

Lewis and Clark Natural Resources District Long Range Implementation Plan

FY 2023-2027

September 2022



**LEWIS AND CLARK NATURAL RESOURCES DISTRICT
LONG-RANGE IMPLEMENTATION PLAN
FY2023-2027**

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INTRODUCTION

A. REASON FOR PLANNING

Each natural resources district shall prepare and adopt a long-range implementation plan to summarize activities and to project needs of the district as required by Nebraska Revised State Statute Section §2-3277. The long-range implementation plan will be reviewed and updated annually, with copies sent to the Nebraska Department of Natural Resources (NDNR) and the Nebraska Game and Parks Commission (NGPC) by October 1 of each year.

The directors of the Lewis and Clark Natural Resources District (LCNRD) feel the development and adoption of the plan is necessary to give an organized approach to budgeting and accomplishing the goals of the district.

B. PURPOSE OF THE PLAN

The purpose of the plan shall be to summarize the activities as planned by the LCNRD. It will show the expected financial, personnel and land rights need, if any, for the current year and the projected needs for the next five years. Activities are listed by priority as assigned by the directors in October 2019.

The plan will be used by directors in decision making to develop water and land resources for the common good of the people. It is also intended to inform the general public of the goals and purpose of the LCNRD.

C. AUTHORITY AND RESPONSIBILITY OF THE DISTRICT

Natural Resources Districts have statutory responsibility as outlined in Nebraska Revised State Statute § 2-3229, which states “the purpose of NRDs shall be to develop and execute, through the exercise of power and authorities contained in this act, plans, facilities, works, and programs related to: (1) erosion prevention and control; (2) prevention of damages from floodwater and sediment; (3) flood prevention and control; (4) soil conservation; (5) water supply for any beneficial use; (6) development, management, utilization and conservation of ground water 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 facility works; and (12) forestry and range management.”

The goals reflect the responsibilities and authorities contained in state statutes as outlined above and consolidated below based on prioritization of LCNRD activities by the board of directors in October 2019.

- | | |
|--|------------------------------|
| 1. soil conservation and erosion control | 5. forestry and pasture |
| 2. water quantity and quality | 6. wildlife habitat |
| 3. flood prevention and control | 7. Missouri River/recreation |
| 4. information and education | |

D. DESCRIPTION OF THE DISTRICT

LCNRD is located in northeastern Nebraska and consists of 1,467 square miles (938,880

acres) in Dixon, Cedar and Knox Counties. The district population is 14,493 based on 2020 census figures. There are four major drainage areas in the district: Bazile Creek, Bow Creek, Aowa Creek and Antelope-Beaver Creek. Extensive glacial activity has resulted in soils that vary widely within the district ranging from glacial outcrops, Loess Hills, to Missouri River alluvium. Rainfall amounts range from 22 to 24 inches annually, with frequent years of below normal rainfall and periods of excessive rainfall. Elevation ranges from 1,100 to 1,875 feet above sea level.

Approximately 38% of the land area is native range or pasture and over 55% is cropland and approximately 20% is irrigated. Soil erosion on cropland and surface and groundwater quality are important issues for LCNRD. There are only small towns within the district. The area’s economy depends largely on farming and ranching and there is little industry in the district.

Governing Body

LCNRD is a multi-purpose local unit of Nebraska government with the responsibility of management, development and protection of the soil and water resources within its boundaries. An elected board of 11 directors (see Table 1) guides staff in management of local resources. Directors are elected via general election to four-year terms. Two board members are elected every two years to represent each of five sub-districts (Figure 1) and one board member is elected to represent the district at large every four years. Sub-districts are divided geographically based on equal population as determined by the 2010 census.

SUB-DISTRICT	DIRECTOR	LOCATION
Sub-District 1	Russ Schmidt	St. Helena
Sub-District 1	Jeff Steffen	Crofton
Sub-District 2	Chris Johnson	Bloomfield
Sub-District 2	Dave Condon	Creighton
Sub-District 3	Marcel Kramer	Crofton
Sub-District 3	Bill Christensen	Hartington
Sub-District 4	Carolyn Heine	St. Helena
Sub-District 4	Matt Weinandt	Wynot
Sub-District 5	Leroy Hoesing	Newcastle
Sub-District 5	Curtis Armstrong	Ponca
At-Large	Gary Howey	Hartington

Table 1. LCNRD Directors 2021-2022

The 2020 census resulted in changes to LCNRD subdistrict boundaries that were adopted. Figure 2 represents the sub-district boundaries to be utilized beginning with 2022 elections.

Every two years a Board Chair, Vice-Chair, and Secretary- Treasurer are elected by the board from among the directors. A Cedar Knox Rural Water Project (CKRWP) Advisory Committee representative, Wau-Col Rural Water Project representative, Nebraska Association of Resources District (NARD) representative, and an alternate are appointed by the LCNRD chair

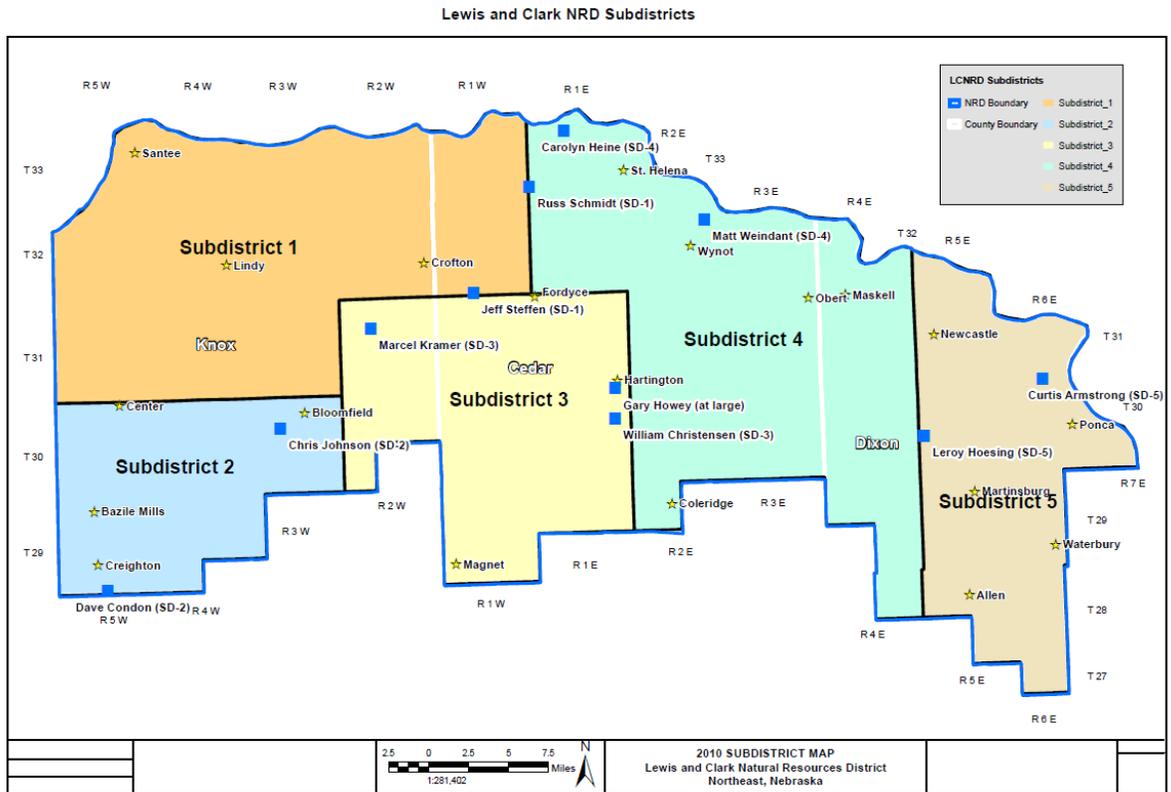


Figure 1 – LCNRD 2021 subdistrict boundaries and director residences.

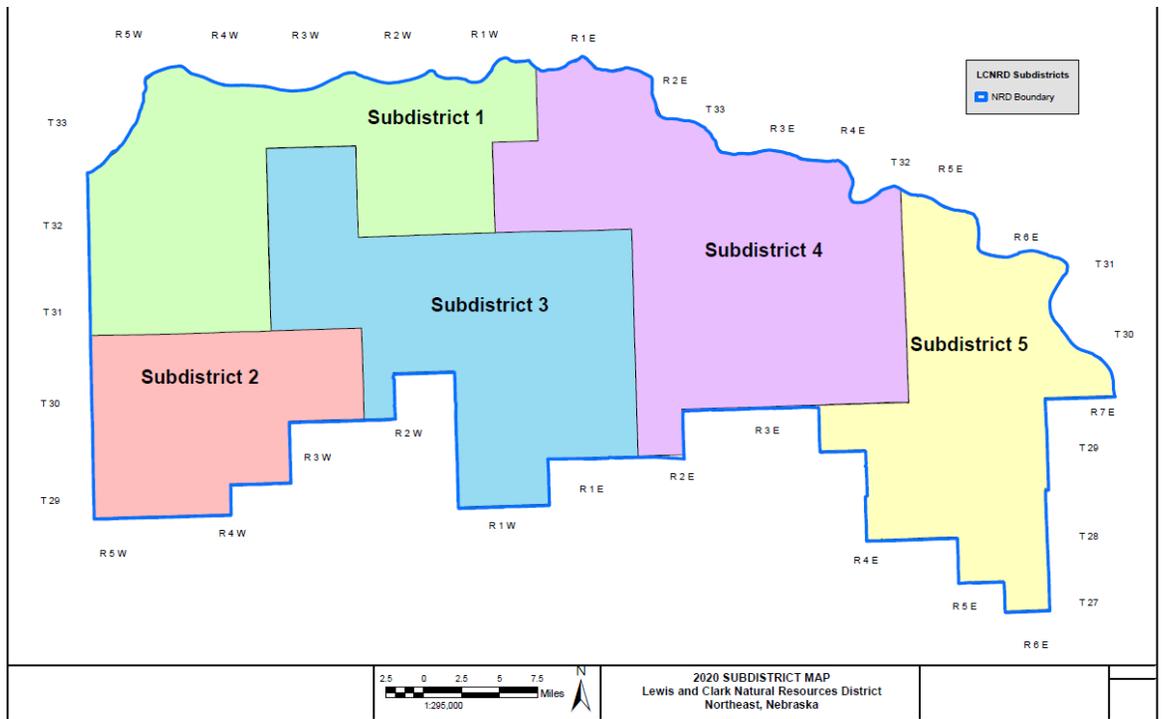


Figure 2 – LCNRD 2022 subdistrict boundaries

from among the directors. LCNRD operates with 3 standing committees, a planning and personnel committee, a budget and finance committee, and an operations and maintenance committee. Ad hoc committees are formed as needed to address other priorities as they arise. The LCNRD board operates according to a set of operating policies which are kept on file at the district headquarters in Hartington, Nebraska.

Committees are convened as needed based on the number of items or length of time needed to appropriately cover proposals up for consideration and to minimize the time required to cover information presented to the full board. When committee meetings are held, the committee recommendations are brought before the full board for consideration and the board votes to adopt or reject the recommendation. In the months when there are no committee meetings, recommendation for board action are taken before the full board for consideration and the board votes to adopt or reject the recommendation. When the board adopts a policy, approves a project or program, or otherwise issues a directive through voting, it is the responsibility of the district staff to carry out those actions.

At the discretion of the board, citizen advisory groups may also be formed to assist the board in considering specific projects or activities. Members are appointed and represent a group of people or businesses with interest in the project or activity.

LCNRD Staff

LCNRD staff housed in the Hartington office currently consists of 7 full-time employees. Two of these positions are grant supported, the Water Resources Coordinator position is supported by Nebraska Department of Energy (NDEE) 319 and Nebraska Environmental Trust (NET) funding and the Bazile Technician position is partially funding through a USDA Natural Resources Conservation funding agreement. The district employs 3 full-time program assistants who work in the Natural Resources Conservation Service offices located in Bloomfield, Hartington, and Ponca. The Cedar Knox Rural Water Project employs 4 full-time and 1 part-time positions that work in the LCNRD office in Hartington or remotely at the water treatment plant in the Devils Nest region of Knox County.

LCNRD partners with other agencies to provide technical support in the district including one full-time soil conservationist who assists with workload in the Hartington and Bloomfield NRCS offices. The position is partially paid by LCNRD with the remainder provided by grant funds from the National Association of Conservation Districts (NACD). Two employees working in the Bazile Groundwater Management Area for the specific purpose of educating and promoting conservation to positively impact groundwater nitrate concentrations are financially supported by LCNRD and housed at the Lower Elkhorn Natural Resources District in Norfolk. The positions are supported through a combination of financial resources including Lower Elkhorn, Upper Elkhorn, and Lower Niobrara Natural Resources Districts and partnering agencies including NRCS, Nebraska Department of Environment and Energy (NDEE), and the University of Nebraska at Lincoln (UNL). LCNRD staff as of July, 2022 are listed in Table 2. In addition to the listed full-time and part-time positions, interns and/or seasonal employees may be hired to assist with water programs and maintenance of LCNRD projects.

Directors are conscientious of maintaining a budget that is in line with accomplishing goals that positively impact soil and water resources and is effective for conservation.

LCNRD STAFF	
General Manager	Annette Sudbeck
Office Coordinator	Kristi Hochstein
Water Resource Coord	Myles Lammers
Resource Technician	VACANT
Bow Creek Watershed Coord	Becky Ravenkamp
Info. and Ed. Tech.	Reed Trenhaile
Bazile Technician	Colton Krusemark
NRCS ADMINISTRATIVE SUPPORT	
NRCS Program Assistant	Diane Wieseler
NRCS Program Assistant	Holly Gregg
NRCS Program Assistant	Jeanne Rosen
CKRWP STAFF	
Project Manager	Scott Fiedler
Program Assistant	Sue Sudbeck
Designated Operator	Cope Clark
Field/Plant Technician	Vince Lammers
Part time - Plant Technician	Chad Reifenrath
PARTNERSHIP POSITIONS	
BGMA Coordinator	Lisa Lauver
BGMA Extension Educator	Jeremy Milander
NACD Soil Conservationist	Ariel Fiedler
Table 2 LCNRD Staff as of July 2022	

SUMMARY OF PLANNED ACTIVITIES

A. CONSERVATION COST SHARE PROGRAMS

LCNRD has signed an agreement with Nebraska Department of Natural Resources (NDNR) to administer the Nebraska Soil and Water Conservation Program (NSWCP) within district boundaries. An annual appropriation from the State of Nebraska is available through the program for producers to implement conservation practices on private lands. NSWCP can provide a share of funding needs to install tree plantings, grade stabilization structures, planned grazing systems, grass seedings, terraces, grassed waterways, and other practices. The practices listed above have been given priority by the board of directors to allocate funds when demand exceeds allocation.

District

The district also uses local funds to carry out cost-share programs. In March 1991, the LCNRD initiated the Sealed Well Abandonment Program (SWAP) to provide cost share assistance to seal inactive, unused groundwater wells. Landowners obtain bids from a licensed well driller or pump installer to complete the work according to state guidelines. Currently 5 to 20 wells are sealed annually to help protect groundwater resources from potential contamination. In 1998, the NRD approved a Community Assistance Program (CAP) to aid cities and communities on local projects. Fifty percent (50%) cost share is available to develop conservation practices which enhance natural resources for public benefit. LCNRD was one of the original districts that created the Nebraska WILD Program, which directors feel has been multi-effective in its accomplishments for re-vegetating marginal cropland, providing wildlife habitat, reducing erosion and opening lands to public access. This program won the Nebraska Wildlife Federation "Agency Conservation of the Year Award" for the LCNRD in 1974. At present, the district offers a habitat program which is funded by the district and has enrollment of 3 cooperators of approximately 176 acres. The district offers three main practices: grassland habitat, woodland habitat, and a practice for tree and shrub plantings.

Bazile Groundwater Management Area (BGMA)

Cost Share is available in the Bazile Groundwater Management Area of LCNRD and includes "Siphoning Nitrates with Irrigated Pasture" (SNIP) to convert cropland to pasture and utilize groundwater nitrate-nitrogen through the crop established in 2002. Current cost share of \$100 per acre over five years is offered as incentive to enroll in the program. NRCS guidelines must be followed. A companion program titled "Siphoning Nitrates with Irrigated Hay" was also initiated in 2005 to convert irrigated cropland to alfalfa to trap nitrate in the soil profile. Currently the program is offered with a \$40.00 per acre payment offered in years 1 and 5 of the program. A chemigation cost share program in the BGMA area offers \$4.00 per acre to encourage the practice of applying nitrogen fertilizer on an "as-needed" basis. In 1989, the district began offering cost share for deep soil sampling. Reimbursement cost share is offered to cooperators who take samples to a depth of 3 feet for residual nitrate-nitrogen done by crop consultants. 50% of the actual cost is reimbursed on land in the BGMA in the LCNRD based on current rules and regulations.

B. GROUNDWATER MONITORING and MANAGEMENT (Quantity and Quality)

Monitoring

LCNRD approved a revision to the groundwater management plan through an amendment and addition of quantity rules and regulations in 2014 which established control measures for water quantity should levels show a downward trend. Minor modifications were recommended and implemented in 2021. Groundwater levels have been measured in 30 wells since 1975 and did not show appreciable declines until 2012 when drought conditions changed that status. Significant declines were observed with most wells rebounding to pre-drought conditions by 2018 in the majority of monitored wells. The drought conditions of 2021 and 2022 have shown declines up to the spring 2022 measurements. Declines were not below the trigger levels identified in the rules and regulations however continued drought will have negative impacts across the district and may trigger controls as soon as 2023. The quantity monitoring program now includes 31 irrigation wells measured for static water levels every spring and fall. Measurements are reported to U.S. Geological Survey in Lincoln and to University of Nebraska-Lincoln Conservation and Survey Division (UNL-CSD).

A groundwater quality monitoring program has been established and is carried out based on the LCNRD Groundwater Management Plan. Approximately 220 irrigation and domestic wells across the district are sampled each spring to track the level of nitrate-nitrogen in groundwater. In addition, 64 observation wells have been developed in discrete aquifers to monitor both water quality and water level trends to facilitate management of groundwater resources. Technicians collect water quality and quantity data from 48 observation wells distributed across the district and 6 multi-level observation wells in the BGMA around Creighton. These wells allow the district to track nitrate-nitrogen levels in three different layers of the aquifer from shallow to deep. Data collected through test hole drilling and sampling is being used to establish the hydro-geological framework of the district's water resources through assistance expertise provided by UNL-CSD.

Management

Quantity

In 2014, LCNRD approved an appendix to its groundwater management plan to address groundwater quantity concerns for the District. The plan and adopted rules and regulations sets guidelines for well permits, flow meters, certified irrigated acre tracking and other management components. It allows criteria to be set for areas that become water short with rules and regulations to control water use for the shared benefit of all. LCNRD updated the rules and regulation for groundwater quantity to become effective January 31, 2021. Most changes were minor and intended to simplify and streamline the rules. LCNRD adopted a voluntary Integrated Management Plan in 2016 developed with the NDNR which combines groundwater and surface water quantity management.

Quality

LCNRD directors created the Bazile Groundwater Management Area (BGMA) in October 2004 in response to elevated nitrate concentrations in the groundwater. Rules and

regulations were established to better manage fertilizer application and minimize leaching of nitrate-nitrogen to the groundwater table. The two-township sized area includes 70 square miles and 44,800 acres. Groundwater quality rules and regulations are under review and being redrafted for adoption in early 2023.

LCNRD coordinates planning and programs with neighboring NRDs as part of the Bazile Groundwater Management Plan approved by EPA in October 2016. The Lower Niobrara, Lower Elkhorn, Upper Elkhorn NRDs and LCNRD have developed goals and objectives as well as an action plan to effectively reduce nitrate contamination in this area. A study of groundwater quality was completed in 1990 as part of a joint NRD project, and a follow-up study was conducted in 2000 by the UNL Water Center. Both indicated an increasing scope and trend of groundwater nitrate-nitrogen most likely resulting from over application of commercial fertilizer, with compounding effects from irrigation, shallow water table and highly permeable soils. Work continues in the BGMA to determine the source and impacts of nitrate nitrogen. LCNRD has entered an agreement with NRCS to employ a dedicated shared employee whose time is dedicated to working on mutual priorities in the LCNRD portion of the BGMA.

LCNRD has developed a Water Quality Management Plan (WQMP) with Nebraska Department of Environment and Energy (NDEE), technical and stakeholder advisory committee and the assistance of FYRA Engineering. The plan addresses water quality and non-point source contamination in the district. The public has participated in the process through public meetings and a stakeholder advisory committee. A technical advisory committee guided development of a feasible plan. The WQMP was adopted in 2019. At this time, the LCNRD Board is considering amending features to the plan. A watershed coordinator has been working in the Bow Creek Watershed since July of 2020 to implement the plan. She has been successful in identifying participants for demonstration farms and for participating in incentive programs to adopt conservation practices that benefit surface water as a priority.

C. RURAL WATER DISTRIBUTION SYSTEM

Establishment of Cedar Knox Rural Water Project (CKRWP) began in early 1978 when the LCNRD Manager met with St. Helena's Village Council to discuss problems locating quality water and to review the potential to fund a water system to distribute to homes in the area. LCNRD appointed a steering committee and collected agreements for an engineering design of the project. The system was constructed in 1981 initially serving 280 rural residences and the communities of Crofton and St. Helena. An expansion to the Bow Creek area of Cedar County was constructed in 1990 which added 120 users and the Village of Obert. The Village of Fordyce was added in 1996. The system now serves approximately 950 rural resident connections and the four communities named above as well as several Sanitary Improvement Districts (SID). CKRWP is self-supported through water sales. LCNRD time is necessary to accommodate the responsibilities of the administration and for providing support services.

The source of water for CKRWP is Lewis and Clark Lake. The water is treated using lime softening and filtration at a treatment plant in the Devils Nest region of Knox County and distributed through more than 400 miles of pipe. Construction of the initial project totaled

2.2 million dollars in 1981. Additional construction costs for the Bow Creek area in 1990 to 1992 neared 2.7 million dollars. Four full time and one part time CKRWP employees run the plant, provide system maintenance and provide customer service within the project area. An advisory committee represents customers and provides local guidance of the project. LCNRD directors review and ratify the recommendations of the advisory committee. Consultant engineering services are provided by Bartlett & West Engineering.

Evaluation of the source water and distribution system were completed in late 2021 with a recommendation by the advisory committee to pursue conversion from the surface water source to an identified groundwater source with potential to meet CKRWP demand. The recommendation will allow CKRWP to address Total Trihalomethane (TTHM) production (a by-product of chlorination), to increase plant capacity and to secure a water source for long term customer service. CKRWP researched alternative water sources due to a NDEE issued Administrative Order (AO) for TTHM, encroaching sediment in Lewis & Clark Lake, plant output capacity and other concerns. The project to convert to groundwater is estimated to be a multi-year, \$32 million project, requiring funding from several sources to complete.

In 2005, LCNRD, in cooperation with the Lower Elkhorn NRD assisted the communities of Coleridge, Belden, Wausa, Magnet and McLean in development of a regional water system to provide water service to Belden, Magnet, McLean and rural residents. The project design which encompassed areas between these towns was based on a service area and the project was completed in 2012. Lower Elkhorn NRD administers the Wau-Col Regional Water System and a LCNRD board member continues to serve on the advisory committee under an interlocal agreement.

D. WATERSHED ACTIVITIES

Aowa Creek Watershed is a federal watershed project that was initiated in 1969 and covers 55,350 acres in Dixon County and includes 50 structures managed by LCNRD, however a total of 53 structures were constructed. Sponsorship responsibilities of LCNRD continues with operation and maintenance of the structures. Maintenance needs have become more common as structures age and funds will be needed to ensure availability should there be significant repairs required.

Natural Resources Conservation Service (NRCS) planned, designed, and supervised the actual construction of the watershed dams. The Powder Creek and Buckskin Hills sites provide flood control and recreational benefits. LCNRD and NGPC work jointly to manage Powder Creek and Buckskin Hills as wildlife management areas. The final structure completed in the Aowa Creek Watershed was Powder Creek Project Site #31-20A which was completed in 2003 at a total cost of over 2.9 million dollars.

LCNRD and NRCS contracted to complete assessments of three significant hazard structures in the Aowa Creek Watershed in 2022. The completed assessments will be available in late 2022 and will provide updates to hazard classification, if necessary and identify issues and solutions for consideration by the board. Recommendations for action, if necessary is anticipated in 2023.

The Antelope-Beaver Creek Watershed utilized flood control funding that was inherited by the LCNRD when the NRDs were formed. Four structures were built on Beaver Creek and a

fifth structure was completed on Antelope Creek near Menominee, with donated easements provided by landowners on that site. The dam near Menominee was completed December 1986 for \$503,438. The structure and easement area was renamed Chalkrock Wildlife Management Area and is maintained by a joint agreement with NGPC. Limited facilities are provided, and it is open to the public for hunting and fishing.

Need for flood control was identified on Buffalo Creek in Cedar County. A structure was completed in 1995 to control runoff from 2,150 acres that impact county and state bridges. A structure was completed, land rights obtained, and funding assistance provided by the Nebraska Environmental Trust for construction. Total cost for the Tatanka structure was \$117,000. The NGPC maintained the site from 1995 through January 2005.

E. RECREATION FACILITIES

LCNRD has provided limited assistance to communities planning for recreation. Such requests are considered on a case-by-case basis. Limited facilities for recreation will also be provided according to watershed plan requirements on 340 acres at Buckskin Hill WMA and 467 acres at Powder Creek WMA. Those facilities include boating, picnicking, parking areas and boat ramps. Both areas are utilized as a Wildlife Management Areas (WMAs), both are open to the public for fishing and hunting purposes and both WMA's are operated and maintained by the NGPC. Similar facilities exist at Chalkrock Lake WMA which is also operated and maintained by NGPC.

F. MISSOURI RECREATION RIVER ACTIVITY

On July 15, 1976, LCNRD became the first local agency along the Missouri River to sign a contract with the U.S. Army Corps of Engineers as local sponsors for the Missouri River Erosion Control Demonstration Project (Section 32). This initiated the bank stabilization of critical sites along the stretch of the Missouri River from Yankton to Ponca where erosion had been particularly abrasive to the shoreline. A total of five sites were selected by a committee of representatives from LCNRD, Cedar and Dixon Counties, Department of Natural Resources, US Army Corps of Engineers, the Nebraska Game and Parks Commission and members of the Missouri River Bank Stabilization Association. Three of the sites were designated critical and the contract to begin on the first one (Brooky Bottoms Road) was let on October 20, 1976. The other two in Dixon County (Mulberry Bend and Ryan Bend) were completed in 1977. Completed later were: Ionia Bend in Dixon County in 1978, and Cedar County Park in 1979-1980.

As sponsor for the project, the district: (1) obtained the necessary right-of-way; (2) holds and saves the United States free from damages resulting from construction; (3) operates and maintains all works after completion. LCNRD has obtained the necessary easements on the five areas to this date and construction was completed on all for a total cost of \$2,640,000. The credit for initiating the project goes to the Missouri River Bank Stabilization Association.

In 2010, LCNRD was awarded a grant from the Nebraska Game and Parks Recreational Trails Program for Missouri River Water Trail signage. The project was completed in 2011

by the University of South Dakota Missouri River Institute.

LCNRD continues to support the "Recreational River" national designation of this stretch of the river. The district obtained a conservation easement north of St. Helena on over 1000 acres and participated in activities with the National Park Service to cooperate on management activities. A permanent Wetlands Reserve Program easement is in place on these acres. The district continues to be a member of the Missouri River Bank Stabilization Association which promotes conservation improvements along the river.

G. MANAGEMENT AND MAINTENANCE

Operation and maintenance for the district is a required program primarily consisting of efforts in the Aowa Creek Watershed. Watershed operation and maintenance in the past has consisted of weed control, tree and shrub control, fence repair and beaver control on existing structures. In the future, there will be need for more major repairs in addition to general maintenance. Following annual summer inspection tours, staff will take care of operation and maintenance problems. Since the 50 structures were built, maintenance has become more expensive and time consuming. The district can anticipate an increase in funding for operation and maintenance activities and has set up a sinking fund to meet those responsibilities.

LCNRD contracts with Star Tree Service of Sioux City, Iowa to plant 15,000 to 30,000 trees annually as a service to the residents inside and outside of the district. The effort is coordinated by LCNRD staff, who review NRCS job sheets, establish planting routes, monitor planting performance and handle tree sales. LCNRD provides conservation mulch and tree stock for resale and bills customers for the services.

Coordination of the tree program requires administration to order, sell, and distribute trees even before planting activities begin. Preparation time is necessary to ensure quality trees are planted for the landowners. The district depends on and works cooperatively with NRCS to inform cooperators of their responsibilities to ensure trees are planted according to the plan created with the cooperator.

In 2022, the district planted over 5,271 trees on 24 sites and sold 15,479 total trees, sold 41,423 feet of weed barrier. Future planting years are expected to be similar due to recent drought conditions and Conservation Reserve Program (CRP) tree planting sites with fewer shrub planting requirements. LCNRD has provided over 2.0 million trees for planting since 1972.

H. NRCS CONSERVATION PROGRAMS AND SUPPORT

The majority of LCNRD efforts to assist NRCS are toward providing program assistance in the NRCS offices as part of a memorandum of understanding. This allows NRCS staff to spend more time serving technical and conservation needs. LCNRD hires and pays for 51% of the program assistant's time in Knox County (Bloomfield), 75% of the program assistant's time in Cedar County (Hartington), and 73% of the Dixon County program assistant's time (Ponca). Additional funding for technical service providers to help administer Farm Bill activities may be utilized as needed. LCNRD secured grant funds from the National Association of Conservation Districts (NACD) to hire a full-time soil conservationist for 3-

12 month periods to assist with NRCS workload while staffing levels are down in the Hartington and Bloomfield field offices. LCNRD is matching federal funds to provide this position to facilitate conservation in the district.

I. INFORMATION AND EDUCATION

LCNRD makes full effort to inform and educate the public about natural resources. The following activities are coordinated by staff:

- A picnic and learning opportunities were provided at the Felber Park in Hartington in recognition of the 50th Anniversary of NRDs.
- LCNRD started distribution of a newsletter in the summer of 2022 and is planned to be distributed through local newspapers two times per year.
- Stewardship materials are distributed to the churches and/or schools of the district. NACD and NRD booklet/materials are offered to district schools about natural resource conservation.
- LCNRD participates at Aquafest, a water education program for fifth grade students. Aquafest is a coordinated effort between the LCNRD, Lower Elkhorn NRD, Papio-Missouri River NRD and UNL Cooperative Extension Service. More than 350 students from Northeast Nebraska attend the two-day event each year.
- LCNRD participates in the Wonderful World of Water (WWW) event, a water education program for ninth and tenth grade students. WWW is a coordinated effort between the LCNRD, Lower Elkhorn NRD, Upper Elkhorn NRD, Lower Niobrara NRD, and the UNL Cooperative Extension Service. About 26 teams from up to 14 schools attend this program held annually at Gillman Park, Pierce, NE.
- LCNRD offers natural resource presentations to schools on NRDs, water, soil conservation, trees, and wildlife habitat. The staff utilizes an enviroscape model, groundwater flow model, and water rocket launcher as part of these presentations.
- LCNRD annually distributes approximately 500 trees to schools in conjunction with Arbor Day.
- Scholarships are made available to middle school students each year to attend 4-H Adventure Camp about the Environment (ACE Camp) in Halsey.
- Two Patefield-Green Memorial Scholarships are provided to graduating seniors in the amount of \$1,000 toward education in pursuit of an agricultural related degree and who intend to return to northeast Nebraska following graduation.
- LCNRD power point presentations are shared with churches, schools, and civic clubs.
- Press releases are sent to local papers each month to inform the public of LCNRD

programs and activities.

- LCNRD promotes and assists with the regional and state Envirothon Competition, Nebraska State Fair, Husker Harvest Days, land judging and range judging contests. In addition to these programs, the LCNRD directors and staff attend various local, state and national meetings to educate themselves and to work for important or necessary legislative changes.

J. COMPLIANCE ACTIVITIES

Chemigation

Chemigation is the application of pesticides and fertilizers directly through irrigation systems. As of January 1, 1987, no person may apply chemicals using chemigation without first obtaining an annual permit from the LCNRD for each injection point. Permits are required for each injection location and the District conducts periodic inspections to ensure compliance.

Applications for chemigation permits are reviewed by the LCNRD, an inspection conducted, and permits approved or rejected within 45 days of receipt. Prior to approval, the chemigation system must have a check valve and vacuum relief valve in the irrigation pipe, an inspection port for the check valve in the irrigation pipe, an automatic low pressure drain between the main check valve and irrigation pump, a check valve in the chemical injection line, and a simultaneous interlock device between the power system for the injection unit and irrigation pumping plant.

In addition, the person operating the equipment must be certified by the NDEE. In 2022 there were 43 new and 359 renewal permits issued. The fee for a new permit is \$50 with an annual renewal fee of \$20. Fines can be leveled for violations.

Pollution Control

The LCNRD has been authorized under LB 474 (1986 Legislature) to implement a District Erosion and Sediment Control Program to limit soil loss and require conservation through a complaint system. The rules and regulations were amended in 2016 to implement that plan and the LCNRD is prepared to handle complaints and to work to achieve the goals of erosion reduction. Conservation education and awareness are to be given emphasis.

Groundwater pollution in the district will also be addressed under the Groundwater Protection Act, which provides districts with authorities to stabilize water quality following designation of a special protection area, by the NDEE.

Groundwater Irrigation Runoff Control

Rules and regulations concerning violations of the Groundwater Management Act (LB 577-1977) have been adopted by the LCNRD. Complaints regarding illegal wells or improper irrigation runoff can be made to the district office in Hartington for proper procedures to comply.

At present, the LCNRD has had one complaint filed on improper runoff. The directors decided that it was not a valid complaint and rejected it. It is hoped that common sense and knowledge of the law will eliminate many of these problems.

K. LAND RIGHTS

At this time, LCNRD continues to work with Cedar Knox Rural Water Project and has identified a path forward to secure a groundwater supply for the system. Sites have been identified for public water system (PWS) well development, plant construction, and line installation. Land rights will be required as detailed in Table 1. Known and estimated financial need is represented in the table.

L. ADMINISTRATION

Since 1973, LCNRD has employed a general manager and a percentage portion of program assistants for the three counties. The district employs a full-time resources technician, water resources coordinator, watershed coordinator, office coordinator, and information and education technician along with 1 part time and 4 full time CKRWP employees. Under guidance of LCNRD directors, the manager assumes responsibility for the district office activities, CKRWP administration, contracting and compliance for cost share programs, Aowa watershed coordination, and public relations. The NRCS program assistants serve in a clerical, data management, and receptionist capacity as well as trained employees who complete mapping, and specialized tasks within NRCS. The office coordinator's duties are fiscal and secretarial. The resource technician and water resources coordinator's primary duties include groundwater permitting, Bazile Area coordination, Aowa watershed maintenance, information & education, Chemigation, groundwater monitoring, and other responsibilities. The main responsibilities of the information and education technician is information and education and irrigated acre certification. The watershed coordinator is responsible for implementing the Bow Creek Watershed Program. The Bazile Groundwater technician is primarily responsible for management of rules and regulations, cost-share programs, and other activities in the Bazile Groundwater Management Area of the Lewis and Clark NRD.

Requirements resulting from state and federal programs and responsibilities may require additional workload in the future. In the past year, administration has taken up about 40 percent of the employee's time.

TABLE 1 - PROJECTED LAND RIGHTS NEEDS 2023-2027

PROJECT CKRWP Source Water Investigation	EASEMENT	
	DESCRIPTION	ESTIMATED COSTS
Well Field – Dolphin Township (2 sites)	Sections 26 & 17, T31N, R2W	\$300,000
Treatment Plant – Eastern Township	Section 22, T32N, R2W	\$620,000
Known land right costs at this time are detailed above. There is potential for additional land rights costs for CKRWP for easements where line installations will take place. At this time those costs have not been determined.		
New Right of Way easements		\$880,000
Updating existing Right of Way easements		\$100,000
		\$1,900,000

TABLE 2

SUMMARY OF PROJECTED PERSONNEL NEEDS 2023-2028

Project or Program		2023	2024	2025	2026	2027	2028
A	Conservation Cost Share						
	Manager	100	110	121	133	146	161
	Office Coordinator	675	743	817	898	988	1087
	Bow Creek Coordinitor	1040	1144	1258	1384	1523	1675
	Water Quality Area Coord	80	88	97	106	117	129
	Water Res Coor	50	55	61	67	73	81
	Res Tech & Prog Coord	100	110	121	133	146	161
	Program Assistants	1000	1100	1210	1331	1464	1611
B	Groundwater Monitoring & Management						
	Manager	400	440	484	532	586	644
	Water Quality Area Coord	650	715	787	865	952	1047
	Water Res Coor	500	550	605	666	732	805
	Res Tech & Prog Coord	1690	1859	2045	2249	2474	2722
	Office Coordinator	150	165	182	200	220	242
C	Rural Water Distribution System						
	Manager	400	440	484	532	586	644
	CKRWP Staff	9200	10120	11132	12245	13470	14817
D	Watershed Projects & Watershed Coord						
	Manager	50	55	61	67	73	81
	Water Quality Area Coord	50	55	61	67	73	81
	Water Res Coor	130	143	157	173	190	209
	Res Tech & Prog Coord	130	143	157	173	190	209
E	Recreation Facilities						
	Manager	50	55	61	67	73	81
	Water Res Coor	50	55	61	67	73	81
	Res Tech & Prog Coord	50	55	61	67	73	81
	Office Coordinator	10	11	12	13	15	16
F	Missouri River Activities	50	55	61	67	73	81
G	Management & Maintenance						
	Manager	250	275	303	333	366	403
	Water Quality Area Coord	1000	1100	1210	1331	1464	1611
	Water Res Coor	750	825	908	998	1098	1208
	Res Tech & Prog Coord	700	770	847	932	1025	1127
	Office Coordinator	20	22	24	27	29	32
	Program Assistants	1000	1100	1210	1331	1464	1611
H	Conservation Programs & Support						
	Manager	100	110	121	133	146	161
	Water Quality Area Coord	0	0	0	0	0	0
	Water Res Coor	50	55	61	67	73	81
	Res Tech & Prog Coord	370	407	448	492	542	596
	NACD TA	2080	2288	2517	2768	3045	3350
	Office Coordinator	130	143	157	173	190	209
	Program Assistants	4040	4444	4888	5377	5915	6506
I	Information & Education						
	Manager	200	220	242	266	293	322
	Office Coordinator	170	187	206	226	249	274
	Info & Educ Educator	2080	2288	2517	2768	3045	3350
	Water Quality Area Coord	100	110	121	133	146	161
	Water Res Coor	100	110	121	133	146	161
	Res Tech & Prog Coord	300	330	363	399	439	483
	Bow Creek Coordinitor	1040	1144	1258	1384	1523	1675
	Program Assistants	200	220	242	266	293	322
J	Compliance Activities						
	Manager	100	110	121	133	146	161
	Water Quality Area Coord	200	220	242	266	293	322
	Water Res Coor	450	495	545	599	659	725
	Res Tech & Prog Coord	100	110	121	133	146	161
	Office Coordinator	100	110	121	133	146	161
K	Land Rights						
	Manager	100	110	121	133	146	161
	CKRWP Project Manager	25	28	30	33	37	40
	Office Coordinator	25	28	30	33	37	40
L	Administration						
	Manager	600	660	726	799	878	966
	Office Coordinator	800	880	968	1065	1171	1288
		33785	37164	40880	44968	49465	54411

TABLE 3
SIX YEAR SUMMARY OF PROJECT NRD COSTS AND REVENUES

COSTS BY PROJECTS AND PROGRAMS		2023	2024	2025	2026	2027	2028
A	Conservation Cost Share	\$481,854	\$486,673	\$491,539	\$496,455	\$501,419	\$506,433
B	Groundwater Monitor & Management	\$367,947	\$371,627	\$375,343	\$379,097	\$382,888	\$386,716
C	Rural Water System	\$180,936	\$182,746	\$184,573	\$186,419	\$188,283	\$190,166
D	Watershed Activities & Watershed Coordinator	\$15,680	\$15,837	\$15,995	\$16,155	\$16,316	\$16,480
E	Recreation Facilities	\$8,924	\$9,013	\$9,104	\$9,195	\$9,287	\$9,379
F	Missouri River Activities Management & Maintenance	\$16,079	\$16,240	\$16,402	\$16,566	\$16,732	\$16,899
G		\$176,811	\$178,579	\$180,365	\$182,169	\$183,991	\$185,830
H	NRCS Conser Prog & Sup	\$254,720	\$257,267	\$259,839	\$262,438	\$265,062	\$267,713
I	Information & Education	\$166,146	\$167,808	\$169,486	\$171,181	\$172,893	\$174,621
J	Compliance Activities	\$180,642	\$182,449	\$184,273	\$186,116	\$187,977	\$189,857
K	Land Rights	\$7,007	\$7,077	\$7,148	\$7,219	\$7,292	\$7,364
L	Administration	\$50,537	\$51,043	\$51,553	\$52,069	\$52,589	\$53,115
	Cash Reserve & Cap. Imp.	\$397,000	\$400,970	\$404,980	\$409,029	\$413,120	\$417,251
		\$2,304,284	\$2,327,327	\$2,350,600	\$2,374,106	\$2,397,848	\$2,421,826

SOURCE OF REVENUE	2023	2024	2025	2026	2027	2028
UNENCUMERED BALANCE	\$782,934	\$790,763	\$798,671	\$806,658	\$814,724	\$822,872
STATE & FEDERAL FUNDS	\$330,057	\$333,358	\$336,691	\$340,058	\$343,459	\$346,893
LOCAL FUNDS (RENT, TR	\$76,800	\$77,568	\$78,344	\$79,127	\$79,918	\$80,718
PROPERTY TAX	\$1,114,493	\$1,125,638	\$1,136,894	\$1,148,263	\$1,159,745	\$1,171,343
Budget Total	\$2,304,284	\$2,327,326	\$2,350,600	\$2,374,106	\$2,397,847	\$2,421,825

Does not include operating budget etc. for Cedar Knox Rural Water Project