

Key Topic #6: Understanding the differences of local, regional, and national systems that manage natural resources and the importance of each in water resources

Objective1. Knowledge of various conservation agencies including Nebraska's Natural Resources Districts, and how partners work together for conservation success.

Objective 2. Understanding Nebraska's Natural Resources Districts structure and what makes it unique from other conservation districts in the U.S.

Resources:

1. Water Management in Nebraska *(3 pages)*
2. NACD: About Districts *(2 pages)*
3. Nebraska's Unique NRD system key to addressing groundwater quality *(2 pages)*

(SCROLL DOWN for RESOURCES)





INTERSTATE WATERS

Nebraska participates in six interstate water compacts, agreements, or court decrees, approved by participating state legislatures and Congress, or decreed by the United States Supreme Court. These compacts allocate water among states and often impact state water planning efforts. They are primarily administered by DNR with varying degrees of coordination and support from other state agencies and NRDs.



FEDERAL INVOLVEMENT

Nebraska's administration of water is affected by federal regulations and impacted by the involvement of federal agencies. Three of the most significant regulations are:

- The Clean Water Act (1972) is the principal law governing pollution of the nation's surface waters (includes water standards, enforcement, and expanded federal jurisdiction, but maintains state responsibility for day-to-day implementation of the law).
- The Endangered Species Act (1973) provides for the conservation of threatened and endangered plants and animals and their habitats.
- The Safe Drinking Water Act (1974) regulates the public drinking water supply.



SUPPORTING ROLES

Many state and federal agencies, and the NRDs, make funding available through a variety of programs. Two additional state bodies have roles that support, but do not specifically manage or regulate water:

University of Nebraska-Lincoln Conservation and Survey Division

- Collects, manages, and distributes groundwater data.
- Provides information and assistance regarding groundwater supplies and contamination.
- Conducts scientific studies involving water.

Natural Resources Commission

- State commission charged with helping to conserve, protect, and use the water and related land resources of the state through the oversight of seven state aid programs.



CONTACT US

The Nebraska Department of Natural Resources is proud to support Nebraska's water users and work on behalf of the citizens. Please feel free to contact us at any time.



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WATER MANAGEMENT — IN — NEBRASKA

Managing Water the Nebraska Way

HISTORY OF WATER

MANAGEMENT

ERA OF INDEPENDENT MANAGEMENT OF GROUNDWATER AND SURFACE WATERS



1895

Surface water rights are assigned according to doctrine of prior appropriation (first in time, first in right).

1920

Nebraska constitution is amended to recognize the public interest in the use of water.

1933

Correlative use (shared use) doctrine is adopted for groundwater established through Nebraska Supreme Court ruling.

1943

Nebraska enters into Republican River Compact with Kansas and Colorado. Today, this is just one of six decrees (allocating water across multiple states).

1967

Legislature directs state Soil and Water Conservation Commission to prepare a State Water Plan.

1968-71

First portions of the State Water Plan are published.

1971

Legislature passes Nebraska Environmental Protection Act and creates the Nebraska Department of Environmental Control (now Environmental Quality).

1972

Legislature creates Natural Resources Districts as multipurpose, locally elected management bodies.

1975

Legislature directs primary responsibility for regulating groundwater to Natural Resources Districts.

Legislature prohibits state agencies from taking actions that jeopardize endangered species or their critical habitat.

1976

Legislature passes standards complementary to the National Safe Drinking Water Act.

1978

At request of Legislature, Natural Resources Commission and other state agencies issue a policy statement and workplan which recommends replacing the State Water Plan with a State Water Planning and Review process.



ERA OF WATER PLANNING AND POLICY DEVELOPMENT

1981

Legislature authorizes a State Water Planning and Review process.

1984

Legislature authorizes instream flow appropriations to protect recreation, fish and wildlife.

Legislature requires Natural Resources Districts to prepare local groundwater management plans.

1986

Legislature passes bills to implement groundwater quality protections, including expanding water quality authorities.

1991

Legislature requires Natural Resources Districts to expand their management plans to include protection of groundwater quality.

1993

Legislature enacts laws governing the use of pesticides.

1996

Legislature establishes integrated management of groundwater and surface water.



ERA OF COLLABORATIVE WATER PLANNING PROCESS IMPLEMENTATION

2000

Natural Resources Commission is merged with Department of Water Resources to create the present Department of Natural Resources.

2004

Legislature directs NRD/DNR collaboration of Integrated Water Management Plans to address surface water and groundwater as a single resource.

2010

Legislature allows voluntary Integrated Water Management Plans.

2014

First voluntary Integrated Water Management Plans adopted.

SURFACE WATER

Comprises all rivers and streams, lakes and reservoirs, or any other water that is on the Earth's surface.

GROUNDWATER

Does not run off and is not taken up by plants, but soaks down into an aquifer.

➔ **Water management in Nebraska, like in many other states, involves a complex system of rules and management authorities. The responsibilities for water management tend to be determined by type of management (quantity or quality) and type of water (surface or ground), resulting in four quadrants of responsibility (below).**

➔ Water has defined Nebraska, from its naming (derived from the Otoe-Missouria and Omaha tribes' names for the Platte River meaning *flat water*), to its modern dependence on water for irrigation, power, recreation, fish and wildlife, and domestic use.

Over the years, Nebraska has developed a variety of administrative structures and processes to manage water uses and supplies. During its first century, Nebraska relied on a largely centralized approach to surface water management, and a separate locally based approach for groundwater management. In the 1970s, after a decade of attempting to develop “a blueprint for total development of the

state’s water that would serve for generations,” Nebraska’s water managers realized that “published plans frequently become outdated rapidly, and some serve only to collect dust after a short time.”* Rather, they envisioned water planning as a “continuous process that would provide flexible guides for future decisions” and suggested elimination of “a State Water Plan and [to instead] concentrate on the Process.” What followed was a series of policy and water right studies that evaluated numerous water issues including surface water rights, groundwater management, water use efficiency, instream flows, and the integrated management of surface water and groundwater. Subsequently, many of the recommendations from these studies were implemented.

In 1981 the Legislature assigned the Nebraska Department of Natural Resources overall coordination and other specific roles in water management and regulation. State agencies and local Natural Resource Districts were assigned other specific responsibilities for water management and regulation. In 2004, the Legislature established a collaborative state and local process that, for the first time, recognized the inter-connectivity of groundwater and surface water. Nebraska’s structure has become a decentralized process that integrates groundwater and surface water management and regulatory processes locally and statewide.

*Natural Resources Commission Report to the Legislature and Governor, 1978

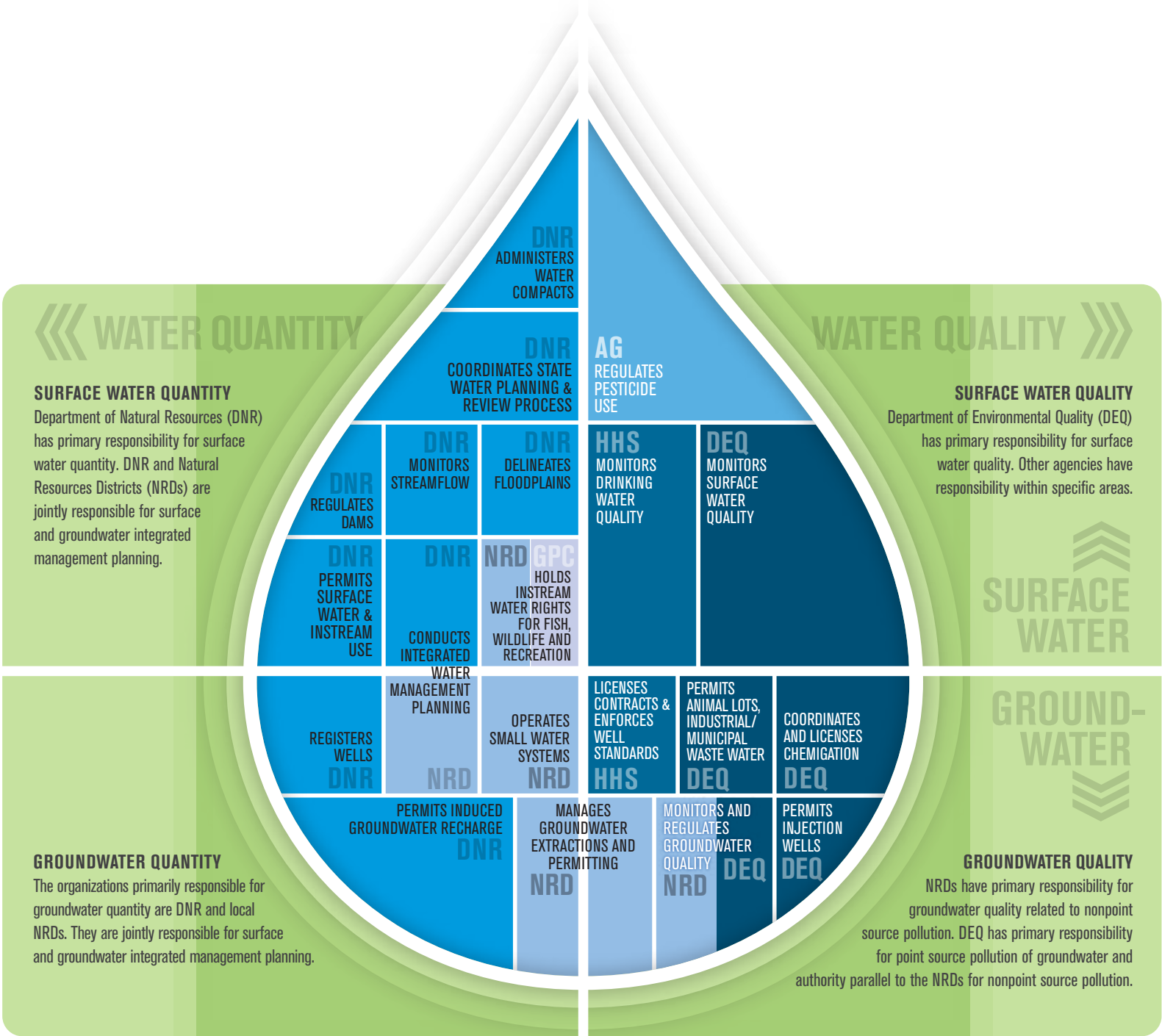
WATER MANAGEMENT AND REGULATORY ROLES

DNR Department of Natural Resources

- Responsible for permitting surface water, rights for storage, irrigation, power, manufacturing, instream flows, and other beneficial uses.
- Coordinates the annual state water planning and review process (provide policy information, provide intergovernmental coordination, maintain data, enable planning and designing of projects and undertake planning activities).
- Issues permits for surface water, instream use, water storage, induced groundwater recharge for public water suppliers, and diversions by certain groundwater irrigation wells.
- Registers wells and delineates hydrologically connected aquifers on streams and rivers.
- Regulates the construction, operation, and maintenance of dams.
- Identifies and delineates floodplains and provides related assistance and coordination.
- Administers interstate water compacts, decrees, and agreements.
- Partners with NRDs to develop and manage Integrated Water Plans.

NRD Natural Resources Districts (23 districts cover Nebraska)

- Partners with DNR to develop Integrated Water Plans.
- Maintains district plans and implements projects to protect groundwater and surface water quality and quantity.
- Partners with other agencies to develop multi-district river basin water management plans.
- Maintains district rules and regulations to deal with groundwater contamination, shortages or user conflicts, including groundwater well permitting, allocations, flowmeters, usage reporting, well moratoriums, irrigated acre expansion, and transfers.
- Receives applications and issues permits for chemigation (fertilizers/pesticides applied to land or crops in or with water) and inspects safety equipment on chemigation systems.
- Utilizes floodplain management measures to help protect people and property from flood damage.
- May hold a surface water right for instream flows.



AG Department of Agriculture

- Leads on issues relating to pesticides and water quality. Develops and implements state management plans for the prevention, evaluation and mitigation of occurrences of pesticides, or pesticide breakdown products, in groundwater and surface water.
- Regulates the distribution, storage, and use of all pesticides, and certifies and licenses pesticide applicators.
- Manages the Nebraska Buffer Strip Program for cropland adjacent to perennial and seasonal streams, ponds, and wetlands.

HHS Department of Health and Human Services

- Assures drinking water quality through testing of public water systems and water wells.
- Licenses well and pump installation contractors.
- Enforces water well construction standards to protect groundwater quality.

GPC Game and Parks Commission

- Ensures that water resource projects and programs consider and provide for fish and wildlife resources and the habitats that support them.
- May hold a surface water right for instream flows.

DEQ Department of Environmental Quality

- Conducts surface water quality sampling in lakes, streams, and rivers.
- Conducts groundwater quality monitoring, review, and studies.
- Makes Clean Water Act impairment declarations.
- Coordinates chemigation programs and issues applicator certifications.
- Leads groundwater pollution remediation.
- Assists public water suppliers to prevent contamination.
- Issues permits for: injection wells; Concentrated Animal Feeding Operations (CAFO or AFO); and treatment and discharge of industrial and municipal wastewater and stormwater.



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ABOUT DISTRICTS

Across the United States, nearly 3,000 conservation districts—almost one in every county—work directly with landowners to conserve and promote healthy soils, water, forests and wildlife. NACD represents these districts and the more than 17,000 citizens who serve on conservation district governing boards.

Conservation districts may go by different names—“soil and water conservation districts,” “resource conservation districts,” “natural resource districts” and “land conservation committees”—but they all share a single mission: to coordinate assistance from all available sources—public and private, local, state and federal—to develop locally-driven solutions to natural resources concerns.

In addition to serving as coordinators for conservation in the field, districts:

- Implement farm, ranch and forestland conservation practices to protect soil productivity, water quality and quantity, air quality and wildlife habitat;
- Conserve and restore wetlands, which purify water and provide habitat for birds, fish and other animals;
- Protect groundwater resources;
- Assist communities and homeowners in planting trees and other land cover to hold soil in place, clean the air, provide cover for wildlife, and beautify neighborhoods;
- Help developers control soil erosion and protect water and air quality during construction; and
- Reach out to communities and schools to teach the value of natural resources and encourage conservation efforts.

Because conservation districts are **established under state law** ([A Standard State Soil Conservation Districts Law](#)), they are often referred to differently depending on where they are located. What we refer to as “conservation districts” are called the following in these states:

- Land Conservation Departments
 - *Wisconsin*
- Natural Resource Conservation Districts
 - *Arizona*
- Natural Resources Districts

- *Nebraska*
- Resource Conservation Districts
 - *California*
- Soil Conservation Districts
 - *Idaho, North Dakota, Utah, Maryland, New Jersey, Puerto Rico, Tennessee*
- Soil & Water Conservation Districts
 - *Alabama, Alaska, Connecticut, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Louisiana, Maine, Minnesota, Mississippi, Missouri, New Mexico, New York, North Carolina, Ohio, Oregon, South Carolina, Texas, Virginia and the Pacific Basin*

ENABLING LEGISLATION

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Next Generation Leadership Institute
NCF Envirothon

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Nebraska's Unique NRD System Key to Addressing Groundwater Quality

LINCOLN, Neb. – Nebraska's Natural Resources Districts (NRDs) are a rare example of a groundwater government whose practices are conducive to positive, sustainable groundwater quality outcomes, according to a new study published in the most recent edition of *Water Alternatives*, an interdisciplinary journal on water, politics and development.

"Nebraska's Natural Resource District System: Collaborative Approaches to Adaptive Groundwater Quality Governance," presents Nebraska as a case study for the development of governance regimes that have the potential to address agricultural nonpoint source groundwater nitrate pollution.

The study, led by Gregory Sixt while at Tufts University (now at the Massachusetts Institute of Technology Abdul Latif Jameel Water and Food Systems Lab), stemmed from earlier research by Bleed and Babbitt (2015), which demonstrated that the NRDs represent a robust system for the sustainable management of groundwater quantity. This research expands upon that analysis to examine the NRD system as it has evolved to include groundwater quality in the last 30 years. Other researchers contributing to this study include: Laurens Klerkx, Wageningen University (The Netherlands); J. David Aiken, University of Nebraska-Lincoln; and Timothy Griffin, Tufts University.

"I hope this paper will increase awareness of the NRD system and highlight to more people Nebraska's unique and special model for managing its groundwater resources," Sixt said. "I believe strongly that the NRD system has a lot to teach other states."

Research included 34 interviews throughout June 2017 with a diverse set of experts from various NRDs; the Nebraska Association of Resources Districts; Nebraska Department of Environmental Quality and the Department of Natural Resources; University of Nebraska-Lincoln; agricultural producers; City of Hastings Utilities; Nebraska Extension and the Groundwater Foundation.

The research also focused on three groundwater nitrate management programs in Nebraska that collectively represent the broader NRD system.

1. The Central Platte NRD Groundwater Management Area (CPNRD GMA), which is the oldest nonpoint source nitrate program in the state, and has demonstrated a successful trend in reducing groundwater nitrate concentrations;
2. The Bazile Groundwater Management Area (BGMA), which brings together four NRDs to address nitrate pollution; and
3. The Hastings Wellhead Protection Area (Hastings WHPA), which is a collaboration between two NRDs and the city of Hastings. This project successfully bridges the rural-urban divide to address the nonpoint source nitrate pollution that is threatening the city's drinking water source.

The study concluded that cooperative approaches are important to nonpoint source pollution program development and management, stating that Nebraska is in a unique position to showcase how local water management plans can be successful. The NRD system has been in place since 1972, and districts have been developing groundwater quality plans since the 1980s, allowing Nebraska to provide a model for other states beginning to develop their own groundwater governance regimes.

“We’ve been successful working with agricultural producers to reduce nitrate levels to protect water while still maintaining farm profitability,” said Lyndon Vogt, Central Platte NRD general manager and research participant. “We’re proud to set an example of how public and private partnerships work together to protect Nebraska’s vital resources from overuse and pollution.”

To read the full study, visit: [Water Alternatives: Volume 12, Issue 2](#)

The Nebraska Association of Resources Districts (NARD), the trade association for Nebraska's 23 Natural Resources Districts (NRD), works with individual districts to protect lives, property and the future of Nebraska's natural resources. NRDs are unique to Nebraska, and act as local government entities with broad responsibilities to protect Nebraska's natural resources. Major Nebraska river basins form the boundaries of the 23 NRDs, enabling districts to respond to local conservation and resource management needs. Learn more about Nebraska's NRDs at www.nrdnet.org.