

Long Range Implementation Plan

Fiscal Years 2024-2029



Chelle Gillan, Biology/Health Science teacher at Central City High School, brought students to the April Board of Directors meeting to present their research projects.

Paul Johnson (left) presented "A Study to Determine Correlation between Nitrates and Uranium in Central Nebraska Rural Wells"

Dakota Sage (right) presented "The Effects of Clothianidin on the Immobility and Mortality of *Daphnia Magna*"

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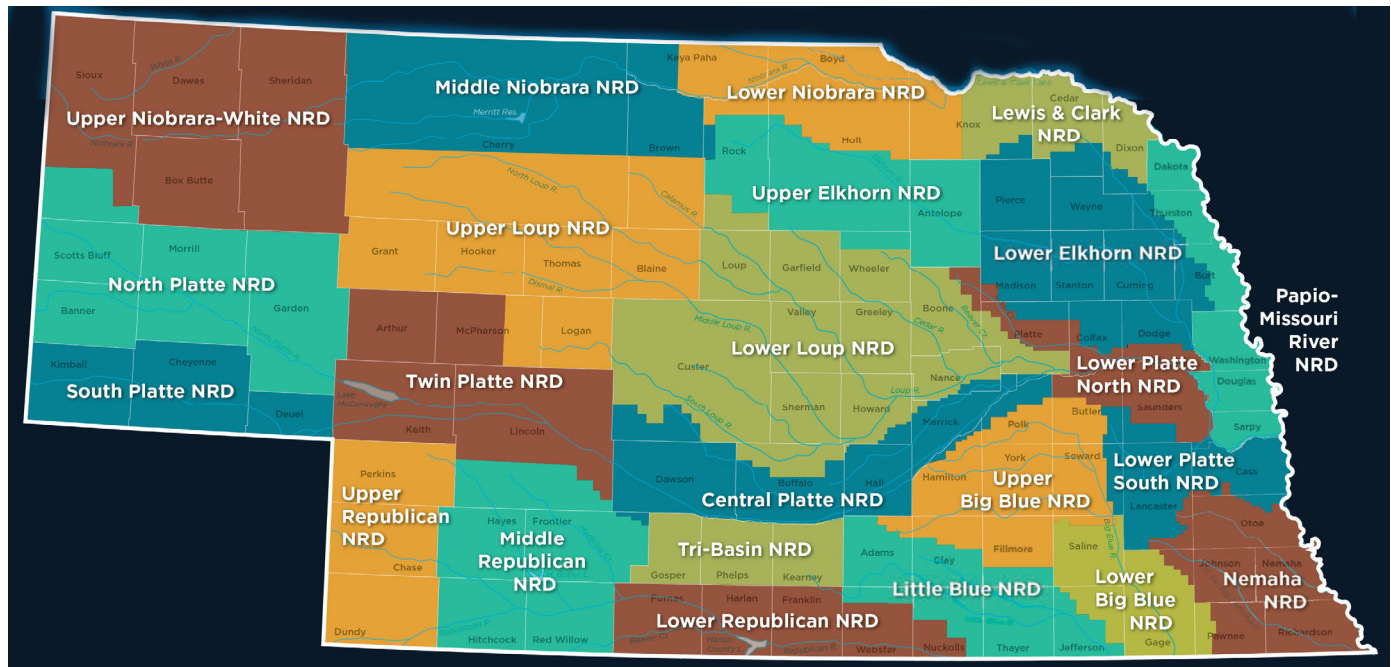
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I. District Authority

The Central Platte Natural Resources District (CPNRD) has developed this Long Range Implementation Plan in compliance with the Nebraska Natural Resources District Act (Neb. Rev. Stat. §2-3277). This Plan outlines the District's activities and provides projections for financial, manpower and land rights needs over the next five years. The Act also mandates an update to the Comprehensive Master Plan every ten years. CPNRD's current Master Plan is effective through December 2031.

FIGURE 1. Nebraska's 23 Natural Resources Districts (NRDs)



Fertile soils and abundant water in the District create a productive synergy that drives the extensive agricultural production upon which the economy of the Central Platte Valley is built. As our population grows and the demand for a high quality of life increases, it becomes essential to use our resources wisely, efficiently and sustainably.

This plan is designed as a flexible guide to promote the orderly development, management, preservation, utilization and conservation of these resources to best serve the people of the District and the state. In addition to meeting statutory requirements, this document aims to help the public understand the needs and goals of the NRD, enabling informed decision-making regarding the advisability of the District's projects and programs.

The District's planning process benefits from input provided by other agencies, organizations and individuals. Public information meetings are held periodically and feedback from these hearings is considered in the planning process. Representatives from outside agencies and other local governments are included in the board's committee process when appropriate. Additionally, the NRD is required to prepare and adopt individual project plans necessary for implementing the approved District projects. When these plans involve state regulations or financing, they must be filed with the appropriate agency in accordance with state law, which outlines the powers and authorities of NRDs in carrying out their plans, facilities, work and programs.

Administration

When Nebraska joined the Union in 1867, natural resource issues were often viewed as property disputes, leading to conflicts between neighbors. To address these specific problems, the Nebraska Legislature was called upon to provide solutions. Typically, the Legislature responded by creating special-purpose governmental units to resolve individual issues. However, these units were often established with insufficient authority or funding to offer effective long-term solutions.

By the late 1960s, Nebraska had over 500 special-purpose districts, including those for irrigation, drainage, soil conservation, watersheds, rural water, watershed improvement boards, reclamation, sanitary improvement districts, and sanitary drainage districts. State agencies were also given the authority to address certain natural resource

issues, including those managed by watershed districts, rural water districts, watershed improvement boards, reclamation districts, sanitary improvement districts, and sanitary drainage districts. However, the need for a more comprehensive solution led the state to create a unique system of natural resources districts (NRDs)—local government entities capable of addressing a wide range of natural resource-related challenges and opportunities.

In 1972, 24 NRDs (now 23) were established to replace 154 special-purpose districts. The designated Mid-Platte East NRD initially covered portions of the Platte Valley that were previously served by four watershed districts and several Soil and Water Conservation Districts across an 11-county area. One of the first actions taken by the district's board of directors was to rename the NRD to the Central Platte Natural Resources District (CPNRD). The city of Grand Island was selected as its headquarters.

FIGURE 2. Central Platte NRD's Consolidated Areas of Responsibilities

For planning purposes, Central Platte NRD's areas of responsibilities are consolidated into nine categories:

- Soil conservation and erosion control
- Flood prevention, control and channel rectification
- Drainage
- Groundwater, surface water and water supply.
- Water quality, pollution control, solid waste disposal and sanitary drainage
- Fish and wildlife habitat
- Forestry management
- Recreation and parks
- Range management

District Location

Central Platte NRD lies in the south central part of Nebraska, straddling the Platte River with 2,136,304 acres in the district. CPNRD extends 175 miles from the Lincoln-Dawson county line on the west near Gothenburg to Hwy 81 on the east near Columbus. In 2001, 38 square miles of Frontier County (originally in CPNRD) were added back to the District after a petition request from landowners and transfer approval from the Secretary of State.

Counties

CPNRD is comprised of 11 counties including all of Dawson County and parts of Frontier, Custer, Buffalo, Howard, Hall, Nance, Merrick, Hamilton, Platte and Polk. Central Platte is bordered by seven other NRDs: Lower Loup, Lower Platte North, Upper Big Blue, Little Blue, Tri-Basin, Middle Republican and Twin Platte.

Population

The 2020 Census data revealed that the municipal population within CPNRD increased from 111,125 in 2010 to 119,775 in 2020. CPNRD's total population is 144,855 consisting of 25,080 rural residents and 119,775 urban residents. 13 rural communities had a decrease in population and 12 had slight increases. All three urban communities within the district saw population growth. Nebraska's total population grew from 1,826,341 to 1,961,504.

Municipal Populations in the Central Platte NRD

First Class Population more than 5,000/less than 100,000 (3 cities)

Grand Island 53,131; Kearney 34,293; Lexington 10,348

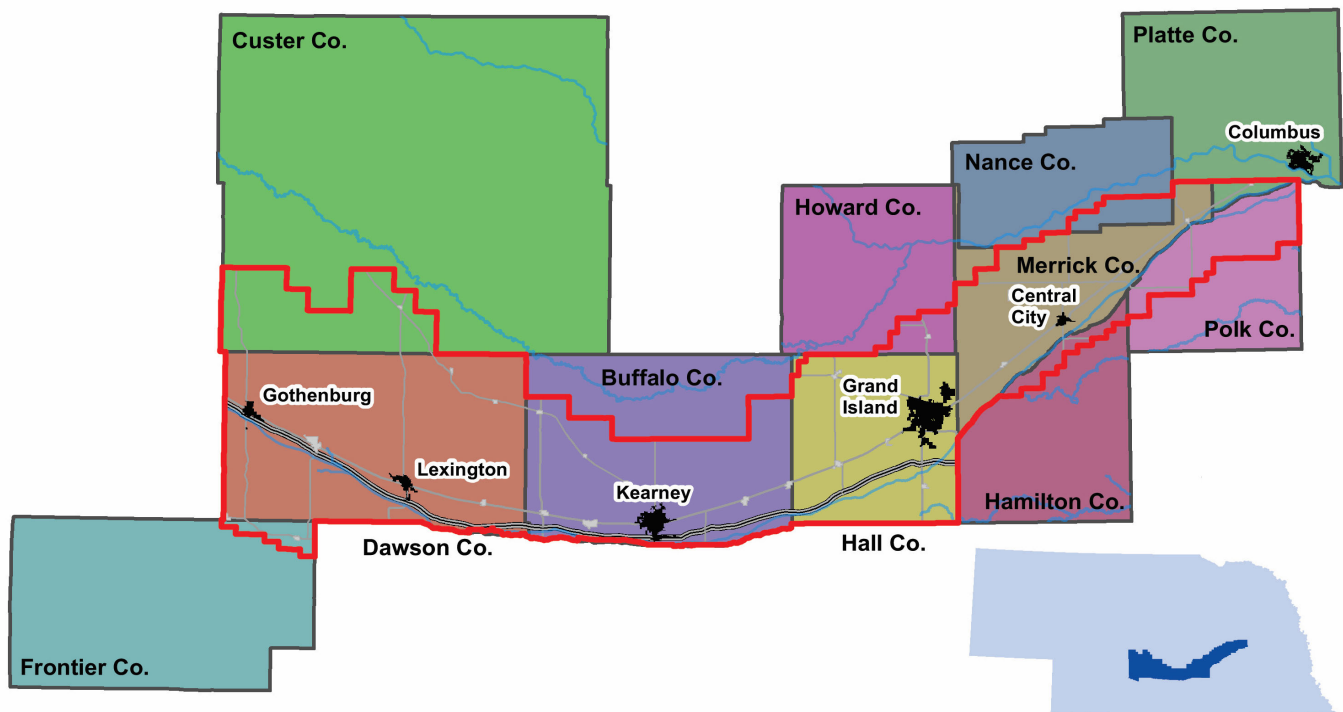
Second Class Population more than 800/less than 5,000 (9 cities)

Central City 2,934; Cozad 3,988; Gibbon 1,878; Gothenburg 3,478; Wood River 1,172

Second Class opting classification as a Village Cairo 822; Doniphan 809; Elm Creek 979; Shelton 1,034

Villages Populations under 800 (18 villages)

Alda 647; Overton 607; Duncan 392; Eustis 389; Clarks 344; Silver Creek 320; Chapman 260; Sumner 252; Riverdale 247; St. Libory 241; Amherst 201; Farnum 182; Hordville 131; Oconto 138; Miller 129; Eddyville 97; Odessa 57; Archer 45

FIGURE 3. Counties in Central Platte NRD (red boundary)

Land Use

CPNRD's land use includes cropland, pastureland, rangeland, some woodland and other minor cover, urban and residential development, streams and other water, and transportation. The majority of the irrigation in the NRD uses groundwater, which, in the western part of the District comes from the Ogallala Aquifer and in the eastern part of the District comes from Pleistocene (Wisconsin) sands and gravel. Groundwater is also the major source of drinking water in the District.

Topography

The Platte River valley within the district is characterized by a variety of landscapes including lowlands, loess hills, dissected plains, and sandhills. In the west, upland tablelands transition into rolling loess hills, which then descend into the flat lowlands of the valley. These lowlands often feature multiple flat terraces separated by steep slopes. The dissected plains and loess hills have a well-developed drainage system that empties into the poorly drained, flat valley lands. The valley broadens through the central part of the district, with the drainage pattern becoming less defined toward the eastern end.

The Platte River is a significant geographical feature within the district. It is the largest river in Nebraska, running from west to east across the state and serving as a major tributary to the Missouri River. Originating in Colorado, the Platte is formed by the convergence of the North and South Platte Rivers near North Platte. While there are some minor tributaries within the NRD, the major tributaries, the Loup and Elkhorn Rivers, join the Platte east of the district. The Platte River, too shallow for navigation, is primarily used for irrigation, recreation, hydroelectric power generation, and as a habitat for wildlife.

River System

The river system within the NRD includes 205 miles of the Platte River, 49.9 miles of the North Channel and 173 miles of the Wood River.

Nebraska Legislative Districts

The current state legislative map was approved by the Nebraska State Legislature in 2021. The following legislative districts are included within the CPNRD boundaries: 22, 24, 34, 35, 37, 41, 43, and 44.

Board of Directors

The Board of Directors is responsible for protecting and preserving the district's extensive natural resources. The CPNRD has 21 directors, each serving a four-year term. Two directors represent each of the 10 sub-districts, and one serves as an at-large member. Directors from the same sub-district are elected in alternating election years. Each director serves on two of the following committees: Water Quality, Water Utilization, Eastern Projects, Western Projects, Programs, Building, Variance/Appeals and Executive.

In 2022, the Subdistrict Committee reviewed the composition of the Board of Directors. The committee concluded that the 21-member board is well-suited to provide direction for the district's budget, projects, and programs. In 2021, modifications were made to the voting sub-districts to ensure that each sub-district is substantially equal in population, averaging 14,486 residents. Despite these changes, directors remained in their previous sub-districts.

FIGURE 4. CPNRD Sub-District Boundaries (as of 2021)

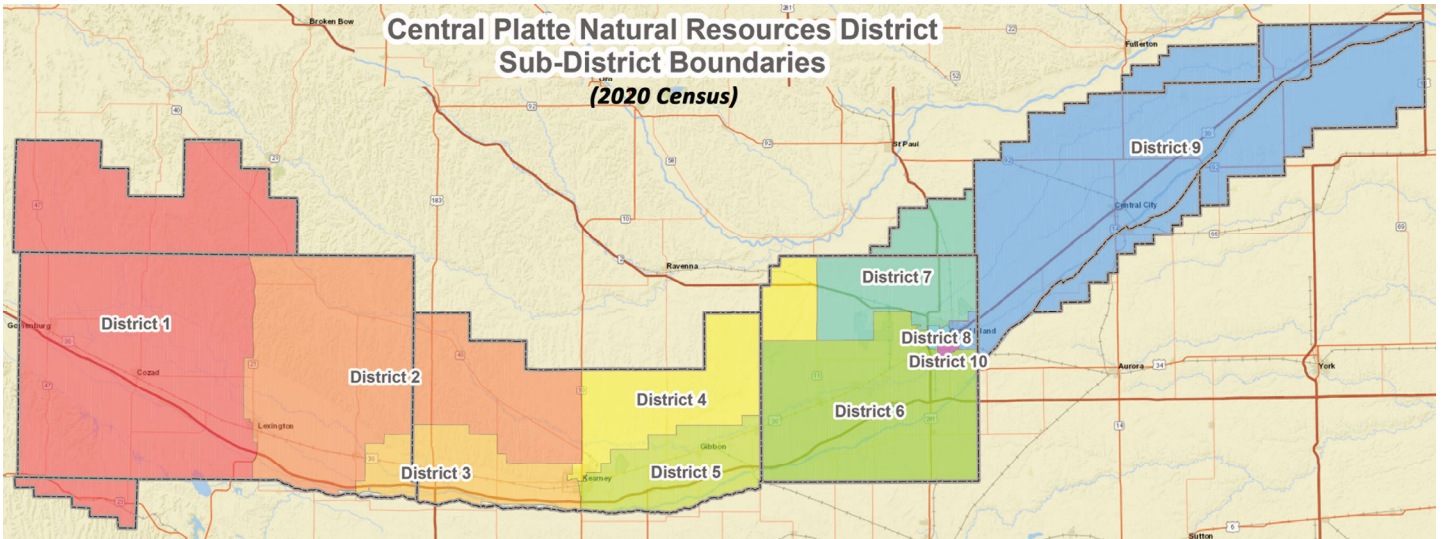


FIGURE 5. Board of Directors (2024)

SUBDISTRICT BOARD MEMBERS CHAIR/DELEGATE POSITIONS

At-Large Keith Ostermeier, Grand Island (Secretary)

- | | |
|--|---|
| 1. Jay Richeson, Gothenburg
Brian Keiser, Gothenburg | 6. Jerry Milner, Grand Island
Mick Reynolds, Wood River (Chairman) |
| 2. Dwayne Margritz, Lexington
Tom Downey, Lexington | 7. Jerry Wiese, Grand Island (Vice-Chairman)
Ed Stoltenberg, Cairo |
| 3. Marvion Reichert, Elm Creek (Treasurer)
Steve Sheen, Kearney | 8. Todd Arends, Grand Island
Alicia Haussler, Grand Island |
| 4. Lon Bohn, Gibbon
Ryan Kegley, Kearney | 9. Ed Kyes, Central City
Doug Reeves, Archer |
| 5. Deb VanMatre, Gibbon (NARD Board)
Mike Wilkens, Gibbon | 10. Chuck Maser, Grand Island
Barry Obermiller, Grand Island |

Agriculture

Agriculture is the largest industry within the NRD and the entire state. The major crops grown in the region include corn, soybeans, alfalfa, and wild hay. Livestock raising is also significant, with operations focusing on cattle, hogs, and turkeys, along with some chickens, dairy, and sheep. Livestock feeding operations are dispersed throughout the District. Many industries in the NRD are agriculture-related, contributing significantly to the state's and the NRD's largest economic sectors: service, government, and manufacturing. Additionally, tourism also plays a role in the NRD's economy.

Department of Roads

Parts of the NRD lie within 4 of the 8 Field Districts: 3, 4, 6, 7

Public Service Commission

Parts of the NRD lie within 3 of the state's 5 Districts: 3, 4, 5

Nebraska Game & Parks Commission

Parts of the NRD are within 4 of the state's 7 Districts: 3, 4, 5, 6

Congressional District

The entire district is located within the Third Congressional District.

Court Districts

4 county court judicial districts and four district court judicial districts serve portions of CPNRD.

Education

Education is an important aspect for the population of the NRD including 2 community college areas, 4 Educational Service Units (ESU 7, 9, 10, 11). Branches of the Universities and Central Community Colleges exist at Kearney and Grand Island, with off-campus centers in many communities within the NRD.

2023-2024 Annual Membership Dues

AMOUNT - ORGANIZATION

\$182 American Water Resources Association
 \$500 Groundwater Management District Association
 \$775 National Association of Conservation Districts
 \$2,500 National ESA Reform Coalition
 \$44,250 Nebraska Association of Resources Districts
 \$2,558 Nebraska Water Resources Association
 \$250 Nebraska Well Drillers Association
 \$12,000 Water Strategies LLC

Central Platte NRD Staff

The NRD's general manager is responsible for hiring and management of employees. The first general manager was Ron Bishop. Lyndon Vogt was hired in 2013 when Bishop retired. Vogt had previously served as manager of the Upper Niobrara White NRD in Chadron and Lower Niobrara in Butte.

In 2020, CPNRD began partnering with the Rain Water Basin Joint Venture, UNL and NRCS to share the cost of employing joint employee positions including an agronomist, communications specialist, integrated water management specialists and a prescribed fire planning specialist. CPNRD administers salaries for these partnerships.

The partnerships provide opportunities to meet long-term and short-term private lands objectives, communications goals and habitat improvement for waterfowl and wildlife.

FIGURE 6. Central Platte NRD Staff (2024)

General Manager: Lyndon Vogt
 Assistant Manager: Jesse Mintken
 Administrative Assistant: Kelly Cole
 Agronomist: Collin Quandt
 Communications Assistant: Brody Vorderstrasse
 Cozad Ditch Manager: Michael Schmeeckle
 Cozad Ditch Rider: Jake Laird
 GIS Coordinator: Angela Warner
 GIS Image Analyst: Luke Zakrzewski
 Hydrologist: Brandi Flyr
 Information/Education: Specialist: Marcia Lee
 Natural Resources Technician: Devin Hingst
 Precision Conservation: Specialist Darren Cudabeck
 Prescribed Fire Planning: Specialist Nelson Winkel
 Projects Assistant: Tom Backer
 Range Management Specialist: David Carr
 Resources Conservationist: Bill Hiatt
 Resources Conservationist: Shane Max
 Office Assistant/Grand Island: Courtney Olson
 Secretary/NRCS-Central City: Kyla Friedrichsen
 Office Assistant/NRCS-Grand Island: Lexie Zubia
 Office Assistant/NRCS-Lexington: Lisa Kennicutt
 Office Assistant/NRCS-Kearney: Shelly Lippincott
 Secretary/Thirty Mile Irrigation District: Marci Ostergard
 Thirty Mile Irrigation District Manager: Jim Harris
 Thirty Mile Irrigation District Technician: Mike Ostergard
 UNL/CPNRD Demo Project Coordinator: Dean Krull
 Water Quality Specialist: Tricia Dudley
 Water Resources Technician: Courtney Widup

NRD Projects by Authorities

Central Platte NRD's Board of Directors prioritized the 12 responsibilities set by the Nebraska Legislature to meet the District's needs. Several are managed as combined responsibilities:

AUTHORITY * Erosion prevention and control * Soil conservation

PROJECTS

Nebraska Buffer Strip Program	Central Platte Demonstration Projects
Cover Crop Research and Demonstration Projects	Cost-Share Programs
Ogallala Aquifer and Platte River Recovery	Ogallala Aquifer Initiative
Precision Conservation Management Program	Resilient Futures for Nebraska Soils Grant
Wetland Easements	

AUTHORITY * Prevention of damages from flood water and sediment * Flood prevention and control

PROJECTS

Warm Slough/Trouble Creek Flood Control Project	Prairie Silver Flood Control Project
Clear Creek Watershed	Kearney Northeast Flood Control Project
Platte County Project	Wood River Flood Control Project
Buffalo Creek Watershed-Structures	Upper Prairie/Silver/Moores Flood Reduction
Dams Inventory and Rehabilitation	Elm Creek/Turkey Creek Watershed
Platte Valley Industrial Park	Spring and Buffalo Creek Watershed
Lower Wood River Watershed	Elm and Turkey Creek Watershed
Lake Helen – Gothenburg	Grand Island Dewatering Study
Kirkpatrick Memorial Park Lake	Ice Jams on the Platte River

AUTHORITY * Drainage improvement and channel rectification

PROJECTS

Administer Irrigation Runoff Rules and Regulations	Lepin Ditch Flood Control Project
Cairo Downtown Improvement Project	City of Gibbon Drainage Project
Odessa Area Flood Control Project	Doniphan Drainage Project
Kearney West Clearing Project	Dry Creek Clearing Project
Amick Acres Improvement Area	Wood River Watershed
Moores Creek Flood Control Project	

AUTHORITY * Water supply for any beneficial uses

PROJECTS

Groundwater Quantity Management Plan	Groundwater Level Monitoring
Suspension on Well Drilling	Certification of Irrigated Acres
Irrigation Well Registration	Integrated Management Plan
Cooperative Hydrology Study	Transfer of Irrigated Acres
Water Banking Program	Buyout of Six Mile Canal
30-Year Acreage Reserve Program	Groundwater Exchange Program
Airborne Electromagnetic Survey	Central Nebraska Irrigation Project
ArcGIS Solutions Platform	Evapotranspiration Map
GeoCloud Database	Groundwater Evaluation Toolkit
Light Detection and Ranging	Magnetic Resonance Sounding
Rehabilitation of Surface Water Canals – Cozad Canal , Thirty Mile Canal, Orchard Alfalfa Canal	
Nebraska Water and Energy Flux Measurement, Modeling and Research Network	
Basin-Wide Plan for Joint Water Resources Management of Over-Appropriated Portion of the Platte River	

NRD Projects by Authorities

AUTHORITY * Development, management, utilization and conservation of groundwater and surface water
*** Pollution control * Solid waste disposal/sanitary damage**

PROJECTS

Groundwater Quality Management Plan	Vadose Zone Study
Online Reporting Form	Central Platte Demonstration Projects
Crop Irrigation and Demand Network	Cover Crops
Project SENSE	Testing Agriculture Performance Solutions
Decommissioned Well Program	Irrigation Run-Off and Erosion Plan Update
Nebraska Buffer Strips – Administration of Funds	Chemigation Program

AUTHORITY * Development and management of fish and wildlife habitat

PROJECTS

Platte River Recovery Implementation Program – First and Second Increments	
Nebraska Habitat Conservation Coalition	Platte Basin Habitat Enhancement Project
Platte Valley Phragmites Control Project	Instream Flow Rights

AUTHORITY * Development and management of recreational and park facilities

PROJECTS

Kearney Area Trail System	Wood River Flood Control Project Trail
B-1 Reservoir	Central City/Marquette Trail
Johnson Lake Trail	Crane Meadows Stabilization
Great Platte River Road Archway Stabilization	Alda Crane Viewing Site
Richard Plautz Crane Viewing Site	Urban Conservation Program

AUTHORITY * Forestry and range management

PROJECTS

Nebraska Conservation Tree Program	Tree and Weed Barrier Cost-Share Program
Nebraska Forest Restoration Partnership	Urban Forestry Program
Planned Grazing	Prescribed Fire Program
Grazing Deferment Program	Prescribed Fire Training Program
Native Prairie Outreach Project	

II. Flood Control & Drainage

central Platte NRD works in collaboration with landowners and other agencies to mitigate flood damages across its 30 municipalities, each of which faces distinct flood control challenges. The district's land includes tributaries of the Platte River that often run parallel to it, extending across flat terraces or bottomlands before eventually reaching the river. In the central and western parts of the district, these tributaries typically originate in uplands, providing numerous sites suitable for flood control structures. However, they then flow into flat terraces or bottomlands, meandering for many miles before reaching the Platte River. Streams such as Silver Creek, Warm Slough, and the North Branch also originate within these flat terraces or bottomlands. To combat flooding, the NRD has invested in various flood reduction initiatives, including the construction of dams, levees, diversion channels and detention cells.

PROJECTS COMPLETED

1. Snagging & Clearing Discontinued in 2015 with the exception of projects already in progress.

2. Warm Slough/Trouble Creek Flood Control Project

Due to a history of flood damage to agricultural and urban property within Central City, a project was developed to reduce flooding caused by storm runoff into the Warm Slough, Dry Run and Trouble creeks. Construction near Grand Island took care of storm runoff from the city, channel clearing and renovation from Grand Island to Central City. Partial funding was received through the Nebraska Natural Resources Development Fund. Cosponsors: CPNRD, Merrick & Hall counties, Grand Island and Central City. Construction was completed in 1993 and maintenance responsibilities were turned over to Merrick County and Central City.

In 2002, CPNRD did snagging and clearing of the Lower Warm Slough from Grand Island to Central City (\$110,000). An additional \$23,000 was paid for dirt removal due to close proximity of wetlands in the area. From June 1-8, 2008, Central City received over 6" of rainfall that exceeded a 100-year event. The project has improved drainage of the entire watershed.

3. Prairie-Silver Flood Control Project

Flooding was studied by the NRD in central Hall County, just west of Grand Island. CPNRD determined that the problem was caused by two short stretches of Prairie Creek and Silver Creek that produced channel overflow after large storm events. Channels were cleaned out and training levees were constructed to prevent overflow in 1986. Construction and land leveling in the area disturbed natural drainage flows along the Prairie/Silver Creek, northwest of Grand Island. In 2000, a uniform drain was installed and culverts added for a two-mile stretch. Cost was \$22,000; CPNRD's cost was \$17,500.

4. Clear Creek Watershed

Clear Creek watershed in Polk County encompasses 75,700 acres with a long history of flooding. Starting in 1978, 15 flood control structures were constructed in Clear Creek Watershed over several years. Funds from the Natural Resources Development Fund were received on five of the large structures. Polk County provided funds to construct additional smaller structures including road structures.

5. Lepin Ditch Flood Control Project

In 1993, landowners petitioned CPNRD to solve excess storm runoff overloading the "old north channel" of the Platte River in southwest Hall County. A study by Nebraska Department of Roads (NDOR) and CPNRD determined that when I-80 was constructed an attempt was made to redirect runoff from the Lepin Ditch to another crossing site under the Interstate. This joint project placed a culvert near the natural channel to allow runoff to flow under the Interstate. Total cost: \$700,000. Partners: CPNRD, NDOR and Hall County. In 1995, easements were obtained from area landowners for construction and maintenance of the ditch. Hall County provided site preparation and ditch excavation and provides maintenance. CPNRD's cost was \$120,000; NDOR paid for the culvert.

6. Cairo Downtown Improvement Project

In 2007, CPNRD approved \$50,000 to construct a 48" drainage outlet to divert excess water along the Hwy 11 corridor. The previous drainage system couldn't handle a one-year rainfall event, which caused overflow ponds and flooding in low areas. The community of Cairo contributed \$2 million.

7. City of Gibbon

The City of Gibbon filed a formal request for help with a drainage project. The proposed project includes relocating the existing sluice gate, improvements on hydraulic conditions at the outfall, and installing an automated sluice gate system. Total cost estimated at \$150,000 and was added to the Hazardous Mitigation Plan to be considered for Federal funding. In 2008, \$50,000 was provided to the City for improvements to the storm water system, the project was completed in 2010. In 2015, Olsson Associates reviewed what has been accomplished towards drainage issues and additional needs in order to resolve remaining issues. CPNRD has facilitated meetings with the City of Gibbon and Buffalo County to address remaining drainage problems.

8. Odessa Area Flood Control Project

Miller & Associates of Kearney started the final design of the Odessa Area FCP in 2008 and completed it in 2010 with a cost of \$15,000. The Project is located east and south of the project boundaries include the Odessa Rd to the west, 24th Rd to the North, and Sartoria Rd to the east. The two-mile project improved existing roadside and field drainage ditches, culvert replacements, & supplement existing culverts.

9. Doniphan Drainage

The Village of Doniphan received \$4,000 to pump standing water from a detention cell located in the city park and into the curb and gutter system. Project was completed in 2015.

10. Clarks Floodplain

Silver Creek is the major source of flooding in the area. Participation was approved in the Clarks Floodplain mapping study up to \$5,000; which is 50% of the expected cost of the study and needed to meet FEMA requirements. The study and funding was added to the 2014 budget.

11. Lake Helen

In 2013/2014, \$75,000 was provided towards restoration of Lake Helen in Gothenburg for water quality conditions. The lake was drained to excavate 171,773 cu/yds of sediment, stabilize 3,391 LF of shoreline, develop underwater shoals, install a circulation system, dam repair, installation of a pier and boat ramp. Sediment and nutrient loading from outside the lake was addressed by treating the lake with aluminum sulfate to precipitate phosphorus, installing a deeper well to access lower phosphorus water, and stocking recreational fish. Total cost of the water quality and habitat project was \$1.8M. The project was completed in 2016. In 2019, CPNRD approved \$10,000 through the NRD's Urban Conservation Program for additional bank stabilization.

PROJECTS UNDER MAINTENANCE**1. Kearney Northeast Flood Control Project**

In 1990, the City of Kearney, Buffalo County and CPNRD initiated a project to address the expansion to the north-east of the city of Kearney that resulted in increased flooding on an unnamed tributary of the Wood River from storm runoff. Aerial photography and survey work needed for topographic mapping of the affected area was completed in 1991. NRCS conducted a feasibility study to determine what options were available. In 1995, Miller & Associates developed a plan for the watershed including channel improvements, drop structures, road crossings and a detention cell. A drop structure was constructed in 1996 (\$240,000) to stop serious erosion at the point where water entered the Wood River. The County built a road structure as part of it's bridge replacement program.

Phase I: Existing channel was widened at the drop structure, meandered westerly and south to a point near 56th Street on Eaton Road.

Phase III: (Completed before Phase II) Properties were purchased in 2000 for construction of detention cells and channel improvements. Detention cells are located 1/2 mile north of "N" Ave & 56th Street in Kearney. Construction included 300,000 yds of excavation with a 50 AF of storage for a 100-year storm and 50 AF storage for a 25-year storm on the other cell. In 2003, channel improvements and erosion control were completed south of the detention cells. 800,000 cu/yds of soil were excavated to create the channel with storage capacity of 200-300 AF.

Phase II: Channel improvements from Phase I channel, south to 39th Street and westward to Antelope Road. Phase II/III from 56th St. to Avenue N was completed in 2006. Total cost: \$3.4 million.

2. Kearney West Clearing Project

In 1999, landowners west of Kearney requested a clearing project to assist with flooding problems along Turkey Creek, also known as the Platte River North Channel. About 2.5 miles were cleared. In 2000 & 2001, snagging and clearing was redone. In 2002, the North Channel of the Platte River/Turkey Creek had eroded to within 5' of a local sandpit. The Corps of Engineers provided an Emergency 404 permit to the NRD to stabilize the bank. Funding: City of Kearney: \$1,850 (25%), CPNRD: \$13,500.

3. Dry Creek Clearing Project

In 1997, debris from a wind storm/tornado fell into Dry Creek channel northeast of Cairo, prompting a request from landowners for a clearing project. Cost of the project completed in 1998 was \$11,500. Area landowners petitioned CPNRD to complete about 21,000' of additional clearing; completed 1999-2000 for \$42,000. In 2012, a three-mile channel improvement was completed to the west of the Central Nebraska Airport and a culvert added under Gun-barrel Road. CPNRD is responsible for maintenance.

4. Amick Acres Project

Amick Acres Project Improvement Area is located in south central Hall County, just to the west of Doniphan. The project diverts flood and drainage water away from Amick Acres residential subdivision by utilizing part of a county road ditch for approximately one mile of channel. The initial of the project was \$25,000; most of the cost was assessed to the benefiting landowners.

5. Platte County Project

Platte County Project is an improvement area located just southwest of Duncan. The project provides drainage improvement and minor flood control benefits to 1,300 acres of irrigated cropland in southwest Platte County. Maintenance as needed (\$500-\$1,000 annually). Actual costs are assessed to benefiting landowners.

6. Wood River Watershed

In 1972, snagging and clearing was completed from the mouth of the stream to Gibbon. In 2002, one mile was cleared at a cost of \$20,000. Annual maintenance for Wood River Clearing Project is \$10,000. Additional spot clearing is completed as needed.

7. Moores Creek Flood Control Project In the 1980s, CPNRD, Grand Island, Merrick & Hall counties, and others recognized the need for flood control on Moores Creek. In 1984, Nebraska Natural Resources Commission agreed to 65% cost-share for a three-phase construction plan for the Moores Creek FCP.

Phase I: In 1990, channel improvements from the mouth near Archer upstream to Hall-Merrick county line.

Phase II: Added 3 detention/retention and wildlife habitat enhancement cells on the channel from the Hall-Merrick county line upstream to Grand Island.

Phase III: Waterways & bridges were constructed to enable storm runoff from Capital Heights northwest of Grand Island, to drain into the improved Moores Creek channel. Project was completed in 1995.

Wood River Flood Control Project

The Wood River meanders through the Platte River Valley, spanning 173 miles and featuring numerous flood control structure sites in its upper reaches. However, during the June 1967 flood event on the Wood River, most of the rainfall occurred east of Kearney, an area with limited flood control structures. Over 9 days, from June 7 -15, a total of 10" of rain fell, with 3.2" recorded on June 13. This heavy rainfall led to extensive damage in Grand Island.

In response to the need for improved flood management, the U.S. Corps of Engineers conducted reconnaissance studies in the 1980s, identifying several feasible floodway projects using different routes. Following public hearings in 1989, the Corps initiated a study to determine the feasibility of a route to divert excess water from the Wood River and Warm Slough into the Platte River. Congressional authorizations for appropriation and construction were secured in 1996. However, revisions to the plans and increased project costs necessitated new Congressional reauthorization in 1999. Construction commenced in March 2000. In 2002, the contract was adjusted by \$1 million due to miscalculations regarding the required amount of topsoil, with an additional 180,000 cubic yards of soil added. Co-sponsors contributed \$95,000 towards the increase. The following is a timeline of the project:

2002: Land acquisition encompassed 500 acres located two miles west of Hwy 281 to the Hwy 34 bridge.

Reappraisal of Hall County's RV Park resulted in compensation to the Hall County Board, the acquisition of the remaining 11 tracts of land required for the project was completed.

2004: Close to 7,000 acres of land were taken out of the flood zones when FEMA revised its floodplain maps, removing the need for flood insurance in southern Grand Island. Landowners had been paying \$317,000 to protect \$56M worth of property prior to the revision. Full Federal funding enabled construction to be completed on schedule. CPNRD borrowed \$1.1M for construction over three years.



2005: In 2005, a total of 7.21" of rain fell between May 11 and May 12, surpassing the one-day rainfall record set during the 1967 Flood. The 300-foot-wide channel provided flood protection for 1,500 homes and businesses. The project faced another test from June 1 to June 8, 2005, when 6" of rain fell. The benefits of the project include flood control for Grand Island, rural areas of Hall and Merrick counties and improvement of groundwater quality. CPNRD borrowed \$1.1 million for the construction, which spanned three years. Reimbursement was received by the State of Nebraska through a grant and local sponsors. The project was completed and dedicated in May 2004.

Total Cost: \$15 million which was funded as follows: \$7,148,000: Corps of Engineers, \$4M: NeDNR, \$1.4M: CPNRD, \$1.2M: Grand Island, \$352,000: Hall County: \$200,000: Merrick County. CPNRD is responsible for maintenance, with costs split between cosponsors.

Project Updates: In 2015, JEO completed design work (\$25,000) for the System Wide Improvement Framework. \$20,000 in maintenance and repairs was required by Corps of Engineers. In 2019-2020, the channel was scoured.

9. Prairie Creek Clearing Project

While Prairie-Silver Creek FCP had a local effect, it didn't solve all of flooding problems on Prairie Creek, nor evolve into a feasible project to solve flooding problems on the stream. Damages could be reduced by keeping the channel clear. Snagging/clearing projects involving removal of timber, trash, and debris from the stream channel in an area of 35' on either side of the center of the channel were completed from the mouth of Prairie Creek in Merrick County to the Hall-Buffer county line. Annual maintenance \$10,500.

10. Buffalo Creek Watershed-Structures

Feasibility planning for flood control was completed in Buffalo Creek Watershed in Custer, Dawson and Buffalo counties. Funding was received from the Natural Resources Development Fund to construct seven flood control structures. Below are details on B-1 (largest structure) and F-7.

1983: Construction completed. Included a supply canal, 1.6 miles of power line relocation, and 1/2 mile county road improvement. It was expanded to include recreation and groundwater recharge.

1985: A chimney drain system was installed to repair cracks in the structure.

1987: The reservoir was opened for fishing.

1995: Landowners petitioned the NRD to stop filling the reservoir, citing concerns that it was contributing to high water tables. Hydrological studies showed that the reservoir had no significant impact on water tables and that groundwater levels remained stable due to consistent annual rainfall. Despite these findings, the NRD granted the request to discontinue filling the reservoir in January 1996.

2010: The reservoir was filled every other year. Requirement was to fill it once every 5 years to keep the water right.

2013: Started filling the reservoir every year to get it back to its original concept. CPNRD has a diversion right of 4,218 AF of water/year from NPPD to fill reservoir.

2018: JEO Engineering received \$148,588 to study options to account for groundwater recharge and their effect on stream flows from the B-1 Reservoir.

F-7: In 1990, cracks were repaired for \$11,500. Two sites in Buffalo Creek Watershed near Lexington were not feasible and planning efforts for the watershed were discontinued. Operation and maintenance continues for all structures in the watershed including dam safety checks.

11. Silver Creek Watershed

Located in Merrick County, this watershed encompasses approximately 90,000 acres. In 1979, a channel improvement project was completed in four parts to provide flood relief in the watershed.

Phase 1A: Lower 4.1 miles of Silver Creek **1B:** One mile of Silver Creek and 15 miles of Clarks drain

Phase 2: Upstream on Silver Creek for 6 miles

Phase 3: Next 10 miles upstream

Phase 4: Completed in 1987 due to wet weather in 1985-1986. The 11-mile stretch upstream from Hwy 14 north of Central City to Silver Creek's headwaters (west of Chapman) was extended in 2000 due to additional flooding.

Maintenance costs: \$20,000 annually

5. GI Dewatering Study

CPNRD began participating in the Grand Island Dewatering System Study in September 2000. The Study identified a practical groundwater dewatering system to remove groundwater from residential basements and minimize impacts on the project area. The study also assessed potential transmission and discharge location options, financing options, potential impacts on water quality and quantity, and subsidence issues; using both low and high capacity vertical wells. Public opinion surveys were delivered to the northwest and southeast project areas prior to the initiation of the Study, with the majority of responses returned as "very interested" in the Study.

The Study areas fall within the "Valleys" topographic region, characterized by low relief along streams that are underlain by alluvial clay, silt, sand and gravel. The general direction of ground water flow is east to northeast generally paralleling the Platte River. Evapotranspiration (ET) losses are relatively high due to a shallow water table; saturated thickness of Quaternary deposits in/around Grand Island range between 80 to 200'. Depth to water table ranges from 5 to 20' below ground level. In 2012, Olsson Associates presented a study to improve and expand the project implemented in 1998. The original study involved 29 dewatering wells compared to 33 in the study. Three dewatering areas and areas of contamination were taken into account with wells proposed to be outside of those plumes. The Grand Island City Council was initially receptive to updates, however, this project has no progressed.

12. Kirkpatrick Memorial Park Lake

In 2016, \$25,000 was approved for lake improvements at Kirkpatrick Park Lake in Lexington. Improvements include: 4,000 cubic yards of dredging, 2,500' of bank improvements including tree removal and a 700' sea wall to the four-acre lake. The project will improve water quality, aquatic habitat, public access, and provide an area for educational events. Construction was completed in 2017.

13. Ice Jams

In 2011, an agreement on how to deal with ice jams in the Middle Platte River, was formed with a continual escrow account for \$50,000. The agreement stated that if an ice jam were to begin, CPNRD was the first entity to start the process of calling FEMA & NEMA. Partners: Tri-Basin NRD, Buffalo, Hamilton, Merrick, Phelps, and Kearney counties-participated for \$37,000 for an emergency fund. In 2016, the Platte River Ice Jam Removal Agreement was dissolved. Partners now focus on emergency preparedness in the event of an ice jam related to flooding and safety education. All funds were returned.

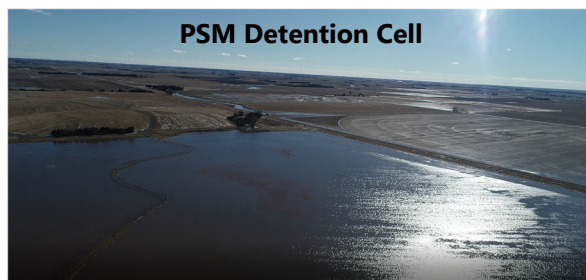
14. Upper Prairie/Silver/Moores Flood Control Project (PSM)

The PSM Project was initiated in response to floodwaters along Hwy 2, which caused significant water flow eastward into developed areas northwest and west of Grand Island.

A detailed hydrological analysis of the 100-year floodplain in the upper parts of the Dry, Prairie, Silver and Moores Creek watershed revealed that a 100-year flood would inundate 23,000 acres south of Hwy 2, resulting in crop damages of \$3 million. A 10-year flood would produce crop damages of \$1.6 million.

The project protects northwestern Grand Island from flooding by Prairie and Silver Creek south of Hwy 2 and east of Hwy 281. It

reduces future flood damages to crops, properties and infrastructure, and eliminates an estimated \$130M in dam-



ages during a 100-year event. Construction included the following elements:

- 3 floodwater retarding sites in upland areas of Prairie Creek watershed southwest of Cairo
- One upland detention site in the Dry Creek watershed
- Series of detention sites in lowland areas along upper Prairie Creek
- 3 excavated off-channel detention sites in the Silver Creek watershed
- Low-level berm to prevent basin overflows from Silver Creek into Moores Creek
- Clearing to improve capacity

Upland and lowland flood control structures were developed with roadways acting as dams. Berms were built to keep creeks within their banks and water detention cells were constructed on 500 acres at the former Cornhusker Army Ammunition Plant.

PSM History and Project Timeline

On May 11, 2005, Grand Island sustained \$3-5M in flooding damage and Hall County sustained \$12-15M. The project included acquisition of 1,800 acres for easements; excavation of 3,500 AF of off-channel storage in lowland areas, construction of 4 upland floodwater detention dams/outlets and installation/replacement of roadway culverts under Hwy 2 and county roads. 500 acres of irrigated cropland were acquired for detention cells.

2005: On May 11th Grand Island sustained \$3-5M in flooding damages and Hall County sustained \$12-15M.

2006: Construction began and phased over 10 years, starting with the off-channel lowland sites in Silver Creek.

2010: Phase I included excavation of 886,500 cu/yds, located at Capital and Airport roads. Hooker Brothers constructed the north detention cell for \$2.2 million; \$1.18 million below estimate.

2015: Construction began on the two largest dams and completion in 2016. A Conditional Letter of Map Revision (CLOMR) was submitted to FEMA, providing an assessment of flood risk reductions due to flood control measures.

2016: 7.25 acres of irrigated land was condemned at Engleman and Airport roads following unsuccessful negotiation attempts. The property is central to the existing levy and to a new levy. The north detention cell on Airport Road was completed. Equipment included 4 scrapers that held 20 cu/yds, two excavators, four dump trucks that held 30 cu/yds, bulldozer and a road grader. 71,500 cu/yds was excavated to form the north cell. The southern portion of Phase I included 815,000 cu/yds, located at Capital and Schauppsville roads. Seeding and mulching for erosion control will take place as needed.

2017: Four upstream dams and detention cells were completed. In 2018, Levee construction Airport and Engleman roads was completed. In 2019, real-time monitoring and data logging equipment was installed in the amount of \$30,000. Water level sensors, cameras and rain gauge sensors are placed at strategic locations.

2018: Construction began on the final structural component of the UPSM project. Levee construction at the intersection of Airport and Engleman roads was completed.

2019: Real-time monitoring and data logging equipment, totaling \$30,000, was installed throughout the project. Water level sensors, cameras and rain gauge sensors were placed at strategic locations. All construction for flood risk reduction infrastructure was completed during the summer of 2019.

2020: Flood Map Update: FEMA approved the CPNRD's letter of map revision (LOMR), effective September 2020. Approximately 600 properties were removed from the 100-year floodplain with an estimated \$500,000 - \$1 million of annual flood insurance premium cost reduction benefits. The properties are located in northwest Grand Island and in Hall County, north and west of Grand Island. The LOMR reduces the floodplain, reducing the flood insurance requirements for 600 property owners and opening new areas for development.

Flood Repairs

In 2020, 300 tons of riprap was installed at the Silver Creek drop structure located near the bridge on Schauppsville Road. A new drop structure was installed in 2021 to protect the Silver Creek streambed upstream of the detention cell to replace the concrete structure that failed during the March 2019 flood. The drop structure consists of a sheet pile weir with grouted riprap plunge pool. The streambank was regraded and protected with riprap along 1,000 LF. Cost-share was received through the NRCS Emergency Watershed Protection Program. Blessing LLC of Kearney constructed an earthen berm and added a crushed concrete access road around portions of the detention cell for

\$138,575: 850 cu/yds dirt work, 2,600 tons crushed concrete base and white limestone. Monitoring equipment was approved to generate various flood scenarios. The new system will measure real-world conditions and variability to support the NRD's flood risk awareness and preparedness efforts. The Operation and Maintenance manuals will be updated for the floodsafe-cpnrd.org website.

Stream Gage

A camera was installed near the stream gage in Grand Island along the Platte River to track current flows and ice conditions for three years in the amount of \$14,985.00. The Platte River Program reimbursed CPNRD for 50% of maintenance costs (\$4,700). The camera is located on the Hwy 34 bridge and takes photos every 15 minutes. The photos are available on the USGS website. The stream gage collects data used for management decisions.

Project Costs: Every \$1 invested in the project sees \$1.33 returned in flood damage savings.

\$12,840,396.53 - Water Sustainability Funds through Nebraska Natural Resources Commission

\$5,385,793.22 - Central Platte NRD

\$5,389,957.95 - City of Grand Island

\$570,487.61 - Hall County

\$285,841.27 - Merrick County

Office/Education Building at PSM

In 2020, CPNRD started to explore the possibility of constructing an office and education center at the PSM site. Over the last four years, potential costs and design of a new building complex were reviewed. The Natural Resources Commission approved the request to utilize the remaining \$1.7 million designated for PSM through the Natural Resources Conservation Development Fund for an education center. With those funds and the projected sale of the NRD's current facility, the Board decided to move forward to consider construction costs for future fiscal year budgets without increasing tax requirements for building purposes.



History and Project Timeline

2020: Barber Appraisal of Phillips, NE received \$2,950 to appraise the CPNRD buildings and shops.

2021: Potential costs/design of a new building complex reviewed. An educational component with existing \$1.7M available through the NRC Development Fund was pursued. The Commission approved the request to utilize the funds for an education center in October. With those funds and the projected sale of the NRD's current facility, the Board voted to consider construction costs to future budgets without increasing tax requirements.

2022: Phases 2 and 3 architectural proposal was awarded to JEO not to exceed \$225,000. Phase 2 included the schematic design to further develop the site plan, floor plan and overall building design; zoning/code requirements, site survey and geotechnical soils testing. Design drawings included: developed site plan layout, dimensioned floor plans, elevations, cross-sections and updated opinion of construction cost. Phase 3 included design of structural, mechanical and electrical engineering systems.

2023: JEO contract (\$470,425) was approved to complete construction documents and bidding and negotiation. In August, a well was drilled at the site by Downey Drilling.

2024: The low bid from Rogge General Contractors Inc. of Lincoln was approved to build the office/education center at an overall cost of \$13,473,000. Seven bids were received ranging from \$13.47 to \$15.29M. Based on the schematic design and design development, the building will be 20,000 square feet on the main level with a lower level to match. With the multi-year planning process, the NRD has funds available to begin construction, including nearly \$4M expected from other sources. An Electric Power Service Agreement was approved for \$166,170 with SPPD to build the necessary interconnection facilities to supply electric power and energy to the building. The project is scheduled for completion December 3, 2025.

The education center will offer indoor and outdoor learning experiences, demonstrating the relationship between water, forests, grasslands and soil. The outdoor sites will provide hands-on learning opportunities that complement topics presented at the indoor learning center. These sites will feature wetlands, walking trails, windbreaks, pollinator habitats, irrigation and crop demonstrations, monitoring wells and other educational resources.

LAND RIGHTS

At this time, the CPNRD has no land right needs. This may change in the future to address areas within the District that are at risk of flooding during a weather event or disaster. Sufficient information is not available at this time to determine financial needs.

EASEMENTS

CPNRD controls property through various legal means, documents and ownership. The main purpose is for flood protection structures and projects such as dams, levees and detention cells. CPNRD owns about 1,800 acres and holds permanent easements on another 2,772 acres throughout the District (not including flood pools). On property that the NRD owns, land is managed to promote wildlife habitat and/or outdoor recreation. The types of legal documents that CPNRD holds include: warranty deeds, quitclaim deed, storage and flowage easements, flood protection levee easements, construction easements and structure easements.

Amended Easement Requirement

In 2023, an amendment to remove the 'no deep-rooted' clause on sub-irrigated dryland crops for permanent conservation easements was approved. To make the change on current contracts, funding partners including CPNRD, NeDNR, and the NET, would need to agree to the amendment on the individual conservation easement contracts.

Midwest Carbon Express Project

In 2022, an easement with Summit Carbon Solutions was approved to construct a pipeline across NRD property in Merrick County for the Midwest Carbon Express Project. CPNRD received \$17,277 for the 2.625 acre easement.

Canaday Solar Project

In 2023, the Board approved an agreement to allow staff to work with legal counsel to allow solar development as an approved use on two of CPNRD's conservation easements. The power generated by the proposed Project will be transmitted to the electrical grid maintained by the Southwest Power Pool via NPPD's Canaday Substation. The project will be subject to approval by the Dawson and Gosper counties zoning process and will be sited to conform with NGPC Guidance for Utility-Scale Photovoltaic Solar Energy Projects.

CONSERVATION EASEMENTS (*with flood pools)			
PROJECT NAME	COUNTY	PERMANENT	ACREAGE*
Box Elder 5-A	Buffalo	3	125
Gibbon Crane Deck	Buffalo	1	5
Kearney Northeast	Buffalo	15	127
PCUL 1-PCUL2-PC4	Buffalo	36	627
B1-B1A-B3-C5-F1-F3-F5-F7	Dawson	48	995
Alda Crane Deck	Hall	1	7
CHAAP Ditches	Hall	2	98
DCUL 6	Hall	3	81
PSM Detention-Levee-PCUL 4 (Dibbern)	Hall	12	1,141
Wood River FCP**	Hall	88	757
Bankson	Hamilton	3	23
Warm Slough	Merrick	13	72
Clear Creek 1 & 6	Polk	9	131
Buchta-Burritt-Carlson-Coover-Dittmer-Erickson-Swedenburg	Polk	11	85
Jones Creek 1, 1-1, 1-A	Polk	15	191
Korger-Micek-Monson-Oquist-Wyman-Boden	Polk	12	107
TOTAL		272	4,572

PROJECTS UNDER CONSTRUCTION/PLANNING**1. Hazard Mitigation Plan**

In 2008, FEMA awarded CPNRD a grant to develop a multi-jurisdictional All-Hazard Mitigation Plan to enable communities to take action and reduce threats from natural disasters. Public input from officials and landowners were a key component of the process. Regional meetings were held to obtain input in the initial stages. Potential hazards affecting the area, individual communities identified, critical facilities located, and potential mitigation actions/projects were listed. Projects considered are flood and drainage system improvements, backup generators for critical facilities, alert sirens, weather radios, tornado shelters/safe rooms, tree inventory and programs to reduce electrical outages.

2012: Kirkham Michael Engineering developed the HMP.

2015: JEO updated the Plan (\$120,000); which is required every 5 years. To be eligible for emergency funds, each county, community and schools are required to participate in the process. CPNRD sponsored the initial plan in 2010 and the 2017 updates.

2022: The most recent FEMA version of the Hazard Mitigation Plan was approved.

2. Dams Inventory

In 2016, JEO received \$39,500 to conduct an inventory of the 40 dams nearing their 50-year lifespan. It included dams that are one acre or larger. JEO's \$25,000 fee was requested through the Hazard Mitigation Plan.

2019: Conceptual design was developed by evaluating 150 existing and potential dam and other structure sites. The design determined: localized water balance, recharge potential, storage capacity, design and conceptual cost for dam improvement or new construction. JEO received \$140,680 including \$56,270 in Water Sustainability Funds and \$84,410 from CPNRD.

2021: Design improvements and dam safety permits were completed. The long-term plan is to replace, update or remove aging structures.

2023: JEO received \$14,000 for additional services required for the rebidding and construction phase of the Jones and Clear Creek dams. Completed projects:

- **Box Elder 5A/Bufalo County:** channel improvements downstream, dredging around the drawdown, riprap along the dam face. Kokes Construction advised staff that crushed rock surfacing wasn't needed for the access road. Existing drawdown plate and valve were removed, 18" slide gate in riser was installed bringing the cost of the project to \$136,555. Project was completed in 2022.
- **Clear Creek 5/Polk County:** replaced the drawdown with structural elements, riprap along dam face, repair of slough in auxiliary spillway, leveling of a low portion of the top of dam. Cost increase of \$7,613.45 was due to adjustments for pressure-treated dimensional lumber stop logs & stainless-steel guide rails and additional rock riprap on the face of the dams. Kokes Construction was awarded the bid in the amount of \$76,970. The project (near Duncan) was completed in 2023.
- **Jones 1A/Polk County:** replaced riser and spillway pipe. Kokes Construction was awarded the bid for dam rehabilitation in the amount of \$145,593. Project (near Osceola) was completed in 2023.

3. Elm Creek/Turkey Creek Watershed

A feasibility study for \$125,000 was submitted to the Nebraska Resources Development Fund to request cost-share for the projected \$35M project. In 2006, a community meeting was held on the Elm Creek Watershed Flood Control Study and 130 landowners attended. The plan included a 975-acre flood control and re-regulating reservoir to be located northwest of Elm Creek, and 2 dry flood control structures on Turkey Creek. The reservoir would've provided flood reduction and recreation benefits. Cost estimate was \$22.8M. Olsson Associates did a geotechnical investigation/seepage analysis by drilling 30 test borings at the reservoir site and adjacent lands to determine if leaching would raise water tables to a level that would create problems for cropland or basements.

2012: The project was reviewed with a potential new Nebraska Water Cash Fund source. Partners: Olsson, NPPD, State of Nebraska, and PRRIP on options to move forward with a project estimated at 6,800-12,000 AF.

2013: \$631,465 originally designated for Elm Creek Re-Regulating Reservoir was transferred to CNPPID's new J-2 Reregulating Reservoir; cutting the Elm Creek project from the budget. J-2 was eliminated as a project.

2023: Amended water service agreement approved for \$1.2M with NeDNR and Tri-Basin NRD to allow NeDNR to pay CNPPID \$19,100,000 in advance to divert water into E-65 Canal, Phelps Canal, Elwood Reservoir and various waterfowl production areas to provide aquifer recharge for 15 years. CPNRD re-allocated the funds to the project.

4. Platte Valley Industrial Park

In 2019, CPNRD approved a request from the City of Grand Island and Grand Island Area Economic Development Corporation (EDC) to allow water to be diverted into the south side channel of the Wood River Flood Project to alleviate drainage issues at PVIP between South Locust Street and Hwy 281.

2021: Olsson designed a drainage ditch from Wildwood Drive to Locust Street with an approved cost up to \$87,500; which included grading existing county road ditches from Blaine to Schimmer Drive, easements and 36" storm sewer pipe was installed to drain into the south channel of the Wood River Project. CPNRD manages construction and acquisition of all right-of-way and/or easements within city limits.

2022: Hall County's portion was changed from in-kind contributions to utilize \$289,517.54 from the American Recovery Plan Act. CPNRD's cost was estimated at \$180,000 to be funded in two budget years.

2023: Amendment approved for easement acquisition and appraisal services for \$14,200 to complete geotechnical services including a seepage analysis and an archaeological study on 15.6 acres. The \$650,000 project cost will be shared by partners: CPNRD, Grand Island EDC and the City of Grand Island.

2024: An amendment with Olsson, not to exceed \$31,100, was approved to evaluate additional routes to evaluate and design an alternate ditch route along the north side of Schimmer Drive to South Locust Street and north to the drainage ditch for the Platte Valley Industrial Park in Grand Island. Current schedule includes easement negotiations, USACE and Railroad approvals. Construction times and bid dates will be set once approved.

5. Land Rights

At this time, the Central Platte NRD has no land right needs. This may change in the future to address areas within the District that are at a risk of flooding during a weather event or disaster. Sufficient information is not available at this time to determine financial needs.

6. Watershed and Flood Prevention Operation Program (WFPO) Planning Grants

In 2020, CPNRD was selected to receive three Watershed and Flood Prevention Operations Program (WFPOs) from NRCS to identify what is needed to address flooding within the following watersheds. The two-year grants pay 100% of costs to complete an Environmental Assessment (EA) for each watershed. Project updates:

Spring and Buffalo Creek Watershed WFPO (\$750,000)

HDR Engineering developed an EA for Dawson County. The Plan area is approximately 266,870 acres, primarily ag, grass/pasture and row crops. Lexington is located within the study area, Cozad and Overton are adjacent. A possible split plan may be needed to accommodate the Village of Overton. In 2023, a plan to revise alternative and economic analyses was reviewed with NRCS and USACE, with Spring Creek 19-B as part of the alternative moving forward.

Schedule

- Amendment to NRCS contract for a no-cost extension of time – April 2024
- Reviewing chapters 1, 2, and 3 of the plan. Revise alternative and economic analyses
- Coordinate with NRCS and USACE on alternative screening and preferred alternative
- Analyze Spring Creek 19-B as part of the alternative moving forward
- Finalize preferred alternatives for each site
- Prepare and submit Preliminary Draft Plan-EA to CPNRD and NRCS for review

Lower Wood River Watershed WFPO (\$1,091,734)

JEO and EA Consultants developed an EA for portions of Buffalo, Hall and Merrick counties. A virtual public meeting and milestone meetings were held in 2020.

Schedule

- NRCS Notice of Intent (NOI) to prepare EIS was submitted to the Federal Register for Custer, Dawson, Buffalo, Hall and Merrick counties,
- Held Public Information Meetings in March in Gibbon. Continuing work on Geotech/cultural review
- Working on diversion alignment options, analysis, and economic updates
- Notice of grant and agreement award received with additional funds - \$366,734

2022: Alternatives, evaluation of potential projects and stakeholder updates were completed.

2023: Alternatives were reviewed included wetland delineations, geotechnical investigations and archaeological surveys to further analyze potential alternatives and locations. Potential projects included diversion channels, channel and ditch widening, levees or berms and roadway modifications. Following completion of the EA, it was determined that more planning efforts were necessary. The project was upgraded to an EIS process in February to ensure a thorough understanding of flooding impacts and potential solutions. JEO's contract was approved for \$529,205.42 to develop the EA and to complete the EIS that requires additional data to be gathered and analyzed.

2024: The current project plan is still in the planning stage and involves constructing a 150-foot-wide bottom diversion channel near Gibbon. This plan aims to reduce the risk of flooding during a 25-year storm event. The design was presented during a Clean Water Act meeting to determine environmental findings and submitted to the State NRCS for review, followed by submission to the Federal NRCS office. The Board will consider whether to move forward with the next phase of the project in March 2025. Meetings will be held during EIS-Plan design with NeDNR, NGPC, Nebraska DOT, Nebraska Federal Highway Administration, U.S. FWS and the U.S. Army Corps of Engineers. Public meetings will be held following design completion.

Elm and Turkey Creek Watershed (\$742,000)

In 2021, JEO developed an EA for Dawson and Buffalo counties. Funds are available through the \$742,500 WFPO grant awarded to CPNRD from NRCS. The Project covers 106,000 acres of drainage including Elm Creek Watershed to its confluence with Buffalo Creek, south of the Village of Elm Creek and Turkey Creek Watershed flowing north of Elm Creek, past Odessa and through Kearney. Milestone meetings with NRCS/USACE are being held.

Schedule

- Performing additional wetland delineations per USACE conversations – October 2023
- NRCS/USACE 90% - Draft to Local NRCS – November 2023
- Initial Submittal to National – December 2023
- Amendment to NRCS contract for a no-cost extension of time

2022: An economically feasible option was developed to benefit the Elm Creek portion; however, Turkey Creek's portion has potential alternatives such as tripling the size of the current diversion west of Odessa and constructing a new diversion channel west of Kearney. The draft plan (90% design completion) was sent to NRCS for approval. Once the EA is approved, CPNRD will decide if it's in the public's best interest to work with NRCS and funding agencies to move into design and construction phases. Hydrologic and hydraulic models were developed to show existing flooding conditions, various flood risk reduction alternatives.

The plan area covers the entire Elm Creek Watershed to its confluence with Buffalo Creek south of the Village of Elm Creek; and the entire Turkey Creek Watershed flowing north of the Village of Elm Creek past Odessa and through the City of Kearney.

2023: The Board approved JEO's contract of \$78,030 for additional project management, coordination and public involvement due to a one-year extension and additional environmental science work to meet updated NRCS and USACE requirements. The proposed solution currently is to construct two diversion channels that will convey floodwater to the south and help prevent flood damages to the Kearney region. The west diversion channel is estimated at 50' in bottom width and 5,200' in length.

Flood Control Goal

To control floodwaters and/or provide open floodways that will keep floodwater damages to an acceptable minimum.

Objectives

1. Establish management practices on cropland and grassland that would keep a minimum 2,000 pounds/acre of vegetative cover on, or above, the ground surface at all times.
2. Design floodwater retarding storage in all structures that have a suitable site.
3. To have a minimum of 75% land treatment established, or in the process of being established, before starting construction of a floodwater retarding structure.
4. All land shaping will consider its effect upon reducing flood damage, including upstream and downstream.
5. To preserve open floodways adjacent to streams and channels adequate to carry a 100-year-frequency storm with a rise in water elevation of one foot, or less, above the existing conditions.
6. Secure public awareness/acceptance of the need for and application of needed measures to reduce floodwater damage.
7. Carry out floodwater control practices at a satisfactory rate.

III. Soil Conservation and Erosion Control

CPNRD provides financial assistance to private landowners through cost-share programs aimed at installing soil and water conservation practices. These established practices help control sediment movement and mitigate the impact of runoff from agricultural areas. Cost-share assistance is provided at the following percentages:

60% Cost-share Well Abandonment

50% Cost-share Streambank Stabilization, Windbreaks and Weed Barrier, Flow Meters, Urban Forestry, Prescribed Burn Program, Burn Preparation, Cover Crops

75% Cost-share Phragmites Control

Recent changes:

2023: The Board approved the Sensor-Based Management of Fertigation Cost Share Program. \$11/acre with a two-year commitment and a maximum of two fields or 320 acres. The program is open to the entire District.

2024: The Board approved an increase in cost-share for cover crops, providing 50% of the actual seed cost, with a maximum of \$2,000.

FIGURE 7. Central Platte NRD Cost-Share Programs (2024)

PRACTICE	CPNRD FUNDS SPENT
Trees & Weed Barrier	\$16,209.16
Center Pivots	\$78,539.94
Streambank Stabilization	\$5,447.50
Well Decommissioning	\$15,012.64
Urban Conservation	\$40,000.00
Burn Preparation	\$52,424.34
Cover Crop	\$837.50
Soil Moisture Sensors	\$0
Grazing Deferment	\$18,180.00
Flow Meters	\$3,200.00
Sensor-Based Fertigation	\$4,099.34
Urban Forestry	\$3,500.00

PROGRAM	CPNRD FUNDS
Corners For Wildlife	\$4,748.50
Buffer Strip	\$19,595.42
WILD Nebraska	-0-
NSWCP	\$52,782.90

**Total Cost Share
Distributed Since 1972:
\$13,738,914.49**

NATURAL RESOURCES CONSERVATION SERVICE

The Nebraska Soil and Water Conservation Fund was created in 1977 to provide financial assistance to private landowners for installation of soil and water conservation practices. The Natural Resources Commission determines eligible practices, establishes operating procedures and allocates funds annually among the 23 NRDs. The USDA NRCS provides technical assistance needed in planning and installing the conservation measures. NRDs administer the program at the local level.

50% Cost Share

- * terrace systems, terrace underground outlets, water impoundment dams, grade stabilization structures
- * diversions, grassed waterways, water and sediment control basins, dugouts for livestock water
- * pasture planting/range seeding, critical area planting, planned grazing systems
- * windbreaks/renovation, drip systems, weed barrier, brush management, streambank stabilization
- * repair of practices, irrigation tailwater recovery pits, underground return pipe from reuse pits
- * Irrigation Management:: flow meters, goose necks, drop pipes/conversion nozzles, rainfall auto-shutoff valves, buried pipeline to convert gravity systems to pivots, subsurface drip irrigation, soil moisture sensors, data readers

NRCS 2023 - Annual Funding

Funding resulted in another good year for conservation in the CPNRD, having received 96 contracts totaling \$4,964,879 and conservation practices contracted on 36,858.6 acres. The availability of these funds are credited to the 2018 Farm Bill and the use of programs such as EQIP, RCPP and CSP.

EQIP Contracts Approved in 2023

- Water Conservation: \$1,789,302; 28 contracts (2,834.7 acres)
- Grazing Lands: \$722,446; 24 contracts (6,547 acres)
- Soil Health: \$277,684; 15 contracts (3,314.9 acres)
- Urban and Small Scale Ag: \$243,493; 5 contracts (12.2 acres)
- Conservation Activity Plans: \$1,890; 1 contract (320 acres)
- Forestry: \$75,374; 1 contract (97.1 acres)

Technical Service NRCS provides technical assistance to landowners to help solve conservation problems while carrying out the NRD's programs. The NRD assists with this effort by providing personnel to NRCS to assist with their activities and to help administer the NRD's programs.

Inflation Reduction Act (IRA)

In 2023, Nebraska was approved for an additional \$30 million through the Inflation Reduction Act (IRA) to be included in EQIP. The IRA funding priorities are to advance climate-smart agriculture and forestry practices. The USDA is tasked with quantifying and tracking carbon sequestration and greenhouse gas emissions and gathering field-based data to evaluate the effectiveness of climate-smart mitigation practices in reducing emissions.

GRANTS/PARTNERSHIPS**Ogallala Aquifer and Platte River Recovery - RCPP 2271 Agreement Extension**

Provides cost share to convert irrigated land to non-irrigated on a temporary basis, improve irrigation system efficiency and apply management techniques and practices to increase irrigation efficiencies.

GOALS

Address stream flows to help meet endangered species habitat goals, improve surface and ground water quantity and quality concerns by reducing impacts to the Platte River and local groundwater supply.

PARTNERS

Central Platte NRD, Twin Platte NRD, and Natural Resources Conservation Service

FUNDING

\$2,079,000 grant was signed continuing agreement for 5 years. Applications preapproved in 2023 are listed in the chart.

Field Office	Preapproved Applications	Funding Requested
Kearney	2	\$82,490.64
Lexington	2	\$20,425.00
Central City	1	\$141,901.00
Grand Island	2	\$168,603.00
CPNRD Apps	7	\$413,419.64
Ogallala	3	\$72,020.00
North Platte	1	\$57,509.00
TPNRD Apps	4	\$129,529.00
TOTAL-Both NRDs	11	\$542,948.64

Precision Conservation Management Program (PCM)

In May 2021, directors approved with the Illinois Corn Growers Association to add a Precision Conservation Specialist to the CPNRD staff. The individual started employment August 2022.

GOAL Help farmers understand and manage risks associated with adopting new conservation practices to make sound financial decisions. PCM is looking to expand their reach into Nebraska with Frito Lay (PepsiCo) growers in the western area of the District. Applied economics, water quality outcomes and carbon sequestration values are generated for producers.

PARTNERS CPNRD, Illinois Corn Growers Association; PCM has 30 contributing partners including NRCS, NASA Harvest, National Fish and Wildlife Foundation, Ecosystem Services Market Consortium, Soil Health Partnership, Field to Market® and The Nature Conservancy.

FUNDING \$400,000 RCPP grant for staff cost to be reimbursed by partners.

Nebraska Soil Carbon Project - RCPP 1966 Agreement

The Nature Conservancy received a grant to enroll producers willing to adopt soil health practices on approximately 100,000 acres of farmland over five years starting in May 2021. The goal is to provide farmers in the Central Platte and Upper Big Blue NRDs with technical and financial assistance to adopt cover crops, no-till and diverse crop rotations that store carbon in the soil. The stored carbon is utilized by private companies to help reach their goals around sustainability.

PARTNERS CPNRD, UBBNRD, Natural Resources Conservation Service, The Nature Conservancy, Ecosystem Services Market Consortium, Cargill, Target and McDonald's.

FUNDING \$3,093,651 grant was signed for this agreement to be used over five years. Depending on the practices implemented, producers could earn up to approximately \$45/acre each year. 2023 applications are shown in chart to the right.

Conservation and U.S. Agriculture

Non-federal agricultural and forest lands cover approximately 70% of the lower 48 states or 1.4 billion acres. These lands produce strong ag and forest sectors, supply habitat for wildlife, filter groundwater supplies, regulate surface water flows, sequester carbon and provide open space and scenic vistas. Farming/ranching may or may not have negative environmental consequences including water and air pollution, soil erosion and loss of wildlife habitat.

Field Office	Apps	\$ Requested
Kearney	2	\$5,547.09
Lexington	2	\$36,450.00
Central City	5	\$273,786.00
Grand Island	0	\$0.00
Osceola	1	\$900.00
CPNRD Apps	10	\$316,683.09
Aurora	2	\$96,500.00
Seward	5	\$202,120.00
York	3	\$169,768.80
Geneva	1	\$55,750.00
Osceola	1	\$53,000.00
Hastings	1	\$18,654.00
David City	1	\$79,227.19
UBBNRD Apps	14	\$675,019.99
TOTAL	24	\$991,703.08

Conservation Programs Today

USDA programs address conservation/environmental concerns in multiple ways:

- Educational and technical assistance, financial incentive payments through conservation on working farms, ranches, and forest lands, through - EQIP, CSP, RCPP etc.
- Conversion to conservation use to achieve specific environmental benefits - ACEP, WREP, Protection of ag lands from conversion to other uses - Farm and Ranch lands Protection Programs (FRPP)

Key Issues:

- Excess nutrients in rivers/streams
- Hypoxia in Gulf of Mexico - Chesapeake Bay
- Water availability
- Declines in soil condition
- Invasive species
- Renewable energy
- Rising greenhouse gases
- Endangerment of native species
- Rising greenhouse gases
- Demands on agriculture

Soil Conservation and Erosion Goal

To use each acre within its capability and to treat each acre according to its needs as set forth in the technical guidelines adopted by the District.

Objectives

1. To establish adequate permanent cover on all Class VI & all Class VII land.
2. To establish approved cultural management practices, vegetative practices or structural measures, as needed on all lands to prevent wind and water erosion.
3. To safeguard the land for the continued production of food and fiber.
4. To establish erosion control measures, as needed on all industrial development sites, residential development sites, or road construction sites and other non-agricultural development sites.
5. To apply irrigation water management techniques to all of the irrigated land in order to properly conserve and efficiently utilize soil, water, fertility and energy.
6. To develop proper range and pasture use and management plans or programs in order to properly conserve and efficiently utilize those range and pasture areas.
7. To re-establish vegetative cover on those range and pasture sites classified as "poor" condition.

IV. Water Quality

QUALITY MANAGEMENT PROGRAM

The main source of groundwater pollution in the District is nitrate-nitrogen in amounts greater than the maximum contaminant level of 10 ppm (parts per million) allowed by the federal government. High nitrates are a problem in varying degrees throughout the District. Concentrations of sulfate, high iron and magnesium levels, along with high total dissolved solids in many areas, have potential for considerable problems in municipal supplies, particularly in areas where large quantities of water are used for industrial purposes. CPNRD will continue to work with producers, ag business operators, and the public to further reduce high nitrates in the groundwater.

Nitrates

In 1987, CPNRD implemented the Groundwater Quality Management Program, the first of its kind in the Central Platte Valley, to address rising groundwater nitrate levels. The Nitrate Management Plan was developed in response to increasing nitrate-nitrogen concentrations in groundwater, a problem first identified in 1961. High nitrate levels, primarily due to commercial nitrogen fertilizers, pose health risks such as methemoglobinemia "blue baby syndrome" and cancer, and are hazardous to livestock. After consultations with farmers and industry representatives, CPNRD established rules and regulations as part of the Groundwater Management Plan. Since then, nitrate levels, which had been increasing by 0.5 ppm annually, have been reduced through long-term management by the NRD and landowners. The plan uses a phased approach, with varying restrictions based on nitrate concentrations in different areas. *(See Figure 9. on Page 26)*

Uranium

Relatively high concentrations of anthropogenic (atrazine & nitrate) and geogenic (uranium & arsenic) water contaminants have been found in drinking water in rural Nebraska. More than 80% of Nebraska watersheds had birth defect prevalences above the national average (5 cases per 100 live births). Studies suggest that chronic exposure to the selected waterborne contaminants even below the legislated maximum contaminant levels (MCL) may result in birth defects; especially given the relationship between agriculture practices, water contamination and adverse health effects on children. Continuous monitoring of water in private wells and improvements to ag practices is suggested. Of the 62 irrigation samples that CPNRD took in 2020, 13 samples were above the MCL of 30 parts per billion. The landowners' wells that tested high were notified by staff.

GROUNDWATER MANAGEMENT PLAN

In May 2023, Olsson developed and the Board approved updates to the Groundwater Management Plan, costing \$102,000, which addressed both the water quality and water quantity sections. The only change to the Water Quality section was the Phase III trigger for nitrate levels was lowered to 10.1 parts per million (ppm). The updated Plan became effective on July 1, 2023. The Rules & Regulations are currently being updated.

Phase Triggers

- ⇒ Phase I: 0 - 7.5 ppm
- ⇒ Phase II: 7.6 - 10.0 ppm
- ⇒ Phase III: 10.1 ppm and above
- ⇒ Phase IV: Nitrate concentrations not declining *(See map on page 26)*

Groundwater Samples

The Phases are designated in localized regions where District-collected water samples indicate higher water quality concerns. Other factors, including proximity to a municipal water supply and vadose zone nitrates are also used in determining the Phase Areas.

Water samples collected annually assist in the evaluation of nitrate levels, the primary contaminant of concern. Irrigation well samples are gathered by District staff, in accordance with Quality Assurance Quality Control (QAQC) standards and submitted to the Nebraska Groundwater Quality Clearinghouse. Internally, nitrate data is monitored and shared with the Board of Directors for management actions and education outreach efforts.

Each irrigation season District staff collects water samples from historically analyzed wells on a three-year rotation. In 2023, water samples were collected in Hall, Howard and Buffalo counties. In 2024, samples were taken in Custer, Dawson and Frontier counties. In 2025, samples will be collected in Hamilton, Merrick, Nance, Platte and Polk.

Past Management Changes

2016: Parts of southern Hall and northern Hamilton counties south of the Platte River were transferred from Phase I to Phase II Groundwater Management Area due to increasing nitrate levels.

2017: Changes combined and updated the Rules & Regulations for the NRD's groundwater management programs into the *Groundwater Management Plan Rules & Regulations-General Provisions & Procedures for Enforcement*. Two major changes included cease and desist enforcement procedures and removal of 2-in-10 irrigation rule.

FIGURE 8. Sampling Monitoring Trends

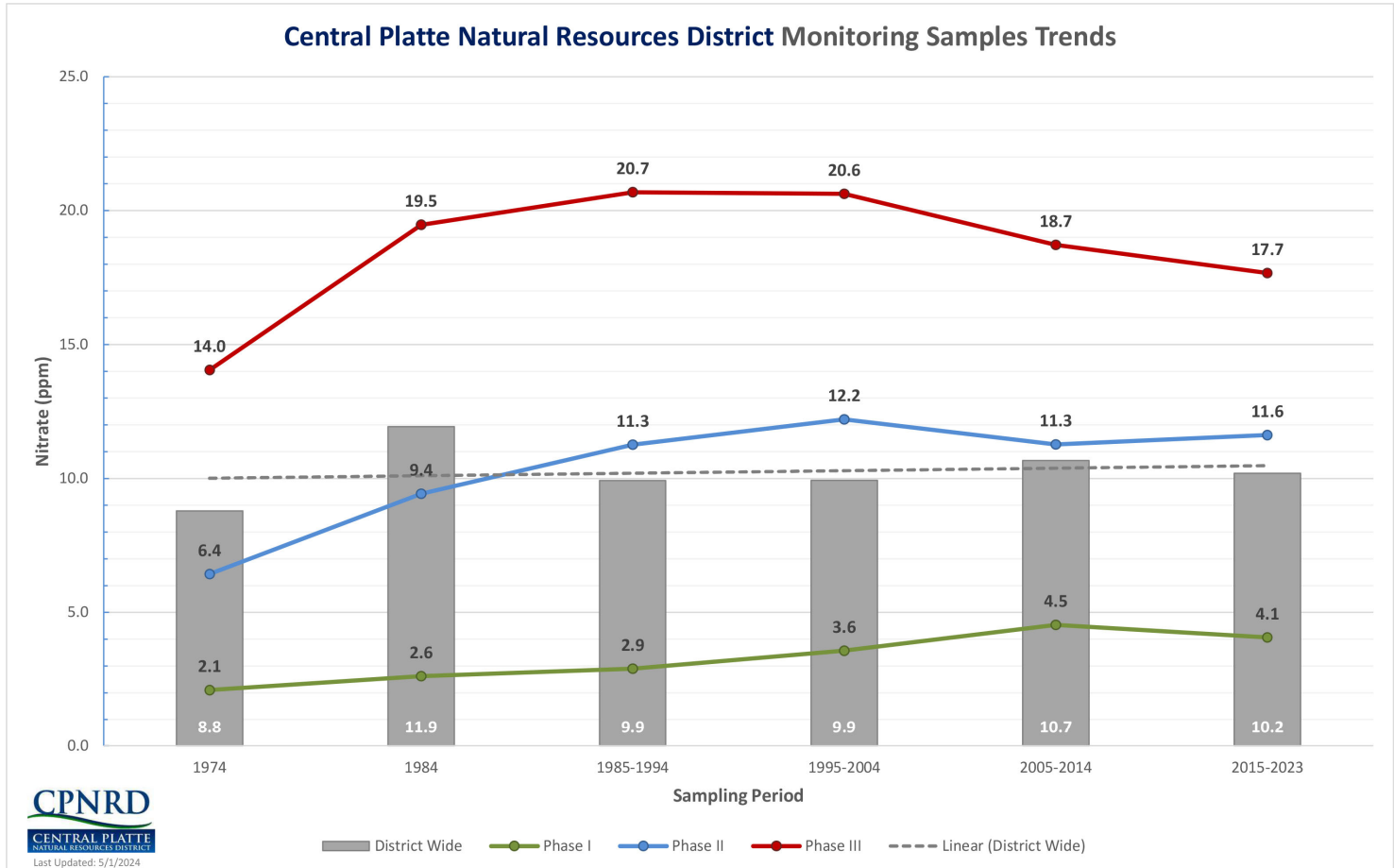


FIGURE 9. Groundwater Management Phase Areas

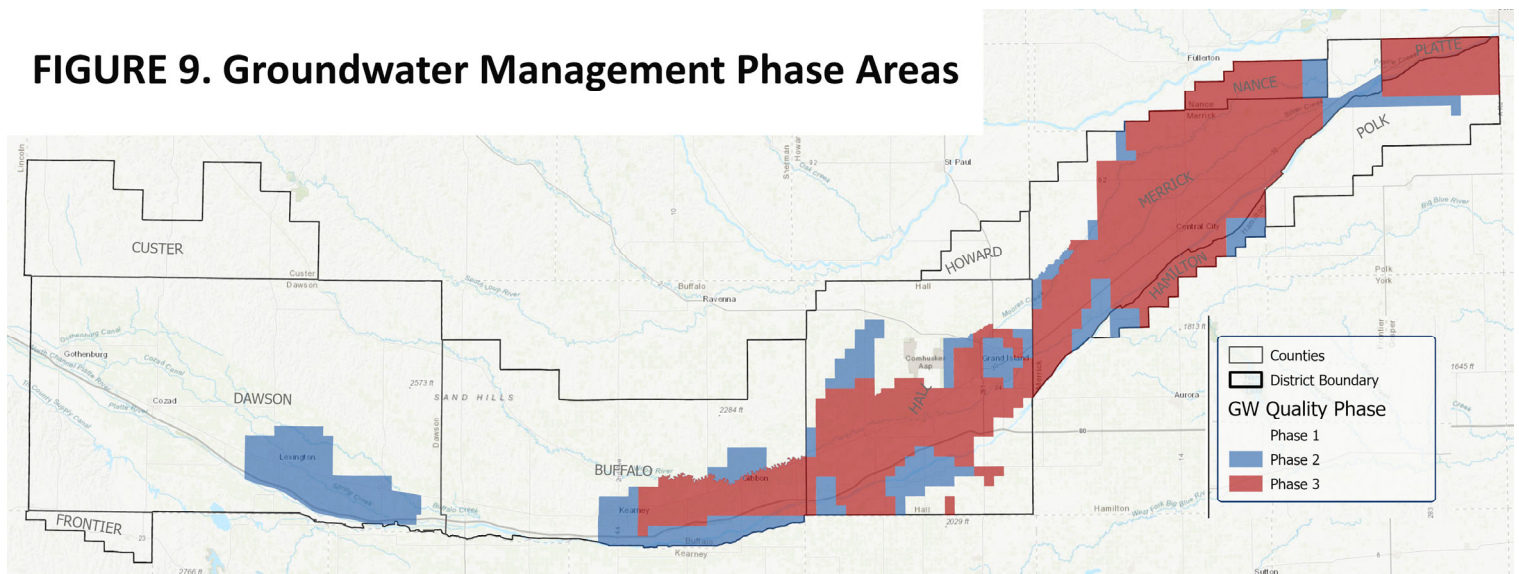


FIGURE 10. Irrigation Rules and Regulations

The Rules and Regulations are currently being updated to align with changes to the Management Plan.

Central Platte Natural Resources District Rules and Regulations Commodity crop growers must adhere to the following regulations Phase I - between 0 & 7.5 ppm; Phase II - between 7.6 & 10 ppm; Phase III - 10.1 ppm or higher Phase IV - Areas where nitrate levels are not declining at an acceptable rate				
	Phase I	Phase II	Phase III	Phase IV
1. Fall applications of N fertilizer on sandy soils are prohibited.	X	X	X	X
2. Fall N applications on non-sandy soils are prohibited until after November 1.	X	X	X	X
3. Application of commercial nitrogen fertilizer is prohibited on all soils until after March 1st.			X	X
4. Spring (after March 1) applications of commercial nitrogen fertilizer: (a) Split applications, either pre-plant, pre-emergent or post-emergent, when less than 50% of actual nitrogen is being applied as pre-plant or pre-emergent, (b) If more than 50% is applied as pre-plant or pre-emergent, the operator is required to furnish documentation that a nitrogen inhibitor was used at the recommended rate, (c) In cases where the total application is 80 lbs per acre of nitrogen or less, a nitrogen inhibitor is not required, (d) No restrictions if all nitrogen fertilizer is applied post-emergent.			X	X
5. Farm operators using nitrogen fertilizer must be certified. Certification good for 4 years.		X	X	X
6. All crops must be reported (including corn, sorghum, potatoes, beans, alfalfa, small grains and any other commodity crop), on District approved report forms. Reports will be due each crop year by March 31st and include the legal description of well(s) irrigating the crop, acres of each crop and the crop planted. Soil and water tests are <u>not</u> required on crops other than corn, sorghum and potatoes.		X	X	X
7. In addition to the above, the report for corn, sorghum, and potatoes must list the following for the upcoming crop year : expected yields, water and soil test results, credits for past legume crop and manure or sludge, and the UNL's recommended nitrogen application rate. The report will also include the following for the previous crop year : actual yields, fertilizer applied as pre-emergent or sidedress, and irrigation water applied. Laboratory reports for soil, water and manure analysis, and an inhibitor receipt if used, must be submitted with the annual report.		X	X	X
8. An annual deep soils analysis for residual nitrogen (NO ₃ -N) on each field or 80 acre tract growing corn, sorghum or potatoes, whichever is smaller, with the analysis to be conducted by a laboratory participating in the University of Nebraska Soil Testing Program. A composite sample tested must consist of a mixture from no less than one three-foot probe every five acres. The report from the lab must be attached to the annual report.		X	X	X
9. A groundwater analysis for nitrogen (NO ₃ -N) content on each field growing corn, grain sorghum or potatoes must be made annually . The report from the lab must be attached to the annual report.		X	X	X
10. If manure or sludge is used, a credit for the nitrogen in the manure or sludge must be used in the calculation for the nitrogen recommendation. A laboratory analysis must be conducted for each source of manure or sludge and attached to the report form.		X	X	X
11. A credit for previous year's crop if the previous year was in beans, alfalfa, etc., must be used in the calculation for the nitrogen recommendation on corn and sorghum.		X	X	X
12. Operators must monitor groundwater applications to allow for the better management of fertilizer applications and control leaching of nitrates.		X	X	X
13. Nitrogen applications must not exceed District recommendations with a copy of a fertilizer receipt attached to the annual report.				X
14. NRD staff work with individuals on best management practices				X
15. The expected yield to be set by the District (last 5 year average of regulated crop + 5%)				X
16. Phase II, III and IV areas can be established based upon nitrate levels not declining at an acceptable rate or based on N levels in the Vadose Zone as determined by the Board of Directors.		X	X	X

Nitrogen Management Certification Tests

The Nitrogen Management Certification is a District-approved educational program that equips producers with best management practices for their irrigation and cropping systems. This certification, required by the Groundwater Management Program, is valid for four years and is recognized across all natural resource districts. In 2023, 310 tests were mailed to producers.

Annual Nitrogen Management Crop Reports

Producers in Phases II/III of the Groundwater Quality Management Program are required to submit an annual crop report form along with water and soil samples. The management program requires samples to provide the NRD with producer-driven data to analyze and refine water quality management decisions. Producers who do not submit the report forms are in violation of the CPNRD Rules and Regulations and are issued Cease and Desist orders. Potential penalties for violation are: fines ranging from \$1,000-\$5,000 per violation per day and/or loss of irrigated acres, ineligibility for NRD cost-share and restriction from transferring irrigated acres.

The reports are due March 31st for all crops in Phase II & III Nitrogen Management areas and must be entered on the District's online crop reporting form. The March deadline was set to allow producers to utilize UNL's nitrogen recommendation for the upcoming irrigation season; which produces a recommendation for each field as users enter their data. In 2023, the annual Nitrogen Management crop report deadline was extended through April 30th due to the change in the reporting format this year. The extension is attributed to a change in the reporting format, which caused overload issues on the submission site.

Online Reporting Form

2015: GIS Workshop developed a new online system for \$64,500 to allow producers to fill out annual Groundwater Management forms online. Using their User ID, producers may log in throughout the year to record their water and soil test results and their actual yields prior to submitting the form. Producers benefit by having all past information in one location. The system significantly reduces administrative time for staff to manually enter the 6,000-7,000 forms submitted each year. Meetings were held across the District with producers to demonstrate how to use the new online form.

2018: Site was updated to improve usability for staff and producers, and to provide a better format to inform producers on recommended nitrate applications. 850 producers participate in the Nitrogen Management Program. Producers submitted 4,660 annual reports for the 2022 growing season. The data provided by the producers is used for the Program.

2022: CPNRD staff released a first view of the Nitrogen Use Efficiency (NUE) Dashboard being developed to enable producers to compare UNL's recommended nitrogen rate with the actual nitrogen applied on each of their fields. The NUET Dashboard shows all available nitrogen sources to calculate total nitrogen use efficiency and calculates the cost of application on each field vs the recommended rate.

2023: Nebraska Corn Board, NARD and 17 NRDs partnered with Longitude 103 to develop Producer Connect, a web and mobile application suite. The app would allow producers to access their crop reporting data and fertilizer recommendations based on yield goals. The goal is for producers to optimize inputs to enhance ag profitability, water quality and irrigation efficiency. Producer Connect is in its initial stages of development and expected to launch in January 2024. The initial roll out will be in Phase 2/3 Groundwater Quality Management Areas and areas that have irrigation allocations. The one-time data migration fee is \$19,000; the annual service fee for the NRD Application Suite is \$19,000.

Number of Violators

In April, 211 letters of intent for Cease & Desist were mailed. These letters are the initial step in notifying producers and landowners in Phases II or III that they are in violation of the NRD's Rules & Regulations. Violations occur when producers fail to submit annual crop reports or provide the required water and soil samples. The Board will issue Cease and desist orders next month to the landowners who do not resolve their violations. In May, 105 producers remained out of compliance. A \$25,000 amendment with Longitude 103 was approved to continue facilitating the transfer of existing nitrogen management and transfer tools from GWorks. The online form was not available for use in 2024 since the development of CPNRD's Producer Connect Program didn't progress as anticipated. Producers were required to submit forms by PDF instead of online. 850 producers participate in Nitrogen Management

Program, submitting 4,700 reports annually. The data provided by the producers is used for the Groundwater Management Program. As of August 2024, seven of the initial violators remained out of compliance and will be turned over to legal counsel for violating cease and desist orders.

Repeat Violator In 2022, a Polk County landowner received a Cease and Desist Order for three offenses of irrigating non-certified irrigated acres. The person violated a prior Order and a court order to cease irrigation until in compliance. That individual had a second court hearing in August 2023 for the unresolved violations. The Board approved providing Infrared (IR) imagery as evidence for Groundwater Quality Program violations. Staff will notify the landowners and producers a final time to attempt to compliance before turning the violations over to legal counsel. IR photography used by staff to see changes in irrigation practices. Since 2004, imagery of the District is taken annually in August and used to determine if irrigation is present on acres that are not certified. IR imagery has been submitted as evidence to courts in the past to enforce irrigated acre compliance for the Quantity Program.

PROJECTS AND RESEARCH - UNIVERSITY PARTNERSHIPS

Central Platte Demonstration Projects

The Nitrogen and Irrigation Management Demonstration Project, implemented in 1984, is one of the longest-existing demonstration projects in Nebraska and possibly the nation. Other state and national projects have been modeled from this educational project. The Project was initiated following the Hall County Water Quality Special Project to show that new practices that impede nitrogen fertilizer from leaching into the aquifer are successful. Farmers with varying soils and conditions are recruited to work with UNL and CPNRD to use best management practices to demonstrate that nitrates can be managed efficiently and effectively while maintaining crop yields. The Platte Valley Project included areas where nitrate-N concentrations were in excess of 40 ppm; due to a combination of coarse-textured soil, shallow groundwater, intense irrigation and over-application of fertilizer.

Over 400 demonstration sites have been located on producers' cornfields where randomized levels of Nitrogen were applied in increments of 50 pounds above and 50 pounds below the calculated recommendation based on the UNL algorithm. These plots provided over 290 field days/meetings. Research on field length, producer applied/producer harvested plots, were instrumental in the adoption of practices by producers. A producer survey conducted in 1997 showed that 54% tested irrigation water for nitrates, 34% used a nitrification inhibitor, and 70% attended a tour or meeting on best management practices to protect water quality.

The project emphasis changed over the years as new technology become available to the ag sector. CPNRD's cost-share programs are modified to accommodate new techniques and equipment to help with better management practices. Initially, emphasis was given to reducing fertilizer input by counting contribution from residual sources; however, the leaching problem has two components: fertilizer and water. Reducing water applied produces less leaching than just reduction of fertilizer inputs. Monitoring water usage is mandatory in Phases II/III, since research indicated that most farmers didn't know the amount of water used during irrigation. Newest technologies used include ET gages, watermark sensors to schedule irrigation, soil moisture capacitance probes, polymer material, slow and controlled release Nitrogen products, and cover crops in seed corn. Extension and demonstration efforts in areas of irrigation management have also been a part of the project. Field days and articles educate producers on results of the demonstrations and on best management practices.

Crop Irrigation and Demand Network

Started in 2013, this program receives data collected by telemetry to provide a vast amount of real-time data by monitoring different types of irrigation systems. CPNRD is able to view water usage and soil moisture from fields where producers installed telemetry equipment. Participants may check their GPM used, inches applied per day and throughout the season, and soil moisture readings. The amount of water pumped and precipitation are measured to provide data to develop irrigation efficiencies by equipment type, soil water holding capacities and crop type.

The program was initiated by CPNRD in 2013 with \$60,000 budgeted for the project and expanded by a \$750,000 NeDNR grant in 2014. There have been 77 sites across the District: 11 sites in 2013, 30 sites in 2014; and 36 sites in 2015. The sites include 52 pivots, and 18 gravity sites. The water pumped, system pressure & rainfall are monitored at all locations, with soil moisture monitored at 30 locations. Partners include: CPNRD, NeDNR, Nebraska Extension, Seim Ag Technology and McCrometer.

Cover Crops

Producers are working with UNL Extension/CPNRD to research effects of cover crops on soil health. The Lower Loup Basin and Central Platte River Basin have diverse soil types and cropping practices that affect both water quantity and quality. The study researched the general influence of cereal rye cover crops on soil moisture, groundwater recharge, and nitrogen movement in the soil between the South Loup and Wood Rivers. Partners: UNL, NRCS, CPNRD, Arrow Seed, Green Cover Seed and O'Hanlon Seed Inc.

Cover Crop Impact Study

In 2017, CPNRD/LLNRD hired EA Engineering (\$320,000) for a four-year study to determine impacts on groundwater due to cover crop management. The project was awarded a Water Sustainability Grant for \$250,000; CPNRD and LLNRD provided in-kind and match of \$83,000 (50/50). The Lower Loup Basin and Central Platte River Basin have diverse soil type and cropping practices that affect both water quantity and quality. The study is researching the general influence of cover crops on soil moisture, groundwater recharge and Nitrogen movement in the soil between the South Loup and Wood rivers with groundwater declines. Includes both irrigated & dryland cropped fields and spans multiple years. Landowner ID, mobilization and installation of equipment was completed 2017.

2019: An extended agreement was approved for a 3-year study in Sub-Area 9 to determine amount of water required to grow cover crops.

2021: EA Engineering presented a progress report comparing irrigated and dryland cropped fields, targeting northern Buffalo County where the Lower Loup and Central Platte NRDs have experienced localized groundwater declines. The study has shown minimal seasonal impact of groundwater availability on fields that implement cover crops compared to non-cover crop fields. Nitrate sampling to compare groundwater contamination on cover crop and non-cover crop fields will continue through June 2023.

2023: EA presented the results that targeted northern Buffalo County where the Lower Loup and Central Platte NRDs have experienced localized groundwater declines, showed minimal seasonal impact of groundwater recharge on fields that implement cover crops compared to non-cover crop fields. Nitrate sampling comparing groundwater contamination on cover crop and non-cover crop fields showed a minor decrease in nitrate levels.

UNL Vadose Zone Research Project

In 2016, an agreement with UNL was approved for \$80,000 to revisit 27 vadose zone core sites originally collected in the 1990s, and to determine where additional cores may best characterize nitrate storage and estimated transport rates to the water table. The 27 sites collected between 1990-1996 were digitized and used to compare profiles to determine how fast nitrate is moving and whether changing land use management has resulted in reduced loading of nitrate in the vadose zone.

In 2021, final results from the study conducted by UNL documented 27 deep vadose zone cores monitored in the 1990s and analyzed them to characterize nitrate, ammonia, and moisture content under different land use; as well as estimate stored nitrate-N and nitrate transport rates. The wells sampled showed a 10% reduction of vadose zone nitrate in the groundwater since the 1990s; however, there was a significant amount of nitrate-N per acre. Nitrate transport rates ranged from 0.9 to 2.5 ft/year. Phase 2 areas measured higher than average groundwater nitrate-N. Both gravity and center pivot irrigated crop land were studied to compare changes in nitrate storage under 24 sites. Overall averages show vadose zone nitrate about 30% higher under gravity irrigated land. The study also found several cores with over 2,000 lbs./acre nitrate-N and significant concentrations of ammonia at depth in many locations. Further investigation of Phase 2 areas and locations with vadose nitrate >2,000 lbs/acre was recommended.

Project SENSE

UNL's Project SENSE (Sensors for Efficient Nitrogen Use & Stewardship of the Environment) pilot program promotes in-season nitrogen fertilization for corn to improve efficiency of N fertilizer applications with canopy sensors. Other participants: Upper Big Blue, Lower Platte South, Lower Platte North, Lower Loup NRDs, NRCS and Nebraska Corn Board. Results show the use of crop canopy sensors for in-season Nitrogen applications from 2015-2017 resulted in an average profit increase of \$13.21/acre. Nitrogen rates were 20% less than comparable grower practices with an average yield reduction of 2.6 bu/ac (1% less than grower yield.)

Testing Agriculture Performance Solutions (TAPS)

CPNRD began providing funding for the TAPS program (\$1,000 annually) in 2018. TAP's teams work together to find solutions through innovation, entrepreneurialism, technology, improved techniques and cutting-edge methodologies for farms to maintain profitability, sustainability and productivity.

District Agronomist

In 2024, CPNRD hired a District Agronomist through a joint position with UNL. The USDA will provide a 50% cost share for this position through UNL for three years. The agronomist will focus on crop production, nitrogen loss, and ground-truthing crops and soil models developed by the USDA Adaptive Cropping Systems Lab in Beltsville, Maryland. The goal of this modeling process is to develop decision support tools for producers that are realistic, readily available, and simple to use. This position will collaborate with the UNL/CPNRD Demo Project Coordinator.

UNMC Health and Water Quality Research

The University of Nebraska Medical Center's (UNMC) health and water quality research results show that Nebraska has one of the highest rates of pediatric brain cancer in the nation. UNMC and other states have found a correlation between nitrogen fertilizers, animal and human waste. The greatest exposure has been found in agricultural areas and private wells. Numerous scientific studies have shown that the high concentration of nitrate in drinking water has been linked to Methemoglobinemia, colorectal cancer, thyroid disease and neural tube defects (birth defects of spine, brain and spinal cord).

WATER QUALITY PROGRAMS - STATE/CPNRD**Decommissioned Well Program**

The potential danger and damage abandoned wells may cause to groundwater supply is a concern. CPNRD informs landowners to locate, fill and seal wells, cisterns, cesspools, and similar cavities on their property. Wells that are not decommissioned can create of a path through which contamination of the groundwater might occur. Abandoned wells that have not been properly filled and sealed can act as a direct conduit for pollutants to the water supply beneath the earth's surface. State law requires abandoned wells be properly sealed. NRDs, the State of Nebraska and NRCS provide well owners with financial and technical assistance to decommissioning wells properly. Cost-share is available for old irrigation wells (60%), up to \$500 on wells that pump 50 gpm or less, \$750 for wells pumping over 50 gpm and hand-dug wells up to a \$1,500. CPNRD stopped providing cost-share for replacement wells in 2013. Licensed water well contractors/licensed pump installation contractors are required to abandon the well and verify the water well was decommissioned in accordance with state law, standards, rules & regulations.

NEBRASKA DEPARTMENT OF ENVIRONMENT & ENERGY (NDEE)

Irrigation Run-Off/Erosion Rules and regulations designed to control groundwater irrigation runoff have been in effect since 1977 to follow the Erosion & Sediment Control Act. Updates in 2017 included: sheet and rill erosion added, ephemeral gully erosion, soils updates, and changed governing authority. The plan allows NRDs to petition the District Court for a Cease and Desist Order and removed 90% cost-share previously required for NRDs to provide for erosion control practices. NRCS's new requirements for control of ephemeral gully (concentrated flow) erosion were added. As of December 31, 2019, if erosion is found on a producer's property, the producer is required to develop a plan to use conservation practices to help treat this type of erosion for conservation compliance and to remain eligible for USDA program benefits. Those practices include no-till, cover crops, terraces and waterways.

Groundwater Quality Clearinghouse In 2021, NDEE launched the Nebraska Groundwater Quality Clearinghouse website with over 1.6M sample results from 33,000 irrigation well locations taken by NRDs. Key features of the map are well locations, nitrate measurements including 281 minerals and chemicals. It also showcases aquifer locations, topographic regions and bedrock geology. Farmers can check the composition of existing groundwater for chemical content to see amount of fertilizer needed and locations with land suitable for raising livestock. Website address: clearinghouse.nebraska.gov. 2023: Platte Basin meetings were held with NDEE to discuss how NDEE and NRDs can assist each other with water quality concerns and on respective programs. Discussion is ongoing.

Chemigation Program

The Nebraska Chemigation Act is administered by Nebraska's NRDs and NDEE. The law requires a person directly involved in calibrating/monitoring a chemigation system to be certified to help ensure that groundwater and

surface water are not contaminated by backflow of chemicals from irrigation water application systems used to apply crop nutrients and pesticides (chemigation). To become a certified applicator, the person applying the chemicals must attend a training session and pass a written exam to verify their knowledge of the Chemigation Act requirements. UNL Extension provides training and results of the exam. NDEE issues the chemigation applicator certifications to persons who pass the written test. CPNRD certification is valid for 4 years, after which renewal permits are required.

Chemigation Fees

Application fee-\$60 Special permits-\$60 Annual renewal- \$20 Emergency permit- \$500

Emergency permits must be approved within two working days and can't be issued on weekends/holidays. Permit holders and certified applicators are required to sign all applications. If staff is required to make a second trip to complete a chemigation inspection, a \$50 fee is charged to the permit holder/applicator. If staff is required to make a third trip, the landowner is charged a fee of \$100.

FIGURE 11.
2023 Chemigation Report

Applications	New	Renewal	Emergency	Total	Inspections
Approved	157	2,263	7	2,427	879
Fees	\$10,260	\$45,260	\$3500	\$59,020	

Cornhusker Army Ammunition Plant (CHAAP) The Corps of Engineers and NDEE held a meeting at the CHAAP to review cleanup procedures and process. All extraction wells were shut down in November 2019. The current analysis shows that the RDX plume is shrinking and concentrations are declining. Groundwater is continuing to be monitored. NDEE reported on a groundwater study in the Archer area where landowners were concerned about groundwater contamination from CHAAP. The study showed no evidence of contaminants in any of the water samples. Arsenic, iron, and manganese are the three major contaminants that were found in the water samples.

PRODUCER ASSISTANCE

Nebraska Buffer Strip Program

The Buffer Strip Program was established in 1998 to use filter strips to reduce the amount of chemicals that run off farm fields into the streams around the state. Cost-share is available to replace cropland with grass buffer strips along banks of perennial/intermittent streams or permanent bodies of water. CPNRD administers cost-share funds for the program provided by the Nebraska Department of Agriculture. In FY 2024, CPNRD had 11 contracts in fiscal 2024 totaling \$19,595.42 .

Precision Conservation Program (PCM)

PCM is a program that serves farmers by providing economic analysis of on-farm conservation practices. The program aims to help farmers understand the economic values of adopting practices such as cover crops, nutrient timing and tillage practices. PCM originated from the Illinois Corn Growers Association, making up the conservation arm of the entity. PCM is funded by the USDA NRCS – RCPP. Along with applied economics, water quality outcomes and carbon sequestration values are generated. The program also offers irrigation incentives including sprinkler packages and renozzling, computer shed tool, pivot telemetry, variable frequency drive, autonomous pivots and nitrogen drip. The total investment in the Program has been \$899,228 with an average of \$11,240/producer.

2021: 11 customers enrolled totaling 18,708 acres

2022: 60 producers had signed for improved farming practices on 91,000 acres including no-till, strip till, 10% nitrogen reduction applied and autonomous irrigation equipment.

2023: 81 customers enrolled totaling 128,370 acres. Specific practices: Cover Crops with 25 customers (12,214 acres) and No Till/Strip Till with 75 customers (120,772 acres). A new program was initiated that provides up to \$7,200 for producers to switch from diesel to electronical powered equipment.

Imagery-Based Fertigation

2022: Sentinel Fertigation CEO, provided results of imagery-based fertigation trials through N-Time™ FMS, their flagship software. The study showed that 96% of farmers increased efficiency with 43 pounds/acre of average nitrogen savings with N-Time recommendations. Producers in the trial increased their profitability by \$27.91 per acre

average versus typical management. CPNRD has hosted two Precision Conservation Sunset Seminars in both 2023 and 2024 with local producers. The Seminars are coordinated and funded by Sentinel Fertigation.

Water Quality Goal

To protect and enhance the quality of surface water and groundwater within the District.

Objectives

1. Reduce groundwater nitrate levels in areas that exceed 10 parts per million (ppm), the maximum contaminant level amount allowed by the federal government.
2. Maintain groundwater nitrate levels at or below permitted levels in areas that are less than 10 ppm.
3. Monitor groundwater quality for other contaminants with nitrates.
4. Develop necessary groundwater quality management program(s) if other non-point source contaminants show signs of approaching or exceeding maximum safe levels.

IV. Water Quantity

Being in the Platte River Watershed, the District's primary surface water feature is the Platte River, however, the majority of farmers rely on groundwater for their irrigation needs since groundwater is abundantly available across the District. Water supply is under continuous monitoring and a groundwater supply management plan to address potential shortages and has been in effect since 1987. Groundwater aquifer declines have been documented where irrigation use is the heaviest. Groundwater is the District's chief source of drinking water and primary economic resource, since we depend on it for irrigation; which enables us to have a strong economy rooted in agriculture. Water tables declined in the late 1970s and early 1980s. Rainfall increased in the mid-1980s-1990s, which caused water tables to rise, but the historic record suggests complete groundwater recovery from the dry periods during the wet periods does not always occur in all areas. Careful management of the resource is necessary. Aquifer thickness varies from 25' to 300' + across the district, so a drop of one foot has a more significant impact on some parts of the District than others.

Groundwater depths and thicknesses were charted and used to help establish 24 groundwater supply management areas. Besides the aquifer conditions, the soils and topographic characteristics are similar in each management area. The 1982 groundwater levels were established as the standard for the management plan since rainfall and recharge were above average several years since 1982. The maximum acceptable decline (MAD) for each of management area was calculated, establishing a margin of safety in each area. The number of Ground Water Management Areas increased to 26 with the updated Groundwater Management Plan in 2023. The level of irrigation development (as well as previous hydrologic characteristics) went into consideration for subdividing GWMA 7 and 9.

In 1987, the board established the Groundwater Management Plan with a phased program to implement controls when needed. When developing the original Plan, it was determined that as an area's average groundwater level declined through that margin of safety, controls should be mandated to slow the decline. The maximum acceptable decline ranges from 10' in the eastern end of the District to 30' in portions of the western end of the district.

GROUNDWATER MANAGEMENT PLAN UPDATE

2019: Olsson was selected to rewrite the NRD's Groundwater Management Plan (GMP) for \$102,000.

2021: Contract was amended for additional work in the amount of \$13,000.

2022: Proposed updates were reviewed by the Water Utilization & Water Quality committees. Changes included new data acquired including hydrogeologic, climate and socio-economic data of the groundwater resources. Plan triggers, data sets and maps, and 2022 COHYST prediction 50-year simulations were added.

Following a public hearing in May 2023, the Board approved updates to both the water quantity and water quality portions of the Plan; which became effective on July 1, 2023. Changes to the water quantity section include:

- 1) **Phase I** - Trigger changed to a range of 0-25% of the Maximum Acceptable Decline (MAD).
Phase II - Applies to any area with declines greater than 25% of the MAD.
Phase III - Changed to 50% decline in water levels relative to the MADs.
Phase IV - If water levels in a given GWMA continued to decline and reached 75% of the MAD.
Phase V - Implemented if Phase IV MAD is 100% reached or exceeded.
- 2) The preferred option for groundwater quantity management controls related to each phase is measuring devices and a limit on the volume of groundwater pumped.
Phase I - No additional management requirements.
Phase II - Remains as is with limitations on transfers and supplemental wells.
Phase III - When trigger is reached, measurement devices required on all active irrigation wells in the GWMA, and the owner/operator of every active well required to report annual water usage to the NRD.
Phase IV - When trigger is reached, CPNRD will allocate groundwater use to prevent the GWMA from reaching the MAD.
Phase V - If initial allocation is insufficient to prevent reaching the MAD, and that MAD is reached/exceeded, it would require a reduction of the allocation.
- 3) **Ground Water Management Areas 7 and 9 were subdivided** due to differences in irrigation development that have occurred in the two areas and to address groundwater levels in parts of those GWMA's that have decline

concerns. 2,853 wells, including readings for static water levels, were used to reassess the new sub-areas. The original management plan and boundaries were developed using surface topography, soils, aquifer-saturated thickness and government boundaries (section lines, county boundaries, etc.).

Note: In 2019, two Water Program Updates were held in Amherst and Kearney to address groundwater decline concerns in Sub-Area 9 (Buffalo/northern Dawson counties) where groundwater levels are down an average of 12.39' since 1982 and have continually declined since 2001. Open discussion sessions were provided for landowners and producers to visit about their concerns and thoughts on management of the aquifer. NRD staff stated that it would be preferred that landowners reach the goal to stabilize groundwater decline in the area on their own; and if groundwater levels continued to drop over the next few years, regulations would need to be implemented. The public and 300 landowners who have certified acres in the decline area were invited to attend.

Changes to Rules & Regulations

The Rules and Regulations are updated when needed including changes to the Groundwater Management Plan. Below are changes made to align with changes to the Management Plan since 2017.

2017: Cease and desist enforcement procedures and removal of the 2 in 10 irrigation rule.

2018: The 180-day temporary stay to update the Rules & Regulations for the fully and over-appropriated areas was lifted. During the stay, the acre transfer tool was updated & new depletion numbers were implemented. Language in the well section and a timeline to receive transfer applications was established for September 1 to March 1. The number of years transfers are not allowed within a GWMA where declines are more than the 25% allowable level was increased from 2 to 5 years.

2024: Proposed changes to improve groundwater management and ensure the sustainability of water resources in the District. A public hearing will be held the fall of 2024.

- Phase I: 0 – 7.5 ppm. The area would include 1,435,307 acres, an increase of 45,621 acres.
- Phase II: 7.6 – 10 ppm. The area would include 210,042 acres, a decrease of 212,910 acres.
- Phase III: 10.1 ppm and above. The area would include 491,656 acres, an increase of 171,681 acres.

New phase boundaries were determined using water samples collected by NRD staff each irrigation season and verified by producer data submitted on annual crop forms.

The recommendations for the Rules and Regulations also include changes to several sections:

- Certification of Irrigated Acres
- Closure of the Management Area to Issuance of New Well Permits
- Groundwater Management Areas

Groundwater Levels

Between 450-500 wells are measured each spring and fall to monitor groundwater levels as part of the Groundwater Quantity Management Program in conjunction with Conservation & Survey Division, UNL and USGS. Measurements are taken throughout the District to monitor groundwater levels. The 1982 groundwater levels were established as the benchmark year to compare groundwater level changes as part of the Groundwater Management Plan that was implemented in 1987.

The change in groundwater levels is an average, based on the wells measured in each subdistrict and used to compare mean saturated thickness for Quaternary and Ogallala deposits. Average saturation zone ranges from 459' in Custer County to 44' in Nance County. Groundwater levels vary over time based on precipitation amounts and irrigation use. Level changes have been minimal in most areas in spite of an additional 250,000 acres of groundwater irrigation being developed between 1982-2004, the year the NRD and NeDNR placed a stop on new irrigated acres and new wells.

Fall Groundwater Levels

Of the 386 wells read from spring 2023 to fall 2023, 311 declined an average of 2.80 feet; which is expected due to the irrigation season drawdown. Precipitation in the western area of the district aided in increases in 55 wells at an average of 3.44'. A fall-to-fall comparison of 377 wells read from 2022 to 2023 showed that 263 wells had declines averaging 1.52'. 114 wells increased an average of 1.48'. Fall readings are not used in management decisions.

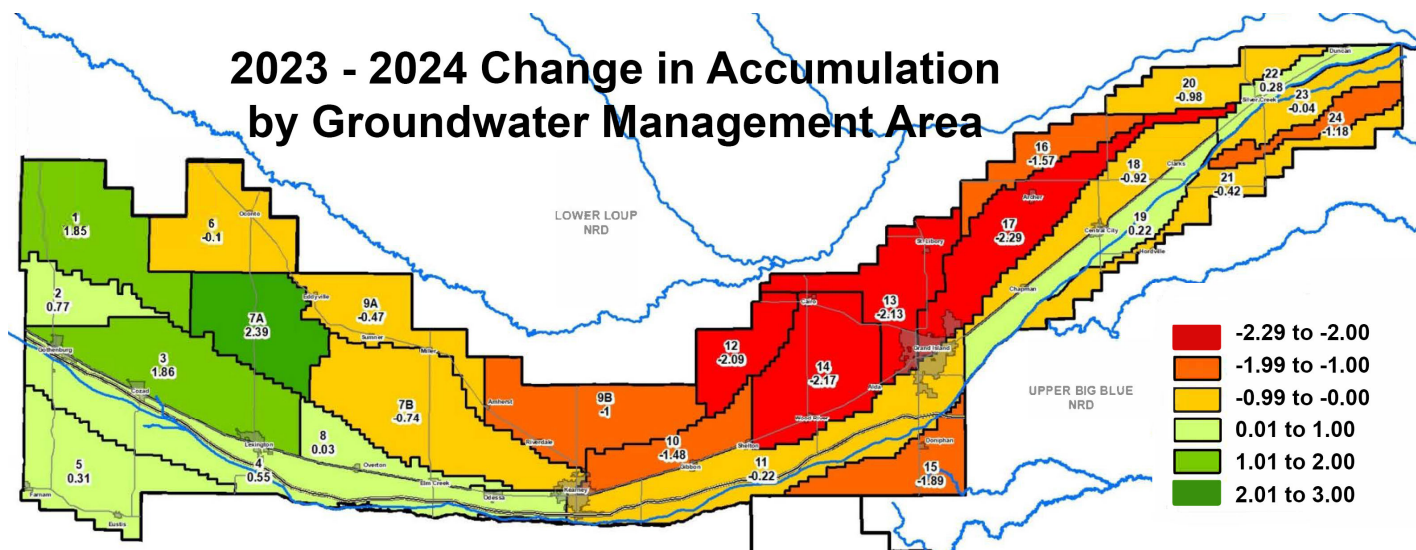
Spring 1982 – Spring 2023

The spring 2024 static groundwater levels showed a District-wide accumulated loss of -1.30 feet since last year and -0.80 feet since 1982. There were 376 wells, 4 wells per township, were included in the assessment. The 1982 levels were established as the standard for the NRD's Groundwater Management Plan, which includes maximum acceptable declines and a margin of safety calculated for each of the Groundwater Management Areas (GWMA's).

Groundwater Monitoring Network

CPNRD staff reads 386 irrigation observation wells, including 65 dedicated monitoring wells, each spring and fall for the Groundwater Management Program, with an average of 405 wells assessed annually since 2000. The focus for this next fiscal year will be adding new monitoring wells in GWMA's 9B and 10 to improve data collection in areas where more readings are needed.

FIGURE. 13 SPRING GROUNDWATER LEVELS



History of Monitoring Well Installation

116 active monitoring wells have been installed since 1993. New wells are added annually to replace irrigation wells that are no longer accessible to measure static water levels.

2021: Downey Drilling constructed 12 monitoring wells in Buffalo and southern Hall counties for \$37,749.50

2022: 9 wells were constructed in Hall & Howard counties for \$21,212.96

2023: 13 were constructed in/near Merrick County for \$53,322.85

Nebraska Mesonet

The Mesonet began in 1981 with five observing locations, the statewide weather monitoring network now has 56 stations in 45 Nebraska counties. The Mesonet was initially designed with the agricultural community in mind but is now broadened in scope to serve as an environmental monitoring program. Mesonet stations are equipped to observe hourly conditions for the following variables: air temperature, humidity, liquid precipitation, wind speed and direction, solar radiation, barometric pressure, soil temperature and soil moisture. As part of station installation and routine maintenance, images of the weather station and surrounding area are taken. The network is supported by the State of Nebraska in collaboration with the NeDNR and the Institute of Agriculture and Natural Resources at UNL. NRDs, agencies and individuals contribute to network operations through service agreements.

CPNRD sponsors six MESONET weather stations at \$3,000 annually for each station. UNL and many other entities are interested in expanding the network statewide to 200 stations; which would require Legislative funding. In 2023, the Interim study to examine the current funding mechanisms and operations of Nebraska's Mesonet system was referred to Appropriations Committee.

Drought Mitigation Plan

In 2018, JEO was hired (\$100,000) to develop CPNRD's Drought Management Plan. Objectives are to identify District vulnerabilities, create a methodology for monitoring drought conditions, and identify processes to respond to and

manage the impacts of future drought events. The Plan assists CPNRD in water resources management for a more sustainable and stable water supply for all users across the district. The NRD received a Water Sustainability Fund grant from the NRC to develop the plan. A Drought Tournament was held in 2019 for drought mitigation planning. CPNRD's Extreme Event Reporter (GIS-based tools) was presented in September 2021.

IRRIGATION MANAGEMENT

Suspension on Drilling New Wells & Expansion of Irrigated Acres

2003: Board imposed a temporary suspension of drilling new wells within parts of the District. The suspension allowed CPNRD and NeDNR to look over the conflicts between groundwater and surface water to determine if a problem exists. A study of CPNRD's surface and groundwater supplies was developed.

Variances were granted if construction of a new well was necessary to alleviate an emergency situation involving provision of water for human consumption or upon other good cause shown. Public hearings were held throughout the district in 2003 to discuss the temporary suspension. Of 450 in attendance, 237 responded to surveys handed out at the hearings with 166 of those who responded were very opposed.

Three situations influenced the suspension. The first was a drought cycle in Nebraska, which exemplified the need to assess the water budget. The other influences were LB962, following a recommendation by the Water Policy Task Force; and unknown future requirements of the Platte River Recovery Implementation Program (PRRIP).

Nebraska was required to offset any new depletions after July 1997. If the State doesn't pick up their obligation, the NRDs or water users are required to offset depletions from post-1997 wells by giving up part of their irrigated acres.

2004: NeDNR determined that the Platte River Basin was fully appropriated and over-appropriated upstream of Elm Creek. Changes were made so existing surface and/or groundwater users would not be faced with less water supply. Wells not subject to the suspension included: wells pumping less than 50 gpm, replacement wells, dewatering wells pumping less than 90 days and test hole wells.

2006: The Board placed the entire District in a temporary suspension area by adopting the *Rules & Regulations for Closing the Management Area to the Issuance of New Well Permits, Preventing Expansion of Irrigated Acres, and Increased/Expanded Uses of Groundwater for Other Beneficial Purposes*. The suspension was necessary after NeDNR designated the entire District as fully appropriated. CPNRD's Rules and Regulations were combined as the *Nebraska Groundwater Management and Protection Act: General Provisions and Procedures for Enforcement*.

CERTIFIED IRRIGATED ACRES

All irrigated acres are certified, including variances and water bank transactions. In 2006, CPNRD began the process of certifying irrigated acres. Packets were mailed to landowners in Custer, Dawson and Frontier counties that included aerial maps and the number of acres that CPNRD had on record as irrigated taken from infrared imagery. If a landowner disagreed with the number of acres provided, they were required to show proof of their claims by obtaining records from their local FSA office including an aerial photo and a printout of irrigated land. NRD staff took appointments on location. Most changes made were less than 10 acres while 1/3 of the fields determined as irrigated needed no changes at all. The deadline to certify irrigated acres was set for December 31, 2014.

At the end of 2023, the NRD had a total of 1,018,290 irrigated acres of which 936,264 acres are groundwater only; 5,238 acres are surface water only and 76,788 acres are co-mingled use. The overall irrigated acres base increased 1,655 acres from 2010 to 2023.

Transfers of Irrigated Acres

Landowners may request a change in the location of certified irrigated acres (transfer) provided that the same amount of water that would be depleted from the river over a 50-year period from consumptive use of ground water withdrawals are retired from use (offset); and the offset occurs at the same time, rate, and location as the depletion identified by the COHYST model. The location of the offset is considered the same as the depletion if the offset is west of the depletion, no more than 1 mile east of north/south line drawn along eastern edge of area causing the new depletion, or within the same basin of influence. Offsets must be at least 1 acre and excess water would accrue to the benefit of streamflow. In 2023, CPNRD approved 107 transactions of water use transfers, including 792 new irrigated acres and retiring 686 groundwater acres. Each transfer resulted in no net increase in stream depletions when computed using the CIR offset calculator developed from COHYST.

Transfer Website

In 2007, CPNRD launched the first irrigation certification website in the state, developed by GIS Workshop. It allows public access to documents showing landowners number of irrigated acres, infrared imagery taken by CPNRD, and registered wells. Users may search for specific parcels of land by using the clickable map interface or by searching the site by landowner/tenant name, legal description or field ID number. The site allows landowners to view and print aerial photos of land development and improvements since 2003. New search options, access drawing tools to create proposed transfer maps, and access to print maps were added in 2011 and 2015. Public and staff sites are linked and updated simultaneously.

Longitude 103 Contract

In September 2023, a contract with Longitude 103 was approved for ongoing support of the NRD's current online transfer tool and the groundwater management producer reporting tool not to exceed \$50,000.

Irrigation Violations

In 2023, 53 producers irrigated land totaling 218 acres that weren't certified or approved for irrigation through a transfer. Violation letters were mailed in January, requiring violators to contact the NRD within 30 days. All violators completed their paperwork by the irrigation season. In 2024: the following violation policy was approved for the *Groundwater Use in Fully and Over Appropriated Areas* that defines procedures for first, second, and third offense violations effective July 1, 2024.

CPNRD Violation Policy for Groundwater Use in Fully and Over Appropriated Areas

Penalties will be applied to all violations totaling one acre or more. Penalties for irrigating land that is not certified with the district, or violation of soil restrictions on approved transfers from the district, will be imposed on the same parcel(s) that the offending system (gravity, pivot, drip, etc.) resides on.

First Offense Violation The penalty will require the non-irrigation of acres equal to the violation in acres for a period of one year. Credit will be given if certified acres were left in dryland production during the violation year. If no acres were left in dryland production during the violation year, the penalty will be assessed the following year. Transfers will be allowed during the compliance year (if necessary).

Second Offense Violation The penalty will require the non-irrigation of acres that is two times the violation in acres for a period of one year. No credit will be given for acres left in dryland production during the violation year. Transfers will not be allowed until compliance is achieved.

Third Offense Violation The penalty will require the non-irrigation of acres that is four times the violation in acres for a period of one year. No credit will be given for acres left in dryland production during the violation year. Transfers will not be allowed until compliance is achieved.

Water Well Permits

There are currently 17,117 active irrigation wells of the 18,000 registered irrigation wells in CPNRD. In 2023, 112 well permits were issued. Permits are required before water wells are drilled. In 1986, state law began requiring NRDs to have a permit program for new wells drilled or existing wells modified in management areas. CPNRD began issuing permits in 1988, assuring landowners and the NRD that spacing requirements for GMAs are maintained. New irrigation wells cannot be drilled within 600' of an existing irrigation well not owned or controlled by the applicant, or placed within 1,000' of an industrial or municipal well, and neither can be drilled within 1,000' of any registered irrigation well.

NRDs have the authority to provide a permit and define what a replacement well is. CPNRD requires a permit to drill replacement wells, an additional requirement to well registration State requirements. Replacement wells must be registered the same as other water wells except that the timing may be different. The \$50 permit fee expires one year from the date of approval.

Irrigation Well Registration

Staff verifies and corrects well registrations within the NRD. Under Neb Rev Stat. §46-602, 706 and 707; wells that aren't properly registered are "illegal wells" and considered a Class 4 criminal misdemeanor violation. The penalty is a \$100-\$500 fine per conviction. Another consequence is a court order to discontinue pumping. Often wells are part of property inventory when ownership changes hands and it becomes the new property owner's responsibility to

verify the registration. NeDNR charges \$110 to register each well. There is no charge from the CPNRD or the state to correct locations or change ownership information.

BASIN/STATE MANAGEMENT PLANS

Water Policy Task Force

In 2002, LB1003 established the Water Policy Task Force to address management and use of Nebraska's surface and groundwater. Two representatives were appointed from CPNRD: Ron Bishop, representative for the NRDs, and Dick Mercer, Middle Platte Basin representative.

2003: The Task Force presented its report to Governor Mike Johanns that recommended basic components of the existing surface and groundwater law be left in place; but that Nebraska adopt a stronger, more proactive approach to the integrated management of surface water and hydrologically connected ground water. Key goals were to address potential problems between groundwater and surface water users before conflicts arise and to manage the water resources of the State to sustain a balance between hydrologically connected water uses and supplies. The Legislature adopted LB962 allowing the state and the 23 NRDs to be proactive in anticipating and/or preventing conflicts between groundwater and surface water users.

2004: NeDNR declared all or portions of nine NRDs "fully appropriated." The Platte River Basin, above the Kearney Canal Diversion, North Platte River Basin and South Platte River Basin were designated as over-appropriated (OA). All additional stays became effective September 2004 and remain in effect until NeDNR determines that the affected basins are not OA or the stays expire pursuant to the provisions of LB962. Conclusions reached by the Governor's Water Policy Task Force led to the passage of LB962 and set the stage for a water management policy based on sustainability. LB517 created the Water Funding Task Force that included 16 members of the Nebraska Natural Resources Commission, 11 citizens appointed by Governor Heineman, six state senators and director of the NeDNR. Dick Mercer and Mick Reynolds served as Task Force members.

Nebraska must also comply with the Republican River Compact, a 1943 agreement with Colorado and Kansas over water use in the river's basin. The agreement allocates 49% of the Republican River's water to Nebraska, 40% to Kansas and 11% to Colorado. Kansas long-accused Nebraska of violating the compact by allowing farmers to divert more than their legal share of the river's water for private use.

2006: State of Kansas sued Nebraska asking for up to 300,000 acres in the Republican Basin to be permanently retired from irrigation and up to \$80M in damages for water use.

2013: Special Master William J. Kayatta recommended Nebraska pay \$5.5M in damages without a massive shut-down as Kansas had requested; a victory worth more than \$100M annually to Nebraska's economy. The Task Force made recommendations to the Legislature for a strategic, long-term funding plan for Nebraska's water projects. The funding was approved to establish a permanent, stable funding source to ensure that resources are managed effectively and efficiently.

The Bill included creating a two-step application process for water projects, allocating an annual fund of \$50M and expanded the Commission to oversee the allocation of funds. Members spent five months conducting education sessions, tours and public meetings across the state where members gathered input and learned of water issues and funding challenges facing water users in Nebraska. Information gathered helped the group prioritize goals leading to five recommendations:

- Ensure that water projects funded through the WSF demonstrate ability to contribute to the goals of water sustainability for the state by protecting the ability of future generations to meet their needs through various methods. These include increasing aquifer recharge, reducing aquifer depletion, increasing stream flow and remediating threats to drinking water.
- Contribute to multiple water supply management goals, such as flood control, agricultural use, municipal and industrial uses, recreational benefits, wildlife habitat, conservation and preservation of water resources.
- Provide increased water productivity and enhancing water quality.
- Use the most cost-effective solutions available.
- Comply with compacts, decrees, and other state contracts and agreements.

Fully and Over Appropriated Designations

A basin is determined to be fully appropriated if further development were to occur, the balance between water use and water supplies could not be sustained. An over-appropriated basin is one where the extent of development is not sustainable over the long-term, or that the already permitted uses are in excess of what can be supported by the water supply. As result of the designations, NeDNR placed stays on new uses of surface and groundwater: immediate stay on any new natural-flow, storage, or storage-use appropriations in the whole of the OA basins, and a stay on new water well construction permits in all areas within which surface water and groundwater are hydrologically connected. Stays are imposed on construction of new water wells unless such construction commenced prior to the effective date of the stay or a valid construction permit for a water well had been previously obtained from an NRD; and on use of an existing water well to increase the number of acres historically irrigated. Stays were placed on increases through use of an existing surface water right of the number of acres historically irrigated.

INTEGRATED MANAGEMENT PLANS

Central Platte NRD/Nebraska Department of Natural Resources

2006: NeDNR started making annual determinations of basins not previously designated as fully appropriated (FA) or over-appropriated (OA) to see if they had become fully appropriated. CPNRD was designated as OA from Elm Creek west and the rest of the District was designated as FA. CPNRD directors and staff and NeDNR worked with stakeholders to develop an Integrated Management Plan. CPNRD and the NeDNR began working on the individual Integrated Management Plan (IMP) in 2005 by meeting with Stakeholders to educate them on requirements set by NeDNR and the issues to be considered in developing the Plan; including surface and groundwater interests such as irrigators, city utilities, power districts, economic development and banking representatives. The draft plan was finished in 2006 and was originally to be in place within 3-5 years, however, an extension was approved to complete the Plan in 2009 to allow NRDs to wait for the Basinwide plans to be completed.

2009: The IMP was approved. CPNRD's Rules & Regulations were revised to correlate with requirements in the IMP.

2019: The second increment IMP was approved by the CPNRD board with the existing groundwater controls:

- 1) groundwater moratorium, 2) certification of groundwater uses, 3) groundwater variances,
- 4) groundwater transfers, 5) municipal and industrial accounting.

The NeDNR will continue the existing surface water controls: (1) maintain moratorium on new surface water appropriations and on expanded surface water uses, (2) transfers of appropriations are subject to statutory criteria and NeDNR rules, (3) continuation of surface water administration and monitoring of use of surface water, (4) no additional requirements of surface water appropriators to use additional conservation measures, (5) no other reasonable restrictions on surface water use.

2024: The Nebraska Department of Natural Resources stated that following Nebraska's Upper Platte Basin Robust Review, the NeDNR determined that CPNRD's management practices have been effective, with the results of the extensive models showing that CPNRD has reached and exceeded the established targets with no additional management needed.

The Robust Review includes water use activities and management activities to fulfill the goals and objectives of the Upper Platte Basin-Wide Plan and the Upper Platte Basin individual NRD Integrated Management Plans. The incorporation of post-1997 changes in production practices and new irrigated acres into the water budget is a significant aspect of the review, with projections extending to 2070.

Following the 2023 Robust review, which indicated that the CPNRD has successfully offset post-1997 depletions in the over-appropriated area, CPNRD sent a letter to the NeDNR indicating that joint determination requires updates to the second increment Integrated Management Plan (IMP).

Stream Depletion Estimate (Revision in progress)

YEAR	DEPLETION VOLUME (AF)	YEAR	DEPLETION VOLUME (AF)
2019	14,000	2025	14,600
2020	14,100	2026	14,700
2021	14,200	2027	14,800
2022	14,300	2028	14,900
2023	14,400	2029	15,000
2024	14,500		

Basin-Wide Plan

In 2010, the NeDNR held an annual review of the basin IMPs. CPNRD participated in the development of the basin-wide plan for the Platte Basin.

2012: The revised basin IMP became effective in to set objectives to incrementally reduce the difference between current and fully appropriated levels of development within the basin. Although goals are being met, the original plan required the same parties to develop a second increment within 10 years after the adoption of the first increment basin-wide plan. From 2013-2019, Twin Platte and Tri-Basin NRDs purchased up to 1,500/2,000 AF of water annually from CPNRD to provide flows back to the Platte River from the Dawson County canals. Remaining flows were sold to the Platte River Recovery Implementation Program.

2019: CPNRD approved the second increment *Basin-Wide Plan for Joint Integrated Water Resources Management of OA Portions of the Platte River Basin*, developed by the Platte Basin NRDs (North Platte, South Platte, Central Platte, Twin Platte, Tri-Basin) and NeDNR. The geographic area of the Plan is the extent of the Nebraska portion of the Platte River surface water basin beginning at the Nebraska-Wyoming State line and ending at the Kearney Canal Diversion, at Elm Creek. The Plan includes: 1) introduction; 2) planning process; 3) activities of the first increment; 4) goals, objectives, and action items; 5) monitoring. The plan does not include controls. Information sessions/public hearings were held on both the IMP and Basin-Wide plans on July 15, 2019, with testimony submitted by CNPPID and NPPD. After reviewing the testimony provided, CPNRD and NeDNR concluded that amendments to the proposed plans were not necessary. Both plans were effective on September 11, 2019.

CNPPID Conjunctive Management Offer

A joint Middle Platte Basin Water Resources subcommittee developed a surface water model and public opinion survey to understand the public's attitude and perceptions about water usage in Nebraska.

2011: CPNRD and Twin Platte NRD hired a consultant to conduct a survey from Lake McConaughy to Chapman with the overall goal to provide water to all water users.

2012: A special joint board meeting was held with both NRD boards who voted unanimously to approve an offer to Central Nebraska Public Power and Irrigation District (CNPPID) to assist them financially at converting their surface water irrigation project to a groundwater irrigation project and recharge program. Since 75% of users in CNPPID's system had irrigation wells used during drought conditions, the proposal would've allowed landowners to rely totally on groundwater and use surface water for recharge. CNPPID's board took the proposal under advisement.

2013: Findings of the pre-feasibility study were presented at NARD's annual conference. The additional modeling analysis used the OPSTUDY to address concerns identified by CNPPID and showed the project would provide beneficial flows for water management. It also addressed how groundwater recharge protects water supplies/water quality by increasing hydroelectric power generation on NPPD/CNPPID systems in central Nebraska and that CNPPID would see recreational benefits for Lake McConaughy and other lakes in the system. The next step is to work with CNPPID to address an in-depth study of the concept and continue working towards solutions for all water users in Nebraska.

Groundwater Exchange Program

In 2016, CPNRD launched a Groundwater Exchange (GE) pilot program to allow producers to buy or sell water on a temporary leasing basis for the upcoming irrigation season. Certified groundwater use on irrigated acres such as pivot corners, irregularly-shaped fields or full sections were sold. Buyers purchased water to improve or add to their currently certified groundwater use or to increase streamflow. The GE was the first to allow temporary leasing of groundwater. CPNRD's Rules & Regulations regarding transfers of groundwater irrigated acres were built into the computer program. For purposes of the GE, a 'water right' is the certified groundwater use on irrigated acres.

Bids were based on consumptive use and streamflow depletion to the Platte River. Pre-approved buyers and sellers went online from March 21-25 to place asking price to temporarily lease water or place bids to buy water for the 2016 growing season. Staff verified water rights to be sold or bought and provided buyers and sellers an ID number to be used during the bidding process. The first transactions were approved on April 1, 2016. Sellers placed 30 locations online for leasing, with six buyers placing bids: three for irrigation and three for streamflow rights. The GE matched the three irrigation bids with sellers in the eastern area of the District.

The board approved a \$105,000 contract with National Economic Research Associates (NERA) and the NeDNR to design/manage a second Exchange that included the Loup Basin influence. NeDNR and CPNRD shared 50% of the cost. The second year had 25 sellers and 5 buyers submitting bids. Half of the sellers received bids that matched with a buyer. Bids made for transactions along the Platte River west of Elm Creek ranged from \$8.14 to \$94.21/AF; while bids east of Elm Creek ranged from \$30.12 to \$99.88/AF. Bids within the Loup Basin influence of the District ranged from \$48.84 to \$121.07/AF.

Schroeder Property Purchase for Groundwater Recharge

2018: 157.4 acres of groundwater irrigated land located 6 miles southeast of Cozad along Hwy 21 and 1/2 mile south of the Platte River was purchased for \$915,000. The purchase gives several options to earn Platte River credits by providing recharge through the retirement of irrigated acres, transferring water from the South Side Irrigation District canal, and directly discharging flows into the river from an adjacent property.

2019: JEO Consulting was selected to evaluate management alternatives in the amount of \$109,620.

2022: Management options to maximize the hydrologic benefits for the property were presented. In December, the renter was notified that the property will be leased as dryland to retire the irrigated acres and gain credit for 107 AF of water back to the Platte River starting in 2023.

2023: NeDNR reimbursed CPNRD for 60% value of the benefit to the Platte River in the amount of \$468,308.

2024: A one-year lease for the 2024 growing season was approved.

Surface Water Exchange Pilot Program

In 2018, NeDNR approved the transfer of 14,251 AF of water to the Environmental Account (EA) as part of CPNRD's pilot surface water exchange agreement with the CNPPID. During the 2018 irrigation season, the NRD agreed not to deliver surface water to 25,491 acres from Cozad, Thirty Mile and Orchard Alfalfa canals in exchange for CNPPID crediting the Environmental Account with the resulting additional storage water in Lake McConaughy.

2019: The recharge agreement changed the way CPNRD is paid for groundwater recharge via seepage through the canals in the non-irrigation season. The total amount diverted is measured by the NRD using automated measuring and recording gates and adjusted; by subtracting any deliveries or releases made and recorded by the irrigation district. The non-irrigation season begins when the canals stop releasing water for irrigation and end when the canals begin releasing water for irrigation as determined by CPNRD. In 2021, the unused storage water transferred to the Environmental Account totaled 14,208 AF.

2021: Two surface water exchange agreements for the irrigation season were signed by CNPPID, PRRIP and CPNRD and forwarded to the Nebraska Community Foundation for signatures, to develop a multi-year agreement instead of an annual agreement for the water from the three surface water irrigation districts the NRD partners with. The water allows the NRD to meet IMP goals and sell the portion not needed for compliance to the PRRIP to assist them in meeting their water goals. The agreement allows CPNRD to store the water in Lake McConaughy as controllable water that is added to the Environmental Account for PRRIP use.

2022: A water service agreement was approved for \$1.2 million with NeDNR and Tri-Basin NRD to allow the NeDNR to pay CNPPID \$19,100,000 in advance to divert water into the E-65 Canal, Phelps Canal, Elwood Reservoir and various waterfowl production areas to provide aquifer recharge for 15 years. CPNRD receives credit for 25% of the excess flows (500-2,500 AF/year) that provide seepage back to the Platte River. The \$1.2 million was being held at the Nebraska Community Foundation.

2024: A Surface Water Memorandum was signed allowing CPNRD to store water in Lake McConaughy as controllable water, which is added to the Environmental Account for use by the Platte River Program. This water helps the NRD meet its IMP goals. Additionally, any portion of the water not needed for compliance can be sold to the PRRIP to help them meet their water goals.

30-Year Acreage Reserve Program

In 2021, a section was added to CPNRD's Ground Water Management Program Rules & Regulations titled *Section B -Rule 8: 30-Year Acreage Reserve Program-Participation Eligibility and Rules*. The 30-Year Acreage Reserve Program will provide a long-term solution in protecting surface water rights. Irrigation districts sign up for the conservation program and surface water users may opt-in or opt-out of the program annually.

The Program was developed to ensure that supplies in the Platte Basin are optimized and managed efficiently with maximum benefits and to meet water management obligations for the Basin-Wide Plan for Joint Integrated Water Resources Management of OA Portions of the Platte River Basin, CPNRD's Integrated Management Plan, and Nebraska's New Depletion Plan for the Platte River Recovery Implementation Program. A public hearing was held and the Program took effect on March 4, 2021.

Interbasin Transfer Application A-19594

In 2018, the board filed a formal objection to NeDNR concerning an interbasin transfer application submitted by CNPPID to divert water from the Platte River to the Republican River.

2020: NeDNR dismissed the interbasin transfer request claiming that CNPPID cannot be a valid applicant or an appropriator under the application because neither CNPPID, nor any of its customers, would make beneficial use of the water for compact compliance purposes in the Republican River Basin. The application was refiled in November.

2023: On April 17, 2023, the petition to bypass the Court of Appeals was granted. The Attorney General's Office prepared and filed a brief on response, allowing partners to have the opportunity to file a reply brief. The case was docketed for oral argument. The appeal brief was filed for the Inter-Basin Transfer (IBT) Application Order in which the Nebraska Department of Natural Resources (NeDNR) dismissed CPNRD as a third party-objector. A motion was also filed to bypass the Court of Appeals to take the appeal directly to the Nebraska Supreme Court. Partners of the appeal include CPNRD, Lower Loup NRD, and Loup Public Power District.

On October 6, 2023, the Nebraska Supreme Court issued Supreme Court Opinion and stayed on its decision to not allow an NRD to have standing on a surface water diversion that is before the NeDNR. This affirmed the Order of Dismissal issued by the Department dismissing objections filed by Central Platte NRD, North Platte NRD, Lower Loup NRD, NPPD, Cozad Ditch Company, Loup River Power Public Power District and Audubon Society.

2024: On May 23, 2024, the Department held a hearing to receive public testimony and written comments.

PROJECTS AND RESEARCH

Cooperative Hydrology Study (COHYST)

1997: Nebraska Governor Ben Nelson and governors of Wyoming and Colorado signed the Platte River Recovery Implementation Program (PRRIP) with the U.S. Department of Interior. Questions arose about potential impacts on activities along the Platte and it was apparent that data wasn't available to use. The Cooperative Hydrology Study (COHYST) was developed with funding from NET, CPNRD, state/local agencies, water and environmental organizations. NET awarded \$500,000 the first year and \$450,000 the second/third years.

COHYST improves understanding of the hydrological and geological conditions in the Basin and provides scientifically supportable databases, analyses, and detailed computer groundwater models to more accurately identify and quantify the relationship between the Platte River and adjacent groundwater resources. It provides information to develop a "new depletions" plan for flows in the central stretch of the Platte River, and assists Nebraska in analyzing proposed activities for the PRRIP. COHYST also provides the Platte Basin NRDs appropriate management data as a basis to develop policy and procedures related to groundwater and surface water.

2004: The groundwater models were completed and peer reviewed by Eagle Resources, North Carolina. A team of senior hydrologists designed the database as it was developed. The databases quantify existing groundwater use, river and aquifer data in the Platte River Basin to provide better understanding of the groundwater flow system, interrelationships between groundwater and surface water, geology and other characteristics of the aquifer.

The models represent real-world features including rivers, streams, groundwater aquifers, groundwater pumping, or canals as a set of mathematical equations; which reproduce observed water levels and stream flows and are tools to predict how changes to or "stresses" on the groundwater system may impact flows in the Platte River. Stresses are additions/subtractions of water from the groundwater system, including pumping from wells, ET by vegetation, aquifer storage/recovery, flow to drains, recharge from precipitation, deep percolation from irrigation, enhanced recharge due to certain land uses, recharge from canal/lateral leakage, and recharge from lakes and reservoirs.

Predictions are estimated on how water supply or proposed conservation projects affect groundwater levels and river flows. Changes in stream flow are estimated as a result of new irrigated acres between 1997-2005 for reaches of the Platte River above Elm Creek using a 50-year average. Estimates are also used in the Basin Plan as targets for stream flow depletions needed to be offset to get back to 1997 level of development.

Phase I: Completed overall water budget for new COHYST area.

Phase II: Developed water budget analysis tools to manage ground and surface water resources in the Platte Basin.

Phase III: Developed sub-regional models for focused water management areas.

2012: Sponsors Group updated land use acres 2006-2010 with Riverside from Colorado. Basic acreage data sets were updated to look at future depletions. The new data sets were extensive including 27 land types and uses; and previous land use sets put together in the 1950s. Sponsors: CNPPID; CPNRD, TPNRD, TBNRD; NGPC, NPPD.

2013: Model calibration was completed on Watershed Model (CROPSIM), Surface Water Model (STELLA) and Groundwater Model (MODFLOW) were integrated to simulate the hydrologic cycle. The simulation compares water budget fluxes to data-driven calibration targets. The models are used for percentage depletion maps, conjunctive water management and to determine real effects of operating the irrigation canals.

2014: The Integrated Model results for the watershed, surface water and groundwater models were within 8% difference for calculated gage flows versus historic gage flows. Minor changes made:

Watershed Model: soil information and weather data from climate stations were added.

Surface Water: seepage return from Sutherland Reservoir, seepage from Lake McConaughy, addition of runoff and irrigation demands; storage/natural flow and environmental storage account.

Groundwater: match evapotranspiration cells to expected locations, adjusted elevations, routed seepage to new discharge point, use groundwater model outputs for Lake McConaughy seepage.

2016: Completed Graphical User Interface (GUI), final model improvements, recalibrating and project oversight. Watershed model reconstructed to use actual monthly data from pumping and recharge records added. Surface water model (STELLA) mimics actual farming practices including diversions, return flows and water releases. Groundwater model modified representation of evapotranspiration. The Integrated Model calibrated through a three-step process using results from the watershed model and available measured data to construct stand alone versions of the groundwater and surface water models; adjusted models to match historical flows and water levels; and modified the watershed model to address problems identified in both models.

2017: CPNRD's water quality database was used to replicate 2002 dry river conditions for the Work Plan. The Conservation Study developed for the Platte Basin IMP to input no-till and other conservation activities compared conditions back to the 1950s was utilized. Olsson reported that the Hydrogeologic Evaluation and Subregional Groundwater Modeling results showed excess flows from the Dawson County canals were returned to the Platte River more quickly than anticipated. The subregional model covers 3% of the COHYST area allowing for a more detailed and complex evaluation of how water moves through the river and aquifer system. Several subregional models are being conducted in Nebraska.

2018: A 180-day temporary stay on new wells and new irrigated acres allowed staff to update the acre-transfer tool by implementing the new depletion numbers determined by COHYST for the Quantity Program.

2020: CPNRD partnered with NRCS to complete a survey of tillage practices and crop types. NRD staff visually inspected and recorded data for approximately 500 fields in multiple counties. Tillage practices were identified based upon criteria set by the NRCS. Tillage and crop type data is used to update various input parameters in the COHYST watershed model.

2024: An agreement was approved with Black & Veatch for \$34,917 to retain engineering services to assist with the COHYST Modflow 6 project model updates.

Conjunctive Water Management Study

The Platte River Conjunctive Water Management Study is an ongoing project studying surface and groundwater management options for the Dawson County canals with the goal of ensuring that supplies in the Platte Basin are optimized and managed efficiently with maximum benefits in a manner consistent with State and local policies.

Studies and analysis for irrigation canal projects are conducted with COHYST modeling tool components: rainfall, pumping, surface water applied, total ET, recharge, runoff and acreage.

CPNRD provides technical assistance in evaluation of conjunctive management scenarios for portions of Dawson and Buffalo counties in the central Platte Valley. A conjunctive water resource management plan is being developed to optimize availability of water to groundwater and surface water users who are within both the boundaries of the NRD and the area within which NPPD delivers natural flow and storage water for surface water irrigation systems. The NeDNR, CPNRD and NPPD have met with the consultants to review the management scenarios results.

CPNRD QUANTITY PROGRAMS

Water Banking Program

2007: CPNRD's Water Banking Policy defined the process of how a water bank works. Through the water banking program, the NRD acquires water rights from landowners. The goal was to acquire water with the concept that for every acre-foot (AF) of water that impacts the river that the NRD can acquire, CPNRD would have that much less regulation and cutback imposed on irrigators. The first water bank transaction in the district was taken by approving a variance request and deposit of 2.4 AF/year into the water bank (donated by former director Jim Bendfeldt).

2012: The rate for water rights was increased up to \$8,000/AF of depletion to the river. Water rights purchased are deposited into CPNRD's Water Bank. The COHYST model was used to determine the AF of depletions CPNRD needs to reduce to bring the Platte River back to 1997 levels. After reaching 1997 level, the OA area west of Elm Creek will need additional water added to the Platte in order to bring it back to a FA status.

2022: Agreement was approved to add a municipal component to the water bank for managed development of new uses of water for municipal and industrial uses by the cities within the District. CPNRD administers the water bank transactions that utilize a system for crediting retired ground and surface water uses to be deposited in the water bank, and may be later withdrawn (debited) for new water uses by the cities. Effective 2025, municipalities are required to offset their new uses. This agreement allows them to be proactive in finding water for economic growth when needed.

Over-Appropriated Area Retirements

2015: CPNRD acquired one perpetual conservation easement on water rights in Dawson County with estimated accretion to the Platte River from groundwater retirements using the latest COHYST offset calculator at 61.46 AF.

2023: 216 certified acres in Dawson and Buffalo counties were retired. The estimated accretion to the Platte River from groundwater retirements is 162.29 AF. The Water Bank had a balance of 2,112 AF of water rights available for offset in the over-appropriated area. Surface water retirements resulted in 2,500 AF of credit back to the river.

Excess Flows

Excess Platte River flows were diverted by Cozad Canal, Thirty Mile Canal, and South Side Irrigation canals in 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019. Total diverted by the three canals was 89,590 AF and the computed recharge was 40,512 AF. In 2020, 2,950 AF (net diversion) of water was diverted for recharge through the canals.

PROJECTS

Rehabilitation of Surface Water Canals

CPNRD partnered with four canal companies in Dawson County with agreements to buy one canal and rehabilitate three canals. As a Platte Basin Habitat Enhancement/Coalition Program project, grants from NeDNR (40%) and the NET (20%) paid 60% of project costs. CPNRD shared the remaining 40% of project costs with the canal companies.

The main benefits include: groundwater recharge to enhance surface water and ground water supplies, protect water quality and help CPNRD move closer to a FA status. The rehabilitations also provide enhanced flows to the Platte River by diverting and retiming excess flows to the river; returning natural flow irrigation rights to the river; and help meet requirements of the PRRIP agreement and LB962 to return the Platte River to its 1997 level of use.

Six Mile Canal

2010: CPNRD purchased Six Mile Canal in Gothenburg, the first-ever buyout of a surface water irrigation canal in Nebraska. The agreement provided funding for farmers to convert to ground-water irrigation, increase Platte River flows to protect endangered species, put more land into production, and improve public safety. COHYST data

shows that closure of the ditch and elimination of direct river diversions resulted in an annual savings of 130 AF of water to the river even with the same acres irrigated with groundwater. The water rights were deposited in CPNRD's Water Bank to use for the IMP schedule to bring the OA area back to a fully appropriated status sooner. Six Mile Canal had been in operation diverting Platte River water since 1894, withdrawing an average of 2,377 AF of water annually.

Cozad Canal

Cozad Canal began diverting Platte River water in 1894 with water rights to irrigate over 25,000 acres of land between Gothenburg and Lexington.

2012: CPNRD partnered with Cozad Ditch Company to manage the canal and to lease surface water.

2013: Construction began. The massive rehabilitation was completed in three phases (2 years): 152 acres (27 miles) cleared; 21 miles graded; 13 new structures and 4 farm crossings, 6 check structures, an underdrain structure, a siphon and a county road wing wall replacement. The Spring Creek Wasteway Structure included: excavation of Spring Creek Channel (1,415 LF), 22 walkway modifications and extensions, and a SCADA automated monitoring system of Rubicon Gates with 4 flume gates and 7 slip meters.

Total project cost was \$6.6 million. The Canal has the potential to provide 6,700 AF of water savings annually. Diversions of excess flow total 4,365 AF in 2011; 4,170 AF in 2015; 3,393 in 2016; and 436 AF in 2017. Groundwater return back to the Platte River is computed to be 1,300 AF for 2011-2018.

Thirty Mile Irrigation District (TMID)

Thirty Mile Canal was constructed in 1927 and dedicated in July 1928 with water rights for 15,000 acres.

2012: CPNRD partnered with Thirty Mile Canal Company for \$1.9M including half of the company's water rights and half value of buildings/equipment. Construction included: replaced or installed 8 bridges, 8 check structures, 9 drop structures, 3 pipe roadway crossings, 2 pipe laterals, 4 miscellaneous structures, 5 flow measurement devices and structures, and installed rip rap.

2013: The canal became Thirty Mile Irrigation District and is a political sub-division of the State of Nebraska.

2014: An interlocal agreement created the CPNRD-TMID Stream Flow Enhancement Alliance. The agreement outlines maintenance/delivery of surface water for both irrigation and groundwater recharge. Total project cost was \$5M. TMID provides up to 6,000 AF of water savings annually. Diversions of excess flow total 35,000 AF; resulting in groundwater return of 6,000 AF back to the Platte River for 2011-2018.

2021: Construction of the NRD field office and a storage shop at the TMID was completed in 2021. CPNRD's resources conservationist and precision conservation specialist have offices in the new building.

Office address: 75887 Road 414 in Cozad, NE

Orchard Alfalfa Canal

Orchard Alfalfa Canal's water right was approved in 1898 with water rights to irrigate 4,326 acres of land. CPNRD and Southside Irrigation Company signed a management-lease agreement in 2012; construction began in 2013. CPNRD assists in operations, pays half of operations and maintenance costs and receives half of the revenues.

Phase I: Replaced seven county road box culverts

Phase II: Cleared 51 acres; 60,200 LF of grading; irrigation turnout structure; replaced 13 canal structures; removed three farm crossings

Phase III: The diversion structure was replaced; installed slide gate with electric actuators on existing overflow structure; rip rap overflow structure for high flows. Total project cost \$4.7M. A tour and rededication ceremony was held in 2015. The canal provides up to 1,500 AF of water savings annually. Diversions of excess flow total 15,000 AF; and 2,600 AF in groundwater return back to the Platte River for 2011-2018.

The canals will continue to be used for surface water irrigation delivery; as well as for retiming Platte River flows to enhance target flows for endangered species. The retiming of Platte River flows is accomplished by diverting flows excess to target flows to recharge the groundwater system or by transferring surface water irrigation rights to in stream use and diverted from the canal back to the river. Water rights for diverting excess flow for recharge were granted to the canal systems by NeDNR; and temporary transfer permits for returning surface water to the river for instream use were approved.

10-Year Meter Program

CPNRD's 10-Year Groundwater Pumping Study included 78 sites district-wide. Results showed that producers are pumping less water than estimated; and some sites showed that producers used the data and reduced their water use without impacting yields. The program provided flow meters equipped with telemetry, soil probes and weather stations to producers with the goal of collecting raw pumping data. The program was designed to be voluntary, allowing producers to review their own pumping data and adjust their water use as needed. CPNRD has applied for funding to continue the study through 2034. Results will be added to the NRD's groundwater models to account for water uses and integrated into the Robust Review water accounting budget.

Central Nebraska Irrigation Project

In 2018, the Central Nebraska Irrigation Project provided financial assistance to producers to implement water conservation equipment including the Arable Mark field-level weather and crop monitoring device, pivot telemetry and flow meters. 2020, 10 additional producers enrolled to utilize the three primary components for a total of 50 enrolled. Of the 50 producers, 21 opted to incorporate soil-moisture capacitance probes into their operation. Partners: The Nature Conservancy, Nestlé-Purina and Cargill.

B1 Reservoir

In 2023, the Platte Basin Timelapse and the National Guard requested installation of a camera at B-1 Reservoir to monitor wildlife. Staff is currently holding meetings with the NeDNR concerning future use at B-1 to determine how it may be used to retine flows back to the Platte River. The benefits of not diverting the water is being assessed.

South Platte Compact/Perkins County Canal

In 2022/2023, CPNRD staff participated in meetings with senators and Governor Pillen to review the Perkins County Canal proposal and what it means for the State. The Legislature passed LB1015 during the 2022 legislative session in conjunction with funding that authorizes NeDNR to advance preliminary planning and design for infrastructure necessary to fully protect Nebraska's non-irrigation-season flows (October 15 – April 1) authorized under the terms of the South Platte Compact.

In adopting LB1015, the Legislature found it essential to economic prosperity, health, and welfare of the people of the State of Nebraska, and to the environmental health of the entire Platte River Basin, to protect Nebraska's full entitlement to the flows of the South Platte River as provided for in the South Platte River Compact. The Legislature authorized NeDNR to develop, construct, manage, and operate the Perkins County Canal Project (project as named in South Platte Compact) and has provided preliminary funding (\$53.5M) to continue advancing these efforts.

Meadowlark Project

In 2023, JWC Gburg LLC announced a new eco-friendly fertilizer manufacturing plant to be built in Gothenburg. The plant will be the first in the nation to use electricity and water instead of natural gas to produce nitrogen fertilizer. CPNRD is negotiating with JWC Gburg on selling up to 2,000 AF of water that the plant will need for production.

WaterSmart Grants

In 2024, CPNRD applied for and received a WaterSMART grant in the amount of \$95,542 to update checks and gates for irrigation efficiency on the Thirty-Mile Irrigation District canal through the Bureau of Reclamation's Small-Scale Water Efficiency Grant. The remaining cost of the project will be covered by a 50% match from the Nebraska Department of Natural Resources. In August 2024, the Bureau of Reclamation announced that CPNRD will also receive funding for the following projects:

- **Southside Irrigation District and Cozad Ditch Company Flow Measurement and Canal Efficiency Project** submitted under the Water and Energy Efficiency Grant (\$356,823): The project will replace 11 existing outdated manual headgates along two canals that divert irrigation water from the Platte River with automated turnout gates coupled with a Supervisory Control and Data Acquisition system. The project also includes installation of two additional automated turnout gates to better control flow. The project is expected to result in annual water savings of 5,140 acre-feet, currently lost to leakage and over-delivery at the canal gates due to operational inefficiencies such as manual gate operation. Conserved water will remain in the Platte River for recreational use, water supply, and other beneficial uses.

- **Flowmeter, Telemetry, and Data Management System Project**, submitted under Water & Energy Efficiency Grant (\$291,126): CPNRD and NeDNR will install telemetry-enabled irrigation flow meters to autonomously measure, report, and analyze daily groundwater pumping data at 100 wells throughout the CPNRD. The project is expected to result in annual water savings of 1,162 acre-feet by reducing overirrigation. Conserved water will remain in the local aquifer. The project area also integrates the greater Platte River Recovery & Implementation Plan, aligning increased streamflow from water savings with conservation plans and greater hydrologic health across three states.

DATA COLLECTION

Airborne Electromagnetic (AEM) Survey (2018)

AquaGeo Frameworks conducted the AEM survey providing CPNRD with improved water table and geological data to determine where: additional wells may be drilled, vadose zone/recharge monitoring are needed and water table boundaries. AEMs are conducted by helicopter and cover large areas quickly with minimal impacts to local activities and the environment. 3-D maps produced by integrating airborne geophysics with other information provide tools for locating local features of the aquifer system important to water managers. Maps are combined with water table elevation maps to provide geometry of the aquifer including locations of most saturated thickness, heterogeneity of aquifer materials, recharge zones, lithologic barriers to groundwater flow and connections to the surface water system. AquaGeo did three flights per day at 100-150' above ground. Data was collected every 100' compared to test-holes that provide data every six miles. Maps indicate where preferential flow paths may exist to understand base flow to streams and interpret water quality samples in relation to the various stresses in the system. Data is used to site wells on focused-recharge areas, facility construction and areas of interest for impact to the aquifer and predictive analysis of management scenarios for groundwater models. Total project cost was \$966,000.

ArcGIS

CPNRD staff uses ArcGIS Solutions Platform to collect, analyze, and manage data collected in the field. Progress maps are used for nitrate sampling, chemigation, and static water levels.

Evapotranspiration Map

An agreement with UNL was extended for \$64,127 and \$20,000 to fund a graduate student. The evapotranspiration research uses Mapping ET with high resolution and internalized calibration (METRIC) algorithms and Earth Engine ET Flux (EEFlux). The project quantified ET by processing Landsat 7/8 images for 2015 and combined them with all processed years for usable products for planning, managing, and regulating groundwater resources in CPNRD.

GeoCloud Database

The project collects airborne geomagnetic imagery with the intention to correlate that data with sub-surface geology and hydrogeology. The project was initiated as a joint effort from 2016-2020 with Lewis and Clark, Lower Elkhorn, Lower Platte North, Lower Platte South, Nemaha, Papio-Missouri River, Lower Loup, Upper Elkhorn and Twin Platte NRDs; USGS, Aqua Geo Frameworks, and University of Nebraska's Conservation and Survey Division. The project received \$247,437.60 from the Nebraska Natural Resources Commission. CPNRD approved to extend the agreement and continue participating through 2027 in the amount of \$12,000.

Groundwater Evaluation Toolkit (GET)

In 2017, Olsson was hired to develop a Groundwater Evaluation Toolkit (GET) for 'real-time' tracking of water recharged to the aquifer in the amount of \$98,500, the Platte River Recovery Implementation Program funded half of the cost. The model tracks flows on a cell-by-cell basis to provide specific monthly accounting of water returned back to the Platte River. GET enabled staff to run scenarios to track water flows back to the river and provides access to the subregional models for Thirty Mile, Southside and Cozad canals.

LiDAR

CPNRD participated in Light Detection and Ranging (LiDAR) for district-wide coverage of topographic elevation developed from aerial radar detection. Data was collected November 2012 to March 2013, with results available for use in August 2013. Other partners to collect statewide data: Lower Platte North, Twin Platte, Lower Loup, North Platte and Middle Niobrara NRDs; NeDNR, NDEQ and NRCS. CPNRD's cost was \$40,000 for Custer County.

Magnetic Resonance Sounding

The NET supported a three-year project using a Magnetic Resonance Sounding (MRS) to gather information on groundwater without drilling holes. MRS is a quick, non-invasive surface geophysical technique that directly measures groundwater and is used in place of test holes and aquifer pump tests that are sparse, time-consuming and expensive. Data collection and study findings are published in a Scientific Investigation Report by the USGS Water Service Center in Lincoln. Use of MRS parameters improves the accuracy of groundwater models and enable water resource managers to make more informed decisions.

NEBFLUX

In 2017, an agreement was extended with UNL for the Nebraska Water & Energy Flux Measurement, Modeling and Research Network (NEBFLUX). The Project uses advanced techniques to measure actual ET rates with surface energy fluxes, microclimatic variables, plant physiological parameters, soil water content, surface characteristics and interactions for various vegetation surfaces in the District. CPNRD began funding the project in 2007 to seek scientific-based research for water management programs. The data is used for the Groundwater Management Program which is based on crop water use and consumptive use. The project was extended through June 2020.

Water Quantity Goal

To assure an adequate supply of water for feasible and beneficial uses, through the proper management, conservation, development and utilization of the District's water resources.

Objectives

1. Establish irrigation management practices and techniques on the irrigated lands in order to properly conserve and efficiently utilize water.
2. Discourage development of water-using projects (irrigation) on any lands on which such development is not within the capabilities of the land.
3. Help secure any water supply project that is shown to be feasible, beneficial and desirable.
4. Develop plans and programs that will strive for a balance between water use and water availability.
5. Develop plans and programs that will strive for a balance between rights of all individuals utilizing the groundwater aquifer.
6. Work toward balancing the needs of wildlife with needs of people in utilization of the water resources in the District.
7. Balance needs of endangered and other species on the Platte River and its tributaries with needs and rights of human users.

VI. Fish and Wildlife Habitat

Residents of the District and people from across the state enjoy the fish, wildlife and other natural resources within the District. The Platte River and its adjacent wet meadows, forests, grasslands, and croplands provide habitat for millions of migratory birds. Each spring, roughly 80% of the continent's sandhill cranes use the central Platte and lower North Platte Rivers as they traverse from wintering areas to their nesting habitats. Waterfowl make extensive use of area habitats, particularly during spring migration; and diverse assemblages of songbirds make significant use of riparian forests and grasslands. Resident upland game birds and big game provide area hunters with many sporting opportunities. Mammal, fish, reptile and amphibian species are also abundant in the District.

Prior to settlement, vegetation across the District consisted of tallgrass prairies and wet meadows in lowlands, and on the Platte River terrace and mixed grass prairies on the uplands with fingers of riparian forest. Today the area is a matrix of grassland remnants, cropland and expanded riparian forest. Human activity has significantly modified the native vegetation and wildlife habitat. While some of these effects have had positive results on wildlife resources, others have been detrimental. The District has several federally listed endangered and threatened species including the whooping crane, least tern, piping plover, American burying beetle and the western prairie fringed orchid. Areas that have been designated as critical habitat by the USFWS for the whooping crane exists in the District. Previously listed species have shown signs of recovery, for example, the bald eagle and peregrine falcon have been removed from the federal listing.

A series of instream flow water rights on portions of the Platte River have been obtained by the NRD to protect minimum flows for fish and wildlife resources. Wet meadows along the Platte River are an important habitat resource to a diversity of wildlife including migratory birds. Working with NPPD, CNPPID and NGPC, CPNRD has completed a demonstration project to enhance and maintain wet meadows along the Platte. The project has developed alternative methods to manage for these valuable habitats with Nebraska Environmental Trust funding.

Farmers and ranchers are encouraged to establish native wildlife habitat, carefully plan conversion of rangeland or other native vegetation types to agriculture, and to return land with marginal or poor production capabilities to habitat. Surface water, natural wetlands and wet meadows should be maintained and enhancements considered in the planning for District projects. Cost-share is provided for practical application of effective habitat; which reflects the NRD's commitment to protecting wildlife resources.

PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM

In 2006, the Platte River Recovery Implementation Program (PRRIP) was signed by the federal government along with the basin states of Nebraska, Colorado, and Wyoming. Local, state & federal government agencies worked with groups from throughout the basin to build a framework for a long-term Program to satisfy Endangered Species Act (ESA) requirements for water users in the basin. USFWS plays a major role in enforcing the ESA with legislation for federal funding passed by Congress in 2008.

The first PRRIP increment included ongoing development of water projects planned to improve flows in the central Platte by an average of 130,000-150,000 AF annually. Research and monitoring on the Platte showed FWS's target flows to be ineffective in accomplishing the set objectives. The states and federal governments face challenges to protect the species using the Platte River and their habitats while providing certainty for water users who face ESA requirements. CPNRD is actively involved in the Governance Committee (GC), Land Advisory and Water Advisory committees. The Land Advisory Committee includes: CPNRD member/alternate, TBNRD member/alternate, and a joint member/alternate. In 2023, David Carr was selected to replace Lyndon Vogt.

2013: The Governance Committee (GC) & CNPPID agreed to develop J2 Regulating Reservoirs for \$13M for 5 years.

2015: CNPPID and RJH Consultants, Inc. provided the GC with a report on the Project which detailed significant increases in cost from the original estimate of \$63M to \$170M, not including land acquisition, so alternatives were evaluated. Central Platte, Twin Platte and Tri-Basin NRDs each purchased a percentage of the Nebraska share. CPNRD purchased 20% of the State's share (2,040 AF annually) for \$1.5M.

2016: GC stopped the project to explore other water projects involving groundwater recharge, smaller scale storage projects, water acquisition and transfer opportunities.

2017: Amendment to the Water Use Lease Agreement with CPNRD modified the price paid for surface water diverted for recharge at \$43/AF, raised payment for transferred surface water \$43-\$150/AF & reduced the increase in annual costs 7% to 3% to bring the value of water CPNRD sells to the Program to levels with those paid to other contributors. The original Agreement was signed in 2013 with amended values effective on January 1, 2017.

2019: The first Increment of the Program expired in 2019. While first-increment milestones were exceeded for land and adaptive management components, water goals were more expensive to achieve. Initial discussions included prioritizing resolution of channel choke point issues, habitat acquisitions and opportunities to support pallid sturgeon use of the lower Platte River.

Second Increment

The basin states governors, house representatives and senators supported the second increment. On December 21, 2019, President Donald Trump signed two spending packages that included the PRRIP Extension Act to extend the Program until December 2032. The Program's long-term objective for land is to acquire land interests, restore where appropriate, and maintain and manage approximately 29,000 acres of suitable habitat along the central Platte River between Lexington and Chapman.

2020: GC discussed the Upper Platte Basin Robust Review results and Second Increment planning. Nebraska is in full compliance with its New Depletions Plan & achieving Milestone 9 of the extension document. Future Robust Reviews are planned for 2023 and 2027. Water service agreements with CPNRD, NPPD and CNPPID were approved in similar term/payment rates for recharge water.

2021: Headwaters Corporation reported on the PRRIP's collaborative efforts to achieve the water objective of 130,000-150,000 AF a year and land objective of 10,000 acres of habitat. Headwaters Corp manages the \$19M annual budget and serves as the public face of Program activities. PRRIP continues to work on its focus areas of land, water, science, and administration. 14,000 acres of land within the 3.5 mile reach along the Platte River needed to reach acquisition goals. The land strategy shifted from buying and restoring habitat to management strategy. \$1.5M is budgeted over the next 5 years for Pallid Sturgeon research on the Lower Platte was developed with continued focus on science efforts for the piping plover and whooping cranes habitat along the Platte River.

STATE/BASIN COALITIONS

Nebraska Habitat Conservation Coalition (NHCC)

The U.S. Fish & Wildlife Service (FWS) proposed designation of critical habitat for the Great Plains piping plover population in 2001 in Nebraska, North Dakota, South Dakota, Minnesota & Montana. Critical habitat was formally designated by the FWS in 2002. The Coalition, comprised of 23 members/8 partners, was formed in response to the federal designation of critical habitat for the piping plover in Nebraska. The critical habitat designation gave the FWS an instrument to evaluate activity that could impact the Platte River or its flow, which puts groundwater pumping at a greater risk of being construed as a "take." Section 9 of the ESA makes it unlawful to adversely modify critical habitat, or for a person to "take" a listed species, which has been defined to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or attempt to engage in any such conduct.

2003: NHCC filed a lawsuit in Federal District Court in Nebraska stating that the FWS used inadequate science in their designation of critical habitat, the designation provided questionable benefits to the species, that there were legal inadequacies in the designation process, and the FWS failed to assess the economic impact of the designation.

2005: The Coalition won its case in District Court requiring the FWS to redo economic analysis and critical habitat designation in Nebraska. NHCC plans to stay closely involved in the redesignation of critical habitat as ordered by the District Court.

2019: FWS announced a proposal to down list the American Burying Beetle from endangered to threatened; and the Interior Least Tern from the ESA due to recovery.

Federally threatened/endangered species within CPNRD: American burying beetle, whooping crane, Eskimo curlew, piping plover, interior least tern, western prairie fringed orchid, Rufa red knot, Northern long-eared bat and the tri-colored bat. A new rule was proposed by the FWS in 2014 regarding critical habitat designated in association with the ESA. Of concern was that proposed rulemakings would significantly change the agencies approach to critical habitat designation and lead to over-regulation. The NHCC Executive Committee and Legal Advisory Committee submitted comments in opposition of the proposed rule.

NHCC Timeline of Activities

- 1985 - Piping Plover (PIPL) listed as Threatened under ESA
- 1996 - USFWS petitioned by the Defenders of Wildlife to designate PIPL critical habitat
- 2001 - USFWS proposes critical habitat for the Northern Great Plains (NGP) population of PIPL: NHCC formed
- 2002 - Critical habitat formally designated in 5 states (NE, ND, SD, MN, MT) PIPL critical habitat in Nebraska includes 454,400 acres (excluding the Missouri River), 440 miles of Nebraska rivers (including portions of the lower Niobrara, Loup, and central and lower Platte Rivers), plus 120 miles of the Missouri River.
- 2005 - NHCC motion before U.S. District Court of Nebraska for Summary Judgement; U.S. District Court issues Order vacating designation of PIPL critical habitat in Nebraska and orders FWS to redesignate critical habitat.
- 2006 - FWS appeal Court Order/NHCC files cross-appeal; U.S. 8th Circuit Court of Appeals issues order of dismissal
- 2014 - NHCC files comments on USFWS proposed policy and regulatory changes to critical habitat designations
- 2016 - NHCC files comments of USFWS Draft Revised Recovery Plan for the NGP PIPL

Platte Basin Habitat Enhancement Project

CPNRD and co-sponsors (North Platte, South Platte, Tri-Basin, Twin Platte NRDs, NeDNR, NGPC) received an NET grant for the Platte Basin Habitat Enhancement Project for \$3M. Remaining funds included \$6M from NRDs and \$6M from NeDNR totaling \$15M. Projects/activities funded by the PBHEP resulted in enhanced Platte River stream flows, reduced consumptive uses of water, recharged groundwater, and supported wildlife. Projects included Cozad and Thirty-Mile Canal Rehab conjunctive management projects, acquisition of dozens of conservation easements retiring irrigated acres across the Platte River basin, Nebraska Cooperative Republican Platte Enhancement Project, North Dry Creek Augmentation Project, Re-Use Pit Recharge Demonstration Project, and Groundwater Recharge Demonstration projects. PBHEP concluded activities in 2014.

Platte Basin Water Project Coalition

2012: Interlocal Cooperation Agreement was approved with NDNR and the following NRDs: South Platte, Twin Platte, North Platte, Tri-Basin and CPNRD. The agreement allows utilization of the new Water Cash Fund through NET and the Legislature for Platte Basin management activities in place of Platte Basin Habitat Enhancement Project.

2023: The Supreme Court reversed the 'significant nexus' to navigable waters rule to say a surface water connection must be present to navigable water for a wetland to be regulated.

Phragmites Control

CPNRD began participating in the Platte Valley Phragmites Project in 2009; budgeting \$621,000 from 2009-2020. The project includes 700 landowners who participate in herbicide spraying by helicopter and/or manual spraying of property along the Platte River from Kingsley Dam east to Columbus in the Platte & Central Valley Weed Management Areas (WMAs). The joint effort includes 16 counties in south central Nebraska along the Platte River, 315 miles of river channels and 11,000 acres within the main channels.

2018: The Nature Conservancy reported 26,000 acres have been treated for invasive Phragmites since 2009 within flowing channels of the Platte River in Dawson, Buffalo, Hall, Merrick, Hamilton and Polk counties within the NRD. Phragmites were reduced 86% and purple loosestrife reduced 70% through continued maintenance. Along with applying herbicide, disking/shredding are used for biomass removal and effective with minimal reinfestation. Flow conveyance has improved and wildlife habitat has increased. Sponsors include the Nebraska Environmental Trust, Platte River Recovery Implementation Program, Nebraska Department of Agriculture, Twin Platte NRD, Tri-Basin NRD, Nebraska Public Power District and Central Nebraska Public Power and Irrigation District..

2020: CPNRD invested \$500,000 over 3 years in an endowment to fund the annual cost of maintaining water conveyance in the Platte River.

2023: David Carr replaced Deb VanMatre as CPNRD's representative on the Platte River Resilience Committee.

Instream Flow Rights

CPNRD holds instream flow water rights on the Platte River to protect and enhance wildlife; with the original flow water rights having a priority date of July 25, 1990. The NRD complied with the required 15-year review in 2009 and was granted instream flow rights until 2024. A series of instream flow water rights on portions of the Platte River to protect minimum flows in the river for fish and wildlife purposes was approved on July 2, 1992, by NDWR (now

NeDNR). Flows specified by the instream flow water rights are a factor in providing bird habitat on the Platte, as well as habitat for food sources consumed by those birds. The rights have no effect on levels in upstream storage reservoirs such as Lake McConaughy nor do they take water away from existing irrigators. Other water rights already existing on the river are senior to the rights; but flows specified by the instream flow water rights must be met before any future project could take water from the Platte. CPNRD's application came after extensive study by in response to concerns about low flows, especially during the dry summer periods which are dangerous to the fish and wildlife that depend on the river.

The study indicated that the instream flow water rights wouldn't solve the existing low flow problems, but could be effective in preventing some additional low flow periods by assuring that minimum flows are met before future projects could withdraw water from the Platte. CPNRD held a public hearing in March 1989 on proposed instream flow rates, timing, segments and uses for a proposed water right. While considerable testimony applauded CPNRD for seeking the instream flow water right, there was a division of opinion about the flow rates, dates and river segments proposed. CPNRD met with interested parties to determine the series of flow regimes on which the application is based. NGPC rejected CPNRD's offer for a joint application to the NeDNR. Due to insufficient detailed data available to make a determination of water and habitat needs for selection and nesting by the least tern and piping plover and stopover by ducks and geese, CPNRD did not make its applications for water rights.

On July 25, 1990, six applications for Platte River instream flow water rights to benefit wildlife were filed. Together, the applications sought to protect flows varying from 500-1,500 cfs at specified time periods in certain reaches of the river, extending from near Lexington to near Columbus to benefit sandhill cranes, bald eagles and three species designated as threatened or endangered: least terns, piping plovers and whooping cranes.

NeDNR conducted a hearing on the six applications from July 1 to September 25, 1991. Eighteen parties filed as objectors including: State of Wyoming, several environmental organizations, power and irrigation interests and several NRDs. The Audubon Society and Sierra Club changed their status to proponents during the hearing, two objectors withdrew and four parties were dismissed before the conclusion of the hearing. NeDNR issued a ruling on July 2, 1992, that three of the water right applications be granted outright and a fourth be modified from the NRD's request. Two of the applications with flows for the bald eagle were denied.

CPNRD APPLICATIONS GRANTED

- (1) Flow of 500 cfs from January 1 - June 23 and from August 23 - December 31 from the mouth of the J-2 return, southeast of Lexington to Columbus, to maintain fish and macroinvertebrates as food sources for terns and plovers. Also a flow of 600 cfs from June 24 - August 22 for the same purpose.
- (2) Flow of 1,300 cfs from April 1 - April 14 to maintain staging and roosting stopover habitat for whooping cranes and sandhill cranes for the reach of the river from the J-2 mouth to Grand Island. Increased to 1,500 cfs for April 15 - May 3 and from October 12 - November 10.
- (3) Flow of 1,100 cfs from Grand Island to Chapman during the period of April 1-April 14 to maintain staging and roosting habitat for sandhill cranes.

15-Year Review

In accordance with Nebraska statutes, the CPNRD instream flow water rights were up for a 15-year review in 2009. On October 5, 2009, NeDNR ordered that the CPNRD Platte River instream flow water rights continue to be used beneficially for the purposes for which they were granted, are in the public interest, and should continue in effect with no modifications.

In August 2024, NeDNR issued an Order approving CPNRD's instream flow appropriations, stating that these appropriations continue to be used beneficially for their intended purposes, are in the public interest and should therefore remain in effect without modifications.

These water appropriations are instream flow appropriations on various reaches of the Platte River generally between Lexington and Columbus, NE for the maintenance of habitat for four bird species including the whooping crane (endangered), sandhill crane, least tern and piping plover (threatened). The flows specified are either a factor in providing bird habitat in the Platte Valley or a factor in providing habitat for food sources consumed by the birds.

Nebraska Game & Parks Commission Appropriation

The NGPC submitted five applications on November 30, 1993 seeking instream flow water rights for particular time periods with corresponding flow quantities for specified reaches of the river and for specified fish and wildlife. Some of the applications sought flow quantities during times and at locations that coincided with the instream flow water rights granted to CPNRD. One of the applications was approved and the two others modified for maintenance of fish communities. Another application to maintain whooping crane roost habitat was modified, and the application for flows to maintain wet meadows along the river was denied. Under Nebraska law, surface water rights are given priority on a seniority basis.

Flows granted for the NGPC are junior to and in addition to the NRD's instream flow water rights. The river must have flows that exceed the total of all senior water rights before a junior water right can be obtained by a potential developer. Objectors to the NGPC application formed the Nebraska Water Conservation Cooperative to provide opposition jointly in order to save time and money. 51 local governmental subdivisions and water users organizations joined the Cooperative.

In 1996, NGPC reduced its flow requests for several applications, but the Cooperative continued its opposition. NDWR opened a hearing on the applications on September 25, 1996; which concluded on April 8, 1997. After the hearing, retroactive changes in state law applying to instream flow water rights were adopted by the Nebraska Legislature and both parties were allowed to submit briefs and additional exhibits in reaction to the newly amended statutes. NDWR examined the briefs, transcribed testimony (7,700 pages), 200-plus exhibits part of the hearing record and issued the Order on June 26, 1998. NDWR denied the application for a water right to maintain flows to manipulate the water table underlying nearby wet meadows, saying NGPC failed to show a river-aquifer linkage; and he agreed with the opponents' claim that, as a matter of law, an instream flow for wet meadows is not permitted by state statute.

NGPC Applications to Maintain Fish Communities

1st Application: Instream flow for 1,000 cfs on a year-round basis for the reach of the river between Johnson Power Plant near Lexington and Loup Power Canal return near Columbus. The reach of the water right was shortened to stretch between the Kearney Canal diversion dam near Elm Creek and the Loup Power Canal return; and provided for the appropriation to be in effect only in June, July and August. Because CPNRD already has a water right for 600 cfs, NeDWR provided for varying rates between 200-500 cfs during the three-month period.

In the NRD's water right, a maintenance flow of 500 cfs is protected to benefit the fish community from the J-2 return near Lexington to the Loup Power return from January 1 - June 23. CPNRD's water rights protect a rate of 600 cfs from June 24- August 22, then returns the rate to 500 cfs from August 23 - December 31.

Varying flows are protected in different reaches of the Platte with 500-600 cfs protected above the Kearney Canal diversion dam. 1,000 cfs is protected between the dam and Columbus from June 1 - July 31; and 800-900 cfs, depending on the measuring station from August 1 - 31.

2nd Application: Between the Loup Power Canal return and confluence of Platte and Elkhorn rivers near Waterloo, appropriation is 1,800 cfs on a year-round basis.

3rd Application: NGPC sought a water right for 3,700 cfs on a year-round basis between the confluence of the Platte/Elkhorn rivers and confluence of Platte/Missouri rivers near Plattsmouth. NeDNR approved a maximum rate of 3,100 cfs in January; 3,700 cfs in February- July and October-December; 3,500 cfs in August and 3,200 cfs in September.

Maintain Whooping Crane Roost Habitat Application:

The water right sought for 2,400 cfs from April 1-May 10 and for 2,000 cfs from October 1-November 10, on the stretch of the Platte from the J-2 return to Grand Island, was shortened to the portion of the river affected to the stretch between the Kearney Canal diversion dam and Hwy 281 bridge south of Grand Island.

The Order provides a flow of 50 cfs for April 1-14, increasing it to 1,350 cfs from May 4-10. Fall rate is a shorter stretch of 1,350 cfs for only October 1-11. Fall rate is a shorter stretch of 1,350 cfs for only October 1 - 11.

Land Rights

At this time, CPNRD has no land right needs. This may change in the future to address acquisition of conservation easements to meet CPNRD and NeDNR's IMP requirements to offset post-1997 depletions. Sufficient information is not available at this time to determine financial needs.

Fish and Wildlife Goal

The conservation and enhancement of fish and wildlife resources for the benefit of the people.

Objectives

1. Maintain wetlands for wildlife habitat.
2. Supplement existing fish and wildlife habitat areas that are sufficient in both size and number to provide reasonable public hunting and fishing opportunities for the people of the District.
3. Consider potential damage to or potential for enhancement of, fish and wildlife habitat in the evaluation of District projects.
4. Provide, as available and appropriate, assistance to private landowners and state and federal agencies in the management of fish and wildlife habitat programs.

VII. Forestry Management

Most of the land now encompassed by the NRD, other than isolated trees or wooded areas along rivers and streams, was void of woodlands when this region was first settled. One of the primary reasons was the semiarid climate of the region. Prairie fires, which periodically swept across the area, also contributed to a general lack of trees. Since European settlement of the area, trees have become more abundant. Farmers and ranchers have made a concerted effort to establish trees for farmstead, feedlot and field windbreaks, livestock and wildlife planting.

Forest resources are valued higher for environmental benefits than for commercial purposes; which include wildlife habitat, conservation, watershed protection, energy efficiency, recreation uses and scenic values. In more recent years, drought, tree disease, damage from winds, development, and other factors have been challenging for trees in the cities and towns of the NRD. In 2020, the Emerald Ash Borer was found within the District in Kearney. Trees located within 15 miles of Kearney were encouraged to be treated with insecticide.

CONSERVATION TREE PROGRAM

The Conservation Tree Program is a complete tree planting service started in 1972 to purchase, distribute and plant conservation seedlings from the state forest in Halsey, NE. In 2024, NARD ordered 460,000 seedlings from Bessey Nursery for NRDs to sell. Staff selects the seedlings to be purchased from Halsey annually, alternative sources of tree stock are added to meet customer needs and diversity. CPNRD typically has over 30 varieties of deciduous, conifers and shrubs available and budgets \$10,000/year for the program.

Weed Barrier Program

CPNRD began offering fabric mulch weed barrier in 1991 to protect seedling trees from competing with weeds for sunlight and moisture. Landowners are asked to prepare planting sites before planting seedlings and to properly maintain them after planting. A 10% early ordering incentive is offered for trees, weed barrier and the planting service.

Small-Acre Packages

In 2012, Bessey Nursery introduced Small-Acre Packages for landowners who prefer not to plant 25 of the same type of seedling. These packages are tailored for Eastern Nebraska, Western Nebraska, Flowering, and Wildlife. Each package contains 50 seedlings, consisting of five species with ten seedlings of each species.

2024 Cost Increases

- Tree/shrubs cost was increased to \$31.25 for a bundle of 25 seedlings
- Small-Acre Packages increased from \$60 to \$65
- Fabric weed barrier and installation was increased to \$1.50/foot

Cost-Share Funds

CPNRD 50% of actual costs up to \$3,000 for trees, weed barrier and tree services with orders of 200+ trees

NSWCP 50% funding for trees, weed barrier and tree services with orders of 200+ trees.

Urban Forestry Program The Urban Forestry Program provides 50% cost-share match up to \$5,000 for cities and villages to plant and maintain trees in parks, on school lands & other public property. \$5,000 is budgeted annually.

Nebraska Forest Restoration Partnership Funds through NRCS RCPP provide 75% cost-share for trees and/or windbreak renovation on orders of 200+ trees.

Executive Travel In 2022, Executive Travel began partnering with NRDs to plant 1 million trees over 5 years through the ETGreen campaign. ETGreen

FIGURE 15.
Tree & Weed Barrier Sales

YEAR	TREES	WEED BARRIER (in miles)
2024	37,900	6.26
2023	32,203	10
2022	40,866	13.14
2021	30,825	6.46
2020	20,475	2.03
2019	29,775	7.84
2018	41,225	8.42
2017	35,350	9.94
2016	45,796	11.77
2015	46,575	14.07
2014	54,175	17.38
2013	37,716	18.86
2012	48,025	14.91
2011	54,275	28.25
TOTAL	3,922,262 Since 1973	629.19 Since 1991

was launched in 2021 and is designed to help ET's customers offset their carbon footprint generated by airline travel. CPNRD utilizes the funding to provide cost-share to landowners.

Gift of Trees Partnership

In honor of the 50th anniversary of Nebraska's NRDs and the 150th anniversary of Arbor Day, Nebraska City Tourism and Commerce partnered with CPNRD and other NRDs to plant a tree in each county in Nebraska.

CPNRD planted five 8' trees at the following locations on October 21, 2022:

- Dawson County: Sterling Linden at Lexington City Hall
- Buffalo County: Bur Oak at Cottonmill Park in Kearney
- Hall County: Matador Maples at Stolley Park and the CPNRD Office in Grand Island
- Merrick County: Bur Oak at Merrick County Courthouse in Central City

Forestry Management Goal

To develop and manage trees/shrubs for the production of raw material for wood products; to reduce wind velocities; to conserve moisture; and to reduce wind erosion for the comfort of the people, livestock and wildlife; and for environmental recreation and aesthetic benefits.

Objectives

1. Reinforcement of under-stocked windbreaks and tree lots through interplanting with high value species.
2. Woodland improvement by thinning to achieve proper spacing.
3. To develop more optimum growing conditions through livestock exclusion.
4. To provide adequate wind and snow protection for farmsteads, feedlots, roads and fields through windbreak planting.

VIII. Range Management

Rangeland makes up approximately 36.5% of the NRD's land area. Most of the rangeland is unsuitable for using as cropland due to sandy soils or uneven terrain. Sandy land areas were often plowed when the area was first settled, but it was soon discovered that the land was unproductive when it lost its grass cover. If steep slopes are not kept under a permanent grass cover, the runoff potential from rains and snows is increased. Large amounts of sediment may be carried by the runoff which results in deep ravines and gullies being cut into the slopes. Rangeland can become unproductive if it's not properly managed and overgrazing can cause severe damage by its effects on individual plants and the effects on the plant communities.

Rangeland concerns include the influx of Eastern Red Cedar trees and the encroachment of weeds that diminish the natural water supply for desirable vegetation in the western and central parts of the District. Land that isn't suitable for growing crops, usually as a result of sandy soils or steep slopes, will benefit from being managed as grass to prevent erosion. If these lands are not kept under permanent cover, they can become an area of blowouts, sand dunes or gullies. Land on steep slopes is especially susceptible to water erosion.

When prescribed fire is used along with appropriate grazing practices, the result is increased economic output and wildlife benefit. Of the rangeland needing improvement, a majority could be treated by using better management techniques to eliminate over-grazing. Planned grazing, prescribed burns, and pasture rotation are encouraged. Cost-share to encourage these better management practices are available through CPNRD and NRCS's Nebraska Soil and Water Conservation Program (NSWCP).

Prescribed Fire Program

CPNRD conducts and assists with prescribed burns in conjunction with federal, state and local agencies. Chemical control is being replaced by mechanical removal of trees and shrubs; and is most successful in areas where the number of undesirable woody plants is small. A prescribed burn is often recommended to remove unwanted trees and shrubs. Landowners are also encouraged to eliminate undesirable vegetation and other noxious weeds. CPNRD's fire crew, along with Central Platte Rangeland Alliance, have conducted 300 burns totaling over 50,000 acres since 2005.

2004: CPNRD implemented the Program in 2004 with a cost-share program to help landowners treat their rangelands with the implementation of burns. The purpose of a prescribed burn is to control the undesirable vegetation, to prepare sites for harvesting, planting or seeding, to control plant disease, to reduce wildfire hazards, to improve wildlife habitat, to improve plant production quantity and/or quality, to remove slash and debris, to enhance seed and seedling production, to facilitate distribution of grazing and browsing animals, and to restore and maintain ecological sites.

Prairie Silver Moores (PSM) Fire

2022: On the afternoon of March 14, 2022, a grass fire burned approximately 50 acres of the north spoil pile and the wooded area south of the detention cells at the Upper Prairie Silver Moores Project in northwest Grand Island. Thanks to the NRD staff's controlled burn of the detention cell in November 2021, the fire was easier to contain. Fire units from Alda, Cairo, Boelus, and Dannebrog responded to the scene.

New Rate Structure

In 2024, a new rate structure and additional cost share availability was recently approved for the Prescribed Fire Program. The minimum charge for all burns 40 acres or less is \$2,000. Burns more than 40 acres will be charged \$2,000 with additional charges per acre over 40 acres.

- Burns 41 - 159 acres: \$2,000 + \$16/acre over 40 acres
- Burns 160 - 319 acres are \$2,000 + \$8/acre over 40 acres
- Burns over 320 acres will be determined on a case-by-case basis

The 50% cost share eligibility was extended to include landowners who are not enrolled in another program or contract. CPNRD staff will continue to develop burn plans, assist with the prescribed burns, and assist with grants to aid Prescribed Burn Associations.

Central Platte's Prescribed Fire Program was initiated to promote and encourage landowners to form Prescribed Burn Associations. The NRD has conducted and assisted with 306 prescribed burns totaling 51,832 acres since 2004.

Most of the prescribed burns for landowners vary from 20 acres up to 160 acres. Although CPNRD has met goals to educate landowners on the safe and effective use of prescribed fire for land management, the new rate structure was necessary since the subsidized rate was less than Prescribed Burn Associations needed to charge to cover their expenses and the subsidized rate was competing with private industries. CPNRD's rate set in 2004 was also outdated and did not cover the NRD's expenses.

Prescribed Fire Contractors

2019-2023: Scholl Fire & Fuels has been contracted to implement burns since 2019 to increase the number of burns the NRD can implement each spring. The 2023 budget included \$50,000 for burn preparation.

2024: Prescribed Pyro LLC, of Broken Bow, to conduct prescribed burns this spring for CPNRD's Prescribed Burn Program at a rate of \$3,100/day for approximately 40 days. The NRD received seven contractors' bids, with Prescribed Pyro LLC submitting the low bid. The crew will assist the NRD with cutting cedar trees on sites previously burned and preparation on sites that aren't adequately prepped for burning this year.

COST SHARE PROGRAMS

Burn Preparation

This program was implemented to make pastures safer for burning, conserve native grasslands for sustained grazing and to increase wildlife habitat. Cost share is 50% up to \$75 per acre per landowner. The maximum payout is \$10,000. One application per landowner per lifetime. Eligible practices are tree removal and fire line preparation.

Planned Grazing

Eliminating overgrazing on damaged land may restore vegetation over time. Reseeding or interseeding may also be necessary after which grazing must be deferred for 1 to 3 years before grasses are established enough to be grazed lightly again. The NSWCP provides cost-share for a variety of grazing land/rangeland management practices. Components such as pipeline, tanks, wells and cross-fence are used to complete a planned grazing system to distribute grazing more evenly over the pasture. With management of intensive grazing, pastures may be grazed for longer seasons. Dugouts are funded to provide storage for runoff water that can provide a supplemental source of water and livestock windbreaks can provide protection from winter weather and protection for calving.

Grazing Deferment

In 2013, the Grazing Deferment cost-share program was initiated to provide an incentive for landowners to defer grazing in a pasture for one growing season so that a prescribed burn can be successfully applied in the following year to reduce invasive Eastern Red Cedar. The cost-share was increased in July 2021 from \$15 per acre to \$30 per acre with a maximum of \$30,000 per landowner.

In 2015, CPNRD was awarded a three-year grant from NET to reduce invasive Eastern Red Cedar trees and improve rangeland. The focus was in Dawson County; however, other pastures within the District were included in the project as well. Two cost-share programs were developed to administer the funding. The Grassland Conservation Program was initiated to pay participants to prepare fire breaks and clear cedar trees in preparation for a prescribed burn; and the Grazing Deferment Program provided \$15 per acre to defer grazing on a pasture for one year to allow a prescribed burn to be successfully applied the following year.

The fire contractor cut an estimated 299,585 cedar trees to implement the landscape-style burn. The crew worked on landowner burns from Dawson to Merrick counties, preparing 257,978 lineal feet for firebreak and mechanically cutting 3,691 acres of cedars. The project improved habitat and preserved native grass species including the tall-grass prairie in Dawson, Lincoln, and Custer counties.

Preserving Grasslands

In 2023, five NRDs received grant funding for the "Partnering to Preserve Central Nebraska's Core Grasslands" project, sponsored by the National Fish & Wildlife Foundation (NFWF). The participating NRDs are Central Platte, Twin Platte, Tri-Basin, Middle Republican and Lower Loup. The NFWF grant awarded a total of \$300,000, which will support the project through July 2025. Additionally, the Nebraska Environmental Trust awarded \$149,500 to CPNRD for the project. Eligible practices for pasture improvement, aimed at preserving grazing lands and enhancing wildlife habitat, include cedar cutting and grazing deferment in preparation for pasture burns.

Education Component

CPNRD staff visited six high schools and conducted a demonstration burn at Gothenburg High School to discuss the benefits of prescribed fire. Grant funding included \$775,735 from Nebraska Environmental Trust and \$2.2M in matching funds from the Natural Resources Conservation Service, Nebraska Game and Parks Commission, and the Nebraska Forest Service.

Grant Accomplishment Overview

- * 3-year Burn Goal: 12,000 acres
- * Burn Total: 20,661 acres plus 2,555 acres burned by CPNRD
- * Total firebreak prepared: 257,978 lineal feet
- * Total Mechanical Cedar reduction: 3,690.6 acres
- * 300,000 cedar trees removed from landscape
- * Funded 6 new sprayers, a water trailer, UTV/40 gallon fire unit
- * The sprayers add 2,390 gallons of water capacity to the fireline

Training Program

Within the District, there are many fields in poor condition needing a burn, and the NRD helps to facilitate that project safely and professionally. CPNRD hosts training events and outreach for landowners, other NRDs, agencies, firefighters and fire marshals. By providing training and assistance, CPNRD is helping to prevent costly accidents while enhancing grasslands for economic return and habitat. Staff has conducted 40 events to train over 600 participants.

Other successes:

- Managed \$1.5M prescribed fire grant projects to form Landowner Prescribed Burn Associations
- Assisted the Fire Learning Network to train firefighters from around the world
- Created inroads in Nebraska for liability insurance coverage for prescribed burning.

Native Prairie Outreach Project

2008: CPNRD has coordinated the Native Prairie Outreach Project at Husker Harvest days, distributing native prairie seed packets and education materials to approximately 1,500 people annually. Nearly 800 packets of seed totaling 11 acres worth of restored prairie are handed out annually totaling (10) 55 gallon garbage cans. Information on native plants and patch-burn grazing systems is also provided.

Partnering NRDs provide contributions to purchase high diversity seed mix from Prairie Plains Resource Institute. The mix contains hand-harvested forbs and tall grass species.

2019: CPNRD developed a website to track the success of the project. Landowners document their plot by adding a location and photo of their plot. A QR code for landowners to scan with their phone was also developed to take them to the website. The NRDs are planning to continue the project in the future. Website: <https://arcg.is/1Ca1iP>

2023: 12 NRDs provided \$200 in funding for this project totaling \$2,400.

Range Management Goal

To have rangelands in the District in a "high good" or "low excellent" condition.

Objectives

1. To establish adequate permanent cover on all Class VII land, with minor exceptions in accordance with Central Platte NRD's Rules and Regulations.
2. To establish approved cultural management practices, vegetative practices or structural improvements.

IX. Outdoor Recreation

Possibilities for developing outdoor recreation resources in the District are limited only by the willingness of the people to support a program. Development of parks and recreation facilities is an expensive endeavor and the pace of development is highly dependent upon the public value and priorities for the tax dollars that are needed. Water harnessed under flood control projects and other multipurpose reservoirs can and does serve recreation needs.

TRAILS

Kearney Area Trail System - 2005

CPNRD approved funds to support a 13-mile trail system for the Kearney Area Trail System. The initial 2009 construction timeframe was delayed due to a fire that burned a bridge over the Platte River. CPNRD used original funds agreed upon to provide assistance to rebuild the bridge. In 2014, a new bridge was built, the 1.7 mile trail was paved and repairs were made to the main channel bridge.

COST: CPNRD funded \$60,000 in 2007 for Phase IV and \$50,000 in 2008 for Phase V.

PARTNERS: Nebraska Department of Roads, Kearney Recreation Department, NGPC, CPNRD

Wood River Flood Control Project Trail

A hike and bike trail was established by the city of Grand Island on the Wood River Flood Control Project's levee system, providing an additional two miles to Grand Island's trail system. The western portion of the trail is complete with future plans extending the length of the entire project. PARTNERS: City of Grand Island, CPNRD

Central City/Marquette Trail - 2016

In 2006, a request for the NRD to enter into a Joint Action Agency to develop a plan for a Central City/Marquette Hike and Bike Trail was brought to the board. In 2011, the Nebraska Trails Foundation agreed to ownership of the trail and it has since repaired a bridge south of Central City and opened the trail. In 2016, CPNRD provided \$5,000 in funding to the Platte PEER Group to complete the final mile of the trail. COST: \$5,000

Johnson Lake Trail - 2018

From 2018-2020, CPNRD funded seeding and reseeding 10,000 square feet of the new Johnson Lake Trail. The area starts at the gazebo and extends south to Pelican Bay Drive. COST: \$600

PROJECTS

B-1 Reservoir - 1983

B-1 is the largest of seven flood control structures in Buffalo Creek Watershed. Construction included a supply canal, 1.6 miles of power line relocation and 1/2 mile of county road improvements. In addition to flood control, the project was expanded to include recreation and groundwater recharge. Recreation includes seasonal primitive fishing, kayaking and wildlife viewing.

Crane Viewing Sites - 1994

In 1993, a task force of various governmental and private agency representatives was brought together by CPNRD to develop ideas in response to concern about safety for local residents, farmers and crane watchers in the Central Platte valley, especially during early morning and late afternoon hours on local roads. The Task Force developed a comprehensive plan known as the Central Platte Historic, Scenic and Trails Project to be completed in phases. Approval was granted in 1994 by the Nebraska Department of Transportation under the federal Intermodal Surface Transportation Efficiency Act (ISTEA) for Phase I of the comprehensive plan developed by the task force.

According to the grant application, the multi-year project promoted awareness of the historic importance of the Central Platte Valley as a transportation corridor dating from the early 1800s. The corridor was used by explorers such as Stephen H. Long and John Charles Fremont and by fur traders who passed back and forth on and along the Platte River. In the period from the 1840s-1860s, the Platte River Valley was a virtual "superhighway" as the major transcontinental route of the covered wagon migration; it became known as "The Great Platte River Road."

Three roadside turnout areas between Doniphan and Shelton on the road along the south side of the Platte were developed in Phase I. A portion of the cost was paid under the ISTEA and the remaining cost was contributed by the NRD and participating counties-Hall and Buffalo. The Audubon Society provided land for a roadside turnout near Shelton. The viewing decks provide a safe and bird-friendly way to view cranes and waterfowl. Since safety was the

primary objective of the task force, the project prioritized redirecting traffic away from county roads and bridges during the crane viewing season.

Alda Crane Viewing Site

Located 2 miles south of the I-80 Exit 305 with three additional roadside turnouts located south and east of the Alda interchange on Platte River Drive, at the intersection of Elm Island and Lowell roads. In 2010, the Groundwater Foundation designated it a "green site". Kiosks were updated in 2015 and 2021.

2022: JEO's contract was approved (\$58,290) to develop a final design, permitting and construction services for boardwalk improvement features, parking lot paving/expansion, trail replacement details and fishing access.

COST: \$315,000 estimate; CPNRD share \$16,000

2023: CPNRD requested and received an extension for timeframe from NET from 06/30/24 to 07/31/24.

2024: Renovations were completed in June 2024. Due to delays in receiving required permits, construction was necessary during the spring crane migration to meet NET's construction deadline of June 30, 2024; and the site was closed to the public. An amendment to JEO's contract for additional services was approved for \$12,500, for a total of \$75,390. The additional services included staff training to conduct environmental surveys for compliance with the Migratory Bird Treaty Act, community engagement, Recreational Trails Program and the Nebraska Environmental Trust grant closeouts.

Grants Received:

Recreational Trails Program (RTP): \$250,000-RTP administered by NGPC. CPNRD provides 20% match.

Nebraska Environmental Trust: \$75,000-NET to be used exclusively for repairs on streambank near deck.

Richard Plautz Crane Viewing Site

Located 1.5 miles south of the I-80 Exit 285 near Gibbon. Site has two elevated wooden viewing decks, 1,650' trail and parking lot. In 2016, Audubon at Lillian Rowe Sanctuary created a new viewing pull-out just south of the South Channel on the west side of 43rd Road near Gibbon for a better crane viewing location, and to remedy safety issues by providing more parking space to reduce the number of cars parking on rural roads.

In 2020, CPNRD received two grants to assist with rehabilitation of the site. Morten Construction, Kearney, constructed a concrete trail, parking lot, streambank stabilization and riprap placement. The project was completed in 2021. COST: \$315,000; CPNRD share \$16,000.

Grants Received:

Recreational Trails Program (RTP) \$259,500 - RTP administered by NGPC, CPNRD provides 20% match.

Nebraska Environmental Trust \$50,000 - NET used exclusively for repairs on the streambank near deck.

Crane Meadows Stabilization - 2001

Funding was provided to Crane Meadows Nature Center for bank stabilization erosion control for 200 feet of bank stabilization; 10,000 sq ft of wetland restoration and reseeding; and erosion control of an island. COST: \$2,600

Great Platte River Archway Stabilization - 2002

Funding was provided to Great Platte River Road Archway Monument for a streambank stabilization project west of the Archway in Kearney. The North Channel of the Platte River and Turkey Creek eroded to within 5' of a local sand-pit. Corps of Engineers surveyed the erosion and provided an Emergency 404 permit. COST: \$13,500, City of Kearney provided 25% of the cost.

Urban Conservation Program - 2017

Two cost-share programs were implemented to assist cities, villages and counties establish and/or improve public recreational areas and trails, lake dredging, and acquisition of land or land rights for recreational purposes. In 2022, the Board updated the ranking priorities and removed the deadline criteria to accept applications year-round. The following funding priorities were also added: new recreation, safety and education features.

- **Recreation Area Development Program** Assist sponsors with the acquisition of land, or land rights, and to establish, develop and improve public recreational areas, including lake dredging. The cost-share rate is 50% of eligible project costs up to a maximum of \$40,000.

OUTDOOR RECREATION

- **Trails Assistance Program** Cost-share with sponsors on trails projects that have received funding under the Transportation Enhancement Program administered by the Nebraska Department of Roads or the NGPC. The cost-share rate is 50% of the local share of the project with a program maximum of \$40,000.

Urban Conservation Projects Approved

2018: City of Grand Island - \$30,000 picnic shelters at Sterling Park & City of Kearney - \$17,965 Whitewater Park

2019: City of Gothenburg - \$10,000 bank stabilization at Lake Helen

2020/21: No applications

2022: City of Lexington - \$30,000 Lexington Patriot Park and Pond & Village of Cairo - \$20,000 North Ball Field

2024: Visit Kearney was awarded \$25,000 to support the development of a wildlife exhibit within the new Kearney Visitors Bureau office and visitor center. The Kearney Visitors Center, currently under construction at the intersection of 11th Avenue and Talmadge Street, aims to educate visitors about the diverse natural environment and wildlife in Central Nebraska and Kearney. The newly approved project will offer visitors a unique experience to learn about cranes and local wildlife.

Outdoor Recreation Goal

Incorporate park and/or recreation features into other District programs and assist organizations, groups, and government agencies in developing facilities to meet park and/or recreation needs.

Objectives

1. To incorporate, wherever feasible and desirable, park and/or recreation features into other District programs.
2. To assist, as time and funds permit, other organizations, individuals, groups and government agencies in developing facilities to meet park and/or recreation needs of the District.

X. Pollution Control and Solid Waste Disposal

Pollution control, solid waste disposal and sanitary drainage have been addressed by CPNRD, although federal and state governments have taken most of the responsibility for all of these. Additionally, municipalities and county government are mandated by state law to share the responsibility. The biggest role for NRDs appears to be in the area of non-point source groundwater pollution, although the NRDs have responsibilities for all forms of pollution.

Air Quality

Air quality across the District is excellent. Complaints are sometimes received by the District, but they are generally handled by local health departments, the NDEQ or the U.S. Environmental Protection Agency. Some common complaints develop when farmers cause smoke by burning residue in their fields or involve odors from feedlots. These conditions are generally of short duration and are settled on a local basis. Industrial air pollution is limited in its extent since there are no metropolitan-size industrial cities in the District, and most plants make an effort to comply with industry and government regulations that prevent major problems. During certain times of the year, when the combination of dry weather, strong winds and open fields are all present, the air quality is poor due to blowing dust. Tree planting is encouraged by the NRD to reduce this problem.

Land Quality

Improper disposal of solid waste, petroleum products, chemicals and other waste products may cause land pollution and contribute also to water quality concerns. CPNRD will continue to play a minor role in the area of solid waste management, providing technical information/expertise for disposal studies and working within a multi-government framework to meet regional needs. In 1992, the Nebraska Legislature adopted LB 1257 to address solid waste disposal problems.

The law, known as the Integrated Solid Waste Management Act, requires municipalities and counties to provide for solid waste management services. Many communities already had sites for disposal of solid wastes, however, most dumps and landfills did not meet the Act's regulatory requirements and needed to be improved or relocated in order to meet those standards. The NRD will continue to monitor the quality of natural resources and will initiate or update current programs as necessary.

CPNRD has provided funding to the Grand Island Area Clean Community System for educational programs and cleanup events and to the City of Kearney's Household Hazardous Waste Program.

Pollution Control and Solid Waste Disposal Goal

To protect and enhance the quality of land, air, surface water and groundwater within the District.

Objectives

1. To establish irrigation water management techniques on all irrigated land to properly conserve and efficiently utilize soil, water and fertility.
2. To protect and preserve the quality of ground and surface waters that presently meet acceptable standards as adopted by the U.S. Public Health Service & Nebraska Department of Environment and Energy.
3. To improve the quality of groundwater and surface water not presently meeting the standard to such a level as to at least meet water quality criteria contained in the standards.
4. To establish adequate permanent cover on all Class VI & VII lands and re-establish cover on those range and pasture sites classified in "poor" condition in order to reduce erosion and sedimentation in surface waters.
5. To establish approved cultural management practices, vegetative practices and structural measures, as needed, on all land to prevent wind and water erosion, in order to reduce erosion and sedimentation in surface waters.
6. To establish erosion control measures as needed, on all industrial development sites, residential development sites, road construction sites & other non-agricultural sites; in order to reduce erosion and sedimentation in surface waters.

XI. Information and Education

The Nebraska Legislature gave NRDs a regulatory role which requires keeping the public informed about programs and requirements. The Board depends on the public to be informed to ensure that constituents' priorities are addressed and to provide factual information on natural resources issues.

INFORMATION PROGRAMS

The public is informed about various topics, including groundwater utilization, groundwater quality—particularly in high nitrate areas within the District—flood control, soil health, forestry, native prairies, grasslands, invasive plant species, wildlife habitat, endangered species, pollinator habitats, rules and regulations, management plans, and research studies.

In Perspective Newsletter

In 2014, CPNRD began including the newsletter in the District's 12 local newspapers. Staff also continued to mail 1,300 copies and email 230 digital editions. Previously, the newsletter was only mailed to landowners in Phase II/III Groundwater Management Areas and other agencies, reaching 6,500 households.

2023: With the merger of several local newspapers and decline in printed subscriptions, newsletters inserted in newspapers was reduced from 38,650 to 30,580. 1,227 are mailed and 201 are emailed.

Brochures

Brochures are available for all NRD programs. Displays provide information about NRD programs in the NRD lobby and at local events, conferences, agricultural trade shows, etc.

Branding

In 2008, NARD adopted *Protecting Lives, Protecting Property, Protecting the Future* as the slogan to be used by the NRDs in public outreach efforts.

2015: CPNRD provided \$3,710 towards a 1-hour video-*Keeping Nebraska Local: A Unique Approach to Resource Management*, produced by NETV featuring Nebraska's NRDs. Director Mick Reynolds narrated it.

2016: The NRD's new logo was designed. It is utilized for marketing, promotions & advertising.

2017: Red Thread, Lincoln, developed a branding video for used for outreach and educational events. Cost:

2019: Mayhew Signs was hired to design and install an 8' double-sided aluminum outdoor sign with the NRD's logo and slogan. Cost: \$13,716

2020: An audio jingle was produced by World Wide Audio Media/Creative Radio. The jingle is included in the NRD's radio, television and digital ads and radio programs. Cost: \$1,800

Social Media

In 2015, the NRD's website (cpnrd.org) was overhauled. Social media efforts were expanded adding Facebook and Twitter accounts. In 2021, Provident Promotions of Hastings, rebuilt the website for \$9,000 and \$35 monthly fee to host the site. The new site launched March 2021.

Media Relations

Press releases are emailed to local newspapers, radio stations, television stations, and magazines. Social media posts are also used to provide timely updates to the media. Additionally, CPNRD participates in radio talk shows with KRVN and KRGH stations. Advertising is purchased for radio, television, and web pre-rolls to promote the District's programs and events.

2020: Began advertising on Telemundo television to inform the Spanish-speaking population about the NRD.

2023: Several local newspapers were purchased by larger companies; resulting in lower numbers of residents who subscribe to printed newspapers.

Outreach/Events

CPNRD participates in community projects and events including: Husker Harvest Days, NARD Foundation, Nebraska State Fair, Summer Orientation About Rivers, Earth Day, Leadership Tomorrow, Conservation Nebraska and other community and civic organizations.

Annual Water Programs Update

The NRD hosts an annual Water Programs Update to inform the public about CPNRD's water programs. The event location is rotated throughout the District. There are typically 40-70 attendees.

Birding Event

In April 2023, the NRD's first birding event was held from 8:00-Noon at PSM site near Grand Island. 23 people attended. The 2024 event was canceled due to a heavy rain event.

50th Anniversary Open House

In 2022, Grand Island Mayor Roger Steele presented a proclamation declaring July 11-15 "NRD Week". 175 people attended including four senators. CPNRD also participated in NARD's year-long 50th anniversary campaign.

NARD Basin Tour

In 2023, 65 people attended the NARD basin tour hosted by CPNRD. The tour made several stops across the district including the Prairie-Silver-Moores Flood Risk Reduction Project, Raising Nebraska/Outdoor Learning Area at the Nebraska State Fairgrounds, the Alda & Gibbon Crane Viewing Decks, B-1 Reservoir and Cozad Ditch headgates.

Conservation Awards

Nominations are submitted for the NARD and/or Master Conservationist Awards annually.

2013: Great Western Bank approached CPNRD to partner in recognizing landowners who use best conservation practices. Awards were given for cropland, grassland and community efforts.

2017: The board discontinued the awards when Great Western Bank decided not to continue sponsoring the awards ceremony.

EDUCATION PROGRAMS

CPNRD offers a variety of educational opportunities for schools within the District that focus on natural resources for all grade levels. Staff is certified in Project Wild, Project Wet, Project Learning Tree and Aquatic Wild curriculums. Staff provides activities to school classrooms, afterschool clubs, camps, festivals and other events upon request. In 2019, \$5,000 was added to the Information/Education Budget to increase presentations and provide additional materials for K-12 classrooms within the District.

Nebraska Children's Groundwater Festival

In 2004, CPNRD began coordinating the Nebraska Children's Groundwater Festival for 4th and 5th grade students at Central Community College/College Park in Grand Island at the request of the Groundwater Foundation. The NRD is the primary sponsor, contributing \$10,000 annually. Donations from businesses and individuals allow schools to attend at no cost. Up to 1,000 students from 40 schools attend annually representing up to 22 counties.

Forty natural resources professionals offer activities covering a wide range of groundwater-related topics, including aquifers, floodplains, watersheds, stream health, wildlife, ecosystems, wetlands, stormwater, wastewater, groundwater for agriculture, soil health, and more. Over 100 volunteers assist the presenters and guide students through these activities to ensure an engaging and educational experience.

Since 1985, over 31,000 students have attended the festival. To better align with Nebraska State Standards, the Festival Committee decided to invite only 5th-grade students, rather than both 4th and 5th graders. In 2019, CPNRD staff accepted the Grand Island Izaak Walton League of America Award and the National IWLA Roll Call Award on behalf of the Nebraska Children's Groundwater Festival for outstanding contributions to the conservation of our nation's natural resources. In 2023, Marcia Lee, Festival Coordinator, was honored as the Nebraska Outstanding Educator of the Year by Project WET for her coordination of the Festival. Lee was nominated by NARD.

Arbor Day

In 1992, the NRD began providing tree seedlings to area schools to celebrate Arbor Day. The NRD orders up to 1,500 seedlings from Halsey to deliver to area schools. Presentations are provided upon requested.

Outdoor Classroom Program

CPNRD's Outdoor Classroom Program was developed in 2001 to provide funding to promote natural resources education through hands-on learning. Funding is provided through three types of grants: Outdoor Classroom,

Community Grants and Mini-School Grants. The concept is to provide lessons in nature to ensure that children today are growing up with meaningful daily connections to nature. When children spend time in nature-filled outdoor learning environments, research shows that conflict is replaced by pleasant and positive exploration.

Schools that received funding are Grand Island Northwest; Lexington District #22; Wood River Elementary; Centura Public Schools; Horizon Middle School, Northeast Elementary, and Glenwood Elementary in Kearney; Doniphan-Trumbull Elementary, Cozad Community Schools, Grand Island Senior High, Kearney High School. The NRD has provided funding for 22 outdoor learning areas since 2001. In 2021, the application was updated to state that the outdoor classroom site must be located on public property.

Outdoor Learning Area (OLA)

CPNRD staff are members of the Grand Island Groundwater Guardian (GWG) Team and instrumental in providing updates and maintenance to the Outdoor Learning Area (OLA). From 2011-2012, the GWG team received \$47,500 in grants to promote rain gardens, native prairie, a bioswale, and Buffalo grass on the Nebraska State Fairgrounds. Groundbreaking ceremony was held to unveil the project. The OLA is open year-round to the public.

2018: Education features were added including a life-size Bald Eagle's nest, wildlife track stepping stones and tree displays. The Buffalo Grass was also reseeded.

2019: A pollinator path was added to the native prairie area and fencing to reduce damage from rabbits.

2021: Gazebo was refinished by Izaak Walton League, plants were transported from the City of Grand Island's welcome sign, sprinkler system was updated and new signs were installed.

2023: The Nebraska Well Drillers Association selected CPNRD's application for a monitoring well at the OLA. The well (55 feet deep) was dug by Downey Drilling in October and utilized as a training session. A ribbon-cutting ceremony was held the same day.

2024: Seim Ag Technology donated and installed a telemetry system for the monitoring well at OLA to provide real-time data on groundwater levels. A kiosk near the elevated map inside Raising Nebraska has a link to view the groundwater levels year-round and observe how they fluctuate at this site. The link is also on CPNRD's website at: <https://www.cpnrd.org/education/outdoor-learning-area/>

College Scholarships

2007: Implemented a high school scholarship program for students to further natural resources education. The program funded ten students at \$1,000/academic year. In 2014, the program name was changed to CPNRD-Ron Bishop Memorial College Scholarship to honor former manager, Ron Bishop.

2018: Program was changed to provide five \$1,000 scholarships to junior and senior college students pursuing natural resources degrees.

2024: Changes were made to extend the annual application deadline to June 15th and to accept applications for college sophomores through graduate students who are majoring in a natural resources-related field.

Land and Range Judging Contests

The South Central Land Evaluation and Area 4 Range Judging contests are co-hosted with NRCS. CPNRD staff handle school registration, scoring, volunteer coordination and training, assistance with field activities, meals, and award distribution. NRCS is responsible for locating and preparing sites and conducting field activities, while UNL Extension provides county office staff.

2022: In September 2022, the NRD Managers Committee submitted a request to the Society for Range Management (SRM) to transition the Range Judging contest to ScanTron grading cards, as 80% of states, including the national competition, already use ScanTron cards for Range Judging.

2023: Nebraska Land Judging transitioned to ScanTron cards, allowing for faster, more accurate scoring with fewer volunteers. The NRDs invested \$25,000 to purchase ScanTron machines, with CPNRD contributing \$1,030 towards the Central Region machine. The NRDs also expressed their desire for Range Judging to adopt ScanTron. A sub-committee of the Range Judging Steering Committee was formed to explore developing a ScanTron grading card.

2024: The SRM voted against developing a ScanTron grading card, denying the NRD Managers Committee's request. As a result, the Lower Loup, Upper Big Blue, and other NRDs scheduled to host contests in 2024 have declined to participate. CPNRD is scheduled to host in 2025 but may also decline if the SRM does not reconsider the Managers Committee's request.

NCF-Envirothon

The Central Region Envirothon is co-hosted with Lower Loup NRD and the state Envirothon location is rotated each year. In 2021, the international NCF-Envirothon was hosted virtually by Nebraska's NRDs with 41 teams competing from the United States, Canada and China. The NARD Foundation provided cash prizes to the top ten placing teams with New York winning the top prize of \$15,000. Nebraska had last hosted the national contest in 1996.

Platte Basin Timelapse

\$2,000 was provided towards the *Timelapse: Monitoring Change Over Time* project. The NARD board partnered with Michael Forsberg and Nebraska Environmental Trust to create STEM curricula, meeting Nebraska standards for schools. Materials were developed with teachers and curriculum designers, with input from agricultural experts and the Nebraska Department of Education. The project was presented at the 2017 Nebraska Children's Groundwater Festival. CPNRD utilizes the curriculum for youth activities. The project is also featured at Raising Nebraska and is utilized for the NRDs Largest Classroom Days activities during the Nebraska State Fair.

Wellness Program

The Wellness Program was implemented to educate the board and staff on a variety of health-related topics, organize lunch-and-learn sessions, and encourage participation through health-themed challenges. The committee also offers volunteer health screenings, CPR/AED/First Aid, and safety training. Additionally, information is shared about health-related events and other wellness opportunities in the community.

In 2010, CPNRD began offering wellness activities for staff members including fitness/nutrition challenges, quizzes, and health tips. NARD initiated an effort with all NRDs to start wellness programs since data shows that employee health management initiatives bring value to employees and performance in a multitude of ways. The CPNRD Wellness Committee was officially developed in 2013. A Worksite Wellness Employee Interest Survey developed by NARD determined that employees are interested in health-related and team-building activities.

Information and Education Goal

That the public will develop a connection with natural resources conservation and management through accurate knowledge and understanding of the District's objectives.

Objectives

1. Establish and implement information and education programs for the general public about NRD's duties, responsibilities and objectives.
2. Establish and implement information and education programs for those people with direct interests in the District, specific projects and programs.
3. Work with the news media in order to improve the understanding of the general public about the District and its projects and programs.
4. Assist in developing curricula for use in educating elementary, secondary and post-secondary students about natural resources, conservation and environmental issues.
5. Assist in training teachers and leaders of educational organizations to maximize the use of the curricula that have been developed.
6. Promote communications program designed to enhance the knowledge and understanding of the District's directors and staff about the priorities and expectations of the citizens of the District.

VII. Appendices

Summary of Projected Needs-Annual Work Hours Required (2024-2029)

Staff	Admin	O&M	Planning	Range Mgmt	Info/ Education	GW/SW, Supply	GW Quality, Pollution, Solid Waste	Flood Reduction	Drainage	Soil Con, Erosion	Forestry Mgmt	Fish, Wildlife Habitat	Rec/ Parks	Total
General Manager Lyndon Vogt	1,000	40	200	10	40	800	180	40	40	40	20	20	20	2,450
Assistant Manager Jesse Mintken	480	320	160		50	240	160	450	250	80		100	160	2,450
Administrative Assistant Kelly Cole	1,800		20					50	5	5	160	40		2,080
Agronomist Collin Quandt	200		400		480	200	800							2,080
Communications Assist. Brody Vorderstrasse				80	2,000									2,080
Cozad Ditch Manager Mike Schmeeckle			100			1,900			80					2,080
Cozad Ditch Rider Jake Laird			80			2,000								2,080
GIS Coordinator Angela Warner	60		40		60	1,680	240							2,080
GIS Image Analyst Luke Zakrzewski	40		40		40	1,680	220		60					2,080
Hydrologist Brandi Flyr	120		160		40	1,600	40	40				80		2,080
Information/Education Marcia Lee	200		280		1,600									2,080
Natural Resources Tech Devin Hingst	40	800			80	430	440			100	270			2,080
Office Assistant Courtney Olson	1,800	20			15	110	25	20	20	20	25	15	10	2,080
Precision Conservation Darren Cudabeck	580		1,500											2,080
Prescribed Burn Planner Nelson Winkel	100	100	1,500	260	40						80			2,080
Projects Assistant Tom Backer	200	820	100			200	210				600		50	2,180
Range Management Specialist David Carr	240	200	400	760	200		460							2,260
Resources Conservation Bill Hiatt	40	660	80	400	200		300	180			120	80	80	2,140
Resources Conservation Shane Max	40	40	40		15	1,325	240	200	120	120				2,140
Secretaries (4) NRCS Field Offices					20	100	100			7,800	200	100	0	8,320
TMID Secretary Marc Ostergard						380								380
TMID Manager Jim Harris			200			1,800			80					2,080
TMID Technician Mike Ostergard						2,080								2,080
Water Quality Specialist Tricia Dudley	200					300	1,280	100	100			100		2,080
Water Resources Tech Courtney Widup	80		100		300	1,250	350							2,080
Total	7,540	1,960	6,640	1,510	5,380	18,345	5,315	1,080	755	8,165	1,255	535	320	58,800

Fiscal Budgets

Below are the FY 2024 and 2025 Fiscal Budgets that were adopted by the Central Platte NRD Board of Directors, in accordance with state statutes. The money that the NRD receives from local property taxes provides funding for flood control, water quality and water quantity programs, soil health, tree planting, wildlife restoration areas and many other natural resources benefits. The NRD strives to conserve and preserve natural resources for the residents of central Nebraska.

BUDGET SUMMARY COMPARISON Fiscal Year 2023/2024 to Fiscal Year 2024/2025

GENERAL & SINKING FUNDS	Adopted FY 2023/2024	Adopted FY 2024/2025
Cash, Investments & Co. Treas.	14,841,636.75	16,471,016.54
Revenue	15,287,921.73	12,893,843.43
Total Balances on Hand & Revenue	30,129,558.48	29,364,859.97
General Fund Requirements	33,823,204.95	33,587,250.20
County Treas. Commission	47,784.42	52,963.61
Sinking Fund Requirements	1,084,795.86	1,073,970.33
County Treas. Commission	-0-	-0-
Total Requirements – Both Funds	(-)34,955,785.23	34,714,184.14
Property Tax Required		
General Fund	4,826,226.75	5,349,324.17
Sinking Fund	-0-	-0-
Total – Both Funds	4,826,226.75	5,349,324.17

2024/2025

Property tax request: \$5,349,324.17. Total assessed value of property: \$22,391,731,570.
Total assessed value of property differs from 2023/2024, which was \$20,642,169,013.00 by 8.48%.
Based on the property tax request, and changes in other revenue, the total operating budget of \$34,714,184.14 will be less than the 2023/2024 operating budget of \$34,955,785.23 by 0.69%.

FY 2023/2024 Actual Levy	General Fund	0.023380	
	Sinking Fund	0.000000	Total Both Funds 0.023380
FY 2024/2025 Levy	General Fund	0.023890	
	Sinking Fund	0.000000	Total Both Funds 0.023890

Fiscal Budget Forecast Projection (2026-2030)

The following outlines the projected budgets for fiscal years 2026 through 2030. Overall, the total budgets are anticipated to be slightly lower than the current 2025 fiscal budget. However, as we prepare for future flow mitigation projects, revenues are expected to increase slightly during this period.

General & Sinking Funds	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Cash, Investments & County Treasurer	11,471,016.54	6,471,016.54	6,632,791.95	6,798,611.75	6,968,577.04
Revenue	11,193,843.43	11,193,843.43	11,473,689.52	11,760,531.76	12,054,545.05
Total Balances on Hand & Revenue	22,664,859.97	17,664,859.97	18,106,481.47	18,559,143.51	19,023,122.09
General Fund Requirements	27,039,595.50	22,198,236.68	22,774,316.86	23,365,949.04	23,973,497.02
County Treasurer Commission	55,098.04	56,750.98	58,169.75	59,624.00	61,114.60
Sinking Fund Requirements	1,079,970.33	1,084,970.33	1,090,970.33	1,095,970.33	1,099,970.33
County Treasurer Commission	0.00	0.00	0.00	0.00	0.00
Total Requirements - Both Funds	28,174,663.87	23,339,957.99	23,923,456.94	24,521,543.37	25,134,581.95
Property Tax Required					
General Fund	5,509,803.90	5,675,098.02	5,816,975.47	5,962,399.86	6,111,459.86
Sinking Fund	0.00	0.00	0.00	0.00	0.00
Total - Both Funds	\$5,509,803.90	\$5,675,098.02	\$5,816,975.47	\$5,962,399.86	\$6,111,459.86



Central Platte Natural Resources District

Main Office: 215 Kaufman Ave Grand Island NE 68803-4915

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Cozad Office at Thirty Mile Irrigation District: 75887 Road 414 Cozad NE 69130

(308) 380-8943 Fax: (308) 385-6285

USDA Natural Resources Conservation Service (NRCS) Field Offices

Grand Island 703 S Webb Road Grand Island NE 68803 (308) 395-8586

Central City 1708 31st St. Ste. 2 Central City NE 68826 (308) 946-3035

Kearney 4009 6th Ave Ste. 4 Kearney NE 68845 (308) 237-3118

Lexington 721 E Pacific Ste. 2 Lexington NE 68850 (308) 324-6314

Osceola PO Box 547 Osceola NE 68651 (402) 747-2461

Nebraska Association of Resources Districts

Lincoln 8100 S 15th Street Ste B Lincoln NE 68512 (402) 471-7670

The 2024-2029 Long Range Implementation Plan was approved by the
Central Platte NRD Board of Directors on October 24, 2024.