18-58-S	Dodge	(S)	No	WNC
LE-18-59-L	Colfax	(S)	No	G-186445
LE-18-60	Wayne	(I)	No	*WNC
LE-18-61-L	Cuming	(S)	No	*WNC
LE-18-62-L	Wayne	(S)	No	G-186000
LE-18-63-R	Pierce	(I)	Yes	G-050349
LE-18-64-L	Madison	(S)	No	G-186288
LE-18-65-L	Cuming	(S)	No	G-185302
LE-18-66-R	Pierce	(I)	Yes	G-050528
LE-18-67-L	Platte	(S)	No	G-186444
LE-18-68	Madison	(I)	No	*WNC
LE-18-69-C	Madison	(C)	No	WNC
LE-18-70	Stanton	(I)	No	G-186349
LE-18-71-R	Madison	(I)	Yes	G-125527
LE-18-72	Thurston	(I)	No	WNC
Total:		73 Permits Granted		

Table 5: High Capacity Well Permits (2018). “Use” identification is defined from Nebraska Department of Natural Resources: (C) Commercial/Industrial, (I) Irrigation, (P) Public Water Supply with Spacing Protection, (S) Livestock, and (U) Public Water Supply Without Spacing Protection. WNC – classifies a well that is not completed/constructed. *WNC – classifies that there is a well registered under said producer for the 2018 year, but NRD permit form is absent from NDNR database, or, NRD permit is present but a WellReg is not assigned. Source: LENRD & NDNR

As noted on Table 5, several wells of various use descriptions have been installed throughout the District and have been equipped with a Flow Meter, or are awaiting Flow Meter installation, to monitor annual water use.

7.0 Retirement of Groundwater Consumptive Uses

During the reporting period, there were no retirements of groundwater uses inventoried or reviewed within the Lower Elkhorn NRD.

8.0 Flow Meter Data

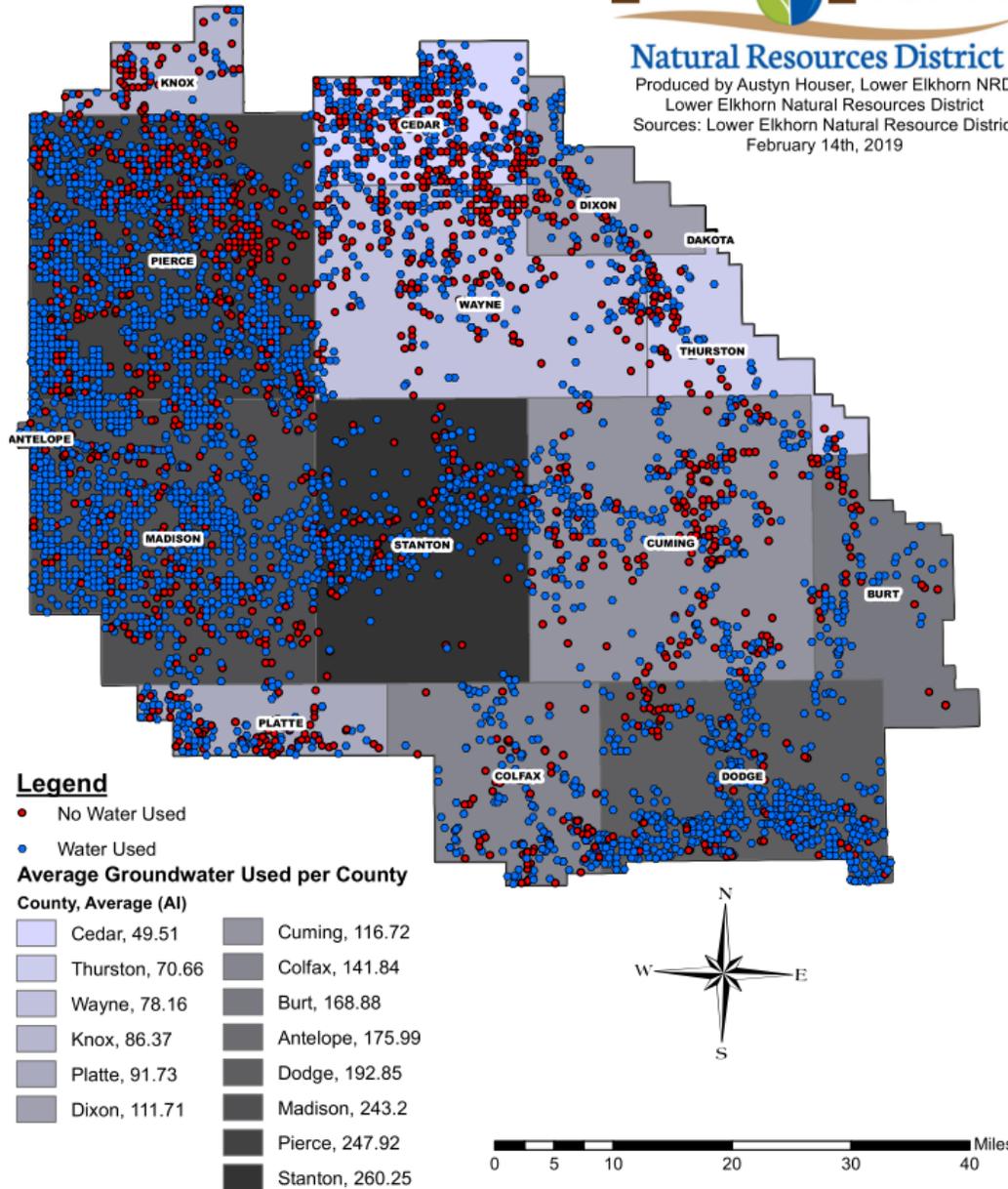
Information on Flow Meters associated with Irrigation use, which lists over 5,000 Flow Meters utilized throughout the District, is presented on **Appendix C**. The District has been collecting groundwater withdrawal data from high capacity wells and inventories this information in a data management tool. The data management tool allows for easy access and management of technical information (serial number, producer information, annual water usage, etc.). The data that is presented in the map on **Appendix C** is listed in Acre-Inches,

since this is the unit of measurement required for all flow meters installed for irrigation purposes in the Lower Elkhorn NRD.



Natural Resources District

Produced by Austyn Houser, Lower Elkhorn NRD
 Lower Elkhorn Natural Resources District
 Sources: Lower Elkhorn Natural Resource District
 February 14th, 2019



As of January 1st, 2018; all high-capacity Irrigation wells were required (per the District’s Rules and Regulations, *Rule 11*) to install a Flow Meter and begin annual water usage reporting. As of January 1st, 2019; all high-capacity Commercial/Industrial, Livestock, Public Water Supply with Spacing Protections and Public Water Supply without Spacing Protections wells were required (per the District’s Rules and Regulations, *Rule 11*) to install a Flow Meter and begin annual water usage reporting. Multiple industries and municipalities

The District collects annual water-level observations from approximately 234 privately owned irrigation wells. Data collection typically occurs during March of each calendar year and the map above illustrates the changes in groundwater elevation data between the Spring of 2017 and the Spring of 2018.

12.0 Stream-gage Measurements

The Lower Elkhorn NRD does not maintain any stream gages within the District that are independent of gage-data collected by the United States Geological Survey (USGS) or the Nebraska Department of Natural Resources (NDNR).

13.0 NRD Regulations and Management Activities

The District modified its controls and boundaries for the groundwater quality management areas in October of 2018. The enhanced controls were developed and implemented in an attempt to reverse an upward trend in groundwater nitrate levels in portions of Pierce and Madison Counties.

Another milestone was achieved with the adoption of the Voluntary Integrated Management Plan late in 2018. Initiated as a joint effort with the Nebraska Department of Natural Resources in 2012, the Integrated Management Plan integrates the requirements contained within the Lower Platte River Basin Plan.

https://dnr.nebraska.gov/sites/dnr.nebraska.gov/files/doc/water-planning/lower-platte/lower-elkhorn-NRD/2018.1018LENRDIMPFinalDraft_PostHearing.pdf

14.0 New Depletions Accounting Report

See sheet 1.

15.0 New Data Collected Through Models or Studies

Due to the limited data collected on the Dakota Aquifer; the District added two new monitoring well sites over the 2018 summer. Each site has two wells: Dodge County (Sec.24-19N-5E) at 677 feet and 410 feet deep respectively; and Colfax County (Sec.23-20N-3E) at 850 feet and 380 feet respectively. These nested well sites will help evaluate and monitor any changes in static water levels in both the shallower Quarternary Aquifer and the deeper Dakota Sandstone Aquifer. Some landowners are electing to construct high-capacity wells into the deeper aquifer (in southern portions of the District) and the District will continue to monitor the long term impacts.

During 2018, the District also continued the collection of Aerial Electromagnetic Data by contracting with Aqua Geo Frameworks. The District was fortunate to receive some financial assistance from the Water Sustainability Fund to continue this endeavor. The District has completed a 3 mile grid across the entire expanse of the area, and was also able to collect some block flight information in areas where more detailed information has been lacking. The final report was delivered to the District on December 31, 2018.

The District also entered into a contract with JEO Consulting Group to begin the development of a three-dimensional hydrogeologic groundwater model beginning in a pilot-scale project centered over Wayne County. This effort is being financially supported by the Lower Elkhorn NRD and the Nebraska Department of Natural Resources. A final report should be made available in April 2019.