



Natural Resources Conservation Service  
U.S. DEPARTMENT OF AGRICULTURE



# Biological Guidance

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**FARM PRODUCTION AND CONSERVATION**  
FSA | NRCS | RMA | Business Center

# Wetland Restoration Criteria & Guidelines

- The purpose of the Wetland Restoration Criteria and Guidelines (WRCG) is to document the technical considerations and parameters used to support decision-making related to the restoration of wetlands and associated habitats through NRCS conservation easement programs in Nebraska.
- WRCG is grouped by various wetland complexes throughout Nebraska.

# Nebraska's Wetland Complexes

- Ted Lagrange – NGPC Wetland Program Manager.



Dakota Altman / Platte Basin Timelapse



# Nebraska has a diversity of wetland types

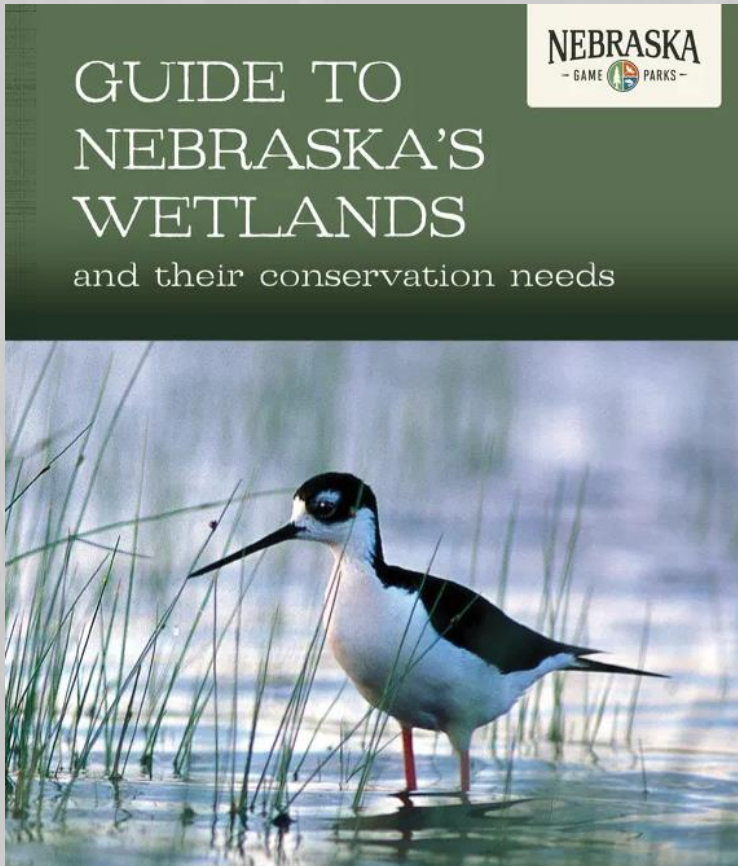




Photos by Platte Basin Timelapse Producers



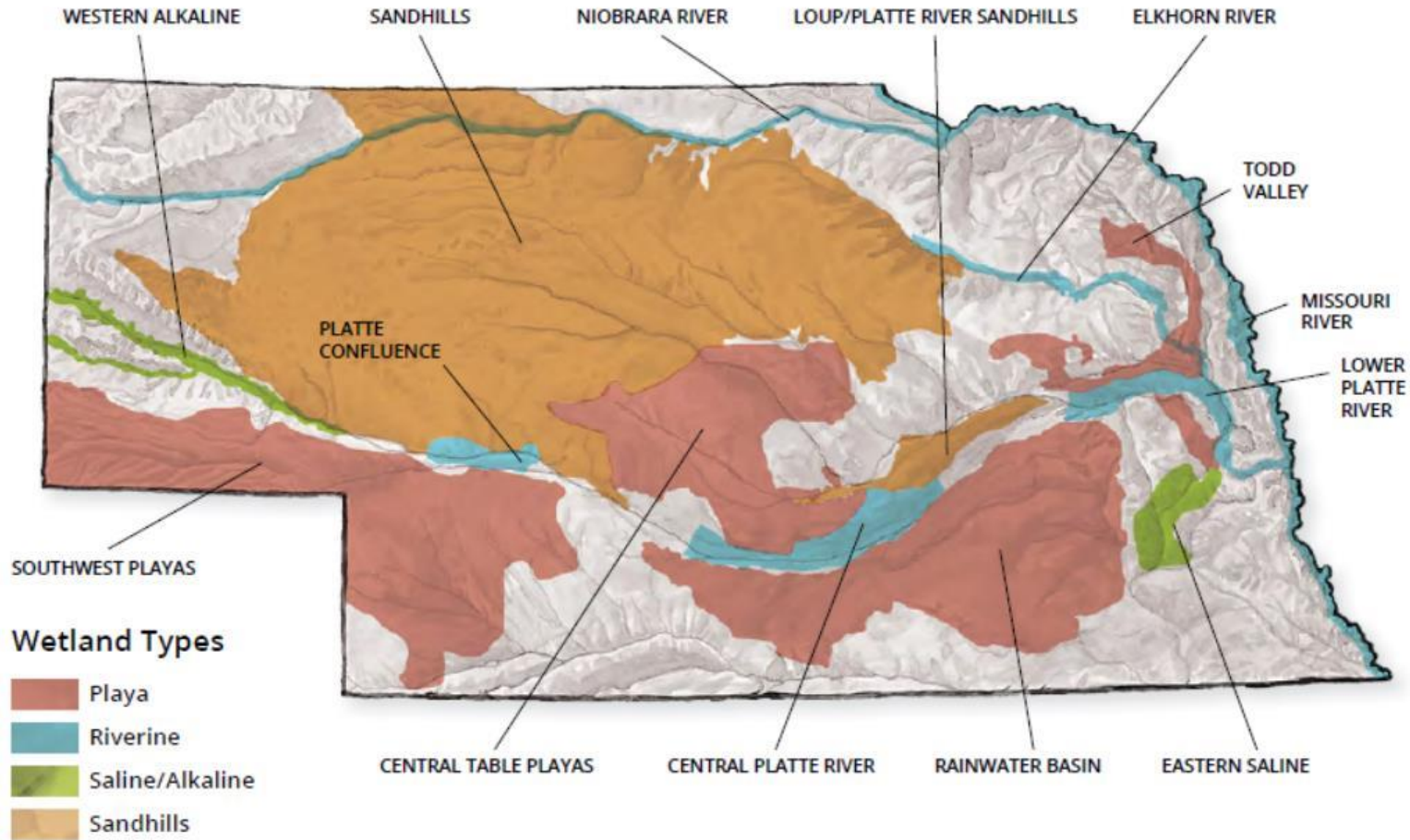
# Guide to Nebraska's Wetlands



2022

- Defines and describes Nebraska wetlands and discusses wetland functions, dynamics, classification, inventory and conservation efforts.
- Fourteen wetland complexes are covered in depth.

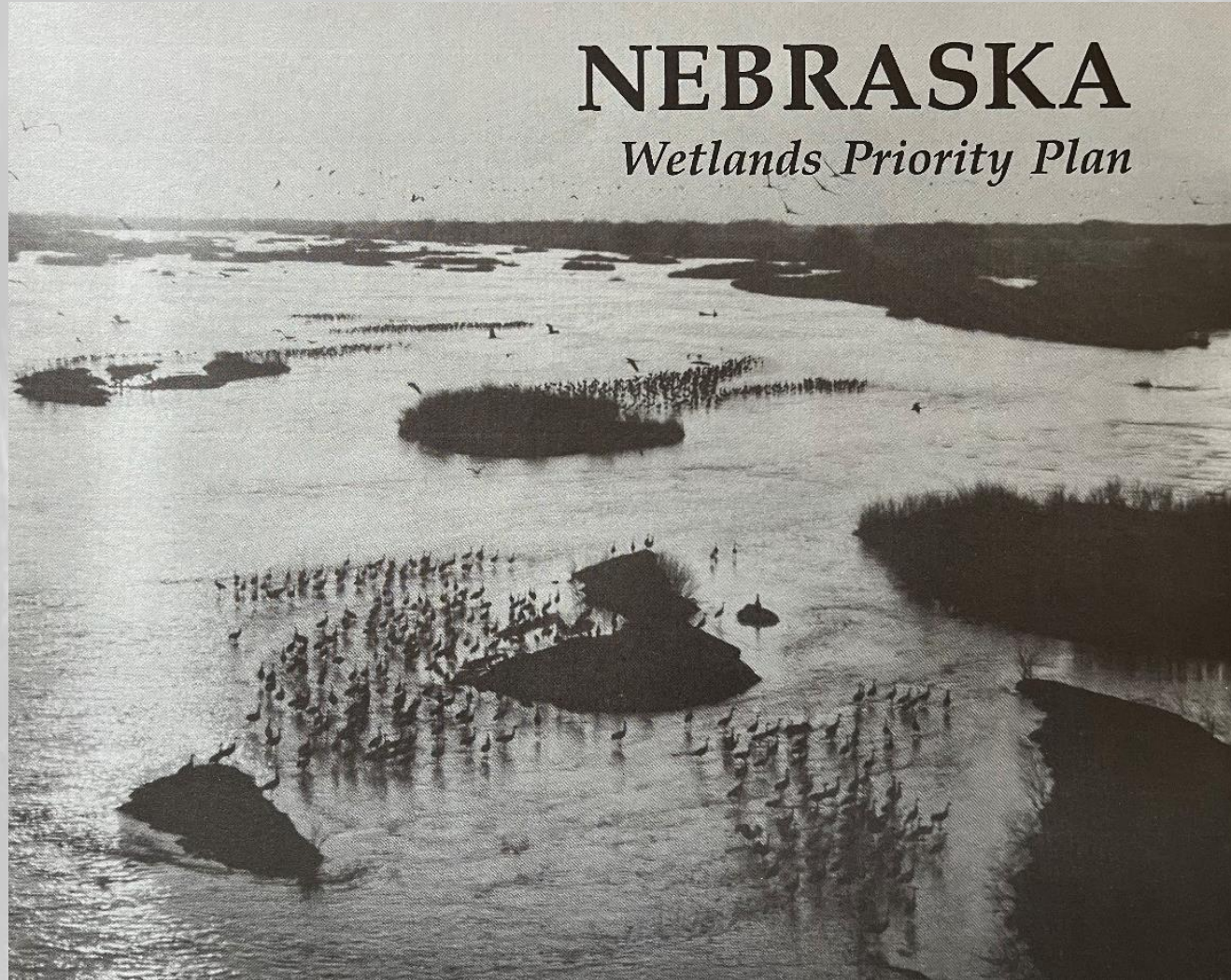
[www.NebraskaWetlands.com](http://www.NebraskaWetlands.com)



Nebraska's regional wetland complexes consist of four types of wetlands: Playa, Riverine, Saline/Alkaline and Sandhills. Even if a wetland is not located within one of these four complexes, it still is an important component of our ecosystem. TIM REIGERT, NEBRASKALAND

2022 Guide to Nebraska's Wetlands





1991

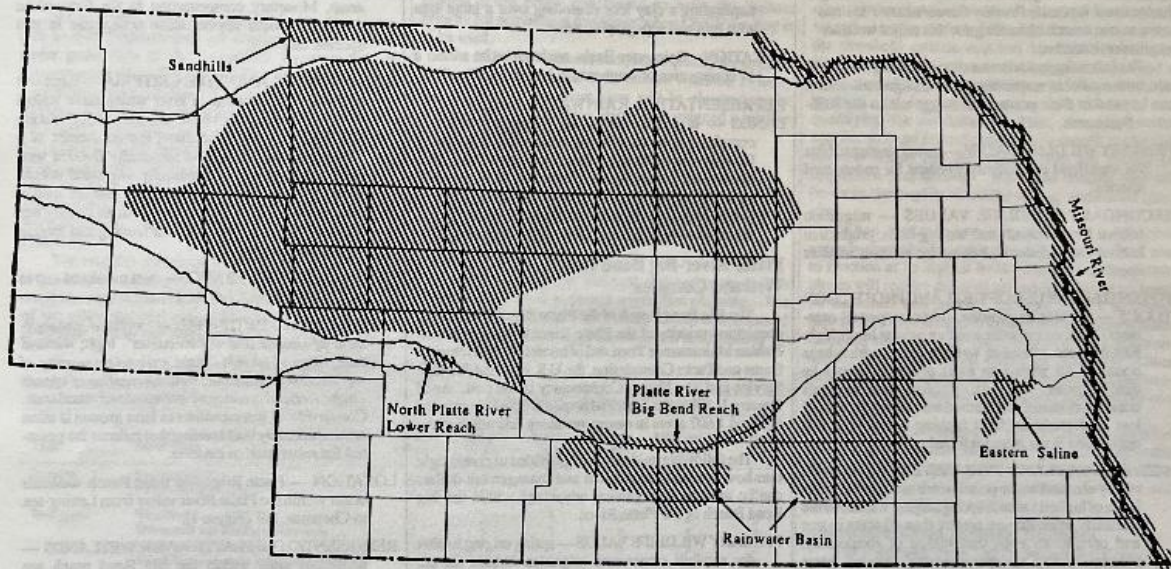


FIGURE 1.  
Wetland complexes that qualify for acquisition consideration under provisions of the National Wetlands Priority Conservation Plan

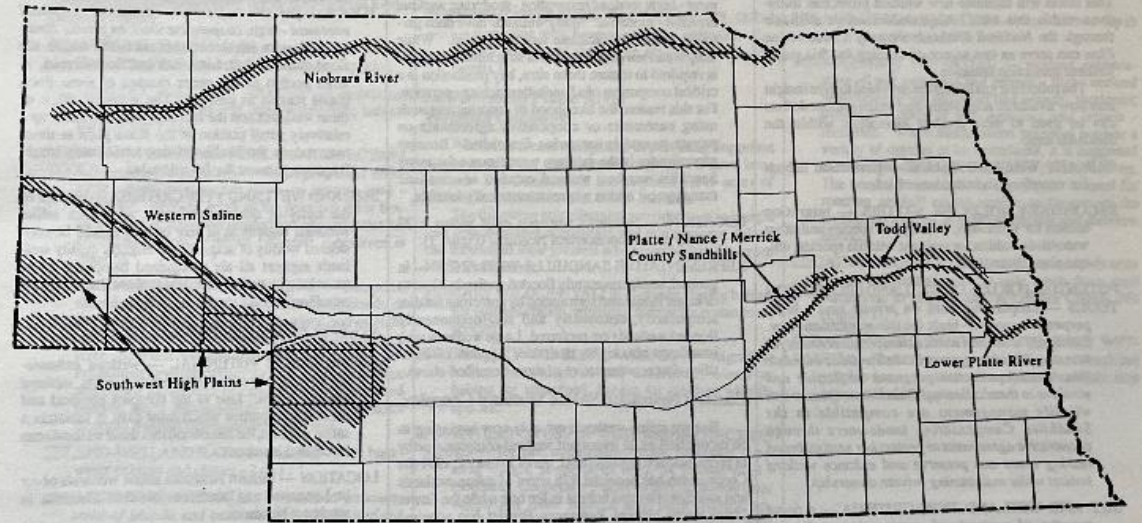


FIGURE 2.  
Wetland complexes which warrant acquisition consideration under provisions of the National Wetlands Priority Conservation Plan but lack adequate documentation for assessment

**WETLAND SITE 1 —  
RAINWATER BASIN  
WETLAND COMPLEX**

**Wetland Assessment Summary**

1. WETLAND PROFILE:
  - a. Wetland Site Name: Rainwater Basin Wetland Complex
  - b. USGS 1:24,000 Maps: Part or all of 109 quadrangles
  - c. Township: 3N to 14N; Section: Many
  - d. Longitude: 97°-100°  
Latitude: 40°-41°
  - e. Cities: Hastings, Holdrege, York  
Counties: Adams, Butler, Clay, Fillmore, Franklin, Gosper, Hall, Hamilton, Harlan, Kearney, Nuckolls, Phelps, Polk, Saline, Seward, Thayer, and York State: Nebraska
  - f. Ecoregion: 2531 and 2532
  - g. Size of Complex: 4,003 square miles  
Wetland Acres: 34,103 acres  
Date of Wetland Assessment: 9/89 and 12/90
2. WETLAND LOSS PRIORITY: 1
3. IS THE WETLAND SITE THREATENED? YES
4. WETLAND FUNCTIONS AND VALUES:
  - a. Wildlife — YES
  - b. Fisheries — NO
  - c. Water Supply/Quality, Flood/Erosion Protection — YES
  - d. Outdoor Recreation — YES
  - e. Education and Research — YES

5. CONCLUSION  
The Rainwater Basin Wetland Complex meets all threshold criteria and qualifies for acquisition consideration under provisions of the *National Wetlands Priority Conservation Plan*.

**Wetland Assessment Narrative**

1. WETLAND SITE DESCRIPTION

WETLAND PROFILE

The Rainwater Basin area encompasses 4,003 square miles within 17 counties in south-central Nebraska. Topographically recognized as the Loess Plains Region, this area is characterized by flat to gently rolling loess plains formed by deep deposits of silt-loam. Wetlands characteristic of the complex consist of wind-formed depressions with a nearly impermeable claypan subsoil. Surface water drainage is poorly developed resulting in numerous closed watersheds draining into depressions. Wetlands range in size from one to one thousand acres (NGPC 1984).

WETLAND CLASSIFICATION

Rainwater Basin wetlands generally can be classified as palustrine emergent temporarily, seasonally, and semipermanently flooded wetlands (Gersib et al. 1990a).

2. WETLAND LOSS

Original soil survey maps from the early 1900s indicate that approximately 4,000 major wetlands totaling nearly 100,000 acres were present at the time of settlement. The Commission (1984) estimated that less than 10 percent (374) of original major wetlands and 22 percent (20,942) of original acres identified on early soil surveys remained in 1982. This trend study did not attempt to estimate the quantity and quality of smaller wetlands that were not identified on early soil surveys. However, it is felt that the proportion of loss documented by the Commission's major wetland trend analysis has occurred throughout all palustrine systems of this area.

Recent *National Wetland Inventory* efforts completed in the Rainwater Basin area indicate that palustrine emergent wetlands are decreasing. Using NWI digital data and recent soil survey maps, a multiagency wetland team in 1990 identified 34,103 acres of Rainwater Basin wetlands remaining (Raines et al. 1990). Virtually all remaining wetlands have been degraded in some fashion. Rainwater Basin wetlands were identified by the US Fish and Wildlife Service as one of nine areas of critical concern for wetland losses (Tiner 1984).

Using modified *National Wetlands Priority Conservation Plan* assessment criteria, the following wetland loss priority ranking was developed using the Cowardin et al. (1979) classification system:

Wetland Type	Percent of Site	Status
a. P : : EM: A .....	45% .....	Decreasing
b. P : : EM: C .....	40% .....	Decreasing
c. P : : EM: F .....	15% .....	Decreasing
Decreasing wetland types	100% of Site x 1 =	100
Stable wetland types	% of Site x 2 =	—
Increasing wetland types	% of Site x 3 =	—
Total Points		100

Priority 1 (100-119 points)  
Rainwater Basin Wetland Loss Priority = 1

3. WETLAND THREAT

In the Rainwater Basin area, extensive wetland loss and the degradation of virtually all remaining privately owned wetlands have not reduced the potential for future wetland threats. Categories of threat include agricultural conversion by drainage or filling, livestock grazing, residential or commercial development, transportation, water pollution, and diverse ownership with limited individual commitment to protection. Of these, the greatest threats are related to agriculture. Draining and filling of wetlands associated with the construction of dugouts or concentration pits are common. Farming practices further contribute to wetland degradation through siltation and pollution from fertilizer and pesticide runoff (NGPC 1984, Gersib et al. 1990b).

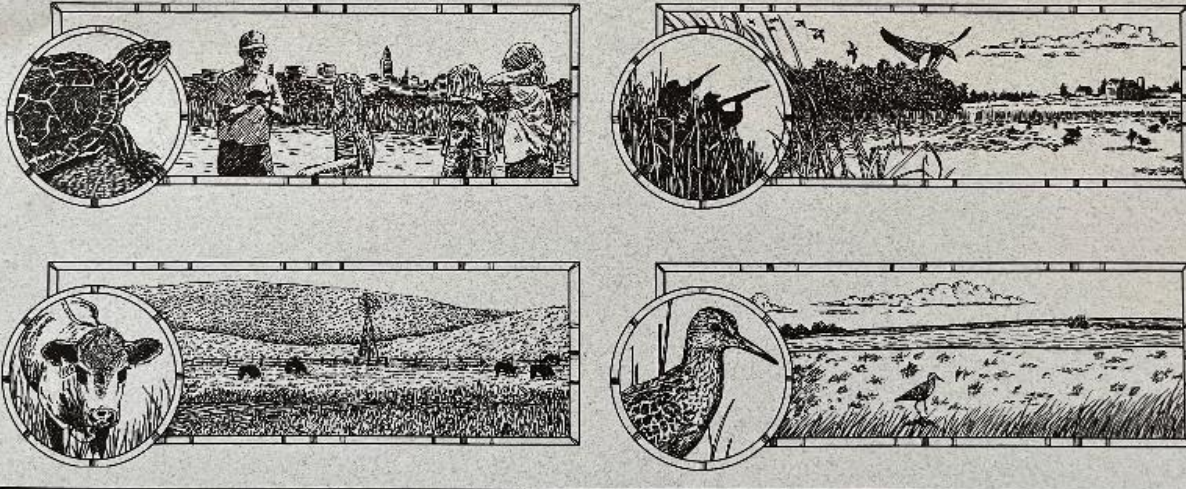
Additional wetland threat will continue in the form of state law (LB 577, Section 9) that requires each person using ground water irrigation to take measures to prevent or control irrigation runoff. Irrigation reuse pits are the most common solution. These pits can result in wetland drainage and the concentration of surface runoff. Existing protective measures, such as the Clean Water Act and the Food and Agriculture Conservation Trade Act of 1990 fall short of the standards needed to protect and restore degraded Rainwater Basin wetlands.

In response to wetland losses and known values to wildlife, the Environmental Protection Agency (EPA) initiated an Advanced Identification of Disposal Areas program (40 CFR Section 230.80) in 1986 for the Rain-

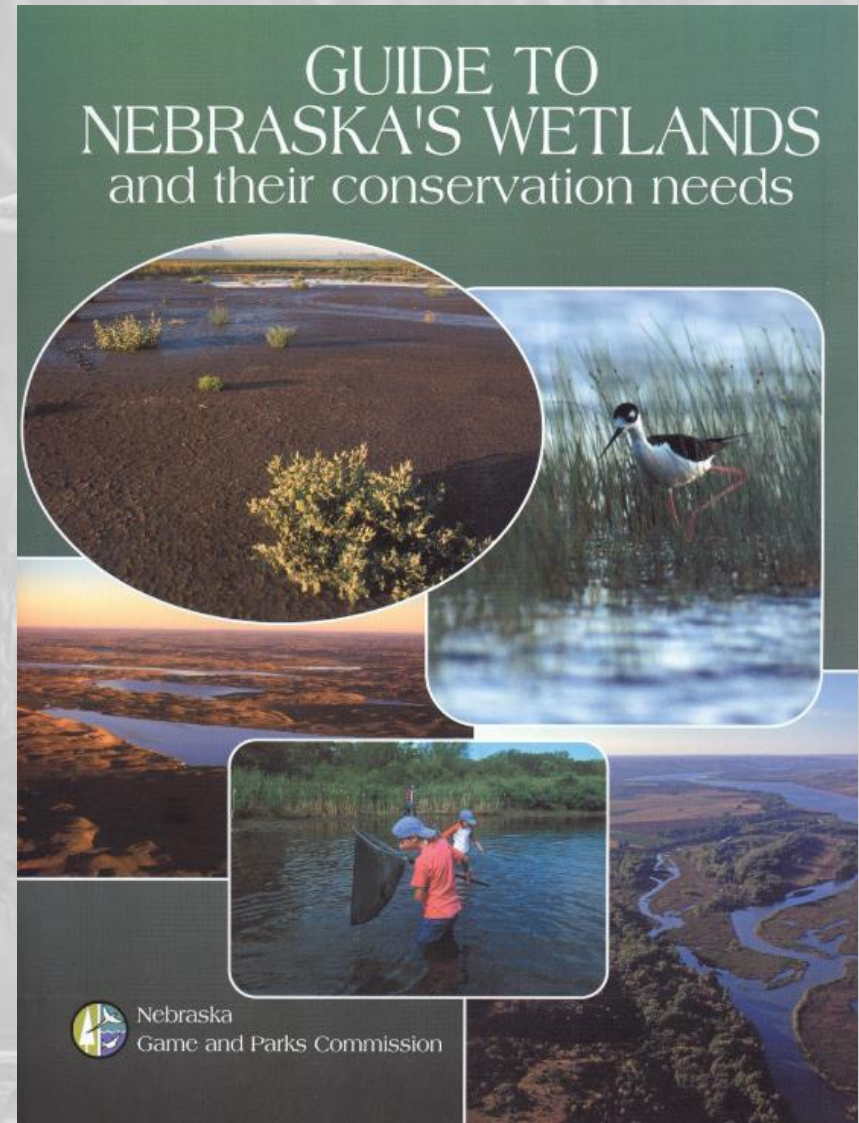
# GUIDE TO NEBRASKA'S WETLANDS

## and their conservation needs

By:  
Ted LaGrange, Wetland Program Manager  
Nebraska Game and Parks Commission



1997



2005



[www.NebraskaWetlands.com](http://www.NebraskaWetlands.com)



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# Wetlands of Nebraska

Take a deep dive into our newest wetlands resources, including expanded website content, documentaries featuring Nebraska's five main wetland types, classroom resources and more!



# Big Picture Priorities: Challenges and Opportunities

- Invasive Plant Species
  - All sites are/will be impacted
  - Create low-maintenance sustainable sites
- Hydrologic Connectivity
  - Total restoration is almost never possible
  - How much is “good enough” for success
- Wild Card = The Human Element
  - Changing Landowners
  - Changing Agency Staff
  - Competing Interests



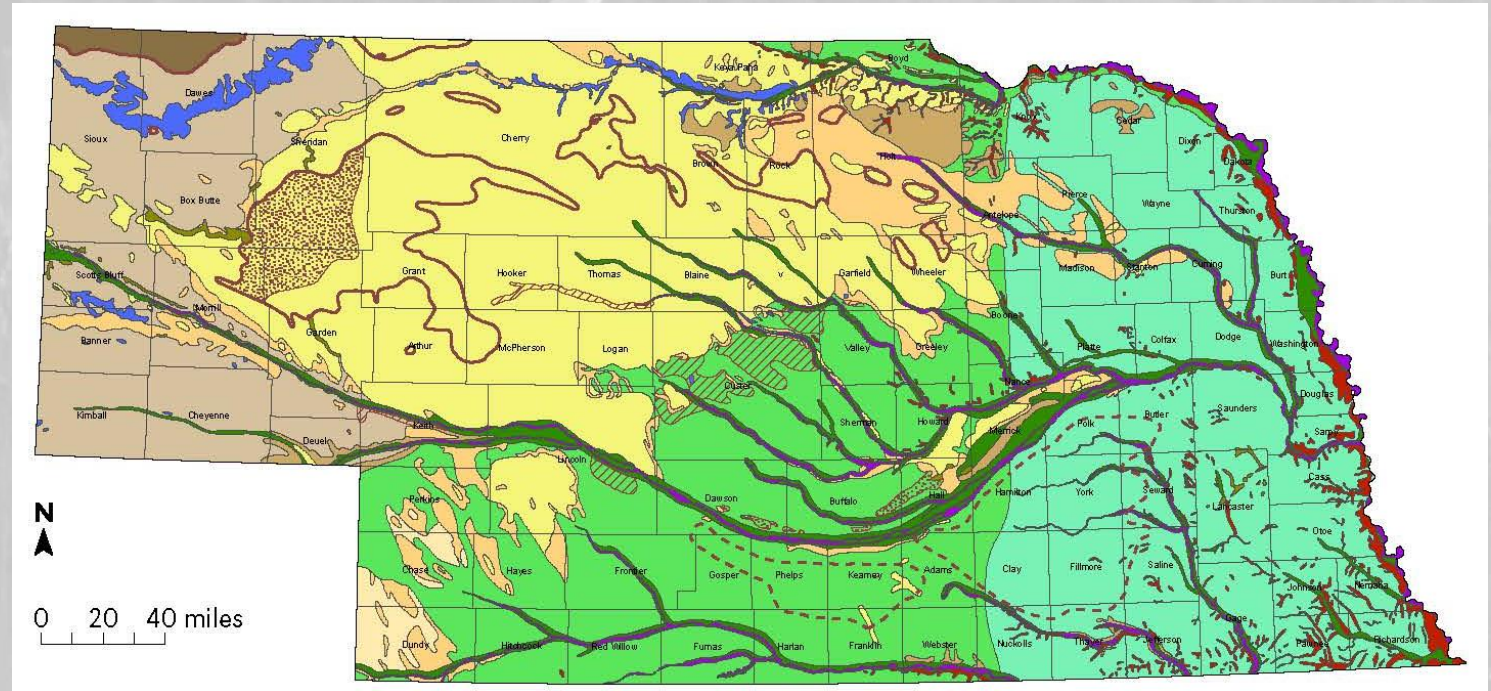
# Initial Restoration is Best Chance For Success – Make It Count

- Soil Profile
  - Removal of Fill and Sediment
  - Maintaining and Replacing Topsoil
  - Inoculate Wetland Soils Where Practical
- Hydrologic Connectivity
  - Replace Features When Total Restoration Cannot Occur
  - How much is “good enough” for success
- Plant Community
  - Diverse/Native Seed Sources
  - Adapt to Dynamic System



# IRA Funding Priorities

- NHQ requested priority areas
  - Playa complexes
  - Grassland biomes





# Goals

- National Goals
  - 30 X 30 —————▶ America the Beautiful
- State Goals
  - 10% New Customers Annually

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