

Upper Big Blue  
Natural  
Resources District



**PROJECTS**  
DEPARTMENT

Upper Big Blue  
Natural Resources District

**PROJECTS DEPARTMENT**



105 N. LINCOLN AVENUE YORK, NE 68467 PH: 402.362.6601 FAX: 402.362.1849  
WWW.UPPERBIGBLUE.ORG

# PROJECTS

# PROJECTS

## THE UPPER BIG BLUE NRD PROJECTS DEPARTMENT: PROJECTS PROGRAMS & ASSISTANCE . . .

### Inter-local Agreements: Recent Case Studies from Around the District:

When the NRD and community cooperate to implement a particular project, a cooperative agreement (Inter-local Agreement) is generally required. The agreement spells out the financial and administrative responsibilities of each entity. The Projects Department staff provides Inter-local agreement administration and coordinates project activities with all parties to the agreement.



*The Upper Big Blue NRD Projects Department is one of five departments at the NRD. The Projects Department staff consists of the Department Manager (Professional Engineer), Lead Engineering Technician, and Engineering Technician. The Projects Department is responsible for providing engineering services on NRD projects, such as dams, recreational facilities, groundwater studies, drainage and storm water management, and regional planning. The Projects Department also manages soil and water conservation programs aimed at protecting Nebraska's natural resources. The following pages discuss projects and programs administered by the Projects Department.*



### KEY PROJECTS:

The following are just a few of the many successful District and community assistance activities undertaken by the Upper Big Blue NRD Projects Department in recent years.

#### Groundwater Studies District & statewide

- Developed groundwater model to determine portion of NRD in fully-appropriated area of Platte River.
- Participated in a statewide effort with the Cooperative Hydrology Study of the Platte River Basin (COHYST).
- Developed groundwater model of the Blue River Basin in Nebraska to determine hydrologic connection of the aquifer and basin streams.
- Reviewed and evaluated groundwater models and studies for proposed large groundwater uses in the NRD.



#### Aurora:

- Mapping and inventory of the storm water system.
- Hydrologic evaluation of the storm water system.
- Aerial photography and detailed topographic mapping of approximately 40 square miles including Aurora and surrounding rural areas.
- Lincoln Creek Parkway Bridge foundation design, structural plan review, and construction administration.

#### Fairmont:

- Drainage improvement project engineering study review and project financial assistance.

#### Geneva:

- Designed small pond for the Outdoor Classroom Project at Fillmore Central High School.

#### Henderson:

- Lakeview Park Restoration Project engineering design review.
- Aerial photography and detailed topographic mapping.
- Industrial Park drainage improvements design engineering.

#### Milford:

- Southeast Community College Storm Water Drainage - engineering design, construction management, and financial assistance.

#### Saline County Flood Control:

- Johnson Creek Site #10 erosion and flood control dam - provided engineering and project management.

#### Seward:

- Plum Creek Hiking & Biking Trail, Phase I project planning, prepared grant applications, design and construction engineering, and construction management.



- Flood Hazard Mitigation Project - prepared mitigation plan, obtained federal funding, prepared engineering studies for levees, and provided project management for land acquisitions along the Big Blue River at Seward.
- Flood Hazard Mitigation Project - prepared mitigation plan, obtained federal funding, and provided project management for land acquisition.

#### Sutton:

- School Creek levee for flood control - provided planning, flood plain mapping, and funding assistance.
- Fox Hollow Golf Course flood control dam - provided planning, engineering, construction management, and financial assistance.

#### Waco:

- Flood control project.



#### York:

- Drainage improvement project; Highway 81 & 34 engineering plan review and financial assistance.

# PROJECTS

# PROJECTS

## Groundwater Studies

The Upper Big Blue NRD has conducted groundwater studies in the Platte and Blue River Basins. Groundwater studies include mapping, geological investigations, hydrologic analysis, and development of groundwater models, including extensive geological and hydrological evaluations of riverbed conductance, and drilling of test wells. Each groundwater study and model are independently “peer” reviewed and verified as accurate by an accredited agency not affiliated with the NRD. These models have helped determine the extent of the hydrological connection between surface water and groundwater and serve as evidence when enacting rules and regulations pertaining to possible future restrictions of water use. In the case with the Platte River Basin, had the Upper Big Blue NRD not taken the initiative to model the groundwater along the portion of the Platte River that borders Hamilton County, the producers in this area would have not been able to drill new wells or expand irrigated acres if new drilling were to occur, and all other water users in the fully appropriated area would have to be reduced, which would mean reduced allocation or mandatory reduction in irrigated acres.

In addition to conducting large regional studies, the Projects Department staff is available to provide groundwater studies to communities interested in water supply both locally and regionally. In addition to conducting studies, the Projects Department provides technical reviews for the NRD on large water user studies, such as ethanol plant proposals performed by others.



## Land Treatment Program

Land treatment is defined as the construction or installation of soil and/or water conservation practices to prevent or reduce soil erosion, water contamination, and the overuse of both surface water and groundwater. Many land treatment practices result in an additional benefit of the creation of habitat for wildlife.

The purpose of the Land Treatment Program is to provide soil and water conservation incentives throughout the Upper Big Blue NRD. The District’s technical guidelines and cost-share procedures generally coincide with USDA (United States Department of Agriculture) and Nebraska Department of Natural Resources (NDNR) programs. The District’s Programs Book includes details regarding conservation practice descriptions, cost-share rates, application procedures, etc.

The Projects Department staff provides technical oversight, management of the application and funding process, and coordination with USDA and NRCS technical staff.



## Storm Water and Drainage

Storm water and drainage improvement projects can include various levels of assistance to communities. The NRD can provide project management, planning, design, funding, and construction administration, as well as reclamation of either urban or rural lands currently subject to frequent inundation due to poor surface water drainage or a high groundwater table. The District has adopted a cost-share policy on any studies needed for larger projects within the District. The District will act as lead agency when the project sponsors ask the District to coordinate the project planning, engineering, construction, operations and maintenance, and collection and disbursement of funds.



## Community Flood Mitigation Planning

The Nebraska Emergency Management Agency (NEMA) is the State of Nebraska’s coordinating agency for Federal Emergency Management Agency (FEMA) programs and natural disaster relief. The Nebraska Department of Natural Resources, in conjunction with Nebraska’s Natural Resources Districts, provides planning assistance to communities and administers the Flood Mitigation Assistance (FMA) Program. The FMA can be used to assist communities in developing flood mitigation plans so that measures can be put in place before a natural disaster occurs. Once developed, these plans can be used to assist communities with flood plain mapping and zoning, identifying properties to be acquired for relocation or demolition, identifying properties that need to be elevated above 100-year flood plains and planning for flood protection facilities. A flood mitigation plan can also serve as a community’s documentation for the National Flood Insurance Program (NFIP) Community Rating System. A flood mitigation plan is also helpful in speeding up the disaster assistance process after a major flood. The Projects Department at the Upper Big Blue Natural Resources District can assist communities with implementing their Hazard Mitigation Plans.

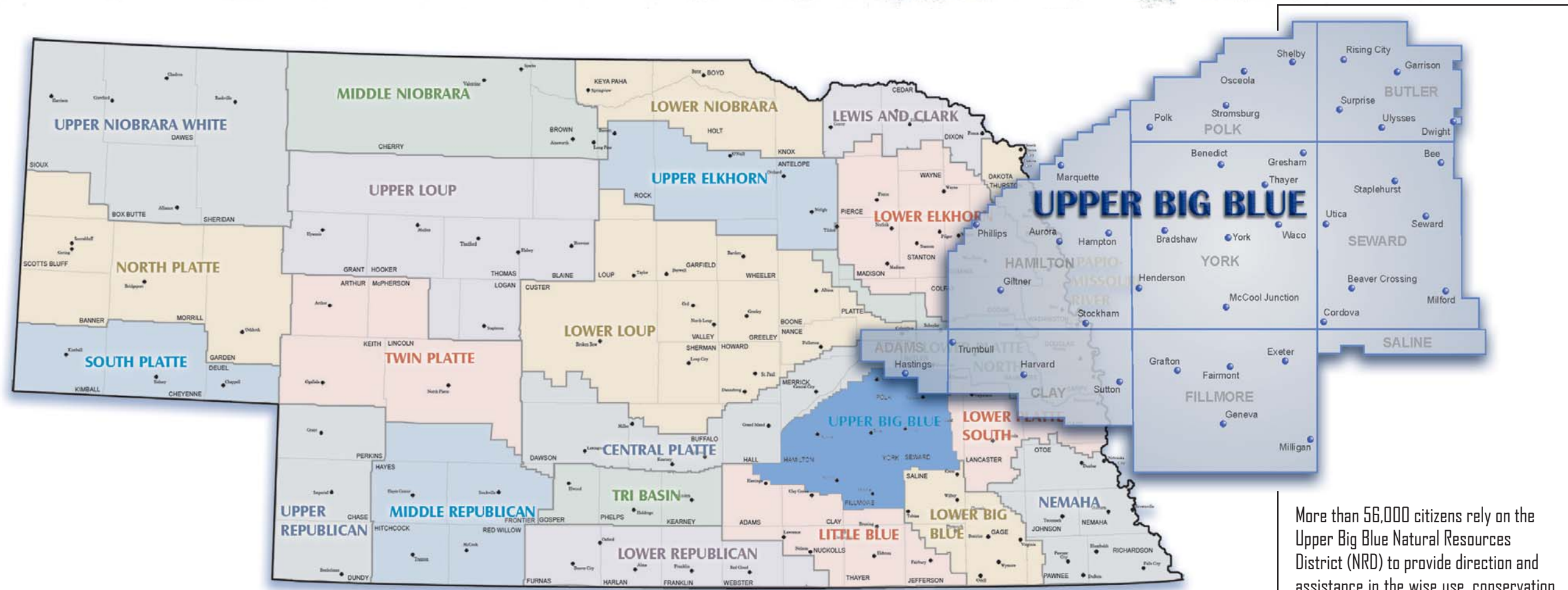


## Water Conservation Dams and Reservoirs

The District’s Water Conservation Dam Program provides a means of building dams that are not eligible to be built under the Land Treatment Program. Water conservation dams provide a place to store storm water and irrigation water runoff. Benefits that can be incorporated into these dams include flood control, groundwater recharge, irrigation water storage and use, erosion control, recreation, and wildlife habitat. Project use rights granted to the sponsor or sponsors of each dam will be determined according to each sponsor’s share of project costs. Structures built under this program have a contributing drainage area greater than 640 acres and a project cost of more than \$15,000. These structures can involve single or multiple landowners or agencies. The Projects Department staff can provide planning, design, and construction administration services to sponsors for these projects.



# NRD PROFILE



Once dismissed as "The Great American Desert," Nebraska now is known both nationally and abroad for its agricultural bounty and natural wonders. We sometimes take these wonders for granted, but they surround us from one corner of the state to another; from Niobrara to Red Cloud, from Scottsbluff to Omaha.

The Nebraska Legislature enacted laws in 1972 to combine 154 special purpose entities into 23 Natural Resources Districts (NRDs). These Districts are unique to Nebraska and to the rest of the country. NRDs are local government units with broad responsibilities to protect our natural resources. Major Nebraska river basins form the boundaries enabling Districts to respond best to local needs.

An elected Board of Directors governs each District. Much of their funding comes from local property taxes. In most cases, your local NRD typically uses 1-2 percent of all property taxes collected in the District.

NRDs help Nebraskans respond to natural resources challenges with local control and local solutions. Partnerships have been built with various agencies and organizations, including the USDA Natural Resources Conservation Service, the Nebraska Department of Natural Resources, other state and federal agencies, municipalities, counties, and private organizations.

Many NRD projects leave long-lasting conservation results: dams, terraces, drainage ditches, windbreaks, reservoirs, and recreational trails.

The Nebraska Association of Resources Districts, a statewide association created by NRDs, provides administrative services, legislative representation, statewide communication, and coordination for the 23 independent Districts.

Since being created in 1972, NRDs have experienced tremendous growth in the responsibilities given to them by state statute, especially in protecting groundwater.

The NRDs inform Nebraska's young people by supplying information, education, and other outreach efforts. It is vital that future generations understand the importance of securing Nebraska's natural resources.

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 our soil, water and related natural resources. The NRD is dedicated to the conservation and careful development of natural resources to serve everyone's needs.

**NATURAL RESOURCES DISTRICTS...**  
 ... the greatest sources of the state's wealth and its assurance for future prosperity