

Lewis and Clark NRD Biennial IMP Report

LCNRD Board Meeting
December 21, 2023
1:30 p.m.



Tyler Martin,
Missouri Tributaries Basin Coordinator

Annette Sudbeck, General Manager



Why Conduct IMP Reviews

Reassess goals, objectives and action items

Jointly evaluate and share progress towards the District's and IMP goals

Evaluate and prioritize joint management actions for upcoming years



Overview

Reporting of NeDNR Data

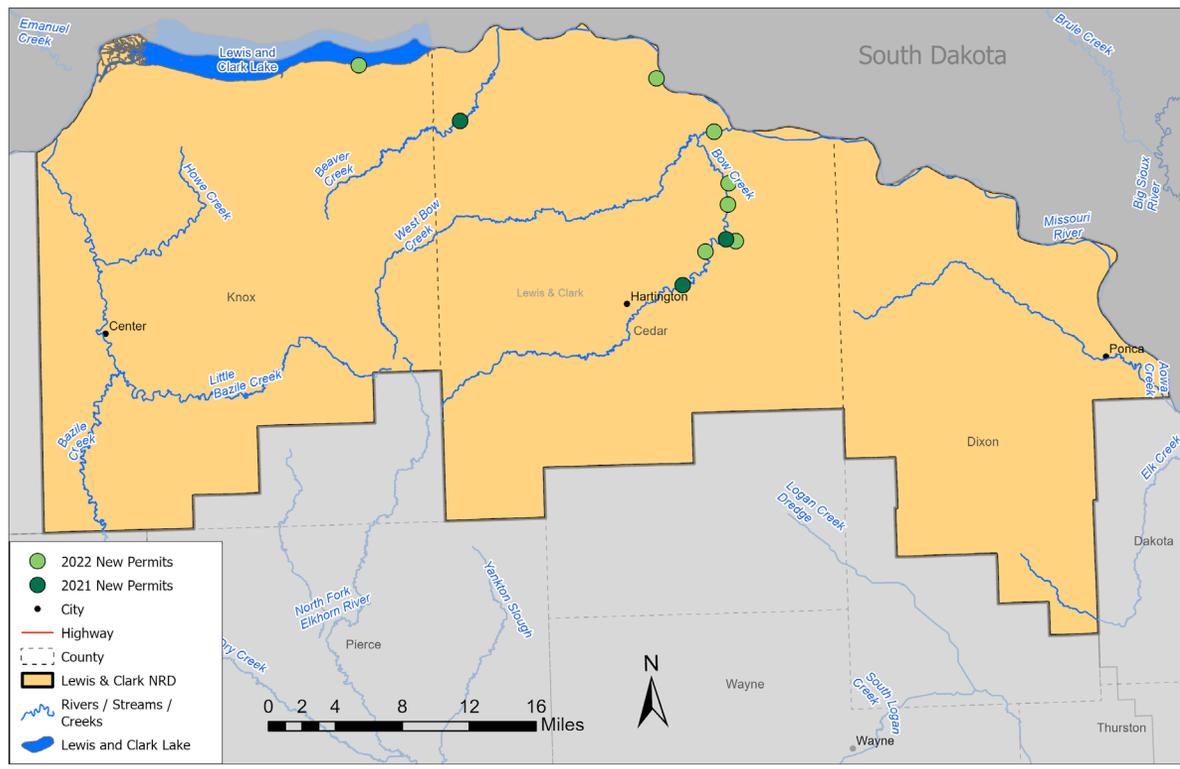
Reporting of Lewis and Clark NRD Data

Evaluation of Goals

Evaluate progress on implementation of the IMP

Surface Water Permitting Actions - New

Surface Water Permitting Activity in the Lewis & Clark NRD



Created by NeDNR | jwl 07/06/2023

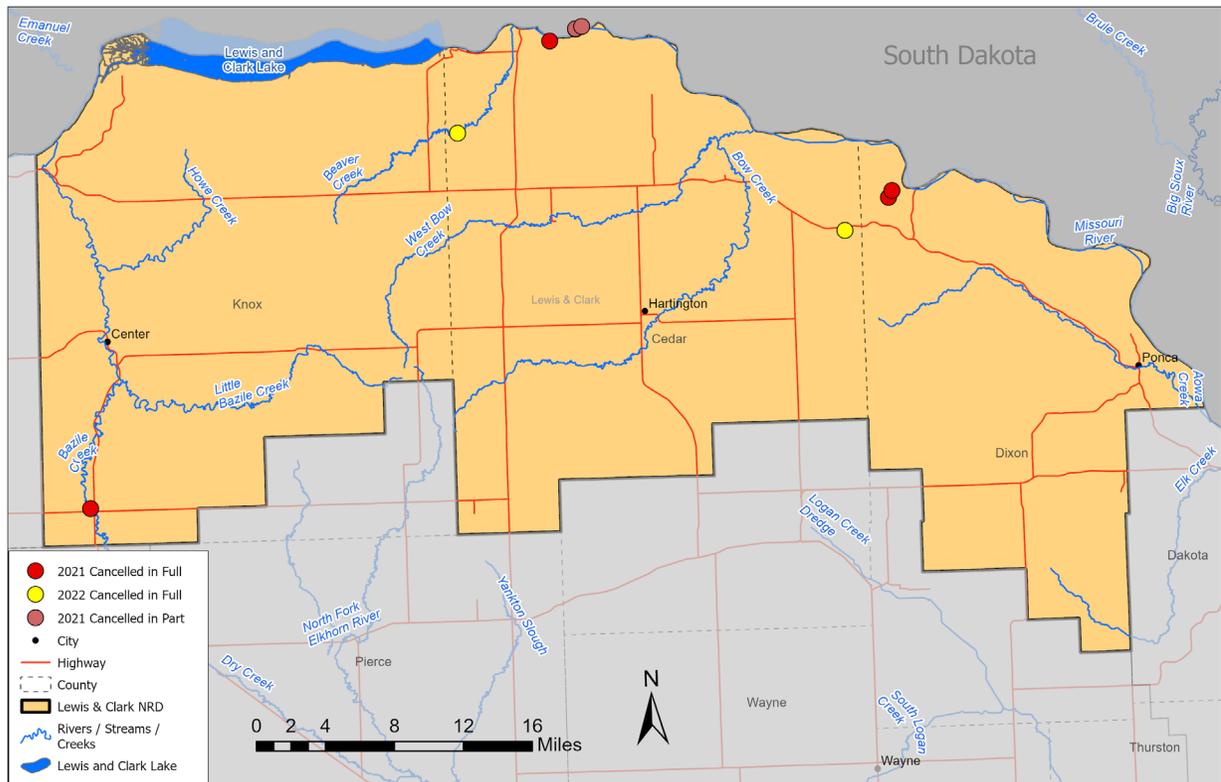
Surface Water Applications Approved in 2021-2022

Permit Number	Use	General Location	Source	Date Approved	New Acres	New storage
A-19761	Irrigation from Natural Stream	S12-T31-R2E	Bow Creek	6/21/2021	214.2	N/A
A-19780	Irrigation from Natural Stream	S28-T31-R2E	Bow Creek	9/15/2021	56.3	N/A
A-19782	Domestic	S5-T32-R1W	Beaver Creek	10/12/2021	0.6	N/A
A-19794	Irrigation from Natural Stream	S12-T31-R2E	East Bow Creek	1/12/2022	27.7	N/A
A-19795	Irrigation from Natural Stream	S14-T31-R2E	Bow Creek	1/12/2022	76.1	N/A
A-19800	Irrigation from Natural Stream	S36-T32-R2E	Bow Creek	1/28/2022	51.9	N/A
A-19802	Irrigation from Natural Stream	S11-T32-R2E	Bow Creek	3/1/2022	156.8	N/A
A-19860	Irrigation from Natural Stream	S20-T33-R2E	Missouri River	9/13/2022	49.3	N/A
A-19846	Irrigation from Natural Stream	S25-T32-R2E	Bow Creek	6/23/2022	125.6	N/A
A-19866*	Manufacturing	S17-T33-R2W	Missouri River	7/19/2022	N/A	N/A

* Temporary permit that expires one year from approval date

Surface Water Permitting Actions - Cancelled

Surface Water Permitting Activity in the Lewis & Clark NRD

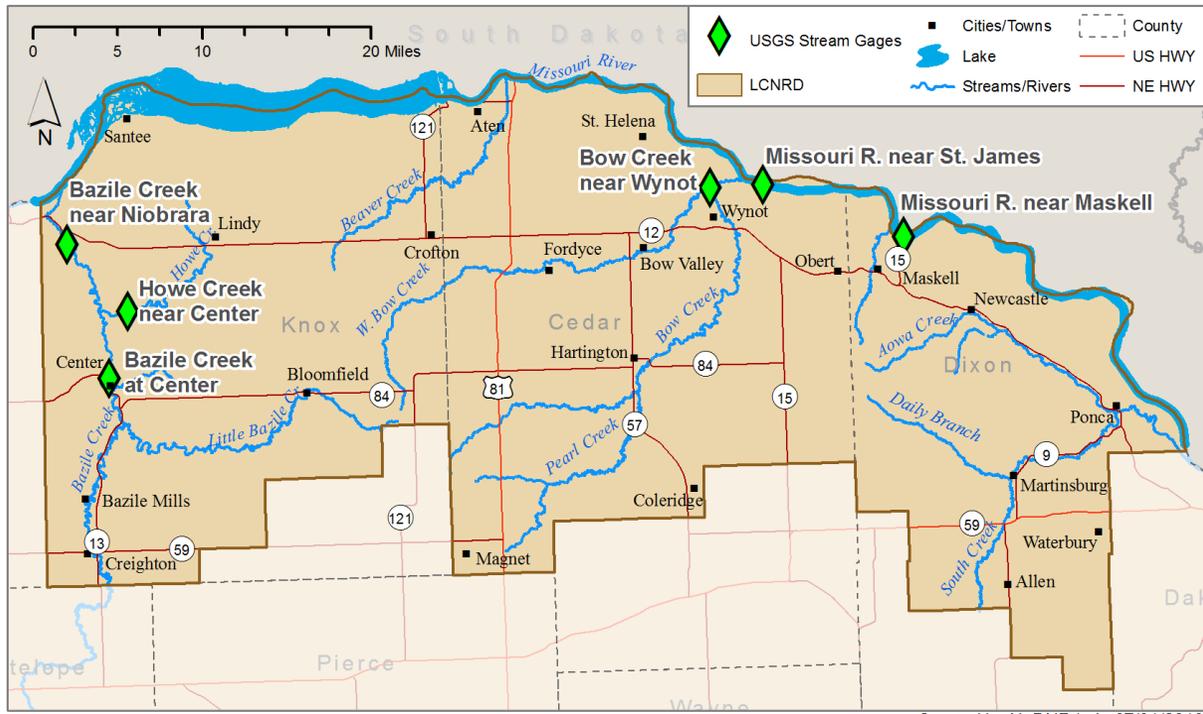


Surface Water Appropriations Partially or Fully Cancelled in 2021-2022

Permit Number	Use	General Location	Source	Date Cancelled	Acres Cancelled	Grant Cancelled	Status
A-11153	Irrigation from Natural Stream	S21-T29-R5W	Bazile Creek	1/20/2021	14.4	0.21	Cancelled in Full
A-19036	Irrigation from Natural Stream	S32-T32-R4E	Lime Creek	3/23/2021	49.7	0.71	Cancelled in Full
A-18684	Irrigation from Natural Stream	S7-T33-R1E	Antelope Creek	11/30/2021	19	0.27	Cancelled in Full
A-19554	Irrigation from Natural Stream	S29-T32-R4E	Lime Creek	11/29/2021	228	1.63	Cancelled in Full
A-19658	Irrigation from Natural Stream	S6-T32-R1W	Beaver Creek	12/13/2022	243	3.47	Cancelled in Full
A-19659	Irrigation from Natural Stream	S1-T31-R3E	Tributary to Lime Creek	12/13/2022	111.5	1.59	Cancelled in Full
A-17419R	Irrigation from Natural Stream	S5-T33-R1E	Missouri River	8/18/2021	16.2	0.23	Cancelled in Part
A-17550R	Irrigation from Natural Stream	S5-T33-R1E	Missouri River	12/21/2021	28.1	0.4	Cancelled in Part
A-17782R	Irrigation from Natural Stream	S5-T33-R1E	Missouri River	8/18/2021	10.7	0.15	Cancelled in Part

Streamflow Monitoring

U.S. Geological Survey Stream Gages in the Lewis and Clark NRD



Created by NeDNR | aip 07/31/2019

Streamgages in the Lewis and Clark NRD

Name	USGS Gage ID	Start Year	Gage Height	Discharge	USGS Cooperative Partners
Bazile Creek near Niobrara, NE	06466500	1990	X	X	Lewis & Clark NRD
Bazile Creek at Center, NE	06466400	2002	X	X	Santee Sioux Tribe of NE
Bow Creek near Wynot, NE	06478522	2015	X	X	Lewis & Clark NRD, NE Dept. of Natural Resources
Howe Creek near Center, NE	06466470	2017	X	X	Santee Sioux Tribe of NE
Missouri River near Maskell, NE	06478526	2012	X		U.S. Army Corps of Engineers
Missouri River near St. James, NE	06478523	2017	X		U.S. Army Corps of Engineers

Voluntary Water Use Reporting - Overview

For the 2021 year there were a total of 37 respondents out of 111 permits. These respondents covered a total of 2833 acres of irrigated land.

The 2022 year saw an increase to 42 out of 115 permits. These respondents covered a total of 3801 acres.

There were a variety of reasons as to why some respondents said irrigation did not happen:

- Not enough water in the creek due to the drought

- Water levels too low

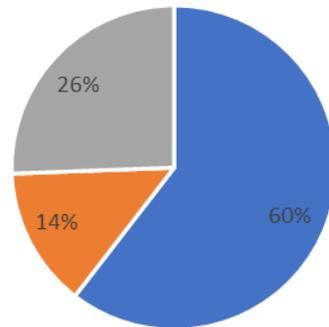
- Didn't need to

- Equipment failure

- Did not have a pump available

Voluntary Water Use Reporting - 2021

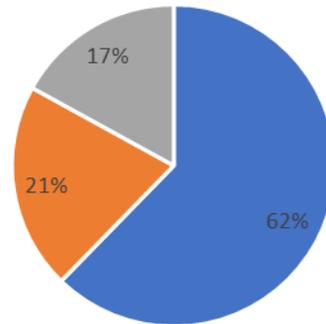
Voluntary Water Use Reporting in LCNRD 2021
Percentage of Irrigation with Surface water, groundwater and
Did not Irrigate



■ Irrigated with Surface Water ■ Irrigated with Groundwater ■ Did not Irrigate

Voluntary Water Use Reporting - 2022

Voluntary Water Use Reporting in LCNRD 2022
Percentage of irrigation with Surface water, groundwater and
Did not Irrigate



■ Irrigated with Surface Water ■ Irrigated with Groundwater ■ Did not Irrigate

Collaboration with other Entities

- **Missouri River Recovery Implementation Committee**
- **Eastern Nebraska Water Resources Assessment**

Education and Outreach

- **In 2022, Husker Harvest Days, Nebraska State Fair, and Nebraska Women in Agriculture Conference**
- **Groundwater flow model and a flood simulation models**
- **Three web applications simulations with associated worksheets**

Technical Studies, Research and Projects

- **Lower Platte Missouri Tributaries Model**
 - Getting the 2021 update
 - Weather to Prism data and updated to Modflow 6
- **Lower Elkhorn NRD AEM/Modeling Study - Finished**
- **NeDNR Technical Assistance to Create LCNRD Well Hydrographs**
- **NeDNR's INSIGHT Tool for Water Balance Analyses**
 - Updated two years ago

LCNRD 2021-2022 IMP Goals Achievement

Met	Examples
Goal 1 Inventory	Providing support for the Bazille and Bow Creek streamgages, Hydrographs for groundwater wells, Continuing irrigated acre certification in 2023 and 2024, Eastern Nebraska Water Resources Assessment
Goal 2 Future Development	Missouri River Recovery Implementation Committee,, Assistance from NeDNR to create Hydrographs, Voluntary surface water use reporting
Goal 3 Public Awareness	NeDNR offering assistance with more outreach events, Participation in statewide or regional events, NeDNR interactive maps and dashboards

NEBRASKA

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DEPT. OF NATURAL RESOURCES

THANK YOU

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