

# Planning Documents



- Master Plan 2025-2035
- Long Range Implementation Plan 2025-2030

# Upper Big Blue

## NATURAL RESOURCES DISTRICT



*Cover photo: A kayaker enjoys Smith Creek Recreation Area in summer 2024.*

# TABLE OF CONTENTS



## Master Plan (2025-2035)

<b>4</b>	About Us
<b>5</b>	Our Mission / Road Map to the Future
<b>6</b>	Areas of Responsibility
<b>7</b>	Purpose of this Document
<b>8</b>	Water Resources: Groundwater
<b>11</b>	Water Resources: Surface Water
<b>12</b>	Soil Conservation
<b>13</b>	Flooding Prevention/Control
<b>14</b>	Pollution Control
<b>15</b>	Parks and Recreation
<b>16</b>	Forestry & Range Management
<b>17</b>	Fish and Wildlife
<b>18</b>	Contact Information

# ABOUT US



Partnership with the communities, families, and individuals in our region motivates the Upper Big Blue Natural Resources District to improve quality of life through effective stewardship of water and soil.

With expert knowledge, intimate understanding of the needs of the region, and commitment to fair, local governance, the Upper Big Blue Natural Resources District serves people and communities through a range of conservation activities. From improving practices for ag producers through education on best management practices, to improving life for all residents by assuring access to quality drinking water and recreation areas, the Upper Big Blue Natural Resources District provides a vital service in Adams, Butler, Clay, Fillmore, Hamilton, Polk, Saline, Seward, and York counties.

The Upper Big Blue Natural Resources District is a political sub-division of the State of Nebraska. The district was created on July 1, 1972, along with 23 other NRDs across the state. The districts cover the entire state, including all urban and rural areas. The districts are governed by elected Boards of Directors that set individual district policies, approve programs and projects, set budgets, and approve expenditures. Each district has a general manager who reports directly to the board. The general manager of each district manages a staff that conducts the day to day activities to carry out policies, programs, and projects.

# OUR MISSION



*“The Upper Big Blue Natural Resources District shall be a leader in conserving, protecting, developing, and managing the natural resources of this district for the health and welfare of the people of the district.”*

## Road Map for the Future

As a leader in local natural resources management, the Upper Big Blue NRD knows that the focus cannot just be on today, but we must also look well into the future to ensure sustainability and conservation of our natural resources for generations to come. This is a challenging job considering the many competing uses and complex situations, but one the Board of Directors and NRD staff are fully committed to taking on. However, we know this cannot be accomplished alone and we recognize that proper planning and partnership-building are essential. To reach our goals, meet our statutory obligations, and best serve the residents and producers of the district, we use a variety of strategies:

- Vision-casting for the next 10 years using this Master Plan to guide efforts
- Collaboration and partnerships
- A focus on water quality and quantity challenges and needs for agricultural producers, flood management in times of weather extremes, and ensuring adequate potable drinking water
- Efforts to address soil health and conservation in support of sustainable agricultural production that is vital to our economy
- Protection and management of important habitat and forestry resources, and providing recreational opportunities to help meet and balance a wide range of needs, interests, and uses
- Outreach and engagement with communities and producers to encourage participation, foster greater understanding, and provide necessary information and data to make informed decisions

# RESPONSIBILITIES



The Upper Big Blue Natural Resources District is a multi-purpose, local unit of Nebraska government for management, development and protection of the soil and water resources. The basic responsibilities of the district, which are authorized by statute, are listed below:

- Development, management, use, and conservation of groundwater and surface water
- Soil conservation
- Erosion prevention and control
- Flood prevention and control
- Pollution control
- Water supply for any beneficial uses
- Prevention of damages from flood water and sediment
- Development and management of recreational and park facilities
- Forestry and range management
- Development and management of fish and wildlife habitat
- Drainage Improvement
- Solid waste disposal

## METHODS

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The methods we will employ to meet these responsibilities are...

1. Leadership
2. Information and education
3. Technical advice and assistance
4. Cost-sharing
5. Construction and operation by the district
6. Monitoring, data collection, and research
7. Guidelines, recommendations, and regulations
8. Formulating and maintaining public and private partnerships

# PURPOSE



The master plan for the Upper Big Blue Natural Resources District presents the goals and objectives relating to the 12 purposes of districts as stated in the revised statutes of Nebraska, Section 2-3229, (1) erosion prevention and control, (2) prevention of damages from flood water and sediment, (3) flood prevention and control, (4) soil conservation, (5) water supply for any beneficial uses, (6) development, management, utilization, and conservation of ground water and surface water, (7) pollution control, (8) solid waste disposal and sanitary drainage, (9) drainage improvement and channel rectification, (10) development and management of fish and wildlife habitat, (11) development and management of recreational and park facilities, and (12) forestry and range management.

In accordance with Section 2-3276, the master plan is to be updated at least every 10 years, or more frequently if major changes in planning and development of objectives occur before the end of the period.

The master plan helps the district to expand our mission, vision, and statutory requirements into goals, objectives, and actionable items in conjunction with the Long Range Implementation Plan. This master plan was adopted by the Board of Directors on September 19, 2024.

The priorities and goals are the framework for all Upper Big Blue Natural Resources District activities, programs, practices, and regulations. The board is guided by these priorities and goals in establishing policies and budgets. The staff does that same in carrying out day-to-day activities.

No attempt is made in the master plan to present current plans or budgets, or to present background information on resources and needs. Such information about the natural resources of the district is available from many other NRD publications. Comprehensive data and information is also on file at the district office and online at [www.upperbigblue.org](http://www.upperbigblue.org). Individual project plans and studies are on file for planned as well as completed projects. Historical data concerning past programs, projects, staffing, and funding are also in the district files. The details of district programs, activities, and administrative policies are published in the following documents, which are periodically updated:

- Long Range Implementation Plan
- Annual budget
- Programs and cost-share practices
- Rules and regulations
- Master Plan
- Annual report
- Audits
- Operating policies
- Personnel policies

# GOAL: WATER RESOURCES



The primary goal of the Upper Big Blue Natural Resources District is successful, long-term water management, for both quantity and quality.

The district strives to provide adequate supply of acceptable quality groundwater to fulfill the reasonable groundwater demands within the district for domestic, agricultural, manufacturing or industrial, and other uses deemed beneficial by the Board of Directors.

## Groundwater Quantity

The control area (now known as the Groundwater Management Area #1) was declared on December 9, 1977, with these goals:

- Encourage, promote, and regulate the efficient management and conservation of groundwater and to significantly reduce the rate of decline in the groundwater table.
- Hold the district groundwater level above the 1978 level through various programs and regulations.
- Provide an adequate water supply for existing users, as well as domestic users in the small region outside of the Groundwater Management Area #1.

## Groundwater Quality

The special protection area (now known as the Groundwater Management Area #2) was declared on September 23, 1993, with these long-range goals:

- Reduce the potential for non-point source contamination of groundwater through education, research, management practices and incentives that would not adversely affect the economy of the area.
- Develop and implement an appropriate system of monitoring and evaluation of non-point source groundwater contamination including indicators such as nitrates in groundwater and the unsaturated zone, use of best management practices and other factors that are indicators of the rate of non-point source groundwater contamination.
- Encourage the use of best management practices to reduce deep percolation and to support research and adoption of equipment and techniques that have potential for reducing groundwater nitrates.



## Groundwater Objectives

- Provide information and education and consider cost-sharing to encourage groundwater users to:
  - » Attain the most economical use of groundwater
  - » Use crop rotation
  - » Control runoff
  - » Construct water storage and land treatment where needed
  - » Use irrigation scheduling
  - » Use surface water where available
  - » Check and maintain pumping plant efficiency
  - » Keep records
  - » Install and maintain flowmeters (irrigation and urban)
  - » Alternative irrigation systems (pivot conversions or sub-surface drip systems)
  - » Sample soil for nitrogen carryover
  - » Set realistic yield goals
  - » Complete full nutrient analysis (soil and water)
  - » Use nitrogen flow regulators
  - » Split nitrogen applications
  - » Use fertigation/chemigation
  - » Proper lawn and garden watering and fertilization
  - » Proper decommissioning of abandoned wells
  
- Monitor the groundwater conditions by:
  - » Measuring spring groundwater levels district-wide in the established network of existing wells.
  - » Measuring seasonal changes in groundwater levels using dedicated, continuous recorder wells.
  - » Monitoring groundwater quality annually, district-wide in the established network of existing wells.
  - » Monitoring seasonal changes in groundwater quality using dedicated water quality monitoring wells.
  - » Work cooperatively with other agencies to collect and evaluate groundwater data.

*continued...*

# GOAL: WATER RESOURCES



## *Groundwater Objectives (continued)*

- Regulate the use and protection of groundwater through the implementation of:
  - » Groundwater Management Area quantity regulations to reduce conflicts between users and to manage the decline of groundwater.
  - » Groundwater Management Area quality regulations to stabilize and reduce nitrate contamination of groundwater.
  - » Chemigation regulations to reduce the risk of contamination of groundwater through irrigation systems.
  - » Irrigation runoff regulations to conserve groundwater and to reduce conflicts between neighbors.
- Provide necessary budget, staff and other assistance to carry out an effective management and regulatory program.
- Conduct studies and research to better understand and manage groundwater in the district.
- Advocate groundwater management by natural resource districts at the local level.
- Assist in the planning and development of domestic water supplies where requested by local units of government or citizen groups.
- Encourage other agencies to conserve groundwater when implementing their programs, such as groundwater remediation plans.
- Cooperate with municipalities on wellhead protection areas.
- Promote and publicize the conservation and wise use of groundwater, through an extensive and comprehensive public relations effort.

The Upper Big Blue Natural Resources District's goal is to store, conserve, and protect surface water for beneficial uses as determined by the Board of Directors, such as domestic, agricultural, and manufacturing.

## Surface Water Objectives

Objectives in this area include:

- Development of multipurpose surface water projects consistent with local desires for water conservation, water use, flood control, groundwater recharge, recreation, and fish and wildlife habitat.
- Construct and/or cost-share on dams designed to maximize conservation water storage.
- Encourage soil conservation practices as a method of improving water quality in streams and lakes.
- Determine surface water project priorities consistent with the greatest long-term benefits.
- Obtain funding for surface water projects from private, other local, state, and federal sources to supplement the district tax requirement for such projects.
- Develop management agreements for surface water projects with affected units of local government and encourage such governments to assume the management, operation, and maintenance responsibilities connected with these projects.
- Promote, publicize, and offer technical advice and assistance for surface water conservation.

# GOAL: SOIL CONSERVATION



The NRD's goal is to maximize soil and water conservation efforts in order to preserve the resources for future use while maintaining production today.

## *Objectives*

- Prevent erosion through a voluntary land treatment program and by encouraging minimum or reduced tillage.
- Implement erosion or sediment control regulations where necessary to reduce conflicts between neighbors.
- Discourage channel straightening and dredging, unless steps are taken to prevent detrimental effects.
- Minimize and control erosion of soil through improved conservation practices, conversion of steep slopes with erosive soils to non-cultivated uses, protection of stream banks, and improved land management.
- Maintain soil nutrient levels for productive land use and reduction of water pollution through improved soil management practices.
- Cooperate with local units of government in implementing necessary erosion control practices, as needed, on all residential or commercial development, industrial development, road construction, and other non-agricultural sites.
- Promote, publicize, and offer technical advice and assistance to promote soil conservation through cover crops, buffer strips, water and sediment control basins, and other practices.
- Budget funds and provide financial assistance for the soil and water conservation efforts implemented by landowners.
- Obtain funding for soil conservation from private, other local, state, and federal sources to supplement district funds.

# GOAL: FLOOD CONTROL



The goal of the NRD is to reduce flooding and flood damages to acceptable levels, while making the best use of flood plain land. Flood plain management is of prime importance, as in many cases, it is the most practical way to reduce flood damages.

## Objectives

- Encourage flood plain management as a necessary step in creating the proper balance between structural and non-structural methods of flood protection.
- Create a greater awareness of flood plain problems and potential solutions through local planning, education and information programs.
- Sponsor, construct, operate, and maintain flood control projects, where feasible, to protect property from flood damages. Design and plan for multi-purpose uses of flood control projects where ever possible. Acquire grants and other funding to supplement district funding.
- Promote public linear parks, greenbelts, and open space in flood plains as an alternative to allowing real estate development and building construction if lands have the potential of changing from agricultural to developed areas.
- Consider, on a case by case basis:
  - ◊ Sharing the consulting services and costs with other local governments in connection with the planning of linear parks, greenbelts, and open space in flood plains.
  - ◊ Acquiring grants for and sharing the land rights costs of flood plain buyouts with other local governments.
  - ◊ Assisting communities with flood control projects by offering technical and administrative assistance, offering cost-share, and acquiring grants or other funds. Encourage multi-purpose uses of flood control projects.
- Encourage local cities and villages to assume sponsorship of all municipal storm water management projects.
- Encourage local communities to identify flood management projects in their sections of the Hazard Mitigation Plan and to apply for cost share funding for these projects.
- Discourage any creek or river straightening or shortening project within the district's boundaries. Limit channel projects to those necessary for flood control. Discourage drainage improvements designed to develop additional real estate or cropland, because of potential conflicts between property owners.

# GOAL: POLLUTION CONTROL



The goal of the district is to minimize the misuse and pollution of our natural resources, to protect and enhance the quality of the land, surface water, and groundwater within the district's boundaries.

## *Objectives*

- Protect ground and surface water from point and non-point sources of pollutants.
- Inform and educate the public to make the citizens aware of potential and existing pollution and the need for prevention.
- Encourage other agencies to take water conservation and beneficial uses into account in cleanup efforts.
- Promote regional efforts toward managing solid waste, both urban and rural. Encourage the sound planning and development of solid waste disposal sites in order to adequately protect land and water quality. Encourage recycling of solid waste.

# GOAL: PARKS & RECREATION



The district goal is to improve and increase the outdoor recreation opportunities in the region, especially in conjunction with multi-purpose water projects.

## Objectives

- Plan recreation use on district owned projects. The level of recreation provided depends on the scope, size and cost of the project.
- Manage, improve, and/or expand existing district park and recreation facilities. Develop new park sites on major multi-purpose projects where the land is held in title by the district. Developed public use sites may include roads and trails, improved parking areas, picnic areas and shelters, drinking water, boat ramps, playgrounds, camping sites, trash service, and restroom facilities.
- Establish and manage primitive public use areas on undeveloped district projects and properties throughout the district. Primitive public use areas are to provide access for walking, and may include fishing or hunting where practical. Off-road unimproved parking is to be furnished for traffic safety. Roads, improved trails, picnic areas and shelters, drinking water, boat ramps, playgrounds, improved camping sites, trash service, and restroom facilities are not provided, maintained, or encouraged.
- Consider providing cities and villages, on a case by case basis, with planning and financial assistance for multi-use parks and recreation improvement and development that stresses natural resources such as tree plantings, wildlife habitat, and open spaces. Public use areas that have aspects of soil and water conservation are to have a priority. Ball fields, tennis courts, swimming pools and similar facilities need to be planned and funded by others.
- In flood plains, promote public linear parks, greenbelts, and open space for public access, by offering planning and financial assistance to counties, cities, and villages.
- Cooperate with counties and state and federal agencies, in public use area development and management where their activities are consistent with those of the district.
- Provide information and education to promote parks and recreation uses of public lands.



*New playground and picnic equipment was installed at Smith Creek Recreation Area in the summer of 2024.*

# GOAL: FORESTRY & RANGE MANAGEMENT



The NRD's goal is to maintain and improve the quality of woodlands and grasslands in this region for soil and water conservation, as well as livestock production, timber, and wildlife.

## *Objectives*

- Provide technical advice on forestry and grassland management. Encourage tree planting for windbreaks and other conservation purposes, and native grass plantings for soil erosion prevention. Encourage proper range and pasture management to provide for better mixes and stands of grass, while increasing productivity.
- Provide a tree planting program to assist landowners in planning for tree plantings, offer seedling trees for sale, and to provide a planting service for windbreak, Christmas tree, or wildlife plantings.
- Consider providing cities and villages on a case by case basis, with planning and financial assistance for community tree, shrub, and native grass plantings.
- Discourage the conversion of existing tree plantings, woodlands, and grasslands to cropland or other uses.
- Promote proper tree trimming and pruning, and vegetation control undertaken by communities and power districts.
- Encourage outdoor classrooms and environmental education in order to show the importance of trees and grasses in conservation.



# GOAL: FISH & WILDLIFE



The NRD’s goal is to conserve and improve the fish and wildlife habitat found in the district.

## *Objectives*

- Provide technical assistance for private landowners to develop and maintain new fish and wildlife habitat.
- Develop fish and wildlife habitat, where practical, on district projects.
- Obtain funding for habitat programs from private, other local, state, and federal sources.
- Discourage practices by public entities and individuals that result in the unnecessary destruction of permanent vegetation and trees.
- Encourage private landowners to preserve existing wetlands and/or restore original wetlands through Agriculture Land Easements (ALE), Wetland Reserve Easement (WRE) or other programs.
- Discourage dredge and fill activities, and conversion to croplands, unless there are reasonable wetland mitigation sites available.
- Encourage state and federal agencies and private landowners to work together to solve wetland habitat needs and irrigation runoff control, as well as working together to solve lowland flooding problems.
- Promote fish and wildlife habitat on private and public lands.



**UPPER BIG BLUE**

**Natural Resources District**

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**This Master Plan Document was  
Adopted by the Board of Directors,  
Upper Big Blue Natural Resources District,  
on September 19, 2024  
in accordance with Nebraska Law  
(Section 2-3276).**

## Our Mission

The Upper Big Blue Natural Resources District shall be a leader in conserving, protecting, developing, and managing the natural resources of this District for the health and welfare of the people of the District. The core of the Upper Big Blue Natural Resources District focuses on these things:

- Water
- Soil
- Urban Conservation
- Flood Control
- Trees and Wildlife Habitat
- Recreation
- Grazing Lands
- Education



# Long Range

**IMPLEMENTATION PLAN**

2025-  
**2030**

**Upper Big Blue**

**NATURAL RESOURCES DISTRICT**





# TABLE OF CONTENTS



## Long Range Implementation Plan 2025-2030

- 3 History and Purpose
- 4 Programs and Activities
- 5 Board of Directors
- 6 District Staff
- 7 Water Regulations

### **Soil and Water Resources: Planning & Management**

- 8 Vadose Zone Study
- 9 Groundwater Annual Monitoring
- 10 Irrigation Scheduling Equipment
- 11 Domestic Well Testing Programs
- 12 Crop Water Use Information
- 13 Municipal Water System Assistance Program
- 14 Nebraska Soil Carbon Project
- 15 Project GROW
- 16 Chemigation Program
- 17 Blue Basin Modeling
- 18 Water Quality Management Plan, Lake Hastings Improvement Plan,  
Recharge Lake Improvement Plan
- 21 Aquifer Quality Well Abandonment Program
- 22 Meter Maintenance and Repair Program
- 23 Water Use Summary Reporting Software

### **Projects and Programs**

- 24 Rawhide Portable Corral Grazing Equipment
- 25 Recreation and Education Areas
- 28 Existing Dams: Operation, Maintenance, and Rehabilitation
- 30 Land Treatment Program
- 31 NRD Conservation Tree Planting
- 32 Trail Projects
- 33 Community Park Enhancements
- 34 Urban Storm Water Master Planning and Drainage Projects
- 35 Interlocal Agreement with LPSNRD, Branched Oak

# TABLE OF CONTENTS



**Fiscal Management and Budget Forecasting**

<b>36</b>	General Expenses
<b>38</b>	Capital Expenses
<b>39</b>	Total Expenses
<b>40</b>	Cash Reserve & Assets
<b>41</b>	Liabilities
<b>42</b>	State and Federal Receipts
<b>43</b>	Property Taxes

# HISTORY & PURPOSE



More than 56,000 citizens rely on the Upper Big Blue Natural Resources District (NRD) to provide direction and assistance in the wise use, conservation and development of soil, water, and related natural resources. The Upper Big Blue NRD is dedicated to the conservation and careful development of natural resources to serve everyone's needs.

In 1972, over 150 special purpose districts were consolidated into Nebraska's NRDs. There are 23 NRDs, formed to correspond with the state's major river basins. The NRDs carry the names of these rivers, hence the Upper Big Blue NRD, Lower Platte South NRD, and so on.

NRDs are organized as political subdivisions of the state. Local control is provided by a board of directors, elected by voters within the district. Across the state, NRDs are a major source of assistance to landowners in conservation and natural resources management. The NRDs also, by law, regulate the use of groundwater in the state.

At the Upper Big Blue NRD, a 17-member board of directors establishes policy. These elected directors represent the citizens' interests in conservation. Not only do directors make decisions about conservation programs at the district level, they also bring a wealth of local judgment and experience to bear when adapting state and national programs to local situations.

The directors (two from each of eight sub-districts and one at-large) are nominated and elected from the individual sub-districts, except any at-large candidates, who are nominated and elected by all the voters of the district.

The NRD staff, under the direction of the general manager, is responsible for the implementation of NRD policies and regulations, and serves as the focal point for planning and operations for the district.

The NRD works closely with state and federal agencies to coordinate conservation efforts. A key agency is the Natural Resources Conservation Service (NRCS), which provides planning, technical aid, and inspections for private landowners. NRCS field offices are located in Aurora, Clay Center, David City, Geneva, Hastings, Osceola, Seward, Wilber, and York.

A major source of funding for projects, programs and administration comes from a tax levy on all taxable property within the district. Other sources include federal, state, and private grants. The NRD has the authority to coordinate land and water management projects and programs with local, state, and federal conservation organizations and other governmental units. These projects may be funded through the sharing of project costs by the sponsoring agencies.

# PROGRAMS & ACTIVITIES



This plan document follows the goals and objectives of the Master Plan, and summarizes the planned district activities for the next five years, including projections of financial, staffing and land rights needs of the district. The NRD offers several major natural resources programs, as well as administers rules and regulations for groundwater use and protection in these areas:

- Water Conservation Dams
- Flood Control
  - » Dams
  - » Levees
  - » Flood Plain Buyouts
  - » Buffer Strips
- Storm Water Drainage (Urban)
  - » Master Drainage Plans
  - » Storm Water Drainage Systems
- Hazard Mitigation Planning
- Land Treatment Cost-Share
  - » Terraces
  - » Dams
  - » Diversions
  - » Windbreaks
  - » Irrigation Efficiency Improvements
  - » Buffer Strips
  - » Community Native Grass Resources
- Public Relations
  - » Publications, Social Media, E-mails
  - » Public Speaking
  - » Public Events
  - » Scholarships
  - » Educational Capital Projects Fund
- Parks and Recreation
  - » Parks Cost-Share
  - » NRD Recreation Areas
- Groundwater Quantity
  - » Observation Wells
  - » Crop Water Use Information
  - » Irrigation Scheduling Equipment
  - » Flowmeter Cost Share
  - » Demonstration Fields (Project GROW)
- Groundwater Quality
  - » Monitoring Wells
  - » Well Abandonment Cost-Share
  - » Municipal Water Quality Assistance
  - » Domestic Well Quality Testing
  - » Chemigation Cost-Share
- Wildlife Habitat
  - » Habitat Improvement
  - » Corners for Wildlife
  - » WILD Nebraska Program
  - » Wetlands Grazing Portable Corral
  - » Divots in the Pivots (wetland conservation cost-share)
- Tree Plantings
  - » Seedling Sales
  - » Conservation Plantings
  - » Storm Damage Tree Replacement
  - » Community Tree Cost-Share
- On-Farm Research



# BOARD OF DIRECTORS



The Upper Big Blue Natural Resources District is governed by a 17-member Board of Directors. Two directors are elected from each of the eight sub-districts, plus one at-large member from any sub-district. The board sets policy for the district and works closely with the staff through a committee system to carry out the district's goals. Board meetings are conducted on the third Thursday of each month at the district office. Committees meet throughout the month. Special meetings are called as needed to consider important concerns and issues. The district board of directors sets the direction, policies and budget for the natural resources district.

## Board of Directors

- Roger W. Houdersheldt, Shelby, Sub-district 1
- Kevin Peterson, Osceola, Sub-district 1
- Jeff Bohaty, Seward, Sub-district 2
- Douglas L. Dickinson, Seward, Sub-district 2
- Richard Bohaty, Seward, Sub-district 3
- Bill Stahly, Milford, Sub-district 3
- Paul Weiss, McCool Junction, Sub-district 4
- Lynn Yates, Geneva, Sub-district 4
- Micheal D. Nuss, Sutton, Sub-district 5
- Kendall Siebert, Henderson, Sub-district 5
- John Miller, Aurora, Sub-district 6
- Bill Kuehner, Jr., Aurora, Sub-district 6
- Rodney Grotz, York, Sub-district 7
- Anthony Bohaty, York, Sub-district 7
- Matthew Perry, York, Sub-district 8
- Paul Bethune, York, Sub-district 8
- Teresa Otte, David City, At-Large Member

# DISTRICT STAFF



As of June 2023, the district has 30 employee positions: 29 full-time and one occasional workers. Full-time and part-time employees are permanent employees with paid benefits. Full-time employees work 40-hour work weeks all year, whereas part-time employees work a regular schedule of at least 20 hours per week. Occasional workers are temporary employees who do not earn benefits. Their hours vary depending on available work.

The management staff are also instrumental in budget and policy development which are ultimately approved by the board. The management staff are the project managers who conducted oversee planning, design, contracts and construction of district projects. Consultants are sometimes hired for specific tasks, such as geo-technical investigations or research. Occasionally consultants are hired for project design, but only under close supervision by management.

# WATER REGULATIONS



The long-term management and regulation of groundwater quantity and quality is a high priority in this District. That commitment requires a staff of nine and a large part of the annual budget (about one-third of the total NRD staff and budget).

- Groundwater quantity (most of the NRD)
  - » Well permits
  - » Large water user studies
  - » Well spacing
  - » Transfers
  - » Irrigated acres certification
  - » Groundwater use reports
  - » Flowmeters
  - » Irrigation runoff
- Groundwater quality (all of the NRD)
  - » Fertilizer timing restrictions
  - » Operator training
- » Soil sampling
- » Irrigation scheduling
- » Irrigation water test for nitrates
- » Annual reporting
- Basin Modeling Projects
- Chemigation
- Erosion and Sediment Control

*\*For additional information on the specifics of the programs and regulations of the NRD, please view the regularly updated Programs Book and Rules & Regulations publications.\**



SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT



 **Vadose Zone Study**

The Upper Big Blue NRD will partner with the University of Lincoln to measure indicators in the vadose zone across the district. The focus of the study will be to look at groundwater nitrate and other agrochemical contaminant occurrence in the vadose zone. To do this, researchers will examine both historic and spatial changes in groundwater nitrate throughout the district’s 12 water quality management zones to compare the changes in nitrate levels. Nitrate levels will be determined by drilling test holes for chemical analysis, along with characterizing the soil type and physical characteristics.

***Goals & Benefits***

For the past few decades, NRD staff have documented a steady increase in nitrogen concentration in some parts of the district. While some areas of the district have seen decreases in nitrate levels, the district overall has had an increase of 54 percent. This study will further document with greater accuracy the current levels of nitrate contamination in the unsaturated zone to give us a picture of groundwater quality concerns in the future.

***Timeline***

2021-2026

***Cost***

- \$375,000
- A portion of the funding for this program comes from the Nebraska Water Sustainability Fund.

***Areas of Responsibility***

- Pollution control
- Development, management, use, and conservation of ground water and surface water

  
  


## Groundwater Annual Monitoring

The NRD is responsible for monitoring water quality and quantity, as well as collecting data about water use across the district each year to ensure availability for all beneficial purposes.

### *Goals/Benefits*

Measuring spring groundwater levels district-wide in the established network of existing wells; measuring seasonal changes in groundwater levels using dedicated continuous recorder wells; monitoring groundwater quality annually, district-wide, in the established network of wells; monitoring seasonal changes in groundwater quality using dedicated water quality monitoring wells. Outlined in the district's Rules and Regulations, producers are required to report their annual groundwater use. Producers are also required to report nitrogen management practices in Phase II/III Management Areas for groundwater quality. The benefit of all of this measurement and monitoring is to ensure quantity and quality into the future.

The board of directors sees the benefit of adding nested monitoring wells to the network. Two were added in 2024 and more will likely be added in the next few years. Each set costs between \$60,000 and \$80,000.

Online reporting: A major goal was accomplished in 2019 as online reporting for water use and for Phase II/III management area producers was introduced. While paper reporting is still allowed, many producers experimented with the online reporting and found it quick and easy. The new tool received praise from many producers and streamlined the data management for NRD staff as well. This tool will continue to be used in the next five years, with the expectation that it will increasingly replace traditional reporting. Improvements continue to be made to ensure ease of use and maximum functionality.

### *Areas of Responsibility*

- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses

SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT



 **Irrigation Scheduling Equipment**

The district provides reduced cost equipment for water management to district producers to encourage appropriate monitoring that leads to greater levels of water conservation.

**Goals & Benefits**

Irrigation scheduling is a critical part of good irrigation water management. Over-irrigation increases production cost, can reduce crop yields, and leaches nitrates out of the crop root zone, thus polluting the groundwater. Simple management tools are available, which can help the irrigator decide when it is appropriate to irrigate and when he or she can wait.

The district sells several of these tools at a 50% discount to irrigators in the district. The equipment is also for sale to others at regular prices. The irrigation scheduling equipment available includes:

- Irrrometer - Moisture Sensors, Hand Held Meters, Cloud Based, and Data Loggers
- ET Gage Company – Atmometers
- Clement, Standard, and Backsaver Soil Probes

**Timeline**

Ongoing

**Cost**

\$11,753.50/ year

**Areas of Responsibility**

- Development, management, use, and conservation of ground water and surface water

  
  


## Domestic Water Testing Programs

The NRD provides water testing for nitrate and bacteria contamination for district residents so that individuals can make informed decisions about their water quality.

### *Goals & Benefits*

The domestic well testing educational program partners with rural homeowners to test rural domestic wells for drinking water nitrate. Samples are taken each fall from previously selected rural domestic wells throughout the district and tested at the district's laboratory. Approximately 250 domestic wells are tested annually. Although domestic well samples may not provide an accurate representation of the condition of the aquifer, they are an indication of the quality of the drinking water being used by the rural public.

The district offers free analysis for nitrates and bacteria in groundwater to anyone in the district. Domestic wells should be tested at least once a year for both nitrates and bacteria. Ten parts per million is the safe drinking water standard set for nitrates in public water supplies. Infants are at highest risk from high nitrate poisoning. A condition called methemoglobinemia, also known as "blue baby syndrome," limits the blood's ability to carry oxygen. This can result in brain damage and even death if not treated promptly. High nitrates have been shown to cause health and reproduction problems in livestock. Certain health studies indicate that high nitrates may also be associated with some forms of cancer. While most wells are free of harmful bacteria, it can be introduced into a well during construction or repairs or may enter a well through a crack in the casing or surface seal. It is well documented that certain bacteria pose a serious health risk to humans and livestock.

The district also supplies basic at-home test kits for nitrates, nitrite, and phosphorus. While these tests are not as precise as our other testing programs, they do allow homeowners a quick and accurate way to diagnose a problem that would require further attention.

### *Timeline*

Ongoing

### *Cost*

Approximately \$10,000 per year

### *Areas of Responsibility*

- Pollution control
- Water supply for any beneficial uses

SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT



## Crop Water Use Information

This program encourages efficient irrigation water use by providing the irrigator with daily water use data for crops throughout the growing season.

### *Goals & Benefits*

The daily crop water use is determined by collecting data from an automated weather station (located at Recharge Lake near York), sponsored by the district and the University of Nebraska High Plains Climate Center. The collected information includes minimum-maximum daily temperature and corresponding relative humidity, solar radiation and wind run. This data is entered into a computer program developed by the University of Nebraska which calculates the amount of water used by the crop under those existing weather conditions.

Crop water-use information can be heard daily on KAWL radio in York, Nebraska. This information is also published in the *York News-Times* each day during irrigation season. Several county extension agents are also making this information available through their hotlines or weekly newspaper columns.

The benefit is that irrigators are able to make more informed decisions about when to irrigate and how much, leading to greater conservation of water resources.

This program is made possible by the partnership with the Nebraska Mesonet, a network of weather stations. More details about this network and it's reported findings are available at <https://mesonet.unl.edu/>.

### *Timeline*

Ongoing

### *Cost*

\$3,200/year

### *Areas of Responsibility*

- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses



  
  


## Municipal Water System Assistance Program

This program provides assistance to communities for improvements to water system to mitigate the impacts of non-point source contamination.

### ***Goals & Benefits***

This program is intended to provide assistance to communities for improvements in their water system to mitigate the impacts of non-point source groundwater contamination for the protection and public health of the community's residents. The reasons for system improvements must be related to the impacts of contamination from pollution sources which are non-point in nature, not from point source contamination.

### ***Timeline***

Ongoing

### ***Cost***

The district will provide financial assistance to the city or village in the amount not to exceed 25% of the local share of project cost, not to exceed \$100,000.

The district will consider funding above the formula amount on a case-by-case basis. If part of the applicant's wellhead protection area also lies in another natural resources district, the district may adjust its contribution.

Financial assistance per community over a five-year period is limited to the maximum amount provided.

A recent use of this program was a new municipal well in McCool Junction. The total project cost was \$848,500, of which the NRD contributed \$41,650.

### ***Areas of Responsibility***

- Development, management, use, and conservation of ground water and surface water; pollution control
- Water supply for any beneficial uses

# SOIL & WATER RESOURCES: PLANNING & MANAGEMENT



## **Nebraska Soil Carbon Project**

In 2021, the Upper Big Blue NRD began a partnership with The Nature Conservancy, Ecosystem Services Market Consortium, Cargill, Target, and McDonald's, USDA-NRCS, and the Central Platte NRD to create a five-year pilot program to increase benefits and support for farmers to implement key practices on their acres. The Nebraska Soil Carbon Project could provide up to \$4 million over five years to producers in the Upper Big Blue and Central Platte NRDs to implement cover crops, diverse rotations, and no-till practices. It will also give them the opportunity to experiment with the carbon market concept that is predicted to have a major impact on agriculture in the future.

### ***Goals & Benefits***

Increasing cropland soil carbon has multiple benefits for the producer and the environment including more stable yields; improved nutrient availability and water holding capacity; and climate stabilization. Now is a great time to invest in soil health practices that increase soil carbon, as markets are emerging to link soil carbon buyers and suppliers. Private companies are looking for ways to decrease their carbon footprint and Nebraska's growers can provide these benefits by improving their farming operations as they implement soil health practices. It is a win-win situation, as this systems approach gives companies a way to meet part of their greenhouse gas reduction goals while supporting farmers who are implementing conservation practices.

The Upper Big Blue and Central Platte NRDs plan to engage 100 farmers and 100,000 acres in the program over its five-year duration.

### ***Timeline***

2021-2025

### ***Cost***

Total grant funding for this program is \$8 million; NRD will be reimbursed for all costs and staff time for this project. Grant funding comes through the Regional Conservation Partnership Program as well as private sector funds.

### ***Areas of Responsibility***

- Soil conservation
- Erosion prevention and control
- Pollution control
- Water supply for any beneficial uses

## ▶ **Project GROW**

Project GROW is a test plot of NRD-managed farmland owned by the City of York that sits atop the city’s wellfield. The space also features community garden plots and pollinator habitat areas. Its purpose is to educate growers on the benefits of soil health practices and protect water quality in the city’s wellhead.

### ***Goals & Benefits***

The collaboration between the city and the NRD involves farming 120 acres using soil health practices including diverse crop rotations, cover crops, livestock grazing, and reduced tillage. Soil health practices are shown to reduce the leaching of nitrogen and other agrochemicals into the groundwater supply. The goal of this project is to improve the soils above the wellfield (where water for residents of the City of York is drawn) and thus protect water quality. It is also a demonstration site, where producers and students can learn more about soil health practices.

### ***Timeline***

Initial period of project: 2018-2022  
Project renewed for 2023-2028

### ***Cost***

The total cost for this project was approximately \$100,000, most of which was covered by grant funding. The NRD portion was approximately \$40,000. This includes \$50,000 in grant funds from National Association of Conservation Districts and \$50,000 in available funds from Source Water Protection Grant administered by Nebraska Department of Environment and Energy (the NRD did not use the entirety of the grant from NDEE). Ongoing costs vary from year to year. In FY 2025, there is \$20,000 budgeted for this project.

### ***Areas of Responsibility***

- Soil conservation
- Erosion prevention and control
- Pollution control
- Erosion prevention and control



SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT



## Chemigation Program

The Upper Big Blue NRD is looking for ways to incentivize producers who try fertilizer application using chemigation as a means of increasing adoption of this practice. Chemigation is a useful way to apply chemicals and fertilizer onto fields using a center pivot to control application uniformity. All that is necessary to chemigate is an applicators license, the appropriate safety equipment, and a permit from the NRD. The goal of this incentive program is to increase the number of producers using this fertilizer application method by giving cost-share to producers to help offset the startup cost.

For approved Chemigation Equipment Cost-Share Incentive Program applications, the maximum cost-share rate is 50% of the actual cost, up to \$1,000 per site, for the purchase of new chemigation equipment and chemigation permit. This program is intended for new chemigation sites and those that have not had an active chemigation permit in the last ten (10) years. The minimum cost-share payment is \$100.00. NRCS, NSWCP, and NRD funds will not be combined for any practice. Eligible applicants will need to keep their permit active for 3 years. Any equipment purchased prior to application authorization is ineligible for cost-share. To be approved for cost-share, applicants must provide a receipt for equipment purchased, chemigation permit, and any other forms deemed necessary by the district. Application approval will be based on fund availability.

***Timeline***

Ongoing

***Areas of Responsibility***

- Pollution control

  
  


## Blue Basin Modeling

The Upper Big Blue NRD joined forces with Tri-Basin, Lower Blue, and Little Blue NRDs as well as the State of Nebraska Department of Natural Resources to create a comprehensive groundwater flow model tool to map areas of hydrologic connectivity between ground and surface water. This tool can also be used to look at large water users and their potential impacts to existing ground and surface water users.

A modeling advisory group will be set up to continue to provide improvements to the ongoing modeling effort.

### ***Goals & Benefits***

The goal of this is to build a tool to identify areas of hydrologic connection between surface and groundwater and look at future groundwater uses and their potential impacts on existing groundwater and surface water resources in the Blue River Basin. By comparing surface water flow rates and ground water levels, to drought patterns and irrigation use, the NRD will be able to accurately set or adjust policy to ensure adequate supply for all water users.

### ***Timeline***

Recording and monitoring for this project began in 2017 continued through 2020. A working model was released in 2024. Updates to the model will be ongoing.

### ***Costs***

The initial cost of this multiyear project was estimated at \$700,000. The Upper Big Blue NRD was responsible for 19% of the total cost (\$133,000). The rest of the cost was covered by partners in the project, including the Nebraska Department of Natural Resources. Future costs to enhance the model with additional data gathering are expected.

### ***Area of Responsibility***

- Development, management, use, and conservation of ground water and surface water

**SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT**



**▶ Water Quality Management Plan,  
Lake Hastings Improvement Plan,  
& Recharge Lake Improvement Plan**

The Upper Big Blue Natural Resources District has finalized a district-wide Water Quality Management Plan (WQMP) which will provide a concise summary on water resource conditions in the district as well as offer direction for a coordinated approach to address non-point source pollution. The WQMP is based on the U.S. Environmental Protection Agency’s Nine-Elements of Watershed Planning as well as basin planning guidance provided by the Nebraska Department of Environment and Energy. The WQMP was adopted by the Environmental Protection Agency in March 2020.

The WQMP documents specific projects intended for implementation. These projects and practices are aimed at improving water quality and removing targeted water bodies from NDEE’s list of impaired waters.

In the coming years, the district is expecting an increase in the number of land treatment practices implemented due to the adoption of the district’s Water Quality Management Plan WQMP. The target areas of the plan for the first five-year period include two impaired segments of Beaver Creek and the drainage basin above Recharge Lake (York). In 2022, the plan was expanded to include the entirety of the Beaver Creek Watershed. Planning has also begun for expanding the plan to include the Lake Hastings watershed.

Next steps in the implementation of the WQMP will include developing creative ways to encourage the adoption of best management practices to improve water quality in the priority and special priority areas.

Work continues on the Voluntary Integrated Management Plan (VIMP) as a regional basin-wide groundwater flow model has been developed in partnership with the Nebraska Department of Natural Resources and the Blue River Basin natural resources districts. The outcome of the regional model will be incorporated into the final VIMP.

Recharge Lake is a 44-surface-acre lake which stores 310 acre feet of water on a tributary of Beaver Creek. It is part of Bruce L. Anderson Recreation Area, which is the highest use recreation area owned by the Upper Big Blue NRD. The recreation area hosts hundreds of campers through the summer months, as well as regular day-use throughout the year for fishing, boating, picnics, and nature hikes.

The public as well as the board and staff of the Upper Big Blue NRD have been concerned about water quality at Recharge Lake for many years. Once an abundant fishery, it is now primarily a



place to catch catfish and crappie, as the level of turbidity in the water makes it poorer habitat for many species of more desirable fish. For several years, the NRD has offered additional cost-share incentives for BMPs in the watershed above the lake to reduce sediment load entering the lake from surrounding agricultural acres. This approach has had limited success.

In 2023, the NRD commissioned a study with the Flatwater Group to determine what could be done to improve the water quality via in-lake actions. In spring 2024, the report results were presented for the board of director's consideration.

Improvements considered by the study include a near-lake wet detention pond at the west end of the property on either side of Road K; in-lake wetlands with a possible floating treatment wetland structures, earthen baffles, and weir structures; reservoir deepening in the main part of the lake using targeted excavation; rebuilding the island and installing other shoreline protection measures to reduce erosion; and adding aquatic habitat structures. These measures would increase the storage capacity of the lake by 20 percent and make the lake both better for fish habitat and improved for angler access.

### ***Goals/Benefit***

1. The quality of surface water and groundwater resources in the basin will be enhanced through a comprehensive and collaborative program that efficiently and effectively implements actions to restore and protect natural resources from degradation and impairment.
2. Resource managers, public officials, community leaders, and private citizens will understand the effects of human activities on water quality and support actions to restore and protect water resources from impairment by non-point source pollution.
3. Land and water resources will be stable and productive using community-supported best management practices.
4. The water quality of surface and groundwater resources will meet the conditions necessary to support domestic, industrial, agricultural, recreational, and ecological uses.

### ***Timeline***

The initial Water Quality Management Plan process began in 2018 and is ongoing. The Lake Hastings Improvement Plan began in 2022 and will be ongoing. The Recharge Lake initial study was conducted in 2024. There is not yet a timeline for restoration efforts.

### ***Cost***

For the Lake Hastings Implementation Plan, funding was applied for through Non-point Source Water Quality grants. The total cost of the project was split between the City of Hastings, and the Upper Big Blue and Little Blue NRDs.

The planning phase for the Lake Hastings Watershed Improvement is estimated to cost \$64,815. Grant funding from NDEE/EPA is expected to provide 60 percent (\$40,000) and local funding will provide 40 percent (\$20,000) for the implementation phase of the restoration project. Local funding will be provided by the Upper Big Blue and Little Blue NRDs and the City of Hastings.

*continued...*

# SOIL & WATER RESOURCES: PLANNING & MANAGEMENT



Goals of the Lake Hastings Watershed improvement include shoreline stabilization, urban planning for improved drainage, reduction of sediment load in the lake, and improving the waterbody for recreational purposes. The total cost of this project is not yet known.

For the Recharge Lake restoration project, the scope of the project has not yet been set. Once the Board determines how to proceed, the NRD would apply for grants to fund some of the restoration project. The total cost of the project is estimated to be around \$6,000,000.

### *Areas of Responsibility*

- Soil conservation
- Pollution control
- Erosion prevention and control
- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses
- Development and management of fish and wildlife habitat
- Development and management of recreational and park facilities





SOIL & WATER RESOURCES:  
PLANNING & MANAGEMENT



 **Meter Maintenance and Repair Program**

The Upper Big Blue Natural Resources District encourages the efficient use of groundwater for irrigation so that there will continue to be abundant water for all beneficial uses in our district. NRD funds are available for irrigators to repair and maintain flowmeters.

All flowmeters used in the district are eligible for flowmeter repair cost-share once every four years. The cost-share rate is fifty percent (50%) not to exceed \$500 per flowmeter repair. The maximum cost-share per landowner for flowmeter repair is \$1,000 per fiscal year. The program will allow for the replacement of electronic flowmeters that are not repairable with new or refurbished mechanical flowmeters.

The district is in the mandatory reporting phase of the Groundwater Management Area Rules and Regulations. Proper maintenance is critical to ensuring that flowmeters accurately measure groundwater withdrawal. Without regular maintenance flowmeters will begin to provide inaccurate data and eventually fail. Routine flowmeter inspection and maintenance is required for all irrigation flowmeters in the district. Mechanical flowmeters will be inspected and serviced on a five (5) year rotation. Electronic flowmeters will be visited every four (4) years. The district will replace batteries. The cost of batteries will be billed to the owner of the flowmeter.

All flowmeters used on irrigation wells are required to be enrolled in the NRD’s flowmeter maintenance program. There is no charge for this service. One hundred percent (100%) of the program’s funding is provided by the district. Costs associated with repairs of a flowmeter and/or its proper installation, determined by the maintenance inspection, are the responsibility of the well owner and could be covered by cost-share.

***Timeline***

Ongoing

***Cost***

\$150,000/year

***Areas of Responsibility***

- Soil conservation
- Pollution control
- Erosion prevention and control
- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses

  
  


## Water Use Summary Reporting Software

NRD staff continues to work with a third-party vendor to maintain the platform that produces summary reports, showing producers their pooling and water use. The report uses data available in the Water Accounting Platform. The intent is to educate producers on how the district views and uses their water use data if an allocation were to occur.

The goal of this project is to provide producers with information to assist them in making better management decisions about irrigation and to provide greater transparency about NRD decision making.

### *Timeline*

Ongoing

### *Cost*

Approximately \$11,000/year

### *Areas of Responsibility*

- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses

# PROJECTS & PROGRAMS



## ▶ Rawhide Portable Corral Grazing Equipment

The NRD owns equipment that can be utilized by area cattle producers to encourage wetland grazing.

### *Goals & Benefits*

Grazing wetlands is a useful management tool to keep the habitat in the early successional stage of growth, which is the state that is best suited to many types of wildlife, especially migratory waterfowl and shorebirds. The NRD managed program is offered in partnership with the Rainwater Basin Joint Venture. It benefits cattle producers, who are able to use the equipment free of charge; the equipment makes loading cattle in and out of wetlands much simpler. The benefit to the NRD and Rainwater Basin Joint Venture is that wetlands are managed in a natural, cost-effective way.

### *Timeline*

Ongoing

### *Cost*

- Value of corral was \$23,350, donated by Rainwater Basin Joint Venture
- Cost to the NRD is \$0

### *Areas of Responsibility*

- Forestry and range management
- Development and management of fish and wildlife habitat



## ▶ Recreation and Education Areas

The NRD provides annual maintenance and management of six publicly accessible nature areas (Pioneer Trails Recreation Area; Teal View Wetland Education Area; Bruce L. Anderson Recreation Area and Archery Range; Oxbow Trail Recreation Area; Overland Trail Recreation Area; Smith Creek Recreation Area), with various amenities including camping pads, boat docks, and bathrooms.

### *Goals & Benefits*

Five of the six recreation areas include dam structures to create lakes usable for many recreation purposes that are free to the public to use for boating, fishing, swimming, hiking, etc. The recreation areas also provide walking trails and other amenities, as well as vital habitat for many species of animals and plants. They also provide aquifer recharge and flooding containment, as well as opportunities for studies on water quality, water quantity, and land treatment practices. Teal View Wetland Education area is a restored wetland that provides wildlife habitat for migratory bird species that traverse the central flyway of Nebraska annually. It also provides educational opportunities for the public to engage with this essential and disappearing type of landscape.

Recent upgrades have included a supply well at Oxbow Trail, playground and picnic structures at Pioneer Trails, tornado sirens at multiple recreation areas, and vault restrooms at Overland Trail Recreation Area. Recreation areas are frequently updated with volunteer projects, including scouting projects from benches to bat boxes.



# PROJECTS & PROGRAMS



## ***Original Cost and Timeline***

### **>>Pioneer Trails Recreation Area**

- Dam Constructed: 1986
- Total cost: \$446,619 (NRD share: \$111,233)
- Recreation Area Constructed: 2015
- Total cost: \$728,367.95 (NRD share: \$728,367.95)

### **>>Bruce L. Anderson Recreation Area**

- Recharge Lake Demonstration Project Constructed: 1990
- Total cost: \$682,447 (NRD share: \$148,624)
- Bruce L. Anderson Recreation Area Constructed: 2011
- Total cost: \$697,045.06 (NRD share: \$697,045.06)

### **>>Oxbow Trail Recreation Area**

- Constructed: 1998
- Total cost: \$232,105 (NRD share: \$232,105)

### **>>Overland Trail Recreation Area**

- Constructed: 1998
- Total cost: \$132,353 (NRD share: \$132,353)

### **>>Smith Creek Recreation Area**

- Constructed: 1983
- Total cost: \$310,000 (NRD share: \$310,000)

### **>>Teal View Wetland Education Area**

- Acquired: March 2021
- Total cost: \$61,230 (NRD share: \$0)

## ***Timeline for Improvements***

Ongoing

## **Cost**

Continuous investment for maintenance and improvements is required for our recreation areas. In the future, the NRD may add to the following areas. Costs will vary based on scope of projects from year to year:

- **Pioneer Trails Recreation Area:** installation of a boat dock and handicap accessible fishing pier, additional playground equipment, additional land acquisition
- **Bruce L. Anderson Recreation Area:** water quality improvement project (see page 18), expansion of RV camping area



- **Oxbow Trail Recreation Area:** additional land acquisition and addition of RV campground (concrete pads, electrical and water hookups)
- **Smith Creek Recreation Area:** Addition of RV campground (concrete pads, electrical and water hookups)
- **Overland Trail Recreation Area:** installation of a bridge to complete the walking trail, addition of picnic shelter

### *Areas of Responsibility*

- Development and management of fish and wildlife habitat
- Development and management of recreational and park facilities
- Flood prevention and control

# PROJECTS & PROGRAMS



## Existing Dams (Operation, Maintenance, and Rehabilitation)

The district has 42 dams on both district property and private property that provide a range of conservation benefits. These dams require ongoing maintenance at varying levels.

### *Goals & Benefits*

The district is responsible for the maintenance of 42 dams that have benefits including soil and water conservation, irrigation water supply, groundwater recharge, fish and wildlife benefits, and recreation benefits. One dam is considered high hazard (Hastings Northwest), meaning that failure or misoperation of the dam resulting in loss of human life is probable. This dam is inspected annually.

Six dams are considered significant hazard, meaning failure or misoperation of the dam would result in no probable loss of human life but could result in major economic loss, environmental damage, or disruption of lifeline facilities. These dams are inspected every three years. Dams on this list include Dorchester 1A and Dorchester 2A; Larson and Struebing dams; and NRD recreation area dams at Bruce L. Anderson and Oxbow Trail.

The other 35 dams are low hazard, meaning misoperation of the dam would result in no probable loss of human life and in low economic loss. These dams are inspected every five years.

Common issues at dams include noxious weed control, rodent damage, shoreline erosion, tree and shrub control, encroachment of right of way, and deterioration of outlet pipes, drawdown pipes, and risers. Many of these structures are 40-50 years old and will be in need of major rehabilitation.

In order to retain the benefits provided by these dams, they must be maintained and repaired as needed. During the past few years, the district has rehabilitated a number of these aging structures. The district's dam inspections have revealed increased erosion at a number of dams, including Stara Dam, Percival-Erickson Dam, and Dorchester 2A Dam. The NRD added rock on the dam faces of each of these dams to stop or slow erosion.

As other dams continue to age, there will be an ongoing need for major repairs. The district identifies these needs through inspections, including Nebraska Department of Natural Resources inspections. Pipes are inspected with the NeDNR's camera which can pinpoint failing pipe sections. These inspections can identify issues before they progress further and can prevent dam failure or the need for larger dam repairs.





## ***Timeline***

Ongoing

## ***Cost***

- Johnson Creek 46 Dam - \$37,300
- Mentink Dam - \$57,800
- Friesen Dam - Adjacent Culvert - \$31,300
- Dunker Dam - \$31,800
- Stara Dam - \$18,848
- Percival-Erickson Dam - \$11,775
- Dorchester Dam 2A - \$22,822.96

Removing these seven recently repaired dams from the list of 42, that leaves 35 dams that will eventually need major repair for a total estimate of \$1.48 million.

## ***Areas of Responsibility***

- Development and management of fish and wildlife habitat
- Flood prevention and control
- Water supply for any beneficial uses
- Prevention of damages from flood water and sediment
- Erosion prevention and control

# PROJECTS & PROGRAMS



## Land Treatment Program

Annually the NRD installs various land treatment options to prevent erosion and provide other benefits on district properties. Land treatment practices include cost-share funding.

### ***Goals & Benefits***

There are two sources of cost-share assistance available to area landowners for installing conservation practices on their land. The Nebraska Soil and Water Conservation Program (NSWCP) and the Upper Big Blue NRD offer the incentives through the Land Treatment Program. The cost-share programs place primary importance on water conservation, water quality, and erosion control practices.

The Natural Resources Conservation Service (NRCS) is a vital federal agency partner of the Upper Big Blue NRD, as both entities work together to facilitate various aspects of the district's Land Treatment Program. Local NRCS personnel provide technical assistance and other conservation services to farmers and landowners.

Land Treatment Program practices installed in 2023 included: sediment control basin, diversions, terrace system, windbreak plantings, brush management, and windbreak renovation.

### ***Cost***

A total of 42 practices were given cost-share assistance in fiscal year 2023, for a total cost-share of \$106,975.44. From this total, the Nebraska Soil and Water Conservation Program (NSWCP) state share was \$65,164.05 with the remainder (\$41,811.39) coming from the Upper Big Blue NRD.

### ***Areas of Responsibility***

- Soil conservation
- Erosion prevention and control
- Flood prevention and control
- Pollution control
- Development, management, use, and conservation of ground water and surface water



## NRD Conservation Tree Planting

The NRD provided 23,168 low-cost seedlings for planting in the spring of 2024. Since 1974 when this program began, 1.9 million trees have been sold in the Upper big Blue NRD.

**Goals & Benefits**

Landowners can receive low-cost seedlings and shrubs for windbreaks, wildlife habitat, riparian buffer strips, and other land enhancement purposes. The NRD provides local administration and planting services for the program. The trees planted are essential for reducing erosion and for providing air and water purification, as well as wildlife habitat.

**Cost**

Cost: FY24 Tree Program

Trees/supplies	\$23,650.63
Operating Costs	\$2,532.88
Revenue	\$36,891.32
<b>Revenue less costs</b>	<b>\$10,708.44</b>

Funding for this program is provided in part by Executive Travel and the Nebraska Soil and Water Conservation Program.

**Areas of Responsibility**

- Soil conservation
- Erosion prevention and control
- Flood prevention and control
- Pollution control
- Forestry and range management
- Development and management of fish and wildlife habitat

# PROJECTS & PROGRAMS



## Trail Projects

### **Seward Trail**

The district provided technical, financial, and construction assistance to the City of Seward for the construction of a 2.7 mile hiking/biking trail along the east side of Seward which was completed in 2004. Through an interlocal agreement with the city, the Upper Big Blue NRD is providing financial assistance to the city for the extension of the trail which will loop around the perimeter of Seward. This trail project involves construction of a five-mile, 10- foot wide, concrete trail for bicycle and pedestrian use in southern, western and northern Seward. The project would connect to the existing trail at the Plum Creek Trailhead on South Columbia Avenue, just south of Depot Road. The trail would proceed west along the south edge of Seward crossing beneath Highway 15, through the Seward County Fairgrounds before passing beneath the Highway 34 bridge. At this point the trail would head north to Waverly Road. The trail would then travel along the south side of Waverly Road, cross Highway 15 at-grade and end at the existing trail located on the southeast corner of the intersection of Karol Kay Boulevard and Waverly Road, which is the northern end of the existing Plum Creek Trail.

### **Cost**

The total cost of this project is \$3.7 million. The NRD will contribute \$150,000 to this project when it is complete (construction expected to begin in fall 2026).

### **Other Project Requests Possibly Upcoming**

- Geneva Walking Trail Phase II Support
- Trail linking Aurora Trail to Pioneer Trails
- Dark Island Trail, portion south of Marquette

### **Goals**

The goal of these projects are to provide a quality of life enhancement for district residents with an emphasis on outdoor recreation.

### **Area of Responsibility**

- Development and management of recreational and park facilities



## Community Park Enhancements

The NRD provides funding and professional support for the improvement of parks in district communities where it has been requested. The district provides technical and financial assistance to communities for the development or improvement of natural resources in nature areas, campgrounds and park facilities through the district's Parks Program.

### ***Goal***

The goal of these projects are to provide a quality of life enhancement for district residents with an emphasis on outdoor recreation.

### ***Timeline***

Ongoing

### ***Cost***

- \$10,000-\$20,000/year, depending on requests
- Requests in the near term are expected from Beaver Crossing and Sutton

### ***Area of Responsibility***

- Development and management of recreational and park facilities
- Fish and wildlife habitat

# PROJECTS & PROGRAMS



## **Urban Storm Water Master Planning and Drainage Projects**

The district has completed storm water master drainage planning for Aurora, Milford, Giltner, and parts of Seward. Drainage projects have recently been completed in York, Bee, and Henderson.

### ***Goals & Benefits***

The proper sizing and location of drainage works throughout a village or city should be considered, not just a local fix for a neighborhood problem. The district is also in a position to consider the impacts and solutions for drainage from or to rural areas. After the master planning is complete for a community, some construction cost share assistance from the district may be necessary to encourage construction of the highest priority components.

### ***Timeline***

Ongoing

### ***Cost***

- \$20,000-\$35,000/year
- Additional requests in the near term are expected from Bee, Giltner, and Henderson

### ***Areas of Responsibility***

- Flood prevention and control
- Drainage improvement

  
  


# Interlocal Agreement with Lower Platte South NRD, Branched Oak

The Lower Platte South NRD has drafted an Interlocal Agreement with the Upper Big Blue NRD to cooperate and effectively implement programs and projects along the shared NRD boundary. This Interlocal Agreement will be amended for specific projects. These amendments will specify the identity, location, and terms of each specific project to be implemented in the neighboring NRD.

Amendment No. 1 to the Interlocal Agreement between the Upper Big Blue NRD and the Lower Platte South NRD outlines details of cost-share opportunities within the Branched Oak Watershed, which is mostly in the Lower Platte South NRD, but extends into the Upper Big Blue NRD.

### *Timeline*

Beginning in 2022, ongoing

### *Areas of Responsibility*

- Pollution control
- Development, management, use, and conservation of ground water and surface water
- Water supply for any beneficial uses
- Fish and wildlife habitat

# Fiscal Management & Budget Forecasting

## GENERAL EXPENSES

Expenses	FY25	FY26	FY27	FY28	FY29	FY30
Auto & Truck Expenses	\$80,100	\$82,904	\$85,805	\$88,808	\$91,917	\$95,134
Directors' Expense	\$32,000	\$33,120	\$34,279	\$35,479	\$36,721	\$38,006
Directors' Per Diem	\$42,840	\$44,339	\$45,891	\$47,497	\$49,160	\$50,880
Dues & Memberships	\$51,700	\$53,510	\$55,382	\$57,321	\$59,327	\$61,403
Expenses --Personnel	\$56,750	\$58,736	\$60,792	\$62,920	\$65,122	\$67,401
Fees & Licenses	\$37,390	\$38,699	\$40,053	\$41,455	\$42,906	\$44,408
Information & Education	\$106,100	\$109,814	\$113,657	\$117,635	\$121,752	\$126,014
Insurance	\$110,000	\$113,850	\$117,835	\$121,959	\$126,228	\$130,645
Legal Notices	\$2,750	\$2,846	\$2,946	\$3,049	\$3,156	\$3,266
Misc. Expense	\$1,000	\$1,035	\$1,071	\$1,109	\$1,148	\$1,188
Office Supplies & Expenses	\$26,600	\$27,531	\$28,495	\$29,492	\$30,524	\$31,592
Postage	\$29,900	\$30,947	\$32,030	\$33,151	\$34,311	\$35,512
Special Projects	\$245,904	\$254,511	\$263,419	\$272,638	\$282,180	\$292,057
Professional Services	\$526,825	\$545,264	\$564,348	\$584,100	\$604,544	\$625,703
Project Legal Costs	\$5,000	\$5,175	\$5,356	\$5,544	\$5,738	\$5,938
Project Operation & Maintenance	\$117,500	\$121,613	\$125,869	\$130,274	\$134,834	\$139,553
Other Operation & Maintenance	\$32,100	\$33,224	\$34,386	\$35,590	\$36,835	\$38,125
Materials for Resale	\$107,800	\$111,573	\$115,478	\$119,520	\$123,703	\$128,033



# Long Range Implementation Plan

Expenses	FY25	FY26	FY27	FY28	FY29	FY30
Utilities	\$46,000	\$47,610	\$49,276	\$51,001	\$52,786	\$54,634
Rent Expenses	\$17,875	\$18,501	\$19,148	\$19,818	\$20,512	\$21,230
Telephone	\$28,500	\$29,498	\$30,530	\$31,598	\$32,704	\$33,849
Salaries	\$1,875,346	\$1,940,983	\$2,008,918	\$2,079,230	\$2,152,003	\$2,227,323
Payroll Taxes	\$142,587	\$147,577	\$152,742	\$158,088	\$163,621	\$169,348
Employees' Benefits	\$597,457	\$618,368	\$640,011	\$662,411	\$685,596	\$709,592
Building Maintenance	\$25,000	\$25,875	\$26,781	\$27,718	\$28,688	\$29,692
Water Meter Repair Cost Share	\$40,000	\$41,400	\$42,849	\$44,349	\$45,901	\$47,507
Chemigation Cost Share	\$50,000	\$51,750	\$53,561	\$55,436	\$57,376	\$59,384
Abandoned Well Cost Share	\$57,000	\$58,995	\$61,060	\$63,197	\$65,409	\$67,698
Wildlife Habitat	\$2,500	\$2,588	\$2,678	\$2,772	\$2,869	\$2,969
Storm Damage Tree Replacements	\$8,000	\$8,280	\$8,570	\$8,870	\$9,180	\$9,501
Scholarship	\$8,050	\$8,332	\$8,623	\$8,925	\$9,238	\$9,561
Land Treatment Cost Sharing	\$232,500	\$240,638	\$249,060	\$257,777	\$266,799	\$276,137
Intergovern. Cost Sharing	\$110,000	\$113,850	\$117,835	\$121,959	\$126,228	\$130,645
Buffer Strip Cost Sharing	\$35,170	\$36,401	\$37,675	\$38,994	\$40,358	\$41,771
Private Dams Program	\$150,000	\$155,250	\$160,684	\$166,308	\$172,128	\$178,153
<b>TOTAL OPERATING EXPENSES</b>	<b>\$5,038,244</b>	<b>\$5,214,582</b>	<b>\$5,397,093</b>	<b>\$5,585,991</b>	<b>\$5,781,500</b>	<b>\$5,983,853</b>

# Fiscal Management & Budget Forecasting

## CAPITAL EXPENSES

	FY25	FY26	FY27	FY28	FY29	FY30
Land - Title & Easements	--	--	--	--		
Project Construction Costs	\$228,200	\$236,187	\$244,454	\$253,009	\$261,865	\$271,030
Buildings	\$400,000	\$414,000	\$428,490	\$443,487	\$459,009	\$475,075
Building Improvements	\$4,000	\$4,140	\$4,285	\$4,435	\$4,590	\$4,751
Transfer from Sinking Fund	0	--	--	--	--	--
Sinking Fund	\$2,913,119					
<b>Total Capital Improvements</b>	<b>\$3,545,319</b>					
Machinery & Equipment	\$24,500	\$25,358	\$26,245	\$27,164	\$28,114	\$29,098
Autos & Trucks	\$81,000	\$83,835	\$86,769	\$89,806	\$92,949	\$96,203
Office Equipment	\$13,000	\$13,455	\$13,926	\$14,413	\$14,918	\$15,440
<b>Total Other Capital Outlay</b>	<b>\$118,500</b>	<b>\$122,648</b>	<b>\$126,940</b>	<b>\$131,383</b>	<b>\$135,981</b>	<b>\$140,741</b>
<b>Combined Total Capital Expenditures</b>	<b>\$3,663,819</b>	<b>\$3,792,052</b>	<b>\$3,924,774</b>	<b>\$4,062,141</b>	<b>\$4,204,316</b>	<b>\$4,351,467</b>

**TOTAL EXPENSES**

	<b>FY25</b>	<b>FY26</b>	<b>FY27</b>	<b>FY28</b>	<b>FY29</b>	<b>FY30</b>
Operating Expenses	\$5,038,244	\$5,214,582	\$5,397,093	\$5,585,991	\$5,781,500	\$5,983,853
Capital Improvements	\$3,545,319	\$3,669,405	\$3,797,834	\$3,930,758	\$4,068,335	\$4,210,726
Other Capital Outlay	\$118,500	\$122,648	\$126,940	\$131,383	\$135,981	\$140,741
<b>Debt Service Expenses</b>	--	--	--	--	--	--
<b>TOTAL DISBURSEMENTS &amp; TRANSFERS</b>	<b>\$8,702,062</b>	<b>\$9,006,634</b>	<b>\$9,321,867</b>	<b>\$9,648,132</b>	<b>\$9,985,817</b>	<b>\$10,335,320</b>

# Fiscal Management & Budget Forecasting



## CASH RESERVE

	FY25	FY26	FY27	FY28	FY29	FY30
CASH RESERVE	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000	\$350,000

## ASSETS

	FY25	FY26	FY27	FY28	FY29	FY30
Cash in Bank	\$1,221,298	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Cash at County Treasurer	\$32,840	\$33,989	\$35,179	\$36,410	\$37,685	\$39,004
Accounts Receivable -- Federal	\$46,560	\$48,190	\$49,876	\$51,622	\$53,429	\$55,299
Accounts Receivable	\$54,177	\$56,073	\$58,036	\$60,067	\$62,169	\$64,345
Inventories &	--	--	--	--	--	--
Prepaid Expenses	\$143,634	\$148,661	\$153,864	\$159,250	\$164,823	\$170,592
Investments General Fund	\$919,579	\$928,775	\$938,063	\$947,443	\$956,918	\$966,487
Investments Sinking Fund	\$2,813,608	\$2,912,084	\$3,014,007	\$3,119,497	\$3,228,680	\$3,341,684
<b>TOTAL ASSETS</b>	<b>\$5,231,696</b>	<b>\$5,414,806</b>	<b>\$5,604,324</b>	<b>\$5,800,475</b>	<b>\$6,003,492</b>	<b>\$1,329,240</b>

LIABILITIES

	FY25	FY26	FY27	FY28	FY29	FY30
Accounts Payable	\$484,364	\$501,317	\$518,863	\$537,023	\$555,819	\$575,272
Accrued Vacation	\$104,694	\$108,358	\$112,151	\$116,076	\$120,139	\$124,344
Payroll Taxes Payable	\$34,345	\$35,547	\$36,791	\$38,079	\$39,412	\$40,791
Retirement Payable	\$12,142	\$12,567	\$13,007	\$13,462	\$13,933	\$14,421
Sales Tax Payable	\$356	\$368	\$381	\$395	\$409	\$423
Annuity Payable	--	--	--	--	--	--
FSA Payable	\$3,795	\$3,928	\$4,065	\$4,208	\$4,355	\$4,507
<b>Total Liabilities</b>	<b>\$639,696</b>	<b>\$662,085</b>	<b>\$685,258</b>	<b>\$709,242</b>	<b>\$734,066</b>	<b>\$759,758</b>

# Fiscal Management & Budget Forecasting

## STATE AND FEDERAL RECEIPTS

	FY25	FY26	FY27	FY28	FY29	FY30
State Grants & Funds	\$219,350	\$227,027	\$234,973	\$243,197	\$251,709	\$260,519
Federal Grants & Funds	\$161,461	\$167,112	\$172,961	\$179,015	\$185,280	\$191,765
Private Grants	\$143,500	\$148,523	\$153,721	\$159,101	\$164,670	\$170,433
Labor on Sale of Trees	\$10,000	\$10,350	\$10,712	\$11,087	\$11,475	\$11,877
Customer Charges	\$155,500	\$160,943	\$166,575	\$172,406	\$178,440	\$184,685
Income from investments General Fund	\$30,000	\$31,050	\$32,137	\$33,262	\$34,426	\$35,631
Income from investments Sinking Fund	\$99,511	\$102,994	\$106,599	\$110,330	\$114,191	\$118,188
Miscellaneous Income	--	--	--	--	--	--
Reimbursement by other NRDs	\$60,711	\$62,836	\$65,035	\$67,311	\$69,667	\$72,106
Pro-Rate Motor Vehicle & Car Line Tax	\$9,500	\$9,833	\$10,177	\$10,533	\$10,901	\$11,283
Nameplate Capacity Tax	\$1,000	\$1,035	\$1,071	\$1,109	\$1,148	\$1,188
Income from Counties/Cities	\$34,739	\$35,955	\$37,213	\$38,516	\$39,864	\$41,259
<b>Transfer from other Funds</b>	--	--	--	--	--	--
<b>TOTAL RECEIPTS</b>	<b>\$925,272</b>	<b>\$957,657</b>	<b>\$991,174</b>	<b>\$1,025,866</b>	<b>\$1,061,771</b>	<b>\$1,098,933</b>



## PROPERTY TAXES

	FY25	FY26	FY27	FY28	FY29	FY30
Property Taxes	\$3,534,790	\$3,658,508	\$3,786,555	\$3,919,085	\$4,056,253	\$4,198,221
County Treasurers Commission	\$35,348	\$36,585	\$37,866	\$39,191	\$40,563	\$41,982
<b>TOTAL PROPERTY TAX REQUIREMENT</b>	<b>\$3,570,138</b>	<b>\$3,695,093</b>	<b>\$3,824,421</b>	<b>\$3,958,276</b>	<b>\$4,096,815</b>	<b>\$4,240,204</b>



**UPPER BIG BLUE**

**Natural Resources District**

319 E 25th St, York, NE 68467

[www.upperbigblue.org](http://www.upperbigblue.org)

(402) 362-6601

**This Long Range Plan Document was  
Adopted by the Board of Directors,  
Upper Big Blue Natural Resources District,  
on September 19, 2024  
in accordance with Nebraska Law  
(Section 2-3276).**

## **Our Mission**

The Upper Big Blue Natural Resources District shall be a leader in conserving, protecting, developing, and managing the natural resources of this District for the health and welfare of the people of the District. The core of the Upper Big Blue Natural Resources District focuses on these things:

- Water
- Soil
- Urban Conservation
- Flood Control
- Trees and Wildlife Habitat
- Recreation
- Grazing Lands
- Education