



2024 Long-Range Implementation Plan



Introduction

In 1978, the Nebraska Unicameral passed LB 783 (Revised Statutes of Nebraska, 1943, sections 2-3201 through 2-3261) which changed the formal planning process of natural resources districts. The change was to outline the process for planning of resources development, management, utilization, and conservation as one of the purposes of natural resources districts. For planning purposes, areas of responsibilities of the natural resources district were consolidated under the Nebraska Natural Resources District Act.

Nebraska Revised Statute 2-3277 specifies that each district shall prepare and adopt a long-range implementation plan which shall summarize planned district activities and include projections of financial, labor, and land rights needs of the district for at least the next five years and the specific needs assessment upon which the current budget is based. District long-range implementation plans shall be reviewed and updated annually.

The Lower Loup NRD (LLNRD) is dedicated to the conservation, protection, development, and management of our natural resources. The 21-member locally elected Board is charged with the task of establishing policy that fits the interests of the State of Nebraska, the District, and its citizens. The General Manager is responsible for implementing the policies which utilize direction from the Board.

The LLNRD Board of Directors developed and updated a Master Plan in 2022 which spans a ten-year period and includes the District's goals and objectives pertaining to legislative authorities for Nebraska's NRDs. This Long-Range Implementation Plan will give a general timeline for completion and will indicate the funding necessary to carry out the goals and objectives.

The LLNRD works closely with local, state, and federal agencies to coordinate the management of conservation efforts. The District values these relationships and recognizes there in performing the tasks and responsibilities with which the LLNRD has been charged.

While required by Nebraska State Statutes, this plan is also designed to facilitate a greater understanding of NRD Goals and Objectives to the public. It is a resource to aid in making informed decisions and sound resource management. As such, the approved long-range plan is posted annually to the NRD's website for public consumption.

The Natural Resources Districts' Declaration of Intent

The Legislature hereby recognizes and declares that it is essential to the health and welfare of the people of the State of Nebraska to conserve, protect, develop, and manage the natural resources of this state. The Legislature further recognizes the significant achievements that have been made in the conservation, protection, development, and management of our natural resources, and declares that the most efficient and economical method of accelerating these achievements is by creating natural resources districts encompassing all the area of the state, as provided by this act.

More specifically, the Legislature provided 12 purposes of NRDs in Section 2-3229.

The purposes of natural resources districts shall be to develop and execute through the exercise of power and authorities contained in this act, plans, facilities, works, and programs relating to:

1. *Erosion prevention and control*
2. *Prevention of damages from flood water and sediment*
3. *Flood prevention and control*
4. *Soil conservation*
5. *Water supply for any beneficial uses*
6. *Development, management, utilizations, and conservation of groundwater and surface water*
7. *Pollution control*
8. *Solid waste disposal and sanitary drainage*
9. *Drainage improvement and channel rectification*
10. *Development and management of fish and wildlife habitat*
11. *Development and management of recreational and park facilities*
12. *Forestry and range management*

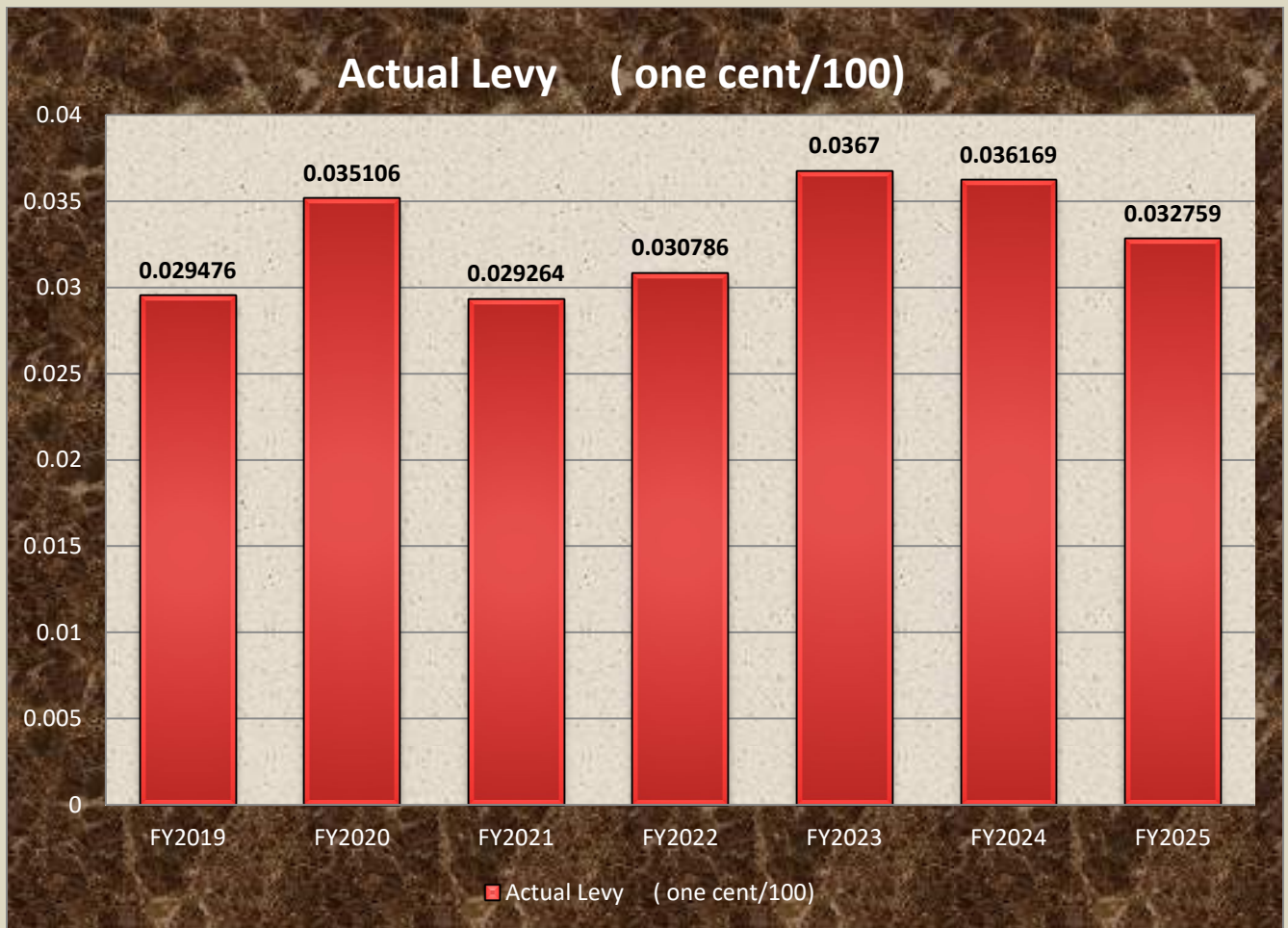
The District's Priorities

The Lower Loup NRD Board of Directors met on February 28, 2024, at a Board Retreat, and the outcome was a developed hierarchy of the District's general direction and focus. A prioritized list of items was created and will be used to assist the General Manager and staff in the planning and budgeting process going forward --

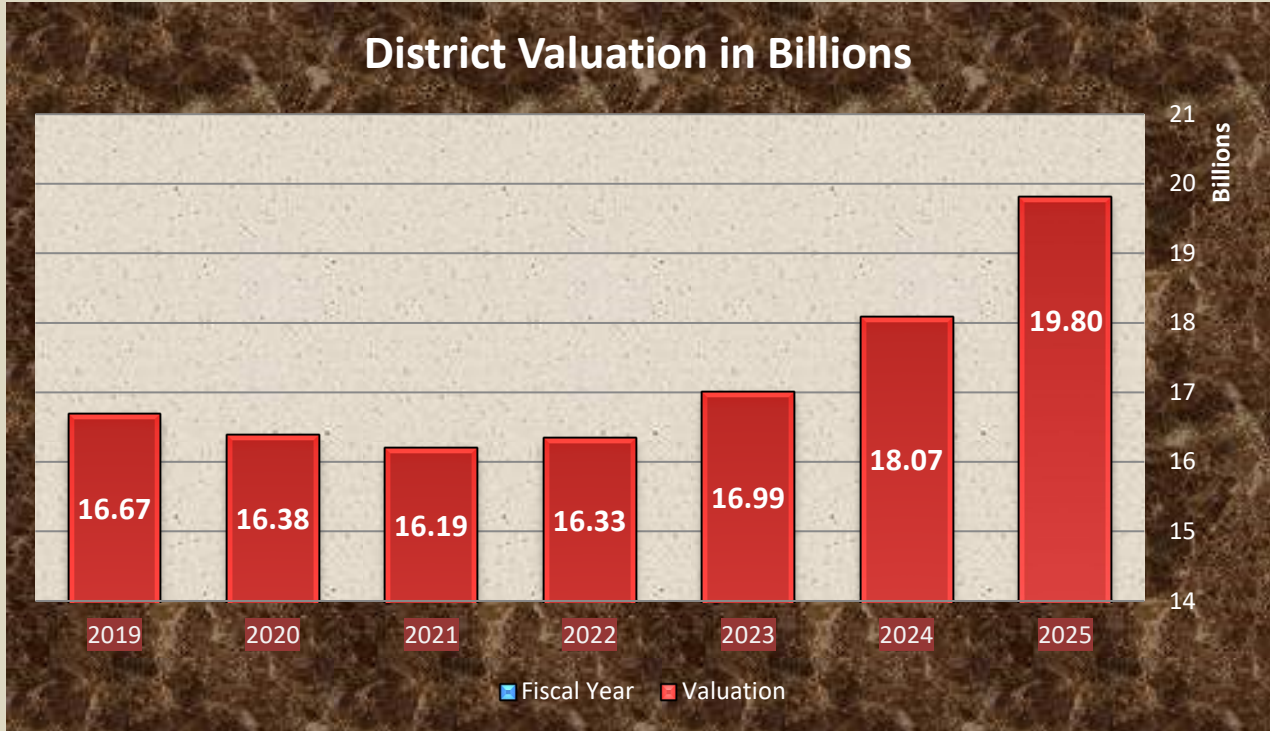
- Priority 1. Monitor and continue Work on Water Quantity and Quality (Public Safety)
- Priority 2. Recharge Projects
- Priority 3. Promotion of LLNRD to the Public
- Priority 4. Develop Innovative Cost-Share Programs
- Priority 5. Relationship/Interaction with Irrigation Districts
- Priority 6. Continue work on Flood Control/Protection
- Priority 7. Drought Mitigation
- Priority 8. Irrigated Efficiency Management
- Priority 9. Continue to Emphasize Range Management (Including Eastern Red Cedar)
- Priority 10. Promote Wildlife Habitat, Wetlands, Outdoor Recreation (Hunting/Fishing),
Parks, Recreation Areas, Trails
- Priority 11. Promote Forestry (Rural and Urban)
- Priority 12. Invasive Weeds
- Priority 13. Carbon Credits
- Priority 14. Buffer Strips/Streambank Erosion
- Priority 15. Wellhead Protection/Source Water
- Priority 16. Promote/Research Conservation Practices

District Financing and Budgeting

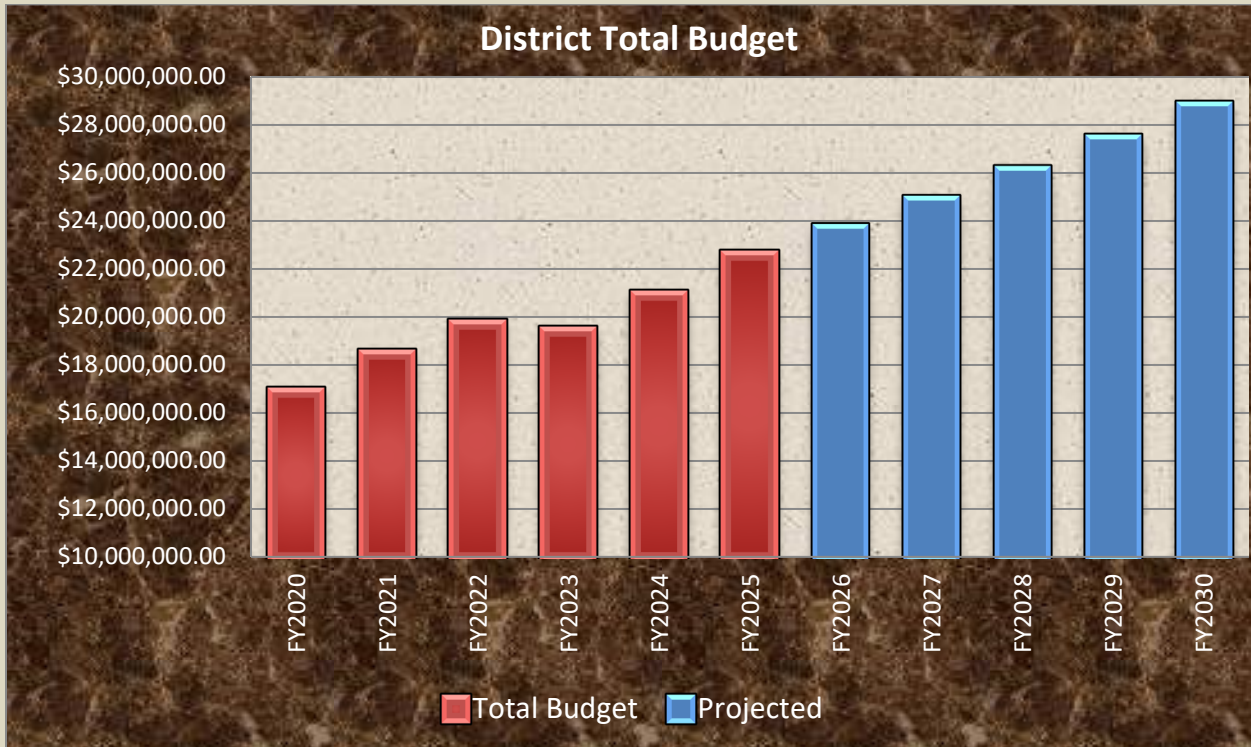
The Lower Loup NRD has multiple funding sources available including a taxing authority of 4.5 cents granted when NRDs were formed starting in 1969, the 1 cent levy granted for water programs in 2004, the occupation tax granted in 2007, the ability to assess fees through improvement project areas, the ability to charge fees for certain services, and matching funds received through grant funding. This allows the District the ability to obtain financing by sources other than just tax dollars. The District's budget, property tax request, and resulting levies are set and approved by the Board of Directors.



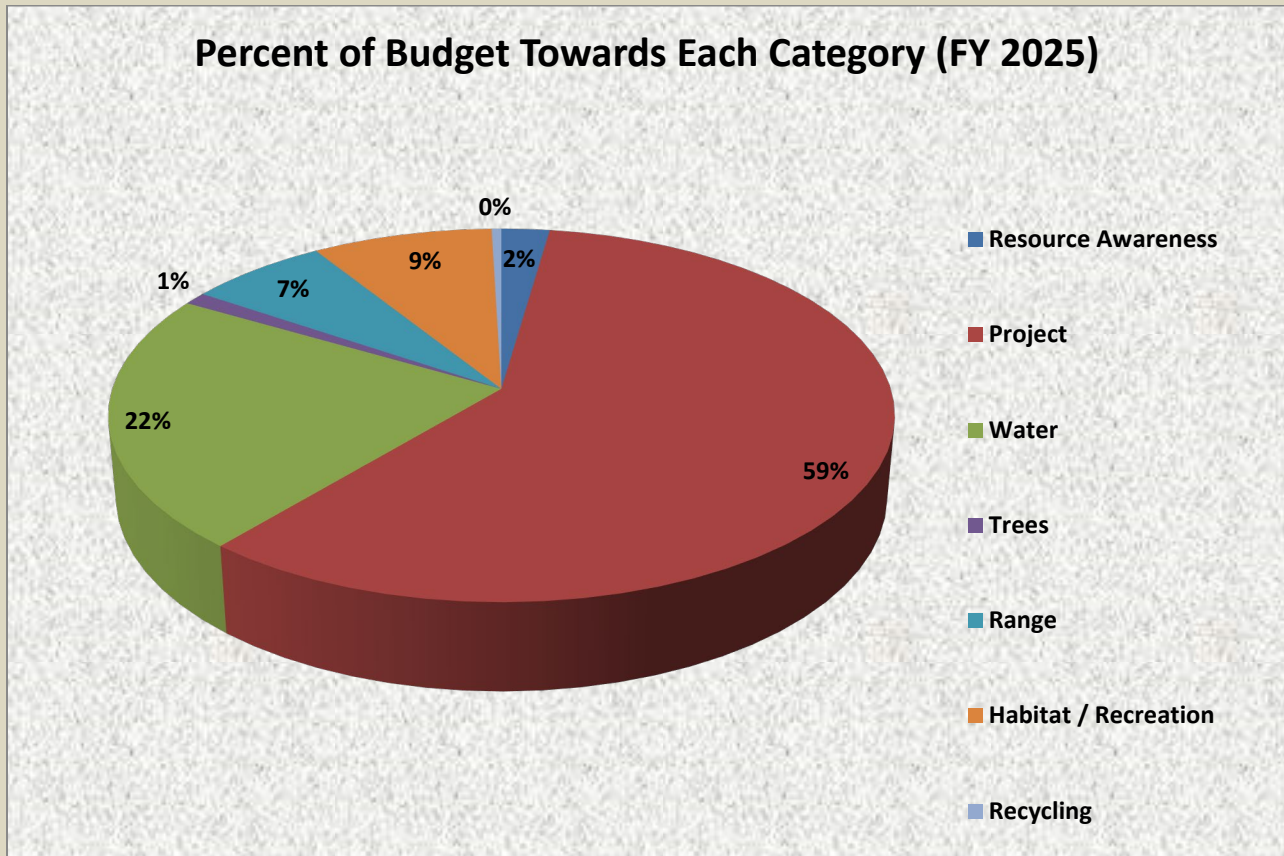
The District is comprised of all or parts of 16 counties. The counties are diverse from an urban/farming setting in the east to rangeland in the northwest. The LLNRD works with the county assessors, who are responsible for setting the county valuations. The valuation change has continued to see a significant increase across the NRD associated counties.



The Board of Directors and the General Manager of the District are charged with the task of balancing the need to manage our natural resources and the responsibility to use patron tax dollars wisely. This task is a complicated one, especially with the increasing statutory requirements and expanding demand for natural resources.



The following pie chart looks at the percentage of the total projected budget that could be spent in each category.



This spreadsheet shows what the budgeted amount is for each general category by fiscal year.

Description	FY2025	FY2026	FY2027	FY2028	FY2029	Total
Resource Awareness	\$169,200.00	\$174,320.00	\$179,696.00	\$185,340.80	\$191,267.84	\$899,824.64
Flood Protection	\$20,535,407.00	\$2,055,000.00	\$2,070,750.00	\$2,087,287.50	\$2,104,651.88	\$28,853,096.38
Water Quantity	\$1,420,000.00	\$1,489,000.00	\$1,561,450.00	\$1,637,522.50	\$1,717,398.63	\$7,825,371.13
Trees	\$113,391.00	\$116,560.55	\$119,888.58	\$123,383.01	\$127,052.16	\$600,275.29
Water Quality	\$799,500.00	\$839,475.00	\$881,448.75	\$925,521.19	\$971,797.25	\$4,417,742.18
Soil Erosion	\$540,000.00	\$567,000.00	\$595,350.00	\$625,117.50	\$656,373.38	\$2,983,840.88
Range	\$655,628.34	\$688,409.76	\$722,830.24	\$758,971.76	\$796,920.34	\$3,622,760.44
Drainage Improvement	\$111,000.00	\$111,000.00	\$111,000.00	\$111,000.00	\$111,000.00	\$555,000.00
Fish and Wildlife	\$55,000.00	\$60,000.00	\$60,000.00	\$70,000.00	\$75,000.00	\$320,000.00
Habitat / Recreation	\$1,622,000.00	\$1,611,000.00	\$367,000.00	\$377,000.00	\$385,000.00	\$4,362,000.00
Recycling	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$50,000.00	\$250,000.00

District Staffing

The Lower Loup NRD has a staff of 21 full-time employees at the District Headquarters office in Ord. The staff also includes 8 District Secretaries at the Natural Resources Conservation Service offices in Albion, Broken Bow, Burwell, Columbus, Fullerton, Ord, Spalding and St. Paul. There are also 4 NRD Field Staff located in Broken Bow, Columbus, Spalding, and Fullerton. Part-time and seasonal staff are employed for tree planting, drip irrigation installation, maintenance of the NRD Arboretum and work at Davis Creek and Pibel Lake recreation areas. Vacant positions represent personnel needs for the District in various operating capacities. Projected personnel need necessary for the NRD to continue its operations are highlighted in yellow below.

Russell Callan General Manager	Tyler Naprstek Assistant General Manager	Irene Kreifels Administrative Assistant
Dell Harris Water Resources Specialist	Cheryl Hornickel Programs Assistant	Jane Klanecky Secretary/Receptionist
Kimberly Lyons Financial Secretary	Kevin Gustafson District Engineer	Cacey Wilken Water Modeling Coordinator
Alan Bartels I&E Coordinator	LeeAnn Smith Water Programs Assistant	Brant Bechtold Information & Education Specialist
Anne Freeman Program Secretary	Phillip Hill Park/Shop Superintendent	Derek Domeier Assistant Recreation/Shop Manager
Dan Ruterbories Rangeland Management Specialist	Vacant Position Projects Coordinator	Vacant Position Financial Assistant

District Secretaries

Kandis Bremer Albion Field Office	Jeri Rosno Columbus Field Office	Peggy Griffin St. Paul Field Office
Alyssa Dubas Fullerton Field Office	Michelle Gibbens Broken Bow Field Office	Julie McBride Burwell Field Office
Laura Barber Spalding Field Office	Beverly Smedra Ord Field Office	

NRD Field Staff

Jon Westerby Conservation Technician Broken Bow	Ken Dawson Water Resources Technician Ord	Ed Drozd Conservation Technician Columbus
Harold Benton Water Resources Technician Ord	Mike Lorenz Agronomy Technician Fullerton	Jason Moudry Water Programs Specialist Ord
Jordyn Duffek Conservation Technician Spalding	Brian Kolar Projects Technician Ord	Ryan Hellbusch Water Quality Technician Columbus
Vacant Position Agronomy Tech	Vacant Position Projects Technician	

Staff-time and personnel needs regarding specific equipment and financial requirements for staffing for the next 5 years of operations are included in each sub-category's projected cost as part of the comprehensive long-range plan.

District Goals and Objectives

The Lower Loup NRD's Master Plan lists 11 goals and objectives of the District derived from the 12 basic purposes established by the Nebraska Legislature in Sections 2-3229. This Long-Range Implementation Plan will give each one of those goals a general timeline for completion, a relative priority by the Board of Directors, and the financial obligation to complete the tasks. This plan is a working document with yearly reviews and updates by both the District staff and Directors.

The accompanying goals and objectives are modified to reflect changes of the District operation yet remain the same.

1. Resources Awareness
2. Prevent damage from flood water
3. Development and management of groundwater and surface water for beneficial uses
4. Forestry management
5. Water quality and pollution control
6. Erosion prevention, control, and sediment reduction
7. Range management
8. Drainage improvement and channel rectification
9. Development and management of fish and wildlife habitat
10. Development and management of recreational and park facilities
11. Solid waste disposal

1) Resources Awareness

The Lower Loup NRD has placed extra emphasis on outreach and promotion of natural resources conservation and the various NRD programs available to its citizens. The Lower Loup NRD continues to issue several publications including a quarterly newsletter (*In The Loup*), a bi-annual newsletter on water quality (*Water Matters*) and multi-media programming. Both newsletters update the readers on various NRD activities and provide information on NRD work. Current distribution is to every mailing address within the District (more than 36,000) and both newsletters are also mailed to landowners who reside outside of the District. Starting in 2024, the format for the quarterly newsletter has changed from 4-page bifold to 6-page trifold. The NRD continues to provide correspondence to any resident where the NRD has collected a water sample.

Timeline	Priority	Projected Cost FY 2025-2029
1 – 5 Years	Fits all priorities	\$331,538.00

The LLNRD continues its public outreach through most available online platforms and has increased the use of social media outlets such as Facebook, Instagram, and X (formerly Twitter). In 2024 the NRD issued 200 Facebook posts – a ten-fold increase over 2020. The number of Facebook followers has increased approximately 500 per year from 2021. LLNRD is now showcasing more of the work that is being completed through its programs on its YouTube Channel. Some of the projects include the upgrades at Davis Creek and Pibel Lake Recreation Areas, the background on the Columbus Recharge and Sargent projects, and is starting to showcase day-to-day work such as chemigation and annual reporting associated with Water Quality Management Areas (WQMA). The NRD has recently completed an overhaul on its website to improve the ability to communicate with the public and is allowing additional features such as embedded videos and interactive maps for irrigated acres. The revised Crop Water Use Report continues to be a popular site with easily consumable crop-water graphs updated weekly throughout the growing season. The Lower Loup NRD has created an opt-in option for text alerts to be sent directly to any interested party's cell phone. This outreach allows instantaneous updates to be sent to those that choose to receive messages from the Lower Loup NRD regarding NRD functions and public information activities.

Timeline	Priority	Projected Cost FY 2025-2029
1 – 5 Years	Fits all priorities	\$350,000.00

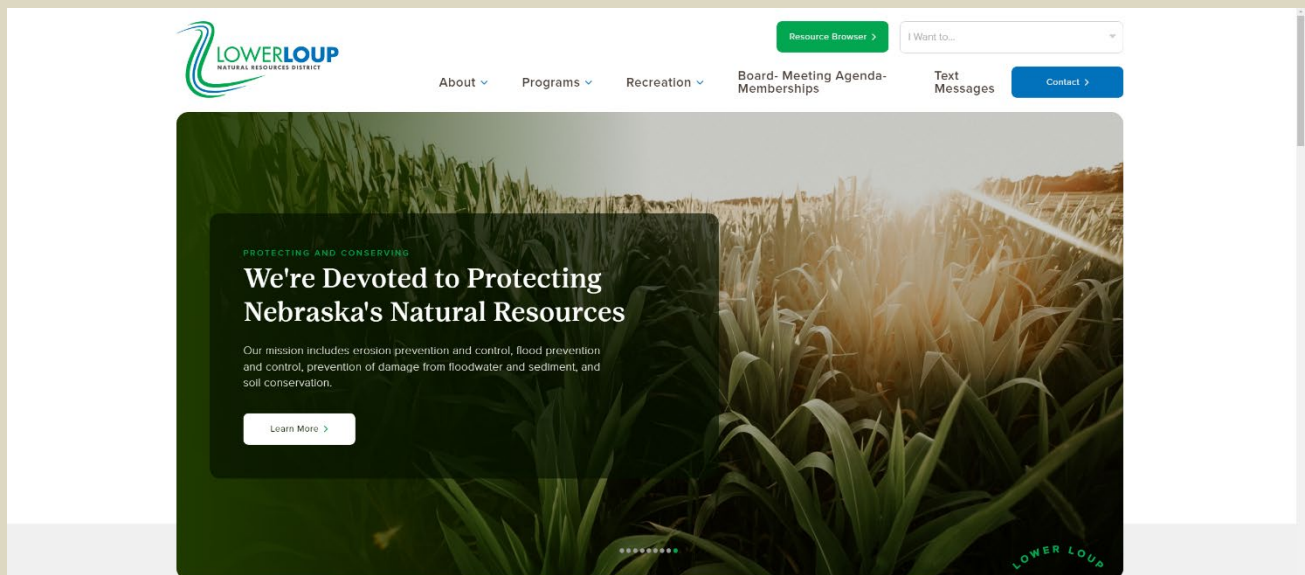


Some examples of the publications released over the last year.

The Lower Loup NRD assists, hosts, and sponsors educational opportunities for both elementary and secondary school students across the District. Elementary students may attend LLNRD presentations at the annual Groundwater Festival in Grand Island and the Conservation Celebrations in Ord and Fullerton. Middle School students are part of the 4-day, 3-night Adventure Camp about the Environment (ACE), hosted by the LLNRD. The Lower Loup NRD hosts an annual Envirothon Field Day at the Aagaard Farm to help students prepare for the regional and state Nebraska Envirothon events that LLNRD hosts in cooperation with other NRDs. These events provide students the opportunity to showcase their knowledge of natural resources in a competitive setting. The LLNRD Information & Education department also visits classrooms in the District for Arbor Day programs and other presentations such as Test Your Water events.

The LLNRD’s MUDFEST event began in 2023 and is held at the LLNRD Arboretum adjacent to the Ord headquarters. This event instructs students about soil and water – two of our most precious natural resources – with a fun-based approach that leaves the students just a little wet and muddy. The event hosts 100 to 120 fourth graders for the event providing a hands-on learning experience in an outdoor classroom. Past presenters from other NRDs, Nebraska Extension (Garfield County), NRCS, and JEO Consulting, have presented 30-minute sessions on soil or water. The event is growing in popularity and will hopefully continue to be a draw for area schools. The Lower Loup NRD also hosts North Central Region Land Judging contests (every other year through 2030) and the State Land Judging Contest regularly.

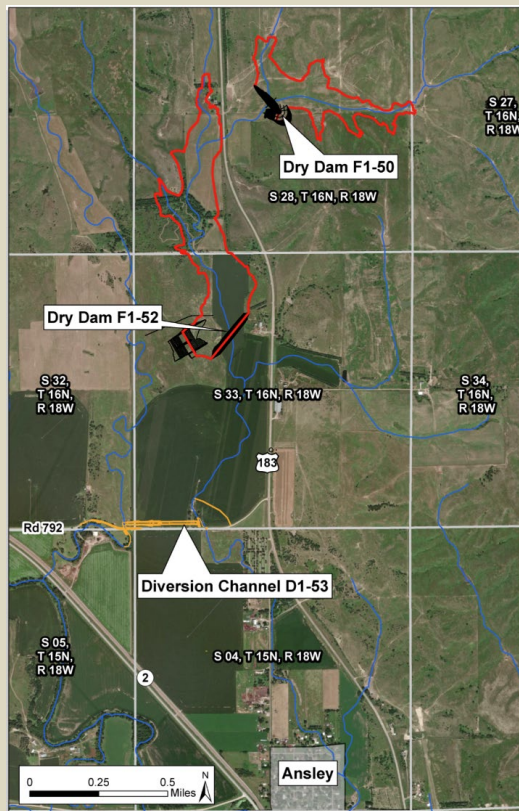
<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	Fits all priorities	\$568,287.00



A snapshot of Lower Loup Natural Resources District Updated Website

2) Prevent damage from flood water

The LLNRD continues to assist communities with flood prevention and resiliency, which remains a high priority across budgetary demands and is represented by community needs within the NRD. The LLNRD is actively planning for infrastructure improvements in preparation for future flood events. Emphasis on sound watershed planning and management are part of the Lower Loup NRD planning strategy. The LLNRD District engineer works closely with contracted firms to provide design recommendations and support on potential construction design options. This improves both technical assistance and financial options to urban and rural governments. The LLNRD has two separate Watershed Plans being completed through the Natural Resources Conservation Service (NRCS) Watershed and Flood Prevention Operations (WFPO). The Mud Creek plan features two dry reservoirs near the town of Ansley and has been submitted to the NRCS Chief for funding authorization. The NRD is prepared to begin design of the Mud Creek plan as soon as funding is received from NRCS. The Mira Creek plan involves channel widening and clean-out north of North Loup and includes a berm. The Mira Creek plan has been submitted to NRCS for programmatic review at NRCS Headquarters.



Mud Creek WFPO Proposed Dams and Diversion Design

The LLNRD working on infrastructure improvements to alleviate flood damages in Ansley, Belgrade, Broken Bow, Litchfield, Loup City, Sargent, North Loup, St. Edward, and Columbus.

The LLNRD Board of Directors recognizes the need for water storage and management within the District. The Board has expanded the budget for studies on potential locations and the need for flood control dams, water augmentation, flood protection, and/or groundwater recharge/retiming projects. The NRD engineering position allows for some guidance in design for smaller communities without the available resources to hire a consulting firm.

The community of Sargent was particularly impacted during the flooding of 2019 and has received funds from the Federal Emergency Management Agency to assist with flood mitigation from drainage coming into town. The LLNRD has secured a state-funded Water Sustainability Grant as well as community support for this project and is dependent on federal funds to proceed with construction of an important bypass channel around the north end of the town.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,6,7,14	\$28,853,100.00

Land Rights Needs

A portion of all active project budgets includes development of land rights through either an outright purchase or development of access easements with area landowners. The current work being conducted through the various federal programs and agencies, securing land rights is the sole responsibility of the agency, which in most cases is the LLNRD. Because of the variable nature of establishing these rights, an exact dollar amount would be impossible to generate. The LLNRD will need to develop land rights for any work conducted with the Mira Creek WFPO, Mud Creek WFPO through the NRCS and the Sargent Flood Resiliency Project, conducted with FEMA.

3) Development and management of groundwater and surface water for beneficial uses

The District continues to be well known for its management of water resources in the State and this continues to be the top long-term goal of the Board of Directors. Development and management of groundwater and surface water for beneficial use was the top priority listed during the Director Retreat. This objective is a major factor of all NRDs activities and financial obligations.

The District’s bi-annual water level measurements are the primary way the aquifer is assessed throughout the area. Static water sites are manually collected in dedicated monitoring wells and privately-owned irrigation wells across the NRD in the early spring before irrigation and late fall after harvest. Data is also collected through the installation of automated data loggers in dedicated monitoring wells. Some of these transducers have been outfitted with real-time capabilities and are available at any time through the LLNRD website. Other well networks through the Conservation and Survey Division (UNL) and the United States Geological Survey

(USGS) are also available across the District. The NRD recently completed work funded from a USGS grant for the construction of five dedicated monitoring wells and the installation of real-time pressure transducers in a series of wells near the community of Petersburg. Mid-summer drawdowns created a necessity to supplement and replace wells associated with the statewide groundwater monitoring network to better assess stressed aquifer conditions.

As the equipment ages, routine maintenance and periodic replacement is a must and the NRD is actively seeking grant funding to assist with transducer replacements. The NRD currently has 95 transducers deployed in both dedicated monitoring wells and some in private irrigation wells across the NRD. There are over 20 transducer sites that have at least 10-years of operation in the field. The program was initiated in 2007, so there is a definite need to repair/replace some of the transducers to maintain operations.

The expansion of the use of flow meters across the District continues to be promoted in both water quality and quantity programs. It has been ten years since the Lower Loup NRD became the first NRD in the state to require flow meters in its water quality areas, specifically for the purpose of improving water nitrates. The Lower Loup NRD has since triggered two quantity areas requiring flow meters on all high-capacity irrigation wells due to impacts of drought on water levels. Hearings are planned for early 2025 to require an additional area that has shown groundwater impacts and low static water level readings because of the drought taking place in 2022 and 2023. These triggered quantity areas are a direct result from the District using its Drought Management Plan which was adopted in 2022. Additional areas are being closely watched by staff to assess any future wide-spread flow meter requirement.

The NRD also has a rule that requires flow meter installation on any new well or modification to any existing high capacity well across the NRD. The District collects irrigation pumping data from irrigation wells on over 1,350 sites across the NRD, as well as municipal well pumping data from all its 43 communities and all commercial/industrial high-capacity wells.

Interest in developing improvements to irrigation efficiency and the ongoing partnership between the LLNRD and the Natural Resources Conservation Service (NRCS) has prompted the LLNRD to seek a federal grant to work with the federal agency in developing a funding mechanism to allow for the conversion from gravity to pivot. If awarded, the funding would be District-wide and cover a wide array of conservation methods with oversight by the NRD and NRCS.



Field Staff Collecting Static Water Level

The LLNRD continues to collect 4-band, aerial infrared photography on an annual basis. Collection this year was done during the prime row-cropped growing season. The entire NRD was imaged between August 16 and September 3. Resolution has been improved to 0.25 meter (10-inch). Through these flights, the District has a snapshot of development that has taken place and can enforce established Rules and Regulations in the District’s Groundwater Management Plan. While ample moisture was received early on, drier conditions persisted through the NRD, which lends itself to the imagery showing excellent contrast between irrigated and non-irrigated ground.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	1,2,3,4,5,6,7,8,14,15,16	\$7,825,372.00

4) Forestry management

Tree planting continues to be an important program for the LLNRD. The cooperation between the Nebraska Forest Service, the NRCS, and rural and urban citizens proves to be a great method to get meticulously designed windbreaks and tree plantings on the land. Staff at the LLNRD have only increased their knowledge of tree belt design and are constantly working with the various tree nurseries to find better alternatives to those species that are susceptible to disease to ensure longevity. Additionally, the District works with landowners to try to prevent Eastern red cedar planting in areas where there might be future problems with reseeding and consequently overpopulation. The District has seen a reduction in the number of

trees planted in the last few years but continues to promote and recommend the planting of conservation trees. As a testament to its dedication to tree planting, the Lower Loup NRD recently purchased two modern-style tree planters to replace the existing units which were starting to show age. The newly built tree cooler is proving useful in that it ensures survivability of the stock and allows for better sorting and distribution of the trees during the spring planting season. The NRD has been involved with improving awareness of available tree species and helped develop the new state-wide tree inventory complete with pictures.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	3,4,9,10,11,12,13,16	\$350,275



Machine planting trees in Boone County near Petersburg

The Aagaard Farm is an official State Arboretum site that the LLNRD uses to evaluate and demonstrate different tree species, study food plots, land preparation and herbicide uses. The Aagaard Farm has been a wildlife preserve since the NRD received the 480-acre farm. There are approximately 55 acres of various food plots and cover crop plantings used for demonstration and review purposes. The maintenance building and dedicated monitoring wells on the farm have proven to be an asset for onsite training. One of the more popular items onsite is a wildlife guzzler which collects rainfall and provides water for a wide variety of species.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,5,7,9,10,11,12,13,16	\$250,000.00

5) Water quality and pollution control

With the LLNRD Board of Directors' approval of the Groundwater Management Plan in 1985, a commitment to water quality was made by the LLNRD. This commitment and enforcement are made possible by the Groundwater Management and Protection Act. In 2001, the Board of Directors approved rules and regulations that placed the entire District into an initial Phase I Management Area for water quality. The Phase I designation is a commitment by the Board to promote water quality, through educational outreach and water sampling programs. Through this outreach and widespread water quality testing, the public has gained a more thorough understanding of groundwater quality. In February of 2023, changes were made to the Rules and Regulations portion of the Groundwater Management Plan that saw the merging of the two higher phases, Phase II and III, which had similar management and reporting requirements. Now, an area with higher well nitrates will be elevated to Phase 2 and have all the requirements that come with additional management of a Groundwater Quality Management Area.

The Lower Loup NRD has developed a Nitrate Vulnerability Model (NVM) for those areas in a Groundwater Quality Phase 2 Management Area. Given the amount of data required to be submitted on an annual basis, the NVM will help District staff determine which fields are routinely out of balance for available nitrates and the NRD rule change now requires that operators of those identified fields work with staff to develop a Nutrient Management Plan. This plan will examine how fertilizer application rates are determined, methods on how the field is fertilized, controlling irrigation totals, and conservation steps that the producer can take to bring the field back into balance. As of 2024, there have been 42 fields that have required or will be requiring Nutrient Management Plans to be developed with producers.

Staff at the LLNRD have initiated a long-term, detailed study examining the various methods of fertilizer being applied to fields and looking below the root zone, in the vadose zone, to examine which common fertilizer application methods lead to the most leaching of nitrates below the root profile. Ending the first year of study, selected fields were sampled for deep soil sampling during the growing season to depths of 8'. During the offseason, a Giddings Probe was employed to get down to depths of 30' or more. Over time, a dataset will be built to showcase nitrate movement and the USGS is assisting the NRD with summarizing the data and building statistical relationships between the datasets.



LLNRD field staff downloading data from soil moisture station near Cedar Rapids

The LLNRD continues to lead the state in the number of water quality tests collected. Wells that are specifically targeted by NRD field staff include those sites that have a known depth and are registered with the State for ease when submitting to the statewide quality clearinghouse. The clearinghouse database contains all nitrate and pesticide data collected from federal, state, and local agencies as well as the University of Nebraska. All data is screened based on established criteria and must meet quality objectives. The LLNRD sample total is due to the large expanse of land covered by the District and the high number of wells located throughout the area. Currently, the water quality program includes sampling approximately 2,500 domestic, livestock, and irrigation wells per year for nitrates. Irrigation wells are sampled during chemigation inspections across the NRD; however, within each Groundwater Quality Management Area, all irrigation sites are sampled. Results from all water quality tests are provided back to the corresponding landowner.

The Lower Loup NRD has entered into an agreement with the USGS and Lower Platte North NRD to investigate age-dating nitrate contamination at the Loup River confluence with the Platte River and further downstream. This will provide all parties with information as to how old the nitrate contamination problem is and includes LLNRD Groundwater Quality Management Areas 28 & 30 near Columbus.

Another study being executed in collaboration with Nebraska Water Center-Water Sciences Lab examines vadose zone transport rates, the area between the root zone and the aquifer, and a model is being developed to run various management scenarios to reduce nitrate contaminant loading and prevent leaching to the aquifer. Once completed, this model will be applicable across larger areas so long as the base data is available regarding application rates, soil information, and yield. Actual annual nitrate reporting, required by the NRD, was utilized to create the baseline for the model to operate. Once finished, the results of this study will be highly publicized to bring awareness of how to combat the nitrate problem.

The Lower Loup NRD Board has made a strong commitment to promote removing potential contamination sources near the Wellhead Protection Areas.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	1,3,4,8,15,16	\$4,417,750.00

6) Erosion prevention, control, and sediment reduction

The LLNRD has worked closely with the Nebraska Department of Natural Resources and the United States Department of Agriculture, through the NRCS, to provide technical and financial assistance to producers in the District for the prevention and control of soil erosion. The District has provided a mechanism for cost-share programs and staffing in both the NRCS and LLNRD offices. Through the Nebraska Soil and Water Conservation Program (NSWCP), eligible practices can receive cost-share to promote and install conservation measures. The Lower Loup NRD also promotes using the Environmental Quality Incentives Program (EQIP) through each of the NRCS field offices. Priority areas for applications have been designated in the three GWQMAs, the Wellhead Protection Areas, and the two 319 Watershed Management Areas (Clear Creek-Pibel Lake, South Loup River). The NARD has worked to pass legislation to change the Erosion and Sediment Control Act to enable NRDs to better understand and enforce the Act.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Year	1,2,3,4,5,6,14	\$2,983,800.00

7) Range management

Since a majority of the District is comprised of rangeland, the Board has directed staff to work with NRCS to determine the workload and staffing needed to manage the rangelands. The NRCS has worked with the NRD on joint programs in the past and the NRD will continue to promote and assist with those programs under the Long-Range Implementation Plan and continue to show its dedication to range management.

The District has also furthered its commitment to range management through the hiring of a Rangeland Management Specialist in 2018 to promote range health and implement relevant cost-share programs.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	3,4,7,9,10,12,13,16	\$3,622,760.00



Land Judging Contest at Aagaard Farm

8) Drainage improvement and channel rectification

The LLNRD has repeatedly participated in channel rectification projects. The channel maintenance allows flood waters to travel past urban settings without causing additional damage. The District continues to provide potential financial assistance, as well as staffing services for these projects. The funding set forth in this portion of the budget can help a community being impacted with drainage issues. The NRD has recently been in discussions with St. Paul regarding ongoing channel issues with along the Middle Loup River.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	1,2,3,4,5,6,14	\$500,000.00

The Improvement Project Area (IPA) section of State Law provides an effective vehicle for groups of landowners to apply drainage improvements to their property. This authority was set forth in Nebraska Revised Statute 2-3252. The Duncan East IPA in Platte County is a good example of how these projects work. The NRD can participate in construction when it provides benefits to the public. Otherwise, any normal maintenance costs are the responsibility of the impacted landowners. A small amount of staff time is used for administration. NRD staff continually stays on alert to situations where the formation of an IPA would be appropriate.

The LLNRD has been proactive in the development of new IPAs. The District is always willing to work with producers to alleviate flooding issues through improvements to area drainage.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	1,2,3,4,5,6,14	\$55,000.00



Drainage Channel Maintenance by Lower Loup NRD Staff

9) Development and management of fish and wildlife habitat

The LLNRD continues to promote and encourage the development, enhancement, and protection of wildlife habitat. Habitat programs are supported through the tree planting program, grass seed program, and cost-share assistance programs in cooperation with the NRCS and are not figured in with this dollar amount.

The LLNRD continues to expand and work on a partnership with the Nebraska Game and Parks Commission to improve participation in the Open Fields and Waters Program. The LLNRD portion of the program is specifically targeted towards those areas already enrolled in the Conservation Reserve Program (CRP) to help promote habitat as well as improve accessibility for public enjoyment.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,4,7,9,10,11,12	\$325,000.00







2024 - 2025

PUBLIC ACCESS ATLAS

— FOR WALK-IN HUNTING, TRAPPING, —
AND FISHING IN NEBRASKA

The Open Fields and Waters Program is a joint project of the Nebraska Game and Parks Commission and valued partners. This atlas is valid through July 31, 2025.

Funding support provided by:

Learn more at OutdoorNebraska.gov

Lower Loup NRD is continuing to improve its partnership with the Nebraska Game and Parks Commission

10) Development and management of recreational and park facilities

One of the most well-known of all LLNRD programs requiring a smaller portion of the budget, less than 10%, is the NRD recreational facilities. Pibel Lake is in south-central Wheeler County and is one of the few outdoor recreation areas in that vicinity of the state. In 2012, the Nebraska Legislature transferred lake ownership from the Nebraska Game and Parks Commission to the Lower Loup NRD. The recreation area received overdue maintenance and facility upgrades in 2015-2016. A picnic shelter, ADA accessible fishing piers and a walking bridge were constructed to allow access to the east side of the lake. A private donation was received to help the District purchase and erect free-standing playground equipment. Staff also utilized an Environmental Trust grant to install a sediment control structure to protect the water quality as well as develop a watershed management plan to address quality issues upstream. The NRD has requested two separate federal funding grants to expand recreational opportunities at the rec area. The Land Water Conservation Fund is being sought to expand

camping opportunities for RV trailers along the east side of the lake. The Recreation Trails Program has been requested to assist with the installation of an ADA compliant concrete trail connecting the day-use area with the pedestrian bridge on the north end of the lake. Both grants are administered by the Nebraska Game and Parks Commission.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,10,16	\$1,749,000.00



Drone Footage At Pibel Lake

Davis Creek Recreation Area has continued to be a well-recognized recreation facility in central Nebraska. The camping area continues to be full during the summer weekends and has seen more fall campers in recent years. Fishing and boating are important recreational activities to the area, and the LLNRD has added a new boat ramp, fish cleaning station, and camper dump site which receive high praise from weekend outdoor recreationists. Additional improvements include a maintenance building, playground equipment at each of the camping loops, and an outhouse at the inlet of the lake in cooperation with NGPC. In 2019, LLNRD staff completed a tent camping area near the original boat launch and have modernized all the RV camping sites to include 30/50-amp hookups. The county added asphalt to the access road to the edge of the recreation area and the NRD has received a Title 28 grant to fund concrete road access to the primary campground entrance. The LLNRD is matching with its own funding to ensure that the first two phases of the access road are fully complete.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,10,16	\$1,328,000.00



Lower Loup NRD is upgrading the access road into Davis Creek Recreation Area with a partnership from the US Bureau of Reclamation

Trails have become popular in many District communities. Trails are functional for recreation, providing efficient routes for alternative transportation, as well as pleasant and safe places for activities such as walking, running, and biking. As the need arises, the LLNRD plans to continue to provide financial participation for recreation trails sponsored by public agencies or community organizations. The LLNRD also purchased outdoor fitness equipment and placed it along the Arboretum trail near the office. Future requests for both trails and outdoor exercise equipment could become common as more communities realize the benefits. Trail projects have been completed in several communities through the LLNRD. In 2024, the NRD was actively participating in 3 separate trail projects and is a frequent participant with the Columbus trails development group.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,4,10,16	\$1,060,000.00

The Lower Loup NRD continues to promote community and urban forestry. The current Community Forestry Program requires that a public entity establish a legally constituted Community Tree Board. The program assists communities with tree inventories, planting, removal, and care. With an approved request, the program will also provide financial assistance for nursery stock and some supplies.

The District has seen a need to broaden the scope of this program to include additional functions such as urban recreation facilities, parks, playgrounds, and green space areas. As Emerald Ash Borer becomes more prevalent across the state, the LLNRD will need to be

prepared for the potential increase in assistance requests as communities try to salvage or replace their stands of green ash trees.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	2,3,4,10,16	\$175,000.00



Callaway Pool Upgrades provided with Funding Assistance From the Lower Loup NRD

11) Solid waste disposal

The District will continue to encourage communities and organizations to promote and sponsor recycling. Through newsletters and the web site, the LLNRD will list recycling event times and dates. Tire recycling and electronic waste disposal continues to receive a lot of attention and may be offered by more communities across the District.

<u>Timeline</u>	<u>Priority</u>	<u>Projected Cost FY 2025-2029</u>
1 – 5 Years	1,3,4,13,15	\$250,000.00

Conclusion

The Lower Loup NRD’s mission is the conservation, protection, development, and management of natural resources in the lower portion of the Loup River Basin. The Board of Directors and staff will review, adapt, and amend this long-range plan to reflect the needs of the basin and its residents. Reviews will be done on an annual basis and any modifications to the goals and objectives deemed necessary will be made by staff at the direction of the Board.

This plan was approved by the Lower Loup Natural Resources District Board of Directors on **September 26, 2024.**