



NEBRASKA INVASIVE
SPECIES COUNCIL

Adaptive Management Plan

2024-2027

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Cover Photo: McKelvie National Forest, Cherry County

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Oglala National Grassland
Sioux County



Table of Contents

Pine Glen Wildlife Management Area
Brown County

Introduction	1
What are Invasive Species?	1
Nebraska's Natural Resources	1
Invasive Species Management	2
Nebraska Invasive Species Council (NISC)	3
NISC Members and Advisory Support	4
NISC Adaptive Management Plan	4
Priority Actions	6
Priority Action 1: Facilitate Statewide Communication, Coordination, and Intergovernmental Cooperation	6
Priority Action 2: Make Recommendations to the Legislature	8
Priority Action 3: Educate the Public and Stakeholders	10
Our Members	12
Voting Members Appointed by the Governor	12
Non-Voting, Ex Officio Members	13
Additional Advisory Support	13
Glossary	14
References	15



Introduction

Chadron State Park
Dawes County

What Are Invasive Species?

Nebraska Revised Statute 37-1402 defines invasive species as aquatic or terrestrial organisms not native to the region that cause economic or biological harm and are capable of spreading to new areas, which does not include livestock as defined in sections 54-1902 and 54-2921, honey bees, domestic pets, intentionally planted agronomic crops, or nonnative organisms that do not cause economic or biological harm (Laws 2012, LB391, § 12; Laws 2020, LB344, § 63).

Nebraska's Natural Resources

Centered in the Great Plains, Nebraska's natural landscape is defined by the intersection and interaction of its four distinct grasslands ecoregions: Tallgrass Prairie, Mixedgrass Prairie, Shortgrass Prairie, and Sandhills (Schneider et al., 2011). Nebraska's Sandhills ecoregion,

covering nearly 20,000 square miles, or approximately one-fourth of the state, not only comprises the largest area of stabilized sand dunes in the Western Hemisphere, but is also the most intact temperate grassland on earth (Scholtz & Twidwell, 2022). Preserving contiguous ecoregions such as the Sandhills is essential to ensuring the survival of some of the state's federally endangered species, including blowout penstemon (*Penstemon haydenii*), which inhabits dune prairie blowouts (Schneider et al., 2018). Aside from agricultural production, intact continuous grassland ecosystems provide unique ecosystem services, including carbon storage, erosion control, climate change mitigation, pollination, and water supply (Bengtsson et al., 2019).

Nebraska, a name derived from the Sioux word for "shallow water", contains approximately 76,056 miles of river, more than any other state (Bureau of Indian Affairs, 1974; Nebraska Wild and Scenic Rivers System). In addition to rivers, Nebraska holds more groundwater than any other state with nearly 64,000

square miles, or roughly 36% of the High Plains Aquifer (HPA) lying within its boundaries (Young et al., 2022; Nebraska's Natural Resources Districts). While the state's wetlands continue to decrease in size, they are present in each of its 93 counties, providing beneficial services such as improved water quality, important habitat for thousands of plant and animal species including millions of migratory birds that utilize the Central Flyway, reduced flooding and soil erosion, increased water supply, enhanced agricultural food production, and carbon storage (Altman, 2024; LaGrange, 2022).

Invasive Species Management

The introduction of nonnative invasive species and pathogens is severely impacting biological diversity in Nebraska. The state's natural heritage species populations, defined as native state flora and fauna as well as their natural habitats, continue to decline from invasive species' competition and predation. With many human-driven factors influencing the accidental or deliberate introduction and geographic spread of invasive species, including climate change, land and resource use change, e-commerce, travel, and commodity trade, the total number of invasive species is expected to increase over 30% globally by the year 2050 (Roy et al., 2024; Schneider et al., 2011).

There are over 700 species considered to be Species of Greatest Conservation Need (SGCN) in Nebraska; therefore, it is essential that the state utilize its resources to prevent and limit the abundance, distribution, spread, and impact of invasive species, pests, and pathogens to protect at-risk species and habitat from further degradation (Schneider et al., 2011; Schneider et al., 2018). Without prevention and mitigation strategies in place, invasive species cause severe economic and ecological harm, negatively impacting human health and wellbeing, agriculture, horticulture, forestry, water, wildlife, and wildlife resources. Prevention remains the best option to manage invasive species; it is most cost-effective since it does not require extensive control strategies to eliminate already well-established populations (Roy et al., 2024).

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Nebraska Invasive Species Council (NISC)

Nebraska Revised Statute 37-1403 created the Nebraska Invasive Species Council (NISC) on April 5, 2012. The Council advises Nebraska's Governor and Legislature on invasive species management strategies to protect the state's resources. Members of the council serve without compensation and are not reimbursed for expenses associated with their service to the NISC. The Nebraska Game and Parks Commission (NGPC) provides administrative support to the council to carry out its duties (Laws 2012, LB391, § 13).

Nebraska Revised Statute 37-1404 states that the Nebraska Invasive Species Council shall:

- Recommend action to minimize the effects of harmful invasive species on Nebraska's citizens in order to promote the economic and environmental well-being of the state;
- Develop and periodically update a statewide adaptive management plan for invasive species as described in section 37-1405;
- Serve as a forum for discussion, identification, and understanding of invasive species issues;
- Facilitate the communication, cooperation, and coordination of local, state, federal, private, and nongovernmental entities for the prevention, control, and management of invasive species;
- Assist with public outreach and awareness of invasive species issues; and
- Provide information to the Legislature for decision making, planning, and coordination of invasive species management and prevention. (Laws 2012, LB391, § 14)

NISC Members and Advisory Support

The NISC's voting members are appointed by the Governor and include a representative of an electric generating utility, Department of Agriculture, Game and Parks Commission, Nebraska Forest Service of the University of Nebraska Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln, Nebraska Cooperative Fish and Wildlife Research Unit of the University of Nebraska, Nebraska Weed Control Association and Nebraska Association of Resources Districts. The council also includes five members at large that represent public interests, with at least three representing agricultural landowner interests. Nonvoting, ex officio members of the council include a representative of the Midwest Region of the National Park Service of the United States Department of the Interior, Animal and Plant Health Inspection Service of the United States Department of Agriculture, Natural Resources Conservation Service of the United States Department of Agriculture, United States Geological Survey, and The Nature Conservancy's Nebraska Field Office. The council can seek additional advisory support from representatives of relevant federal, state, or local agencies as needed to accomplish its duties (Laws 2012, LB391, § 13).

NISC Adaptive Management Plan

Nebraska Revised Statute 37-1405 states that the adaptive management plan required under section 37-1404 will address the following:

- Statewide coordination and intergovernmental cooperation;
- Prioritization of invasive species response and management;
- Early detection and prevention of new invasive species through deliberate or unintentional introduction;
- Inventory and monitoring of invasive species;
- Identification of research and information gaps;
- Public outreach and education;
- Identification of funding and resources available for invasive species prevention, control, and management; and
- Recommendations for legislation regarding invasive species issues (Laws 2012, LB391, § 15).

There are over 700 species of greatest conservation need in Nebraska.





Toadstool Geological Park
Sioux County

NISC members developed three goals with up to four actions each to address the required elements as stated in Nebraska Revised Statute 37-1405 section 37-1404. The council focused on generating feasible goals and actions that private and public stakeholders throughout Nebraska can collaborate on to accomplish within the next three years. Meeting these goals will allow the NISC to better advise Nebraska's Governor and Legislature on the most effective and cost-efficient actions to limit the spread and impact of invasive species across the state (National Invasive Species Council, 2016). As invasive species issues change through time and across ecosystems, the Council will continue to update the adaptive management plan's goals and actions as needed to effectively prevent, eradicate, and control invasive species as well as restore and preserve Nebraska's biologically unique natural landscapes and resources (National Invasive Species Council, 2016).

The Nebraska
Invasive Species
Council (NISC)
advises Nebraska's
Governor and
Legislature on
invasive species
management
strategies to
protect the state's
resources.



Priority Actions

American Bullfrog
Lithobates catesbeianus

I. *Facilitate Statewide Communication, Coordination, and Intergovernmental Cooperation to Prioritize Invasive Species Early Detection, Response, Prevention, and Management*

GOAL:

Facilitate communication, cooperation, and coordination across jurisdictional boundaries to ensure that state policy effectively promotes the prevention, early detection, and control of nonnative invasive species in Nebraska.

NEED:

Invasive species do not respond to or respect political boundaries. Effective communication and collaboration among Nebraska's government, state, and private organizations that play a role in natural resources management is crucial to prevent, eradicate, and control invasive species. Nebraska's government and its partners must work together to limit the risk of biological invasions by limiting how invasive organisms are intentionally or unintentionally introduced and moved through ecosystems, cooperate in on-the-ground management efforts, and address factors that make certain ecosystems more vulnerable to the negative impacts of invasive species (National Invasive Species Council, 2016).

A close-up photograph of several tall, slender stems of Purple Loosestrife (Lythrum salicaria). The stems are covered in small, vibrant pink flowers with five petals each. The background is a soft, out-of-focus green, suggesting a natural, outdoor setting.

I. Facilitate Statewide Communication, Coordination, and Intergovernmental Cooperation to Prioritize Invasive Species Early Detection, Response, Prevention, and Management

ACTIONS:

- **1.1:** Identify key personnel needed for statewide coordination and intergovernmental cooperation on invasive species issues among local, state, and federal agencies and organizations.
- **1.2:** Develop and maintain a list of jurisdictional operations and contacts to help facilitate coordination for rapid response actions during critical biological invasions that require immediate eradication or control.
- **1.3:** Maintain database of Nebraska statutes, regulations, and legislation related to invasive species in Nebraska. This database will help to identify regulatory gaps and advise agencies on current legislation and its impact on invasive species management.
- **1.4:** Serve as a forum to share new invasive species concerns and relevant information with council members by hosting relevant professionals to discuss new technology, research, and information related to invasive species management. The forum will facilitate coordination and cooperation on invasive species control efforts conducted by council member agencies and organizations as an open meeting for the public and relevant entities to attend and share their insights.



II. ***Make Recommendations to the Legislature on Invasive Species Issues***

GOAL:

Provide information to the Legislature to better inform decision making, planning, and coordination of invasive species management and prevention.

NEED:

There is a general lack of state funding provided to public and private natural resource management organizations to help with nonnative invasive species control. The detrimental harm caused by invasive species is a severe financial burden, costing state governments, industries, and private citizens substantial economic losses (National Invasive Species Council, 2016). Since invasive species affect all of Nebraska's citizens, a statewide effort among these entities is needed to effectively respond to potentially damaging invasive species. Additionally, communication with Legislature and state representatives is essential to inform government of Nebraska's needs to limit economic burden and habitat degradation.

II. *Make Recommendations to the Legislature on Invasive Species Issues*

ACTIONS:

- **2.1:** Provide a comprehensive annual report on invasive species activities in Nebraska to the Executive and Legislative branches each year to provide an evaluation of progress made in the preceding year and inform potential policy changes to manage and prevent nonnative invasive species proliferation throughout the state.
- **2.2:** Create and maintain a list of subject matter experts for use by the Legislature to include in the annual report and in preceding adaptive management plans.
- **2.3:** Invite policymakers and staff with questions or concerns related to invasive species to council meetings and/or informational sessions hosted by the Council.



Musk Thistle
Carduus nutans

III.

Educate the Public and Stakeholders Through Outreach on Funding and Resources Available for Invasive Species Prevention, Control, and Management

GOAL:

Disseminate and distribute nonnative invasive species information to educate and inform the public and stakeholders on invasive species introduction, spread, management, and prevention to limit the risk of intentional or unintentional biological invasion throughout the state. Identify funding and resources available to relevant entities in natural resources management to assist with invasive species control efforts.

NEED:

Prevention is a key pillar to invasive species management. Once invasive species spread through an ecosystem, management includes restoring degraded habitat affected by these species, which incurs additional costs, time, and resources. The council needs to communicate actions among Nebraska's stakeholders and the public that can be taken to prevent and manage invasive species throughout the state.



III. Educate the Public and Stakeholders Through Outreach on Funding and Resources Available for Invasive Species Prevention, Control, and Management

ACTIONS:

- **3.1:** Identify and compile watch lists of nonnative invasive species considered to be currently or potentially harmful to the state's natural, agricultural, and/or economic resources.
- **3.2:** Facilitate outreach and education to support and encourage local and/or statewide programs that target invasive species management and prevention.
- **3.3:** Maintain up to date information on invasive species on the Council's official website.
- **3.4:** Identify information and funding gaps in invasive species control, management, and prevention to support stakeholder efforts to eradicate and limit invasive species spread.



Our Members

Saltcedar
Tamarix spp.

Voting Members Appointed by the Governor:

Steven Jara

*Nebraska Forest Service of the
University of Nebraska–Lincoln
Institute of Agriculture and Natural
Resources*

Trevor Johnson

Nebraska Department of Agriculture

Justin King

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Member At Large*

John Thorburn

*Nebraska Association of Resources
Districts*

Kim Todd

Public Interests Member At Large

The NISC currently
has 27 members
representing more
than 20 different
natural resource
management
organizations.



Zebra Mussel
Dreissena polymorpha

Non-Voting, Ex Officio Members:

Travis Connot

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Glossary

Willa Cather Memorial Prairie
Webster County

Definitions are derived from the National Invasive Species Council's 2016–2018 Management Plan and the Nebraska Natural Legacy Project's 2011 State Wildlife Action Plan.

- **Biological Invasion:** the process by which nonnative species breach biogeographical barriers and extend their range.
- **Biologically Unique Landscape:** priority landscapes that, if effectively managed, would conserve most of Nebraska's biological diversity. These landscapes have known occurrences of at-risk species and natural communities and support a broad range of common species.
- **Control:** as appropriate, eradicating, suppressing, reducing, or managing invasive species populations, preventing the spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions.
- **Early Detection:** a process of surveying for, reporting, and verifying the presence of a non-native species before the founding population becomes established or spreads so widely that eradication is no longer feasible.
- **Ecoregion:** areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar.
- **Ecosystem:** the complex of a community of organisms and its environment.
- **Introduction:** the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.
- **Invasive Species:** a nonnative species whose introduction does or is likely to cause economic or environmental harm or harm to human health.
- **Native Species:** with respect to a particular ecosystem, a species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.
- **Nonnative Species:** with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.
- **Rapid Response:** a process that is employed to eradicate the founding population of a non-native species from a specific location.
- **Species:** a group of organisms all of which have a high degree of physical and genetic similarity, generally interbreed only among themselves, and show persistent differences from members of allied groups of organisms.
- **Stakeholders:** includes, but is not limited to, state, tribal, and local government agencies, academic institutions, the scientific community, nongovernmental entities including environmental, agricultural, and conservation organizations, trade groups, commercial interests, and private landowners.

References

Nebraska National Forest
Thomas County

Altman, D. (2024, January 16). The Wetlands of Nebraska Project. Wildlife Management Institute. <https://wildlifemanagement.institute/outdoor-news-bulletin/january-2024/wetlands-nebraska-project>.

Bengtsson, J., Bullock, J. M., Egoh, B., Everson, C., Everson, T., O'Connor, T., ... & Lindborg, R. (2019). Grasslands—more important for ecosystem services than you might think. *Ecosphere*, 10(2), e02582.

LaGrange, T. (2022). Guide to Nebraska's Wetlands and Their Conservation Needs. 3rd ed. The Nebraska Game and Parks Commission, Lincoln, NE, 2022.

L.B. 391, 102nd Legislature, 2012 Reg. Sess. (Ne. 2012). <https://neinvasives.com/LB391.pdf>.

National Invasive Species Council. Management Plan: 2016–2018. Washington, DC, 2016.

Nebraska. National Wild and Scenic River System. <https://www.rivers.gov/nebraska>.

Origin of names of US states. U.S. Department of the Interior Indian Affairs. (1974, January 4). <https://www.bia.gov/as-ia/opa/online-press-release/origin-names-us-states>

Roy, H. E., Pauchard, A., Stoett, P. J., Renard Truong, T., Meyerson, L. A., Bacher, S., ... & Ziller, S. R. (2024). Curbing the major and growing threats from invasive alien species is urgent and achievable. *Nature ecology & evolution*, 1–8.

Schneider, R., K. Stoner, G. Steinauer, M. Panella, and M. Humpert (Eds.). 2011. The Nebraska Natural Legacy Project: State Wildlife Action Plan. 2nd ed. The Nebraska Game and Parks Commission, Lincoln, NE.

Schneider, R., M. Fritz, J. Jorgensen, S. Schainost, R. Simpson, G. Steinauer, and C. Rothe-Groleau. 2018. Revision of the Tier 1 and 2 Lists of Species of Greatest Conservation Need: A Supplement to the Nebraska Natural Legacy Project State Wildlife Action Plan. The Nebraska Game and Parks Commission, Lincoln, NE.

Scholtz, R., & Twidwell, D. (2022). The last continuous grasslands on Earth: Identification and conservation importance. *Conservation Science and Practice*, 4(3), e626.

Water. Nebraska's Natural Resources Districts. <https://www.nrdnet.org/programs/water>.

Young, A.R., Burbach, M.E., Lackey, S.O., Joeckel R.M., Westrop, J.P., 2022, Nebraska Statewide Groundwater Level Monitoring Report 2022. University of Nebraska- Lincoln, Conservation and Survey Division, Nebraska Water Survey Paper 91, 24 pp.

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ongoing support of
our program

Ponca State Park
Dixon County



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