



INTEGRATED MANAGEMENT PLAN REVIEW

July 10, 2024

Lower Niobrara
Natural Resources District

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1. REASON

The Lower Niobrara Natural Resources District (LNNRD or District) and the Nebraska Department of Natural Resources (NDNR), meet annually to review the activities conducted by each agency, to accomplish the goals and objectives of our Integrated Management Plan (IMP) for the District.

2. AUTHORITY

This Integrated Management Plan (IMP) was prepared voluntarily by the Board of Directors of the Lower Niobrara Natural Resources District (District) and the Nebraska Department of Natural Resources (Department) in consultation with the Lower Niobrara Stakeholders Committee and in accordance with the Nebraska Ground Water Management and Protection Act. The act assigns the responsibilities and the authority to the Department and the District for management of groundwater and hydrologically connected waters in accordance with Neb. Rev. Stat. §§46-702, 46-703, 46-707, 46-712, 46-715, 46-716, 46-717, 46-718, 46-720, and 46-739.

3. PURPOSE

The Lower Niobrara Natural Resources District, in collaboration with the Nebraska Department of Natural Resources, will implement this voluntary IMP to attain and/or maintain a desired balance between water uses and water supplies of both surface water and groundwater sources so economic viability, as well as social and environmental health, safety, and welfare, can be achieved and maintained in the District for both the near-term and long-term, while also considering effects on existing surface water appropriators and groundwater users. Should the Department subsequently determine an affected river basin, subbasin, or reach within the District to be fully appropriated, the Department and the District may amend this IMP.

Groundwater is owned by the public and the only right held by an overlying landowner is in the reasonable and beneficial use of the groundwater underlying his or her land subject to the provisions of the Act per Neb. Rev. Stat. § 46-702, and the correlative rights of other landowners when the groundwater is insufficient to meet the reasonable needs of all users. Furthermore, the District is responsible for the management of the groundwater within the District per Neb. Rev. Stat. § 46-703(4).

Preference in the use of groundwater shall be given to those using the water for domestic purposes. They shall have preference over those claiming it for any other purpose. Those using the water for agricultural purposes shall have preference over those using the same for manufacturing or industrial purposes. As used in this rule, (a) domestic use of groundwater shall mean all uses of groundwater for human needs as it relates to health, fire control, and sanitation and shall include the use of groundwater for domestic livestock as related to normal farm and ranch operations, and (b) agricultural purposes Lower Niobrara Natural Resources District Integrated Management Plan Date Effective: May 1, 2014 Page 4 of 21 shall include, but not be limited to, aquaculture purposes in accordance with Neb. Rev. Stat. § 46-613.

The District has significant legal authority to regulate activities within its boundaries in a way that ensures agriculture remains an important industry to the State of Nebraska in accordance with Neb. Rev. Stat. §§ 46-703 and 704(3).

6. GOALS & OBJECTIVES

For the District, the ultimate goal of the integrated management process is to protect existing investments and interests while facilitating economic growth and well-being across the District. For the first phase/increment of the integrated planning process for the District's voluntary IMP, the goals and objectives will focus on developing the utilization of hydrologic models to determine the interconnectivity of surface and groundwater within the boundaries of the District, and an understanding of: (1) water supplies and uses; (2) water availability and shortages; and (3) hydrologic characteristics of the District's groundwater basins, subbasins, and reaches. These fundamental elements of water management planning will allow for refinement of the goals and objectives in the following phases of the IMP process and provide the framework for water management decisions going forward. The District, its stakeholders, and the Department identified many more long-term goals and objectives that will be reviewed annually and added in subsequent phases of the IMP process if the data and analysis support them.

A goal is a desired outcome of actions taken in support of achieving the overall purpose of the IMP. An objective is an achievable and measurable action taken to attain the desired end result stated in the goal it supports. Goals provide a broad picture of intentions, whereas objectives define more specific ways to achieve these goals. The objectives are then supported by detailed action items that will get the necessary work accomplished. The action items may be regulatory or non-regulatory in nature. Regulatory action items (controls) are legal mandates, whereas non-regulatory action items are voluntary actions on the part of the groundwater user or surface water appropriator. In order to implement the regulatory action items (controls), they must be written as explicit procedures for implementing the control(s), approved by the Board, and then recorded in the District's Rules and Regulations. Rules and Regulations can be changed with only Board approval and a public hearing. In order to make changes in the IMP, the Department and the Board are required to hold a joint public hearing.

The IMP goals and their supporting objectives and action items will be accomplished sequentially, in that Goal 2 requires input of data and analyses from the completion of Goal 1. Goal 3 will begin upon completion of Goal 2. Goal 4, related to education and outreach, will necessarily be ongoing from beginning to completion of this phase of the IMP. However, it may also be helpful at times to work on all four goals together as their respective objectives and action items support each other, and considered together, may improve data collection, analyses, and decision-making going forward. The District and the Department agree on and adopt the following goals, objectives, action items, and controls for the first generation of this IMP.

Goal 1

1. To develop and implement processes for the adequate collection of hydrologic and other related data to assess water resources within the District.

LNNRD has collected static water level data since 1975 and water quality data since 1996. Since these starting dates, LNNRD has added numerous data points, technology, and analysis methods. LNNRD continues to look for opportunities to increase the amount and quality of its data. LNNRD also works with other NRDs and NDNR to obtain data and technologies beyond our skill level and budget point.

Goal 1 Objectives

- 1.1. To conduct data collection and analyses of water supplies and demands, utilizing the best available information, data, and science.

LNNRD continues to collect water samples across the District to monitor nitrate nitrogen in the groundwater. Currently LNNRD samples close to 500 irrigation wells on a bi-annual basis (250/year). 35 dedicated monitoring wells are purged and sampled annually. LNNRD also continues to annually measure spring static water levels in 85 irrigation wells and 35 dedicated monitoring wells. Pressure transducers and telemetry have been added to all 18 monitoring well sites to record and transmit daily static water levels. A link is available on our website so anyone can see and compare current and historic static water levels at all locations on either a dashboard or hydrograph format.

Since access to some of our flowmeter data has contractually lapsed, and because the Board is interested in a drought plan, LNNRD staff and committees are in the preliminary phases of developing a plan to cost-share flowmeters and eventually mandate them in the future. LNNRD staff submitted a Water Sustainability Fund grant application and a RCPP application to help this process if awarded.

- 1.2. To conduct studies to identify hydrologically distinct sub-areas within the District for the purposes of integrated management.

Currently LNNRD, in conjunction with the BGMA, is participating in a vadose zone study being conducted by Dr. Snow at The Nebraska Water Center.

The LNNRD Groundwater Management Committee is currently evaluating information in an effort to create sub-areas within the District for better water management.

- 1.3. To monitor changes in water use within the District.

LNNRD uses the data collected in 1.1 to monitor and manage groundwater levels.

Goal 2

2. To develop systematic approaches for the development and sustainability of water resources within the District.

LNNRD currently has a groundwater quantity plan but would like to improve the plan to be more responsive and better developed through data. That is why the board is looking at flowmeter cost-share and eventual mandate of flowmeters. LNNRD staff submitted a Water Sustainability Fund grant application and a RCPP application to help this process if awarded.

Goal 2 Objectives

- 2.1. To assess the potential impact of new surface water and groundwater uses on existing surface water and groundwater users within the District.

LNNRD continues to utilize our acre ranking criteria and well ranking criteria in awarding new irrigated acres. In 2022, LNNRD approved 500 new irrigated acres that met these criteria. 300 of these approved acres utilize sub-surface drip irrigation. The LNNRD Board voted NOT to offer a new irrigated acre program in 2023 or 2024.

- 2.2. To determine allowable levels of water development for the District, and by subbasin when designated.

Every year, prior to the board's discussion on new irrigated acres, they are presented with the current data regarding static water levels and groundwater usage. If the board approves a new irrigated acre program, they will also set the criteria for the program. Over the last few years, it has become evident that gradual development could be allowed in some areas of the District, while other areas should be maintained at current levels of groundwater use. An allocation system that would limit the highest usage producers, could create new development opportunities.

The LNNRD has two very different and distinct basins in the District and would like to transition into separating these basins and creating sub-areas when we look at and rank new irrigated acres. Similar to how NDNR looks at surface water in our district with control areas 1 and 2. To accomplish this task, LNNRD needs some technical support from NDNR. LNNRD would like updated stream depletion factors for areas in the District connected to the Ponca Creek Basin (Missouri River Tributaries), updated stream depletion factors for areas in the District connected to the Lower Niobrara River, and updated stream depletion factors for areas in the District connected to the Lower Platte River. Any technical support that NDNR could provide with the new Niobrara Model would also be greatly appreciated.

Goal 3

3. To prevent, resolve, and minimize water related conflicts among and between surface water and groundwater users.

LNNRD, through West Knox Rural Water (WKRW), is currently trying to rehabilitate a public water supply well to mitigate nitrate issues in the well. WKRW has also adopted a Well Head Protection Plan.

LNNRD, as a member of the Niobrara River Basin Coalition (NRBA), has acquired the NPPD water rights at the Spencer hydro facility for fish, wildlife, recreation, and other beneficial uses yet to be determined. The NRBA is in the process of establishing subordination agreements with junior users on the Niobrara River.

Most of the current conflicts that LNNRD is experiencing are irrigation well vs domestic well, damages due to flooding, and damages due to feedlot runoff.

Goal 3 Objectives

- 3.1. To establish procedures for securing water for sustained future growth of domestic, municipal, agricultural, commercial, and industrial water users within the District.

Rules and regulations have existed since 2014 to address the issues of 3.1. Consideration is being given to rules changes that would help manage the Districts groundwater and mandate offsets for commercial water use. LNNRD is considering flying the District to obtain infrared images to review irrigated acre certification.

- 3.2. To establish rules and regulations regarding transfers, variances, water banking, water leasing, or other actions of water management within the District, if necessary, to enhance equitable water use management, mitigate new uses, or to avoid conflicts.

Rules and regulations have existed since 2014 to address the issues of 3.2.

Goal 4

4. To develop and provide educational opportunities and outreach materials about hydrologically connected surface water and groundwater, water conservation, and to keep the constituents of the District informed about the IMP as it is implemented.

Goal 4 Objectives

- 4.1. To develop and disseminate water conservation guidelines for individuals to achieve sustainable water use.

LNNRD offers information and education on many levels. I&E staff present to ALL grade schools in the District and connect with middle school kids during our 8th Grade Conservation Day. Our Phase II report information is presented at Nitrogen Certification Training and has been presented on the state level to conservation, educational, and agricultural audiences. Staff also participate in BGMA producer

information meetings and field days, Sandhills Ranch Expo, Husker Harvest Days, NE State Fair, and many other events. LNNRD has a very good social media presence and informative website that offers a multitude of educational and informational links.

- 4.2. To identify cost-share opportunities that may include collaborating with other agencies and other NRDs to implement plan objectives.

LNNRD currently offers cost-share to constituents for soil sampling, well decommissioning, reverse osmosis systems, nitrogen management, water testing, livestock manure analysis, automatic rain gauge shut offs, and automatic drip oilers.

LNNRD promotes all cost-share opportunities to our constituents both in-person and on our website.

LNNRD is seeking grant funding to offer cost-share for the installation of flowmeters, soil moisture probes, and next generation technologies such as sensor based fertigation and real-time ET.

- 4.3. To encourage participation in information sharing with other organizations and agencies to conserve resources and prevent duplication of work.

LNNRD regularly shares data and information with producers, landowners, homeowners, other NRDs, State agencies, and UNL.

Closing Remarks

LNNRD Board of Directors and staff have worked diligently this past year to overcome organizational and financial obstacles. Staff have identified and applied for 2 grant funding opportunities and are planning and budgeting for 2 more. We are striving to meet the goals of our long-range plan, develop cost-share opportunities, and better manage our responsibilities. LNNRD is looking to add a staff member in FY24-25 and make additional office space with an addition to our building. LNNRD will always strive to be a professional and proficient partner to our stakeholders.