

# Chapter 1—Introduction and Project Description



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*The NCCA and PBCA together constitute a landscape-level strategic habitat conservation initiative to protect wildlife and fisheries resources and habitat in a segment of the Missouri River ecosystem in northeast Nebraska and southeast South Dakota.*

The Lewis and Clark expedition—the Corps of Volunteers for Northwest Discovery—which set out to explore the Missouri River basin, was one of our Nation’s most famous and influential explorations. Indeed, this expedition facilitated the great westward expansion of the nineteenth century. Since those early days, the Missouri River and its tributaries—constituting the Nation’s longest and greatest river basin—have occupied a unique place in American history. In preserving both our national history and our natural resources, we Americans ensure that we have an understanding of ourselves as individuals and as Americans. Such understanding equips us to work toward the betterment of our communities through economic participation, public service, volunteer work, and other such efforts to improve the quality of life and preserve the irreplaceable gems of our heritage.

The Niobrara Confluence Conservation Area (NCCA) and Ponca Bluffs Conservation Area (PBCA) together constitute a landscape-level strategic habitat conservation initiative to protect wildlife and fisheries resources and habitat in a segment of the Missouri River ecosystem in northeast Nebraska and southeast South Dakota. These areas have been identified as supporting or linking important habitat for Federal trust species like pallid sturgeon and piping plover. The purpose of this project is to maintain and enhance habitats for present and future human generations and the survival of Federal trust species (defined as migratory birds, species listed as threatened or endangered under the Federal Endangered Species Act of 1973 [ESA], and certain fisheries) by working with willing landowners.

This land protection plan (LPP) complements existing landscape-scale conservation partnerships

already established in the ecosystem. Two examples are the Missouri River Ecosystem Restoration Plan (MRERP) and the Missouri River Recovery Program (MRRP).

We—the U.S. Fish and Wildlife Service (FWS) and the National Park Service (NPS)—have developed this draft LPP to provide alternatives and identify impacts for the development of increased conservation efforts with willing landowners along the Missouri River in northeast Nebraska and southeast South Dakota.

## 1.1 Project Description

This LPP has been developed to afford us the authority to develop conservation easements with private landowners or to purchase land in fee title. This plan is designed to work in partnership with willing landowners only. We would work toward increasing river functionality by maintaining and protecting native habitats along and surrounding the Missouri River and its tributaries. The vision for this project is stated below.

*Through collaboration with landowners, communities, tribes, and other agencies, the Niobrara Confluence and Ponca Bluffs Conservation Areas will provide sustainable ecological and economic benefits within the middle Missouri River basin by maintaining native riparian and upland habitats that increase river functionality and recreational opportunities.*

The following goals have been established for the proposed areas:

- *Local economies and tourism*—help sustain local economies through preserving working farm and ranch landscapes and conserving lands, both of which will attract tourists from across the Nation.

- *Partnerships and collaboration*—develop and foster partnerships with local landowners, communities, tribes, and others by offering financial incentives, sharing knowledge, or collaborating on projects with ecological benefits.
- *Ecological and river functionality*—increase river and ecological functionality by improving water and air quality, maintaining healthy native plant communities such as cottonwood galleries, increasing floodplain connectivity, promoting active channel processes, and reducing flood risk.
- *Cultural resources*—in consultation with our partners, locate, document, and evaluate cultural resources and encourage preservation and interpretation when appropriate.
- *Recreational opportunities*—increase recreational opportunities for residents and visitors.
- *Wildlife, fisheries, and their habitats*—support the recovery and protection of threatened and endangered species and reduce the likelihood of future listings under the ESA, while continuing to provide migration habitats for millions of migrating birds and habitats for resident fish and wildlife populations.

The locations of the proposed conservation areas are shown in figure 1. Table 1 shows the acquisition goals for each conservation area.

## 1.2 Purpose of and Need for the Land Protection Plan

The purpose of the LPP for the NCCA and PBCA is to outline a landscape-level strategic habitat conservation initiative in partnership with willing land-

**Table 1. Acquisition goals in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.**

<i>Conservation area</i>	<i>Conservation easement acres</i>	<i>Fee title acres</i>	<i>Total acres</i>
Niobrara Confluence Conservation Area	64,000	16,000	80,000
Ponca Bluffs Conservation Area	48,000	12,000	60,000

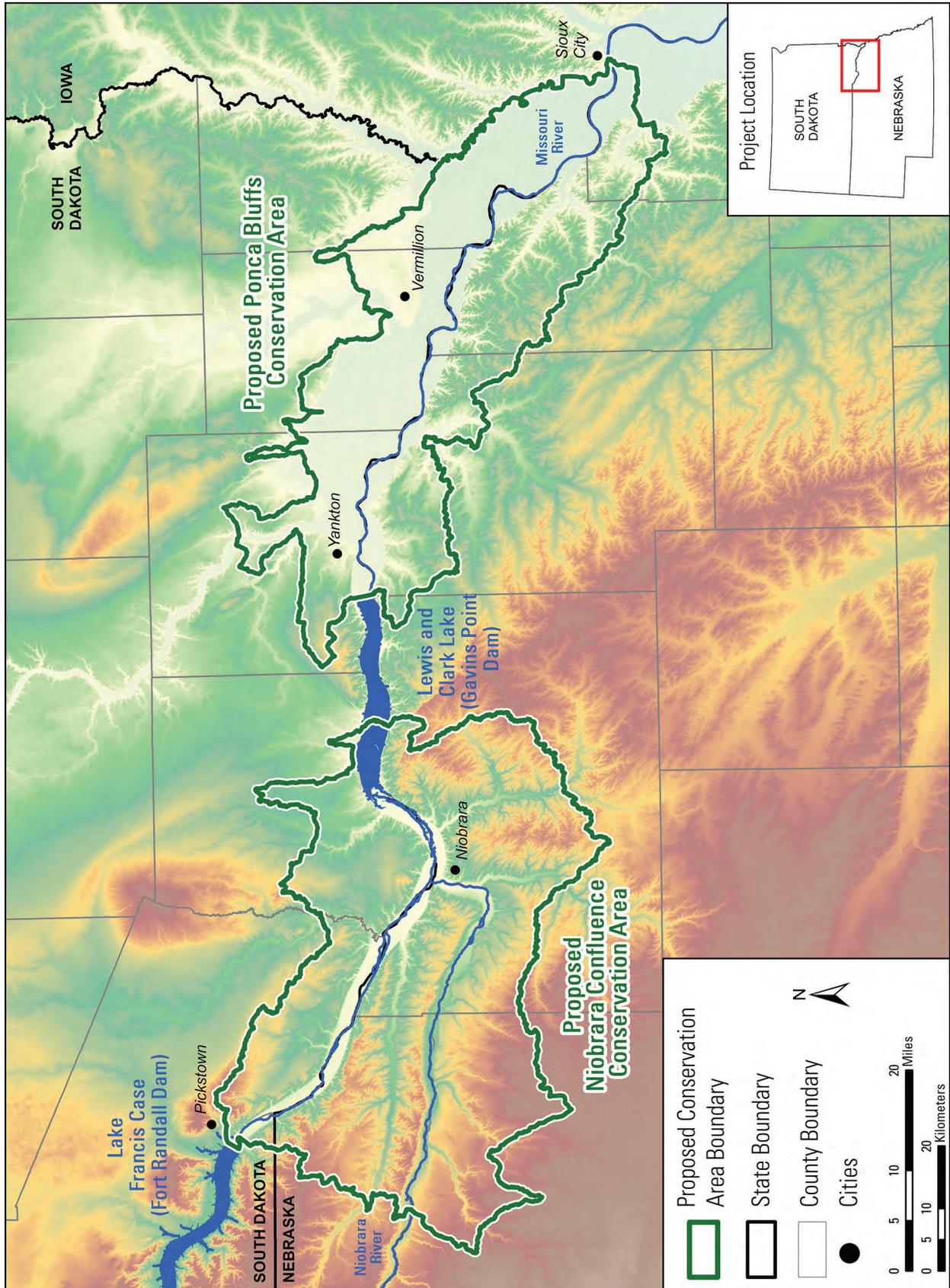


Figure 1. Boundaries of the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

owners to protect wildlife and fisheries resources and habitat in the Missouri River ecosystem in northeast Nebraska and southeast South Dakota. These areas have been identified as supporting or linking important habitat for Federal trust species like pallid sturgeon, piping plover, and migratory birds. The purpose of this project is to work with willing landowners to maintain and enhance habitats for present and future human generations and the survival of Federal trust species (defined as migratory birds, species listed as threatened or endangered under the ESA, and certain fisheries). The need for this project is to provide us with the authority to develop conservation easements with or purchase land in fee title from willing landowners.

The basic considerations in acquiring an easement interest in private lands are the biological significance of the area, biological requirements of the wildlife species of management concern, existing and anticipated threats to wildlife resources, and landowner interest in the program. It is our long-established policy to acquire the minimum interest in land from willing landowners that is necessary to achieve habitat protection goals.

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## Conservation Easements

Easements are valuable conservation tools that have been extensively employed in the Prairie Pot-hole Region of South Dakota, North Dakota, Montana, Minnesota, and throughout the larger Missouri River basin by other organizations to maintain various conservation values. Easements involve the acquisition of certain rights to the property, such as the right to alter natural vegetative cover or develop certain types of new infrastructure, while leaving the land title in the hands of the private property owner.

Easements tend to be a cost-effective and socially and politically acceptable means of habitat conservation. Many of the ongoing agricultural land use practices are consistent with wildlife resource protection, and the use of easements would help ensure continuation a strong and vibrant rural lifestyle.

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## Acquisition in Fee Title

Although the initial costs for fee-title acquisition and the recurring costs for annual management of such areas are more costly than those involved with conservation easements, fee-title acquisition typically offers increased security and protection for riparian, upland, scenic, and recreational areas. However, fee-

title acquisition removes the property from the local tax base, and though there are mechanisms in place to offset that (like Refuge Revenue Sharing [RRS] and Payment in Lieu of Taxes [PILT]) we recognize the effect this loss can have on local counties. Accordingly, we have established a goal to use conservation easements for 80 percent of land protected while reserving fee title for purposes described in section 1.7 of this chapter and chapter 4 of the LPP.

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## Establishing Purposes

The following purposes, identified from existing law, have been acknowledged for the FWS to establish the conservation areas:

- “for any other management purpose, for migratory birds” 16 United States Code (U.S.C.) 715d (Migratory Bird Conservation Act).
- “the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions” 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986).
- “for the development, advancement, management, conservation, and protection of fish and wildlife resources” 16 U.S.C. 742a et seq. (Fish and Wildlife Act of 1956).
- “and land, or interests therein, which are suitable for: (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species listed by the Secretary pursuant to section 1533 of this title, or (4) carrying out two or more of the purposes set forth in paragraphs (1) through (3) of this section...” 16 U.S.C. 460(k) (Refuge Recreation Act, as amended).

The following purposes, identified from existing law, have been acknowledged for the NPS to increase acquisition authority:

- “The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fun-

damental purposes of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.” 39 Stat. 535 (NPS Organic Act).

- “Section 6 (a) (1) The Secretary of the Interior and the Secretary of Agriculture are each authorized to acquire lands and interests in land within the authorized boundaries of any component of the national wild and scenic rivers system designated in section 3 of this Act, or hereafter designated for inclusion in the system by Act of Congress, which is administered by him, but he shall not acquire fee title to an average of more than 100 acres per mile on both sides of the river.” The Wild and Scenic Rivers Act (16 U.S.C. 1271–1287).
- “Notwithstanding the authority to the contrary contained in Subsection 6(a) of this Act, no land or interests in land may be acquired without the consent of the owner...” Public Law 95-625 (Adding 59-Mile Reach to Wild and Scenic River Act).

## 1.3 Issues

Through the scoping process, we identified many qualities of the Missouri River along with issues and recommendations. Based on this information as well as guidance from the National Environmental Policy Act of 1969 (NEPA) and planning policies, we identified the following significant issues to address in the final LPP and environmental impact statement (EIS):

- local economies and tourism
- partnerships and collaboration
- ecological and river functionality
- cultural resources
- recreational opportunities
- wildlife, fisheries, and their habitats

The planning team considered every comment received during the public scoping process. These comments were grouped into related topics and sub-topics as described in the scoping report (appendix B of the EIS). Significant issues are those that are within our jurisdiction that suggest different actions or alternatives and that will influence the decisionmakers.

## Local Economies and Tourism

It is important to manage resources and public uses in ways that protect the resources, are financially responsible, and are integrated with the economic viability of the surrounding communities. The LPP and EIS address the following socioeconomic issues:

- increased public use of and visitation to the analysis area and the resulting increased economic activity in the area
- introduction of public money to the local community through the payment of conservation easements
- RRS and PILT payments to local counties if fee-title acquisition is used

## Partnerships and Collaboration

Numerous Federal, State, tribal, and nongovernmental agencies and organizations manage land and laws associated with the Missouri River. Besides the FWS and the NPS, some of the key Federal agencies are the Natural Resources Conservation Service



*The bullfrog is 1 of 10 species of amphibians found in the riparian habitat of the Missouri River.*

(NRCS), the U.S. Army Corps of Engineers (USACE), the U.S. Geological Survey (USGS), the U.S. Environmental Protection Agency, and the Bureau of Indian Affairs. Additionally, 3 tribes are also located on the main stem of the river and 17 other tribes have ancestral interest in the area. The Nebraska Game and Parks Commission and South Dakota Department of Game, Fish and Parks (SDGFP) manage several properties along the river. In addition, local organizations such as Nebraska's Natural Resource Districts manage water resources, and the Northern Prairie Land Trust works with landowners on conservation efforts. The LPP and EIS address the following issues:

- description and clarification of overlapping jurisdictions and opportunities for landowners
- identification of where agencies and organizations can combine efforts and work collaboratively
- consultation and coordination with Federal, State, and local partners

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## Ecological and River Functionality

The Missouri River system as a whole has experienced significant alterations through anthropogenic changes such as large main stem dams inundating significant stretches of river and channelization in the lower third of the river. Flows are highly regulated by six major impoundments and three smaller impoundments, built to generate electricity and provide flood control. Because hydrogeomorphic processes have been so altered, the floodplain has become more accessible to other human activities, especially agriculture and urbanization. Such activities have led to fragmentation of corridors both longitudinally (along the river) and laterally (across the valley). These corridors are important to the many plants and animals that rely on the Missouri River ecosystem.

Nevertheless, outside the areas of these impoundments and other alterations, the Missouri River has shown resiliency, exhibiting numerous historical characteristics witnessed by Lewis and Clark during their explorations in the early 1800s. This project is designed to allow the Missouri River to flow and meander naturally to the extent possible, keeping those habitat characteristics important to Federal trust species such as pallid sturgeon, least tern, and piping plover. The LPP and EIS address the following:

- altered main stem flows (water and sediments) and their impact on resources
- prior and ongoing conservation efforts by landowners and agencies to improve habitat conditions

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## Cultural Resources

Humans have lived in the middle Missouri River region for more than 12,000 years. The sites, buildings, structures, and objects left by these people provide an irreplaceable record that reflects their stories, lives, and legacies. These cultural resources consist of prehistoric and historic places of local, state, or national significance and include those that have been placed on the National Register of Historic Places (NRHP) and others that have yet to be formally documented. The LPP and EIS address the following aspects of cultural resources:

- identification, documentation, and evaluation of cultural resources
- consultation with State agencies, Indian tribes, and the public concerning the location, importance, and preservation of these resources
- preservation and interpretation of significant individual resources, such as Spirit Mound and the Yankton Sioux Treaty Monument, and cultural landscapes, including those experienced by Lewis and Clark
- encouragement and support for ongoing research and interpretation of these resources

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## Recreational Opportunities

The proposed NCCA and PBCA and their surrounding areas provide recreational opportunities for many residents of the four-state region of South Dakota, Nebraska, Iowa, and Minnesota, while also attracting visitors from across the United States and other countries. Recreational opportunities are widely varied and consist of, but are not limited to, hunting, fishing, boating, camping, paddling, photography, and snagging. These resources are not only extremely important to the recreationists but the local communities as well. The LPP and EIS address the following aspects of public use and access:

- availability of safe public access points to the Missouri River
- availability of public hunting and fishing areas
- motorized and nonmotorized access and law enforcement
- impact of users of public lands on neighboring private landowners
- location of interpretation sites such as visitor centers, historic monuments, and wildlife viewing stations

## Wildlife, Fisheries, and Their Habitats

The Missouri River and its surrounding riparian, grassland, and woodland habitats provide an exceptional resource for a wide variety of wildlife and fish including the following:

- 249 species of migratory birds
- 50 species of mammals
- 21 species of reptiles
- 10 species of amphibians
- 94 fish species (72 native and 22 introduced)
- 704 plant species
- Up to 10 threatened or endangered species (including the focal species for this project: piping plover, least tern, and pallid sturgeon)

The proposed action is designed to work with others to maintain and build on existing areas important for the above-mentioned species while also improving conditions. The LPP and EIS address the following aspects:

- habitat requirements for successful productivity of migratory bird species—especially bald eagles, piping plovers, and least terns
- habitat needs for the endangered pallid sturgeon, other fish species of concern, and game fish

- role surrounding grasslands and forestlands play in supporting river-dependent species while also providing habitat for other species
- opportunities to improve habitat conditions for all species

## 1.4 National Wildlife Refuge System and Authorities

*The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, the restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.*



The NCCA and PBCA would be monitored partly under the National Wildlife Refuge System (Refuge System) in accordance with the National Wildlife Refuge System Administration Act of 1966 (Administration Act) as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), as well as other relevant legislation, Executive Orders, regulations, and policies. Conservation of wildlife habitat along the Missouri River in Nebraska and South Dakota would continue to be consistent with the following:

- Land and Water Conservation Fund Act of 1956
- Migratory Bird Conservation Act of 1929
- Migratory Bird Hunting and Conservation Stamp Act of 1934
- Migratory Bird Treaty Act of 1918
- Administration Act

- Improvement Act
- North American Wetlands Conservation Act of 1968
- ESA
- Bald and Golden Eagle Protection Act of 1940
- Fish and Wildlife Act of 1956

The basic considerations in acquiring an easement interest in private lands are the biological significance of the area, biological needs of the wildlife species of management concern, existing and anticipated threats to wildlife resources, and landowner interest in the program. On approval of the conservation areas, habitat protection would occur through the purchase of conservation easements or acquisition in fee title if deemed necessary. It is the FWS's long-established policy to acquire the minimum interest in land from willing sellers that is necessary to achieve habitat protection goals.

## 1.5 The National Park Service and the Wild and Scenic Rivers System

*As required by the 1916 Organic Act, these special places must be managed in a special way—a way that allows them to be enjoyed not just by those who are here today, but also by generations that follow. Enjoyment by present and future generations can be assured only if these special places are passed on to them in an unimpaired condition.*



In 1968, Congress passed the Wild and Scenic Rivers Act. The act:

declared to be the policy of the United States that certain selected rivers of the

Nation, which with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations.

The two legislative acts provide the following descriptions that pertain to the proposed action:

- 1978 designation
  - Missouri River: “The segment from Gavins Point Dam, South Dakota, fifty-nine miles downstream to Ponca State Park, Nebraska”
- 1991 designation
  - Missouri River: “The 39-mile segment from the headwaters of Lewis and Clark Lake to the Ft. Randall Dam”
  - Niobrara River and Verdigre Creek: “The 25-mile segment [of the Niobrara River] from the western boundary of Knox County to its confluence with the Missouri River, including that segment of the Verdigre Creek from the north municipal boundary of Verdigre, Nebraska, to its confluence with the Niobrara”

The national river boundary defines the area where the NPS has regulatory authority under the Wild and Scenic Rivers Act and where the NPS may buy easement or fee-title interest in lands. The boundary encompasses roughly 78,000 acres within the proposed conservation areas. The NPS owns 350 acres within the proposed PBCA.

Although affected by reservoirs, flow regulation, and human-altered channels in some areas, the ever-changing Missouri River has a diverse mosaic of channel habitats, including floodplains, side channels, backwaters, sandbars, pools, islands, and oxbow lakes. Accordingly, both the 59-mile segment and the 39-mile segment of the Missouri River were designated under the Wild and Scenic Rivers Act for their free-flowing condition; water quality; and outstanding recreational, fish and wildlife, scenic, historic, geologic, and cultural values. Despite these values, the Wild and Scenic Rivers Act applies the recreational river classification to those rivers or sections of rivers that are readily accessible by road, that may have some shoreline development, and that may have undergone some impoundment or diversion in the

past. The proposed LPP is consistent with the Department of the Interior's (Interior's) charge under section 10(a) of the Wild and Scenic River Act to protect and enhance the values for which the river was designated as part of the Wild and Scenic River System.

## 1.6 Related Actions and Activities

### Landscape Conservation Cooperatives

As the primary land, water, and wildlife manager for the Nation, Interior has an obligation to address the impacts that climate change is having on America's resources by developing integrated adaptation and mitigation strategies. Secretarial Order 3289 established a Climate Change Response Council, chaired by the Secretary of the Interior, which is coordinating activities within and across the bureaus to develop and implement an integrated strategy for climate change response by Interior. Working at the landscape, regional, and national scales through the establishment of Climate Science Centers and Landscape Conservation Cooperatives (LCCs), Interior is defining and implementing a vision that integrates Interior science and management expertise with that of its partners, providing information and best management practices to support strategic adaptation and mitigation efforts on both public and private lands across the United States and internationally.

This vision supports individual bureau missions while creating synergies with other Interior agencies and both governmental and nongovernmental partners to carry out integrated climate change science, adaptation, and mitigation strategies across broad landscapes. The Climate Change Response Council promotes collaboration among LCCs and develops mechanisms for managing data and information, setting national priorities, and ensuring consistency and preventing duplication of effort among the national network of LCCs.

The proposed conservation areas lie within the recently established Plains and Prairie Pothole LCC. The work of the LCC will greatly help any conservation measures including the proposed NCCA and PBCA by providing high-quality scientific data and information.

### The State of Nebraska Natural Legacy Project

The flora and fauna of Nebraska, along with the natural habitats they occupy, are the State's natural heritage. Populations of many once-common species have declined because of a variety of stresses, including habitat loss, habitat degradation, diseases, and competition and predation from invasive species. The goals of the Nebraska Natural Legacy Project are to reverse the decline of at-risk species, recover listed species and allow for their delisting, maintain the common species, and conserve natural communities.

The Nebraska Natural Legacy Project seeks to create new opportunities for collaboration among farmers, ranchers, communities, private and governmental organizations, and others for conserving Nebraska's biological diversity. The Nebraska Natural Legacy Project is a nonregulatory, voluntary, incentive-based conservation effort that would support the proposed conservation areas by offering added help to landowners in the management of natural areas.

### The State of South Dakota Wildlife Action Plan

The South Dakota Wildlife Action Plan seeks to strategically address the needs of all fish and wildlife species, with priority on species of greatest concern and in need of conservation. The South Dakota Wildlife Action Plan takes a broad view of landscapes from a fish and wildlife perspective. The plan considers the location of essential habitats, changes since settlement, species at risk, and habitat improvement. The purposes and goals of the proposed conservation areas are compatible with the South Dakota Wildlife Action Plan.

### Natural Resources Conservation Service—Wetlands Reserve Program

The NRCS provides national leadership in the conservation of soil, water, and related natural resources. As part of the U.S. Department of Agriculture (USDA), the NRCS provides balanced technical help and cooperative conservation programs to landowners and land managers throughout the United States.

In the Nebraska portions of the proposed conservation areas, the NRCS has an active Wetlands Reserve Program (WRP)—a voluntary program offering landowners the opportunity to protect, restore, and enhance wetlands on their properties. NRCS aims to achieve the greatest wetland functions and values, along with optimum wildlife habitat, on every acre enrolled in the program. Through the WRP, NRCS provides technical and financial support to help landowners with their wetland restoration and long-term conservation efforts. As of 2011, approximately 11,000 acres have been protected through wetland easements in the proposed conservation areas. The proposed conservation areas would not conflict with any NRCS programs; moreover, our role in buying easements could help the NRCS achieve WRP goals and objectives.

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## Species Recovery Plans

Species recovery plans are discussed in the species descriptions in “Chapter 4—Affected Environment” of the draft EIS.

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## U.S. Army Corps of Engineers— Master Water Control Manual

The reservoir system on the main stem Missouri River is operated by the USACE in accordance with the “Missouri River Master Manual.” Last updated in 2004, this manual includes a water control plan that guides how much water should be released, when, and for how long from the six reservoirs that make up the system. The plan is based on hydrologic models that consider variables such as volume, timing, and the shape of snow and rainfall runoff; these models have been built on more than 100 years of historical runoff records (1898–2004). The water control plan provides management guidance to support the purposes for which Congress authorized construction of the system: flood control, navigation, water supply, water quality, hydropower, irrigation, recreation, and fish and wildlife. The USACE strives to balance operation of the system to serve these purposes.

The USACE’s operation of the main stem dam system has caused numerous ecosystem changes as well as impacts on individual species. The proposed conservation areas would seek to mitigate these impacts by providing more habitat and protecting floodplain lands important to species recovery as well as river and floodplain ecology.



*The Lake Andes National Wildlife Refuge Complex is managed by some of the same staff members who would manage the proposed conservation areas.*

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## U.S. Fish and Wildlife Service— Lake Andes National Wildlife Refuge Complex Comprehensive Conservation Plan

A comprehensive conservation plan (CCP) was recently completed for the three units of the refuge complex: Lake Andes National Wildlife Refuge, Lake Andes Wetland Management District, and Karl E. Mundt National Wildlife Refuge, all in South Dakota. This CCP describes the management and use of these three units of Lake Andes National Wildlife Refuge Complex for the next 15 years. The proposed conservation areas would be managed, in part, by the same staff who manage the refuge complex. It is expected that the issues and conservation management direction of the proposed conservation areas would be compatible with those of the Lake Andes National Wildlife Refuge Complex.

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## U.S. Fish and Wildlife Service— Partners for Fish and Wildlife Program, Mountain–Prairie Region Strategic Plan, Eastern Tallgrass Prairie and Prairie Pothole Focus Areas

The Nebraska Partners for Fish and Wildlife Program will continue to work with its partners to control invasive species, restore and improve native grassland conditions, and promote biodiversity by restoring and enhancing important habitats. Additional opportunities may arise to work with its partners to restore riverine wetlands and wet meadow

habitats along the confluence of the lower Niobrara and Missouri Rivers.

The Mountain–Prairie Region Strategic Plan identifies focus areas throughout the region for the Partners for Fish and Wildlife Program to prioritize its efforts. The NCCA and PBCA are within the following focus areas.

The northern portion of the Eastern Tallgrass Prairie focus area includes the Missouri River and its associated habitats and has been expanded recently to include the land at the confluence of the Verdigré-Bazile, Lower Niobrara, and Missouri Rivers; the focus area now includes a portion of eastern Boyd County.

The southern portion of the Prairie Pothole focus area also includes the Missouri River. This focus area contains the glaciated portion of the state, which is characterized by a documented potential to support at least 20 breeding duck pairs per square mile. Preserving this focus area as a viable “recruitment source” for all suites of prairie nesting birds has been identified as an urgent priority for the FWS, Delta Waterfowl, and Ducks Unlimited. While many of the habitat actions in this focus area are designed to conserve waterfowl breeding habitat, they also have direct benefits for the entire spectrum of ground-nesting birds. These mutual conservation benefits are especially vital to grassland nesting passerines—widely considered to be one of the most imperiled bird guilds in North America (Peterjohn and Sauer 1999).

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## **National Park Service—General Management Plans, Missouri National Recreational River**

The general management plans for the Missouri National Recreational River (MNRR) were written in 1997 (for the 39-mile segment) and 1999 (59-mile segment). The plans describe the goals and management activities anticipated for the national recreational river. General management plans are designed to be used for up to 20 years; it is unlikely that another general management plan effort will be undertaken for the MNRR in the near future. The management described in the plans is consistent with the basic goals and principles of the proposed conservation areas.

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## **North American Waterfowl Management Plan**

Enacted in 1986, the “North American Waterfowl Management Plan” addresses declining waterfowl populations. The plan relies on the actions of joint ventures, of which there are 17 in the United States. The Prairie Pothole Joint Venture (PPJV) coordinates conservation efforts in North Dakota, South Dakota, Minnesota, Iowa, and Montana. Many PPJV projects are active within the proposed conservation areas and use funding partnerships with many entities. The proposed conservation areas are home to ducks, geese, sandhill cranes, tundra swan, as well as many other nonresident waterfowl species. Accordingly, activities under this international plan will aid in protecting, restoring, and enhancing high-priority wetland and grassland habitat to help sustain populations of waterfowl, shorebirds, waterbirds, and terrestrial prairie birds in the proposed conservation areas.

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## **National Fish Habitat Partnership Action Plan**

The National Fish Habitat Partnership was born in 2001 when an ad hoc group supported by the Sport Fishing and Boating Partnership Council explored the notion of developing a partnership effort for fish on the scale of what was done for waterfowl in the 1980s through the North American Waterfowl Management Plan. The waterfowl plan has worked wonders in the past 2 decades to boost waterfowl populations by forming strong local and regional partnerships to protect key habitats.

The mission of the National Fish Habitat Action Plan is to protect, restore and enhance the Nation’s fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for Americans. This program is compatible with the goals and purposes of the proposed conservation areas.

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## **U.S. Army Corps of Engineers—Missouri River Recovery Program**

The aim of the USACE’s MRRP is to restore the Missouri River ecosystem to its natural form and function through habitat creation and flow modifications by using science, public involvement, and col-

laboration with agency partners and stakeholders. Although the river will never be the wild, dynamic, and uncontrolled system it once was, portions of the ecosystem can be revitalized to meet the needs and interests of all the area's inhabitants. Accordingly, the primary goal of the MRRP—which applies to the proposed conservation areas—is to create a sustainable ecosystem that supports thriving populations of native species while considering current social and economic values. Numerous plans have been written in support of the MRRP, such as a cottonwood management plan, an emergent sandbar habitat plan, and a spring pulse plan. The program is compatible with the goals and purposes of the proposed conservation areas.

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## Missouri River Ecosystem Recovery Plan

The USACE's MRRP, in partnership with the FWS, is conducting a collaborative long-term study authorized by the Water Resources Development Act of 2007. The study, known as the MRERP and EIS, will identify the actions required to mitigate losses of aquatic and terrestrial habitat, recover federally listed species under the ESA, and restore the ecosystem to prevent further declines among other native species. When completed, the plan will guide the USACE's mitigation, restoration, and recovery efforts on the Missouri River for the next 30–50 years.

The plan is a multiyear effort; however, it was not funded in 2012. The proposed conservation areas would be consistent with implementation of the MRERP.



NPS

*A view of the Missouri River from Niobrara State Park.*

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## Migratory Bird Program

The FWS has a legal mandate and a trust responsibility to maintain healthy migratory bird populations for the benefit of the American public. The FWS is authorized by primary conventions, treaties, and laws to ensure the conservation of more than 800 species of migratory birds and their habitats. The FWS work with many foreign governments, State and other Federal agencies, tribes, nonprofit organizations, academic institutions, industries, and private individuals, both within the United States and abroad, to meet these mandates. To meet the migratory bird conservation challenges of the 21st century, the Migratory Bird Program adheres to the principles of sound science and collaborative partnerships in its migratory bird conservation and management activities. Summer nesting habitat for two federally listed endangered migratory bird species—least tern and piping plover—occurs within the proposed conservation areas. The proposed conservation areas would strongly support the goals of the Migratory Bird Program.

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## The Nature Conservancy Ecoregional Portfolio

The NCCA is primarily located in The Nature Conservancy's Dakota Mixed Prairie Ecoregion, while the PBCA is split between the Northern and Central Tallgrass Prairie Ecoregion. A terrestrial ecoregion is a regional landscape that supports recognizably distinctive groupings of plants, animals, and natural communities due to regional patterns of climate, landform, soil, and hydrology. The Nature Conservancy has prioritized portions of the Missouri River ecosystem downstream of Gavins Point Dam as well as Verdigre Creek and the Niobrara River as important terrestrial habitats.

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## Nebraska Surface Water Quality Standards (Title 117)

The Nebraska Department of Environmental Quality has a legal mandate to maintain and protect the existing quality of surface waters designated as Class A State Resource Waters. Much of the surface water in the proposed project areas is considered Class A. In addition to Class A, there are also Class B waters in the project area. The proposed LPP

would be consistent with the regulations outlined in Title 117 of the State’s Antidegradation Clause.

## South Dakota Antidegradation of Waters of the State (74:51:01:34)

Similar to Nebraska, the State of South Dakota has enacted legislation that states “No further reduction of water quality may be allowed for surface waters of the state that do not meet the water quality levels assigned to their designated beneficial uses as a result of natural causes or conditions, and all new discharges must meet applicable water quality standards.” The proposed LPP would be consistent with the regulations outlined under this State regulation.

### 1.7 Habitat Protection and the Acquisition Process

Functional riverine and upland habitat protection would occur primarily through conservation easements and fee-title purchases. It is our long-established policy to acquire the minimum interest in land from willing sellers necessary to achieve habitat acquisition goals.

The acquisition authorities for the proposed action are the Migratory Bird Hunting and Conservation Stamp Act of 1934, also known as the Duck Stamp Act, the North American Wetlands Conservation Act, and the Land and Water Conservation Fund Act of 1965. The Duck Stamp Act money used to acquire property is received from Duck Stamp revenue. The North American Wetlands Conservation Act funds are from congressional appropriations, Migratory Bird Treaty Act fines, and various Federal accounts.

The Land and Water Conservation Fund is derived primarily from oil and gas leases on the outer continental shelf, motorboat fuel tax revenues, and sale of surplus Federal property.

There may be additional funds for the acquisition of lands, waters, or interest therein for fish and wildlife conservation purposes through congressional appropriations, donations from nonprofit organizations, and other sources.

Conservation easements would be purchased in perpetuity on privately owned property containing important biological, cultural, and social resources as identified in Chapter 4 of the LPP. The easements would protect the river, floodplain, and surrounding uplands from conversion to nonnative habitats, bank stabilization, and subdivision. Whether public access is allowed would be determined on a case-by-case basis at the time of the purchase in collaboration with the landowner and other partners. All other property rights and responsibilities, including grazing, haying, and control of noxious weeds, would remain with the landowner.

The basic considerations in acquiring interest in property are landowner interest in the program, biological significance, ability to contribute to increased river functionality, and feasibility of restoration, if needed. Fee-title acquisition would focus on areas with the following attributes:

- significant biological resources
- significant need for restoration
- need for high public use or administrative sites
- areas where the landowner will only sell in fee title

Purchases would be made only from willing sellers, would be subject to available funding, and would generally follow the process in figure 2.

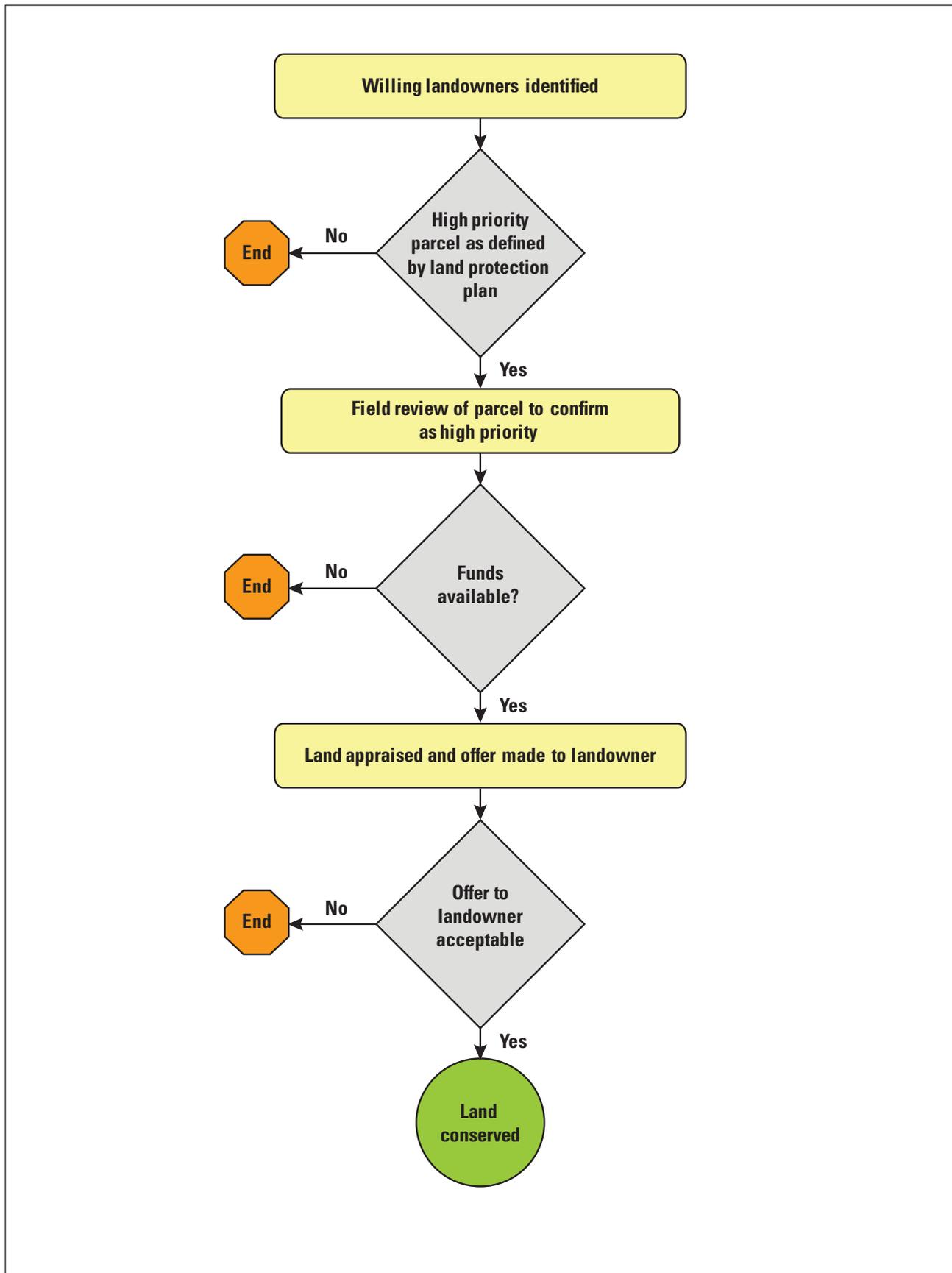


Figure 2. Land acquisition process for the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

# Chapter 2—Area Description and Resources

Please refer to “Chapter 4—Affected Environment” of the draft EIS for a full description of the area and resources.



# Chapter 3—Threats to and the Status of Resources

Please refer to “Section 4.2—Biological Resources” in the draft EIS for a description of threats to resources.



# Chapter 4—Project Implementation



NPS

*Goat Island lies within the 59-mile segment of the MNRR.*

This chapter presents a brief summary of the land protection options that were considered during the planning process, then sets out the implementation procedures for the Niobrara Confluence and Ponca Bluffs LPP. This plan is intended to provide our staff with guidance and direction for acquiring conservation and access easements as well as lands in fee title in the project area.

## 4.1 Land Protection Options

### Alternatives Considered

During the development of alternatives, various options for the protection of lands in the proposed conservation areas were considered in the EIS. These options were voluntary landowner zoning, county zoning, and acquisition or management by other entities (that is, neither the FWS nor the NPS). The planning team determined that none of these options met the purpose, need, or objectives for the

Niobrara Confluence and Ponca Bluffs LPP; consequently, these options were not analyzed in the EIS.

Four alternatives were considered in the EIS, the no-action alternative and three action alternatives, encompassing a range of conservation targets using a combination of conservation and access easements and acquisition of lands in fee title in the proposed conservation areas.

The consequences of the no-action alternative were considered unacceptable; accordingly, one of the action alternatives, “Alternative C—Moderate Conservation Action,” was selected as the preferred alternative.

### Easement and Fee-Title Acquisition Program

We embrace the concept that a strong and vibrant rural lifestyle—with agriculture and livestock production at its heart—must be a key part of ensuring habitat integrity and wildlife resource protection. The LPP was developed to support this concept.

In view of the analysis carried out through the environmental review process, as described in the

EIS, and during a public comment period, alternative C was selected as the preferred alternative. The LPP proposes conservation of up to 140,000 acres through acquisition of conservation and access easements and contracts and limited acquisition of lands in fee title lands. Activities carried out under the LPP would augment the efforts of other conservation groups. The preferred alternative is discussed in detail in chapter 3 of the EIS. Environmental consequences are documented in chapter 5 of the EIS.

Easements have been shown to be not only a more cost-effective but also a more socially and politically acceptable means of ensuring protection of critical habitat than outright—or fee-title—acquisition. The LPP would involve two types of easements: conservation easements for habitat protection and access easements to support public use in the conservation areas (see section 4.2.1). Fee-title acquisition would be used to acquire lands where extensive public use, construction of facilities, or major habitat restoration is planned. A ratio of 20-percent fee-title acres to 80-percent easement acres is considered to be the optimum mix; it is the ratio reflected in the Small Wetlands Acquisition Program in eastern South Dakota.

If the LPP is approved, we would develop an interim conceptual management plan for managing fee-title lands until a CCP can be completed. The conceptual management plan would help guide the management of acquired parcels in the short term and include items such as interim compatibility determinations. It would also outline how we would manage those parcels as well as areas under conservation easement.

## 4.2 Project Objectives and Actions

Land protection planning is the means by which we study opportunities for strategic conservation of land through long-term lease, conservation easement, or purchase. Such planning efforts involve the following steps:

- the detailed identification and prioritization of lands suitable for addition to the Refuge System or the National Park System
- a description of the lands' natural resource values
- an explanation of how the lands support the missions of the Refuge System, National Park System, or both

In the land protection planning process, we look at lands both at the landscape, or ecosystem, level and at the individual tract level. We use the principles of Strategic Habitat Conservation, which provides guidance for determining species' goals, setting objectives, developing implementation procedures, and prescribing techniques to monitor accomplishments.

The primary objective of the LPP is to maintain biodiversity and related wildlife values while protecting and promoting recreational opportunities, cultural sites, and scenic values through the use of conservation easements and fee-title purchase. Conservation easements would be an important tool for protecting wildlife habitat while leaving the land in private ownership.

Much of the watershed remains in agricultural use. Protecting these lands from residential and commercial development would maintain a vital habitat corridor between federally protected lands, state wildlife management areas, waterfowl production areas, voluntary perpetual easements, and Partners for Fish and Wildlife projects. The LPP would protect cottonwood forest communities, help protect and restore habitat for listed species, and help preserve the natural river ecosystem in the conservation areas. The following goals have been established for the NCCA and PBCA:

- *Local economies and tourism*—help sustain local economies through preserving working farm and ranch landscapes and conserving lands, both of which will attract tourists from across the Nation.
- *Partnerships and collaboration*—develop and foster partnerships with local landowners, communities, tribes, and others by offering financial incentives, sharing knowledge, or collaborating on projects with ecological benefits.
- *Ecological and river functionality*—increase river and ecological functionality by improving water and air quality, maintaining healthy native plant communities such as cottonwood galleries, increasing floodplain connectivity, promoting active channel processes, and reducing flood risk.
- *Cultural resources*—in consultation with our partners, locate, document, and evaluate cultural resources and encourage preservation and interpretation when appropriate.



NPS

Located in South Dakota, Spirit Mound is one cultural resource located within the vicinity of the proposed NCCA and PBCA.

- *Recreational opportunities*—increase recreational opportunities for residents and visitors.
- *Wildlife, fisheries, and their habitats*—support the recovery and protection of threatened and endangered species and reduce the likelihood of future listings under the ESA, while continuing to provide migration habitats for millions of migrating birds and habitats for resident fish and wildlife populations.

The LPP is designed to improve conditions in the Missouri River's floodplain and associated grasslands and uplands. The proposed management direction for the NCCA and PBCA would emphasize retaining those habitat characteristics important to federal trust species such as pallid sturgeon, least tern, and piping plover, as well as enhance opportunities for recreational activities such as boating, fishing, hunting, and camping while increasing scenic values along the river.

The 790,873-acre NCCA encompasses the river, adjacent 6th order watersheds, and the 6th order watersheds of the Niobrara River below Spencer Dam. We have identified a goal of 16,000 acres of fee-title acquisition and 64,000 acres of conservation easements on the basis of logistics, the extent of potentially available lands, and the desired ratio of fee-title to easement acreage described above.

The 623,921-acre PBCA comprises a mix of private property and local, federal, and state jurisdictions. We have established a goal of 12,000 acres of fee-title acquisitions and 48,000 acres of conservation easements. Management actions outside federal ownership are encouraged through partnerships with state and local governments and private landowners.

## Easement and Fee-Title Requirements

We have developed standard conservation easement agreements that have been used successfully in other parts of the United States. With appropriate modifications, we would use similar language and terms to develop standard easement documents for the NCCA and PBCA. Standardization would minimize confusion, facilitate enforcement, and provide the necessary level of protection for the resources.

The easement and fee-title acquisition program would rely on voluntary involvement of landowners. We would pursue fee-title acquisition where there is both a willing landowner and a need for restoration or visitor services facilities and access. Similarly, where we require public access and use, access easements and contracts may be an option. For 80 percent of protected lands, we would pursue conservation easements. Landowner management practices—such as grazing and prescribed fire—would continue to be implemented on the land covered by conservation easement contracts. Because all land under such easements would remain in private ownership, property taxes and grassland management activities—such as invasive plant and tree control, grazing, and prescribed fire—would remain the landowner's responsibility. Public access, including hunting, may be allowed under the easement, depending on the landowner's wishes.

The easement program would be managed by staff at the Karl Mundt National Wildlife Refuge south of Pickstown, South Dakota, and the NPS office in Yankton, South Dakota. The FWS and NPS staff would be responsible for monitoring and administering all easements on private land and managing fee-title lands. Easement management would entail periodically reviewing land status in meetings with the landowners or land managers. Draft conservation easement concepts are shown below.

- Unless prior approval in writing is granted by the FWS or the NPS, landowners will maintain permanent vegetative cover consisting of grasses, forbs, low-growing shrubs, and trees on easement lands and abide by the following restrictions:
  - Haying, mowing, and seed harvesting for any reason will not occur before July 15 in any calendar year.
  - Grassland, wildlife habitat, or other natural features will not be altered by digging, plowing, disking, or otherwise destroying the vegetative cover, and no agricultural

crop production can occur on the habitat areas delineated.

- Draining, filling, and leveling of wetlands will be prohibited.
- Altering and stabilizing the riverbank and shoreline will be prohibited.
- Livestock confinement facilities such as feedlots will be prohibited.
- Grazing will be permitted on the easement land at any time throughout the year without approval in writing.
- Grantors will pay taxes and assessments, if any, that may be levied against the easement land.
- Noxious weed control will remain a responsibility of the landowner.
- If the landowner would like to allow public access, the easement will be held by the NPS under an additional access agreement; if the landowner wishes to exclude public access, the easement could be held by either agency.
- This easement and the covenants and agreements contained herein will run with the land and will be binding on all persons and entities who come into ownership or possession of the lands subject to this easement.

## Contaminants and Hazardous Materials

Level 1 preacquisition site assessments would be conducted on individual tracts before the purchase of any land interests. The FWS's environmental con-

taminants specialists from the Ecological Services offices in Nebraska and South Dakota would be contacted to make sure that policies and guidelines are followed before the acquisition of conservation easements.

## 4.3 Project Costs

The LPP would result in the development of a new project administered as part of the Karl Mundt National Wildlife Refuge south of Pickstown, South Dakota, and the Missouri National Recreation River of Yankton, South Dakota. Refuge and park staff would be responsible for researching available properties and working with willing sellers to acquire those properties.

### Land Costs

Land values are estimated to be between \$2,000 and \$6,000 per acre depending on land cover type, agricultural production, and improvements. A summary of project costs is provided in table 2.

One-time initial costs for fee-title acquisition for the NCCA are estimated at \$64,000,000 (16,000 acres times \$4,000 per acre average cost). One-time initial costs for conservation easements are estimated at \$128,000,000 (64,000 acres times \$2,000 per acre average cost). Based on costs from other refuges in the region, operations and maintenance costs are estimated to be \$30 per acre per year, or \$480,000 per year for the 16,000-acre portion acquired in fee title. This estimate does not include startup costs, which are estimated to be \$1,500,000 and would be associated with the Ponca Bluffs National Conservation Area.

One-time initial costs for fee-title acquisition for the PBCA are estimated at \$48,000,000 (12,000 acres times \$4,000 per acre average cost). One-time initial costs for conservation easements are estimated at

**Table 2. Project costs for the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.**

<i>Conservation area</i>	<i>Fee-title acres</i>	<i>Fee cost</i>	<i>Easement acres</i>	<i>Easement cost</i>	<i>Operations and maintenance yearly costs</i>	<i>Start-up costs</i>
Niobrara Confluence	16,000	\$64,000,000	64,000	\$128,000,000	\$480,000	\$1,500,000
Ponca Bluffs	12,000	\$48,000,000	48,000	\$96,000,000	\$360,000	\$500,000
Totals	28,000	\$112,000,000	112,000	\$224,000,000	\$840,000	2,000,000

\$96,000,000 (48,000 acres times \$2,000 per acre average cost). Based on estimates from other refuges in the region, operations and maintenance costs are estimated to be \$30 per acre per year, or \$360,000 per year for the 12,000-acre portion acquired in fee title. This does not include startup costs, which are estimated to be \$500,000 and would be associated with the NCCA.

## Staff

The level and number of staff members required to manage the NCCA and PBCA would ultimately depend on landowner involvement and participation in the program as well as the funds that are available for conservation. We estimate that staff shown in table 3 would be necessary when we reach the overall goals of the LPP. In addition, it is anticipated that the FWS's private lands program (Partners for Fish and Wildlife Program) based out of Grand Island, Nebraska, and Huron, South Dakota, would be adequate to address the proposed action.

## 4.4 Acquisition Funding

We expect that funding to acquire both easements and fee-title lands would come principally from the Land and Water Conservation Fund, although money from several sources and authorities could be used for land acquisition and management.

## Land and Water Conservation Fund

We propose to acquire conservation easements principally with funds appropriated under the Land and Water Conservation Fund Act, which derives funds from royalties paid for offshore oil and gas leasing. These funds are intended for land and water conservation projects; they are not derived from general taxes. Funding is subject to annual appropriations by Congress for specific acquisition projects.

## Other Sources

Money from other sources may also be used for land and easement acquisition. For example, monies from the Migratory Bird Conservation Fund (Duck Stamp) or the North American Wetlands Conservation Act could be used. Management activities associated with easements may be funded through other sources, such as The Nature Conservancy, Partners for Fish and Wildlife, and other private and public partners. We would also consider accepting voluntary donations for easements or fee-title acquisitions, as well as land transfers from other agencies.

## 4.5 Protection Priorities

We worked in consultation with internal FWS divisions (Migratory Birds, Fisheries, Ecological

**Table 3. Labor costs for the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.**

<i>Staff group</i>	<i>Position</i>	<i>Grade</i>
Management	Interagency project leader	GS-13
	Wildlife refuge manager	GS-12
	Biological sciences technician	GS-07
Acquisition	Realty specialist	GS-12
Biology	Wildlife biologist	GS-11
Visitor services	Outdoor recreation planner	GS-11
Administration	Administrative officer	GS-07
Maintenance	Engineering equipment operator	WG-10
	Maintenance worker	WG-08
Fire management	Prescribed fire specialist	GS-09
Law enforcement	Law enforcement officer	GS-09
	Park ranger	GS-05

*Abbreviations:* GS = General Schedule, WG = Wage Grade.

Services) and the cooperating agency team and chose to develop protection priorities based on a prior extensive group effort to determine and quantify the Outstandingly Remarkable Values (ORVs) of the MNRR (NPS 2012). The ORVs were developed in the fall of 2011 by a group of more than 60 subject matter experts, interested stakeholders, and other river partners to help guide the management of the MNRR. The ORVs that were identified are listed below:

- Cultural
- Ecological
- Fish and Wildlife
- Geological
- Recreational
- Scenic

We used a two-pronged approach to landscape prioritization. The first component was to investigate a suite of focal fish and wildlife species, their habitats, and overall river function (Ecological and Fish and Wildlife ORVs). The second component was to investigate recreational access, scenic qualities, and the potential for sites to contain culturally significant sites (Cultural, Geological, Recreational, and Scenic ORVs).

## Focal Species Prioritization

We selected a suite of fish and wildlife species that we felt were representative of a functional river ecosystem. Each of these focal species represents a group of species that are vulnerable to the same threat processes (Caro and O’Doherty 1999). The species selected are listed below:

- bald eagle
- pallid sturgeon
- least tern
- piping plover

All four species are Federal trust species or have State or regional conservation status, making them worthy of protection on their own; however, conserving habitat for these species would also protect habitat for other species with similar habitat

requirements. In this way, these species serve as indicators of overall river functionality and health. In addition, species like the bald eagle are significant to many American Indian tribes.

Point data (such as capture locations or nest sites) for the four species were available from various research or monitoring studies conducted within the proposed conservation areas (figures 3, 4, and 5); however, no conceptual models or species-specific models have been developed for the action area in its entirety. Accordingly, we chose to identify the habitats those species were using and extrapolate to the entire action area. Using the finest scale available land cover dataset that covered the entire action area (LANDFIRE 2006), we identified the vegetation community (or land cover) types that correlated to the extensive point data for these species. We then ranked the land cover data relative to the species locations, with land cover classes in red and yellow representing 79.6 percent of bald eagle nest locations, 97.4 percent of pallid sturgeon capture locations, and 97.6 percent of least tern and piping plover nest sites (figure 6). We then classified the remaining land cover types according to their biological significance for the focal species, with grasslands and forestlands ranked as medium priority and row-crop agricultural lands and developed areas (roads and cities) ranked as the lowest priority.

In addition, we mapped characteristics that support or inhibit overall river function as shown in figure 7. These characteristics were:

- the historical floodplain of the Missouri River and its tributaries;
- confluences of tributaries with the Missouri River;
- large islands;
- areas with artificially stabilized banks that do not protect river management infrastructure (tailraces), major highways, cities, or private residences.

Historical floodplains were mapped because that characteristic is a key attribute necessary to support the processes associated with hydrology, sediment transport, and the transformation of organic and inorganic materials in river and riparian systems—for example, up and down channels, between channels, and between riparian areas and floodplains (The Nature Conservancy 2008).

Confluences were mapped because they contribute organic and inorganic materials and physical habitat features that may be locally important in the watershed (The Nature Conservancy 2008). More-

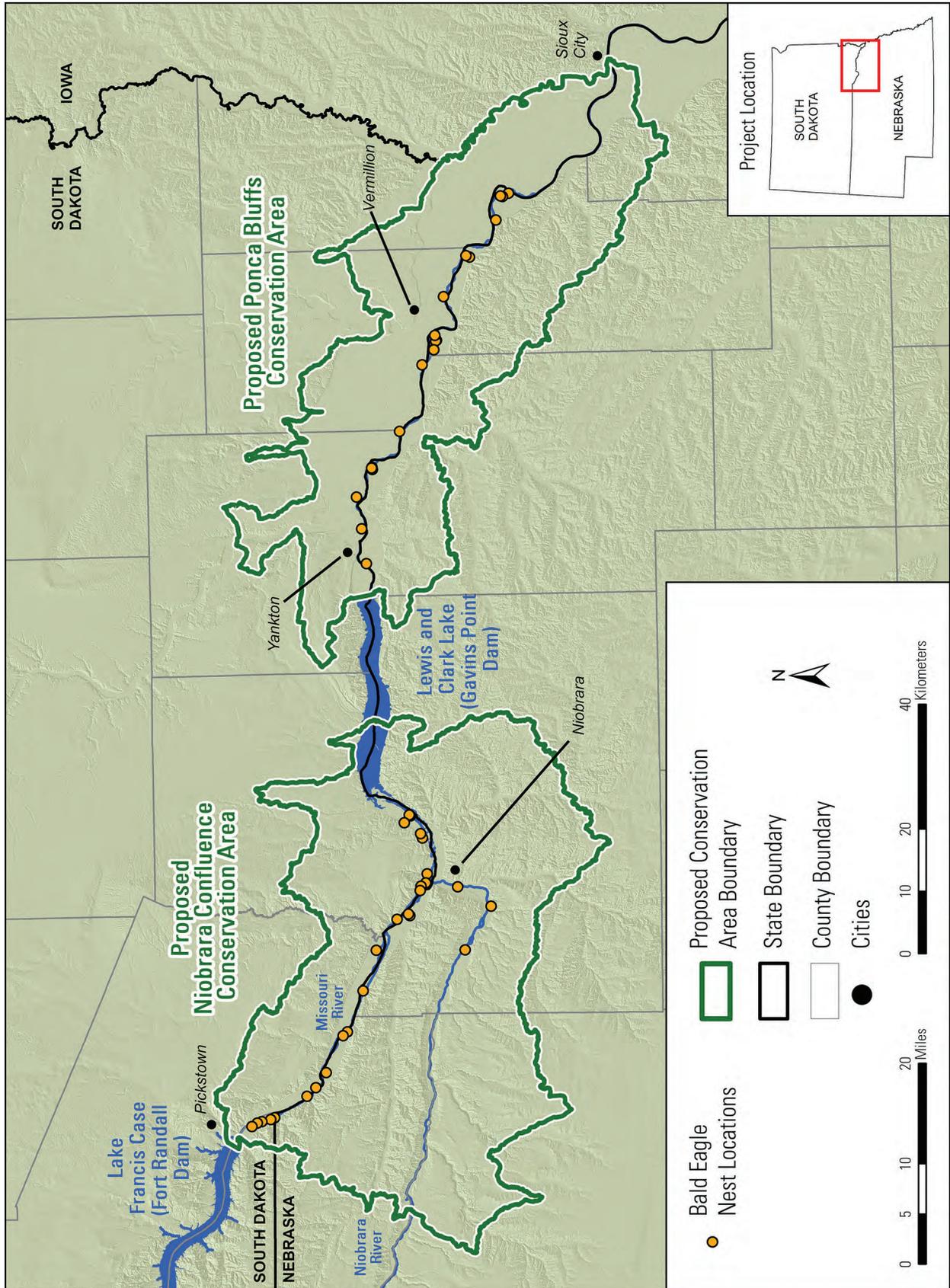


Figure 3. Bald eagle nest locations in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

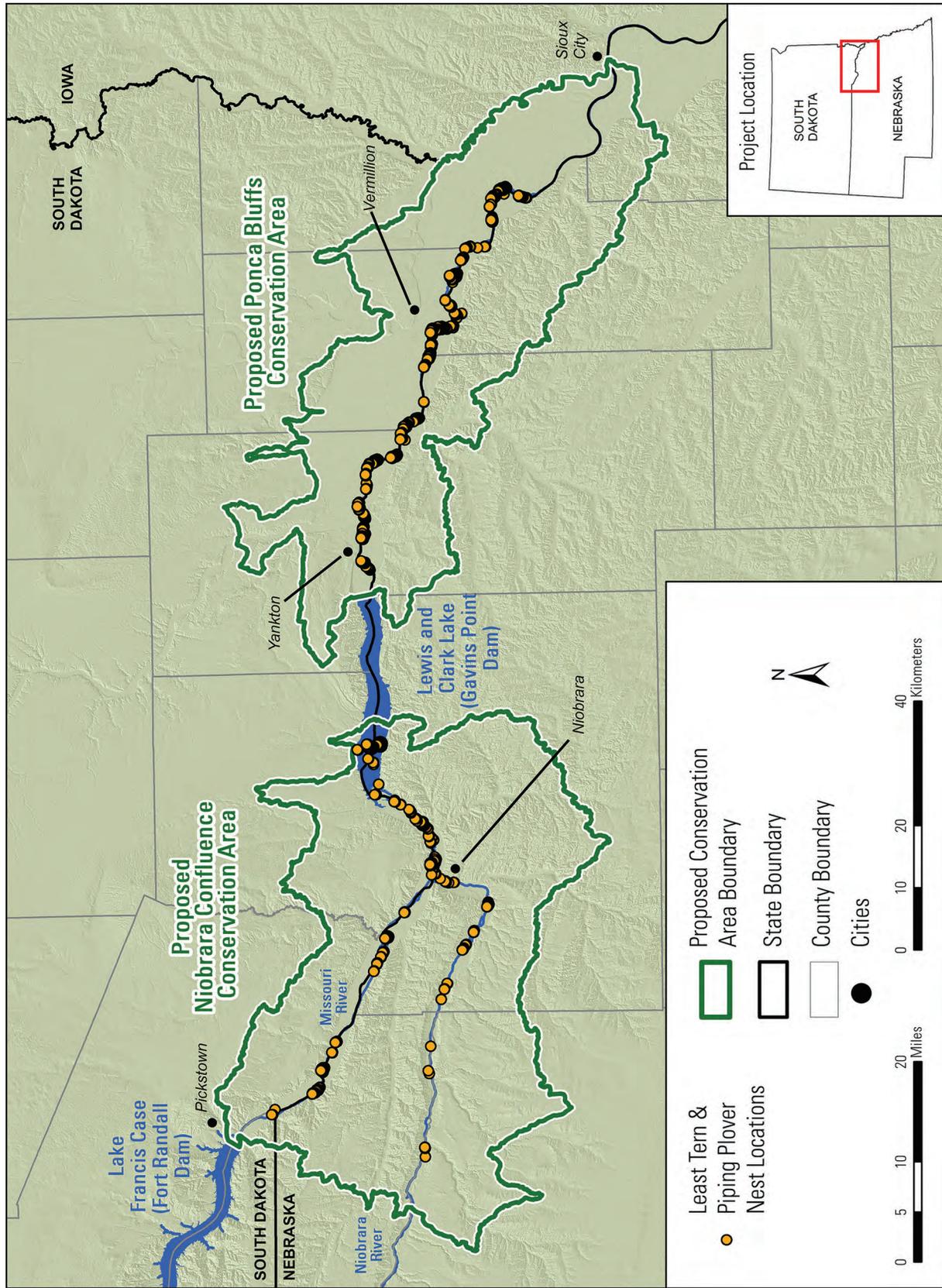


Figure 4. Least tern and piping plover nest locations in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

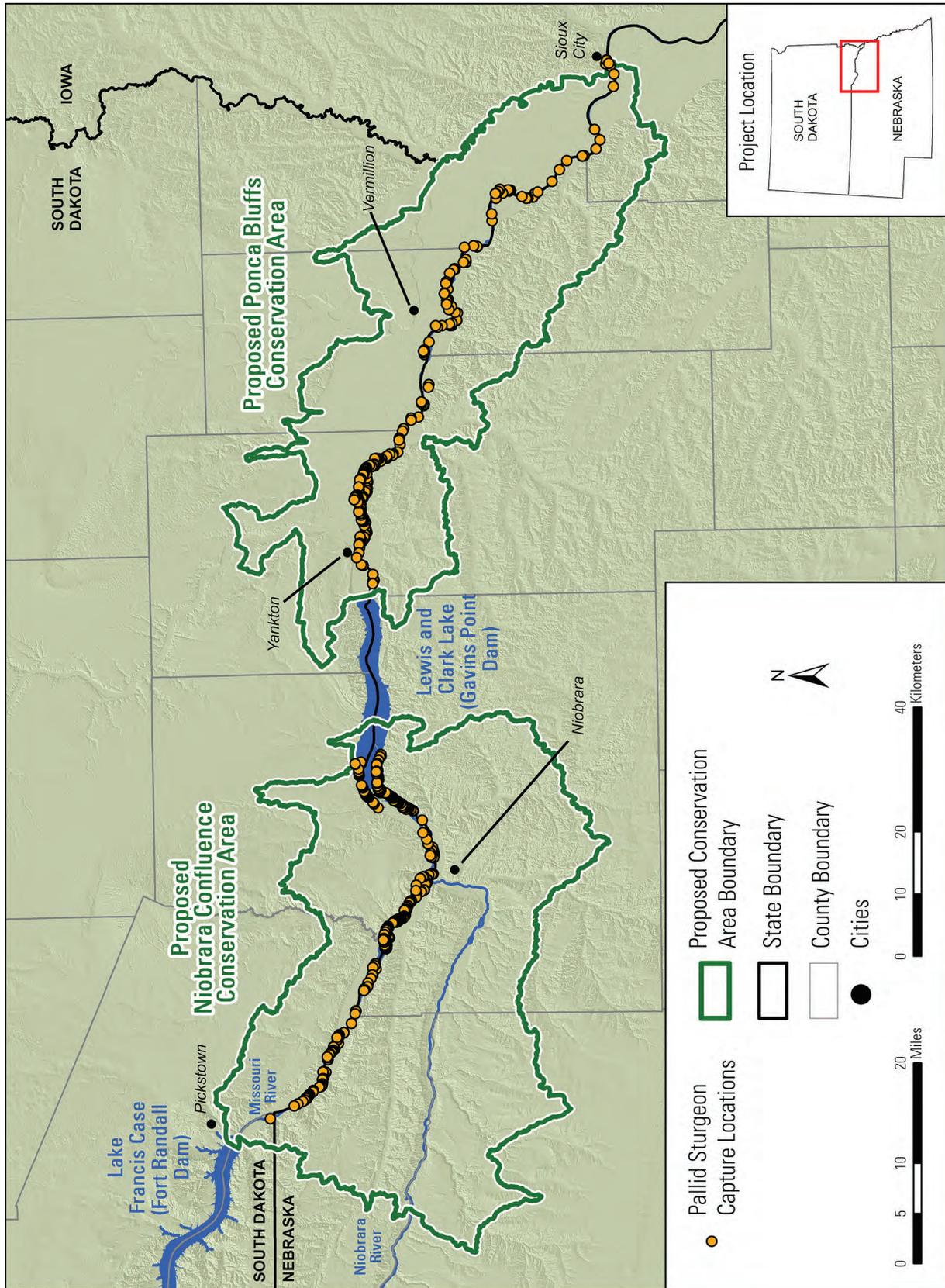


Figure 5. Pallid sturgeon capture locations in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

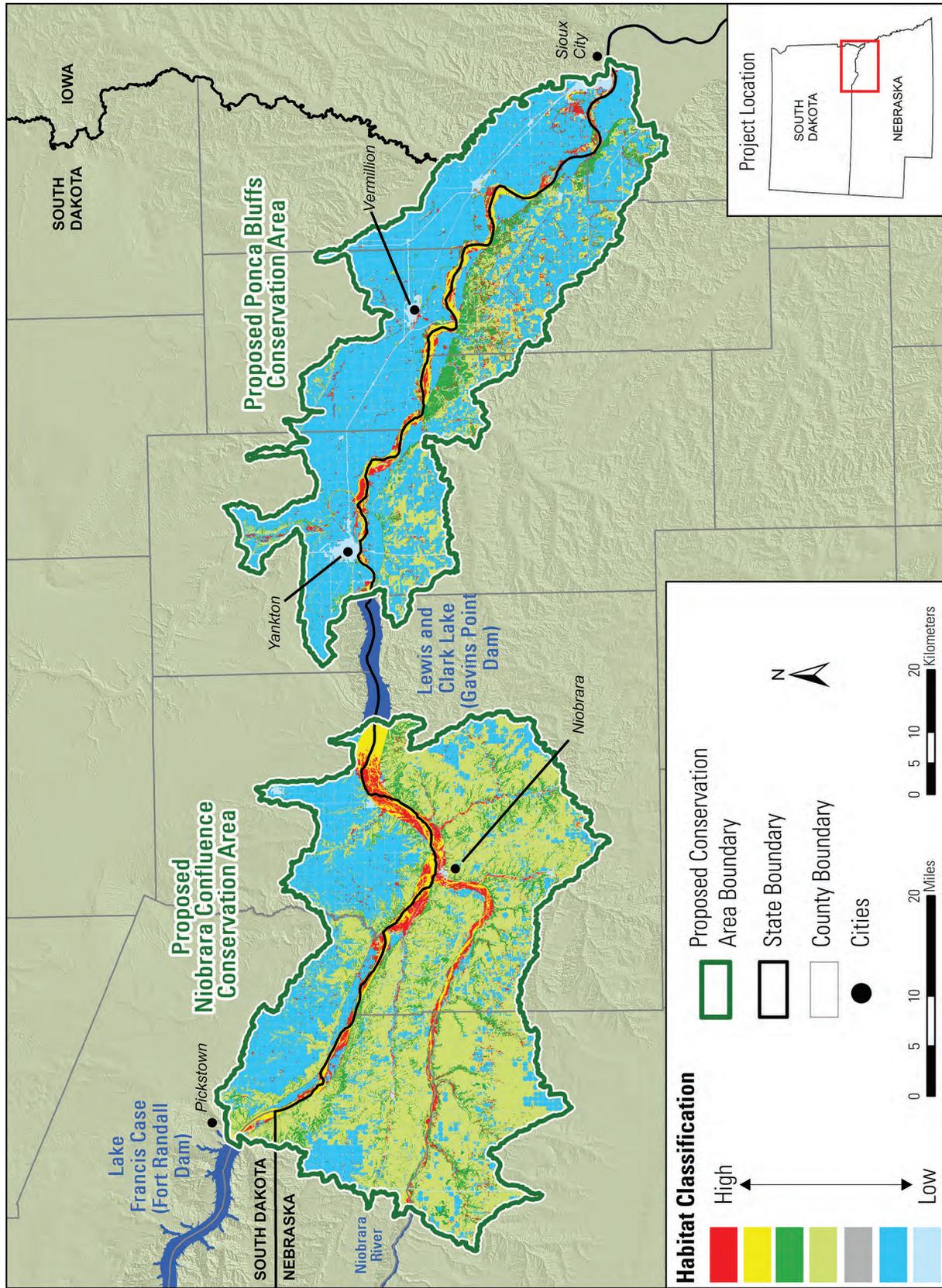


Figure 6. Focal species habitat prioritization in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

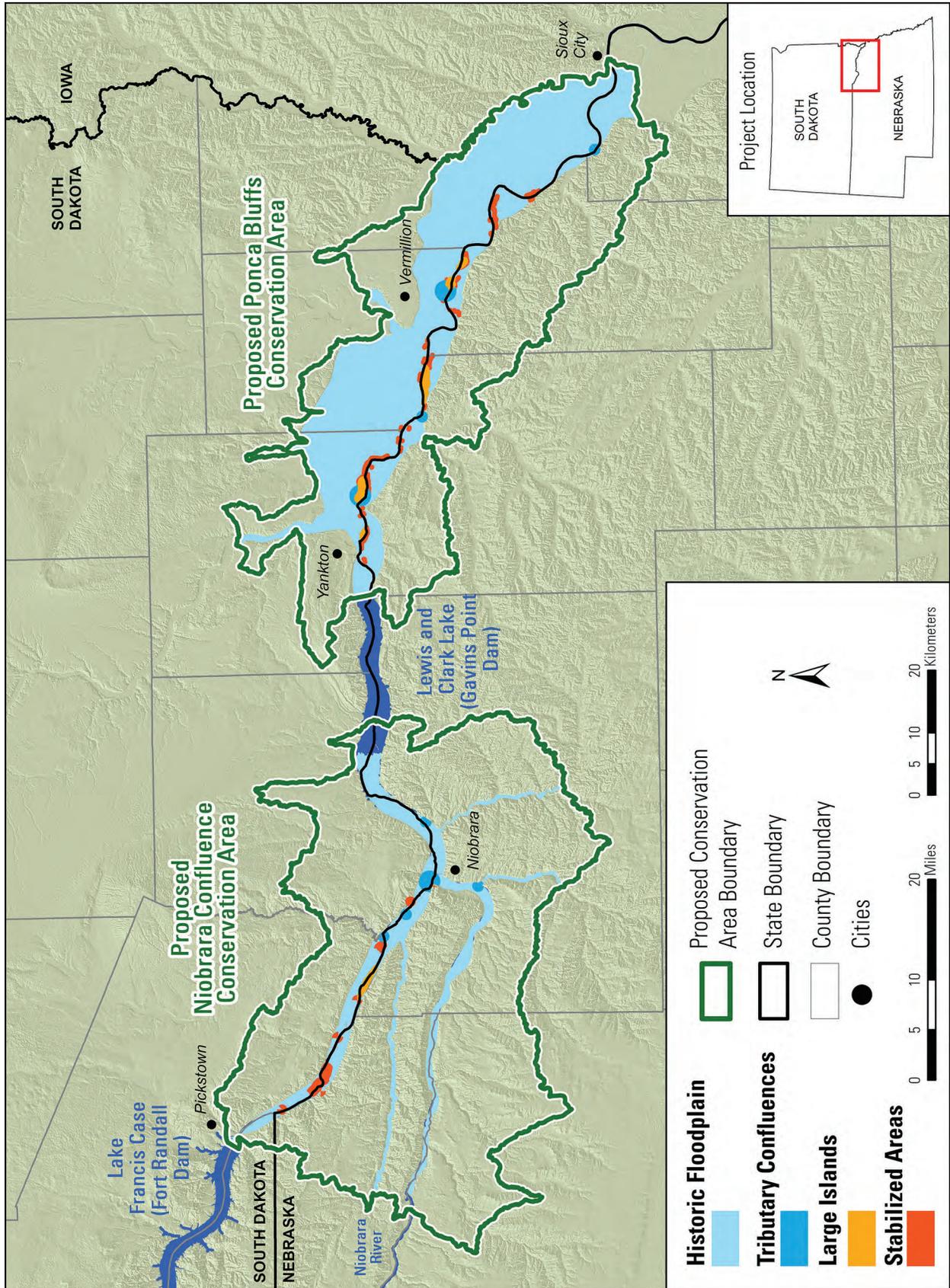


Figure 7. River features in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.



© Ryan Williamson

*Piping plover is a focal species for the NCCA and PBCA.*

over, the Niobrara River confluence is a unique site where a sediment-rich river (the Niobrara) meets a river that is generally considered to be sediment-hungry (the Missouri). The confluence, because of these characteristics, provides optimal habitat conditions for species like the pallid sturgeon.

Large islands were mapped because many of them provide dynamic habitat conditions ranging from barren sandbars to old-growth cottonwood galleries and mature lowland forests of ash and elm. These sites are also known for supporting nesting colonies of turtles, an important indicator of overall river function (NPS 2012).

After the floodwaters receded in fall 2011, MNRR and the Missouri River Institute at the University of South Dakota collaborated on a bankline inventory for MNRR. The purpose of this study was to create a database that contains bank descriptions and their locations, including any processes that were occurring at the time of data collection (such as erosion and tree loss), detailed information on stabilization if it was present, and any areas in need of cleanup. We used these data to identify where portions of the Missouri River are being inhibited from natural flow patterns and where potential restoration could occur. Areas with stabilized shorelines were not included if they protect river management infrastructure (tail-races), major highways, cities, or private residences.

## Cultural, Geological, Scenic, and Recreation Prioritization

NPS cultural resource experts developed a cultural resource sensitivity model that identified areas that are potentially sensitive for cultural resources (figure 8). The model identifies high- and medium-sensitivity zones in the two conservation areas on the basis of environmental characteristics of known

archeological sites within the administrative boundary. Three attributes were used to create the model: archeological site locations, distance to water, and slope.

Chalkstone bluffs, a prominent geologic and scenic feature in the NCCA and on the south side of the Missouri River in the PBCA were mapped in a Geographical Information System (GIS) database using digital elevation models (figure 8). These areas, besides providing scenic value, also make a crucial contribution to river functionality in the form of sediment. Rivers continually use dynamic forces to move sediment throughout the floodplain. Much of this sediment is initially derived from river bluffs.

Current recreational access sites (such as boat ramps) were identified in a GIS layer (figure 9). We established a 500-meter buffer, which allowed us to prioritize a small but reasonable management area around existing access to maintain access to those sites. We then examined where on the Missouri River more access may be needed based on comments from the public and requests from agencies, tribes, or other stakeholders; we also considered areas where more access may be necessary to increase human safety. We incorporated the conservation of existing public access sites through the use of a boundary length modifier (described in the next section); this approach allowed us to identify a network of conserved areas.

## Overall Landscape Prioritization

The species-specific maps (figures 3, 4, and 5) are useful for determining where in the landscape the key habitats for the focal species occur. However, they do not help decisionmakers with determining which areas would provide the most effective conservation returns overall.

Besides the presence or absence of habitat for individual species, it is important to consider issues such as connectivity, cost, and unequal conservation need for each species. Accordingly, the software package Marxan (Ball, Possingham, and Watts 2009), with its simulated annealing algorithm, was used to identify “optimal” solutions for conservation prioritization in the NCCA and PBCA. Marxan permits the user to specify individual conservation targets for conservation features (in this case, area of focal species habitat) and species-specific penalties for models that do not meet conservation targets. This feature allows the user to individually weight features—for example, the program can assign penalties for not including enough habitat for species of higher conservation concern, or can reduce the amount of land necessary for generalist widespread species. By des-

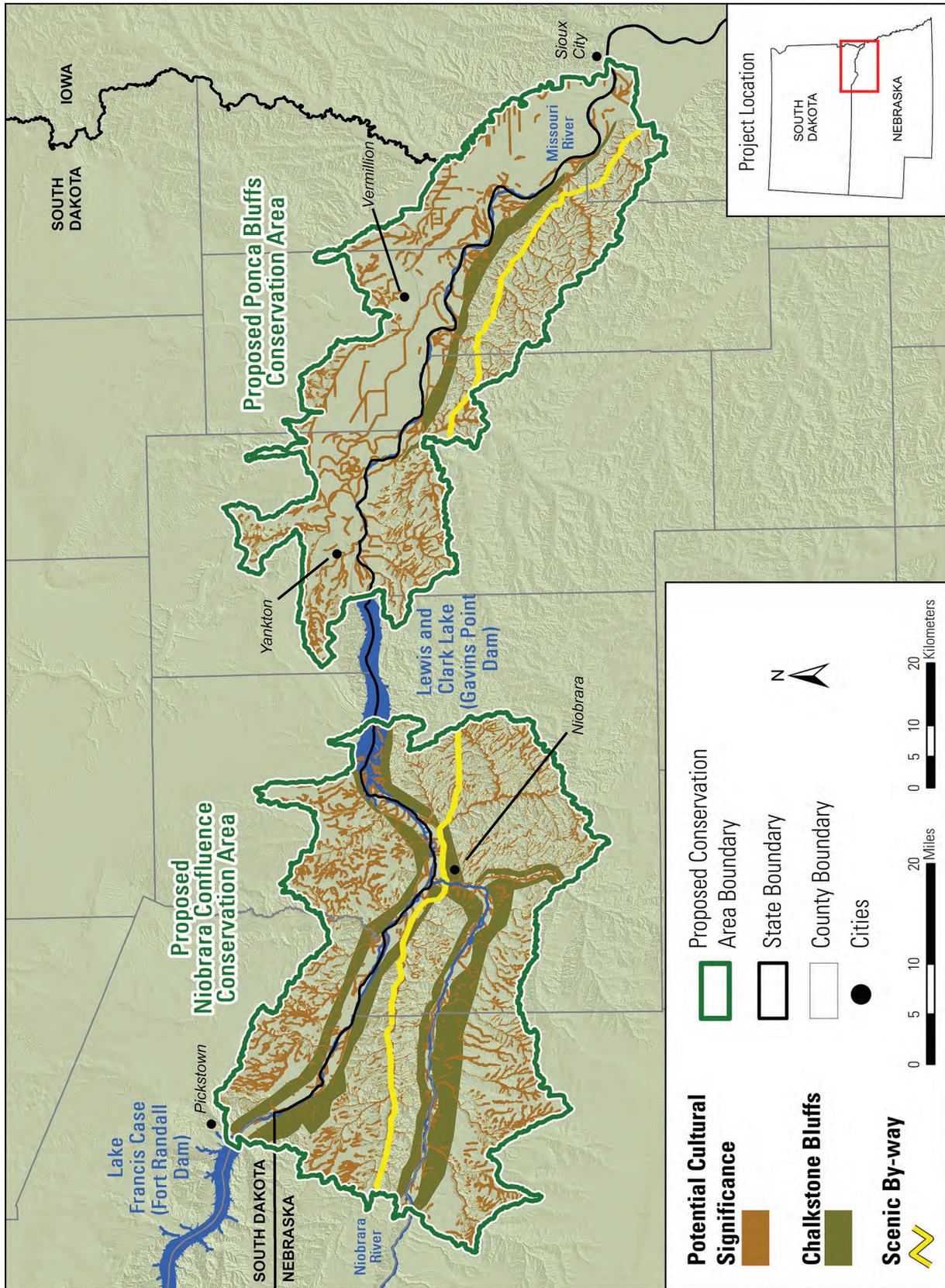


Figure 8. Chalkstone bluffs and historical trails in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

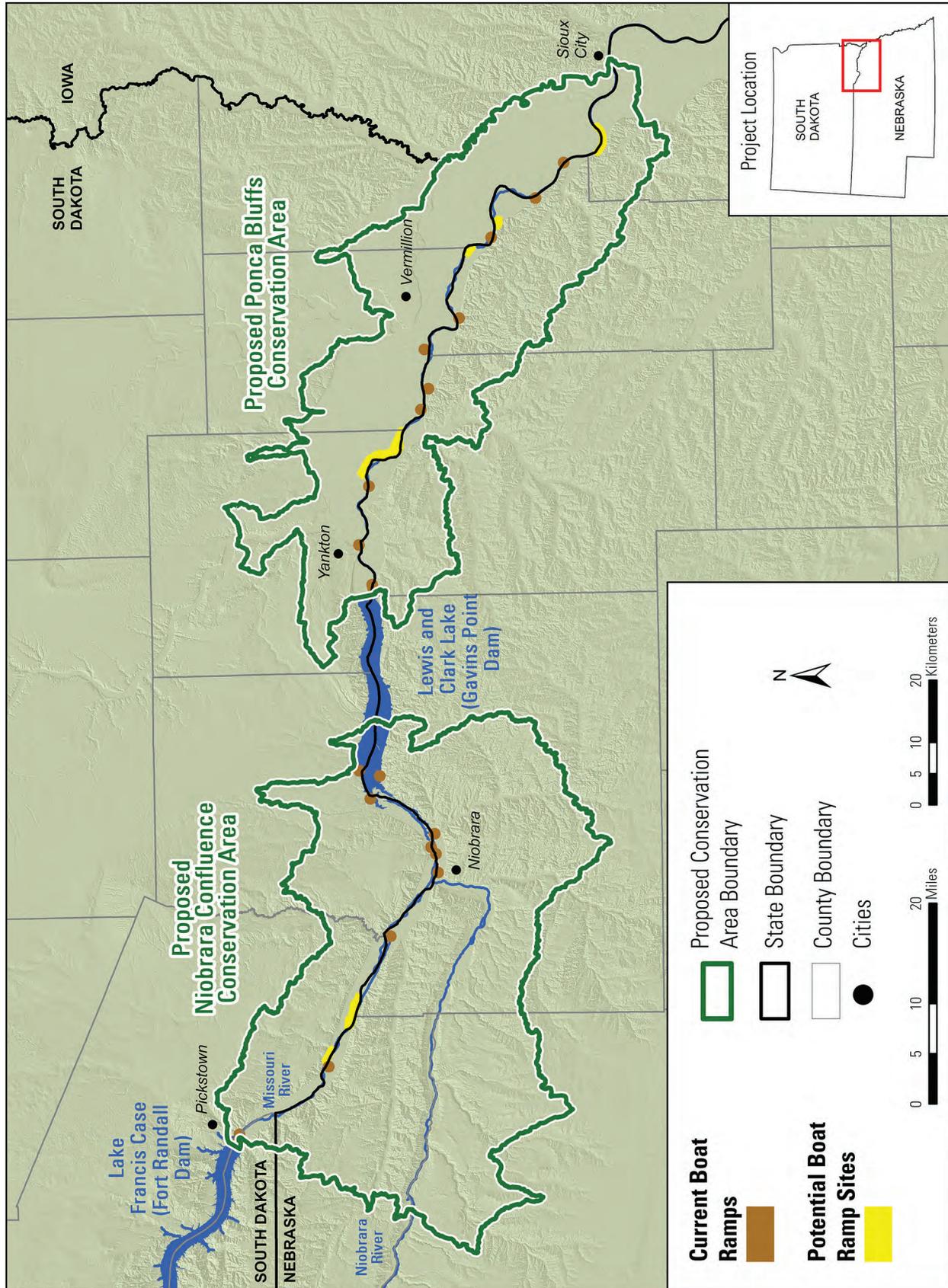


Figure 9. River access points in the proposed Niobrara Confluence and Ponca Bluffs Conservation Areas, Nebraska and South Dakota.

ignating a boundary length modifier, the user can generate a more compact reserve system. The landscape can also be classified by cost; this attribute can be as simple as land area, or it can be made more complex and meaningful by accounting for variables such as land costs or metrics of the human footprint.

Because of the flexibility allowed by Marxan, the values for the selected parameters need to be optimized by successive iterations of the program. For this analysis, hexagonal planning units were selected, as these have been shown to result in less fragmented, more efficient reserve networks (Nhancale and Smith 2011). Hexagons encompassed 20 acres (approximately 8.1 hectares), providing resolution that is sufficient for making land protection decisions while covering the project areas in few enough planning units to be computationally manageable. Hexagons already in a permanent protected status (that is, existing conservation easements or land already owned by the FWS or the NPS in fee title) were locked into the model because they typically met the objectives of the NCCA and PBCA. However, lands owned by federally recognized tribes were excluded from the model because discussions and formal consultation with the tribes suggested that other methods would be more viable than land acquisition to achieve conservation goals. Marxan was run for 100 runs at 100 million iterations. The species-specific data were included as features in the Marxan model. A boundary length modifier of 0.001 was used to create a slightly more compact reserve network. Increasing that value to 0.01 oversimplified the reserve network and did not meet the intent of the NCCA and PBCA.

Targets for protection were set at 50 percent of the land supporting focal species habitats or essential river features (Ecological and Fish and Wildlife ORVs). Targets for Cultural, Geological, Scenic, and Recreation ORVs were set at 25 percent of the entire landscape. We developed individual models for each proposed conservation area (figures 10 and 11).

## Evaluation of Easement Potential

As described earlier, acquisition of conservation easements is not a new tool for achieving conservation objectives in the NCCA or PBCA; the Nebraska NRCS holds a number of easements, and nongovernmental organizations hold several easements in the action area. These organizations have missions that are not identical to ours but that share many objectives.

The landscape modeling described above has generated maps of species-specific conservation priorities for each of the focal species, as well as a

consensus map that shows where conservation returns for Federal funds would be maximized for the suite of species examined. Biologists and realty specialists would work cooperatively to use these tools to identify parcels where conservation efforts would result in the greatest benefit to trust species.

When a willing seller approaches us, or if we wish to proactively seek out sellers, the following criteria will guide our decisionmaking:

- *Overall conservation value*—is the property located, in whole or in part, in an area that was selected in 60 percent or more of the spatial conservation priority runs in Marxan?
- *Trust species value*—does the parcel contain priority habitat that was identified in any of the species-specific maps developed as part of this exercise?
- *Previously unidentified conservation value*—if neither of the preceding thresholds is reached, is there another compelling reason (such as promoting critical habitat connectivity, identification of new species of conservation concern, simplified management of an existing refuge unit, or donation of intact or easily restored habitat) that justifies the property's protection?

Nothing in these guidelines is intended to limit the appropriate exercising of discretion and professional judgment by realty specialists and refuge staff. Potential acquisitions would be subject to scrutiny to determine (1) that acquisition would comply with realty policy, and (2) that the habitat for which the property was identified as a priority is, in fact, present on the parcel. As mentioned above, there may also be more reasons why acquisition of interest in a parcel is justified, even if the parcel did not rank highly in models for selected priority trust species at the time that this plan was approved.

## 4.6 Ecosystem Management and Landscape Conservation

The NCCA and PBCA project is a landscape-scale effort to conserve populations of focal species in a highly diverse and endangered ecosystem in the mid-Missouri River basin. Accordingly, it is important that we incorporate the elements of Strategic Habitat Conservation to ensure effective conservation. Stra-

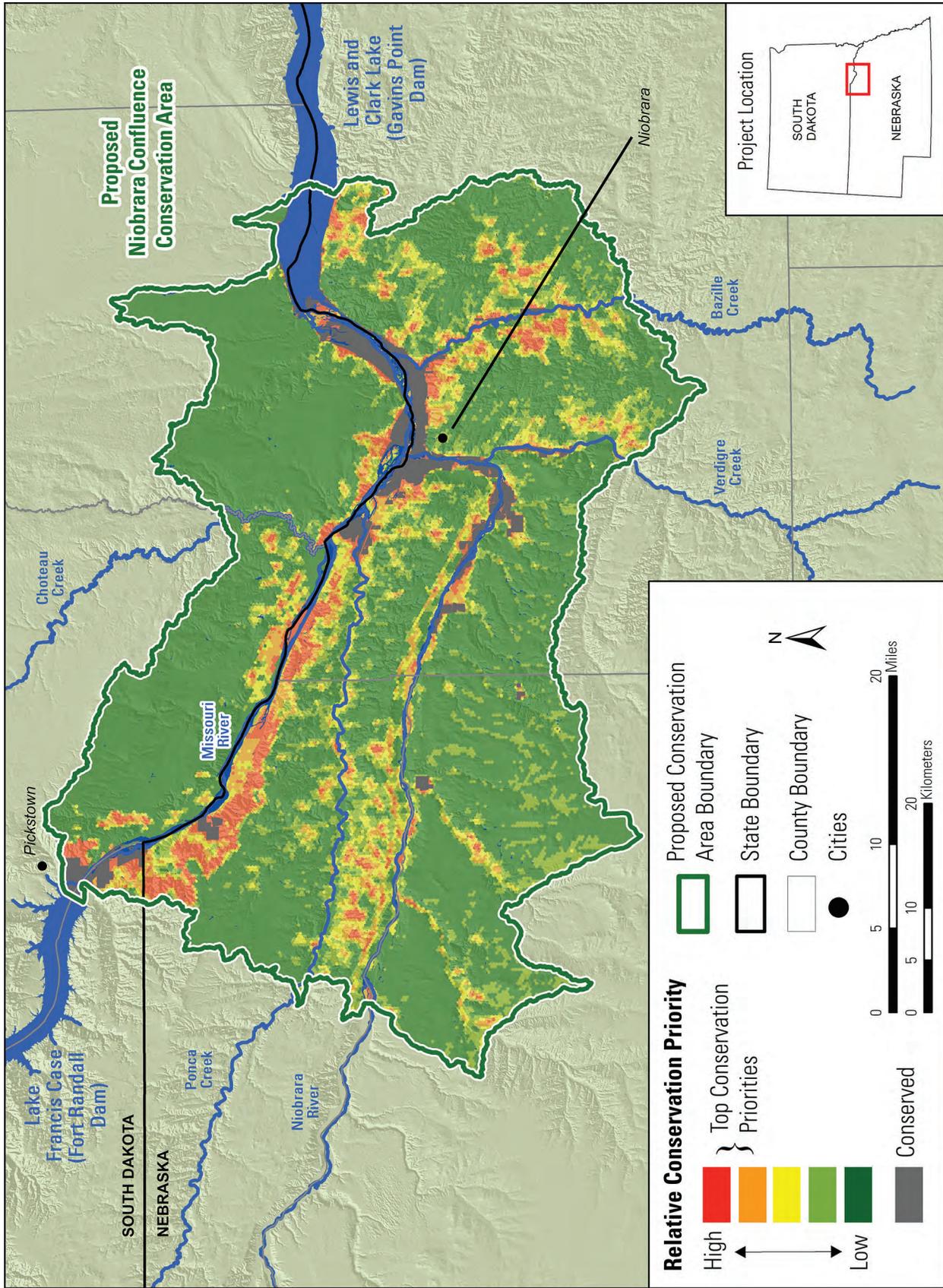


Figure 10. Prioritization map for the proposed Niobrara Confluence Conservation Area, Nebraska and South Dakota.

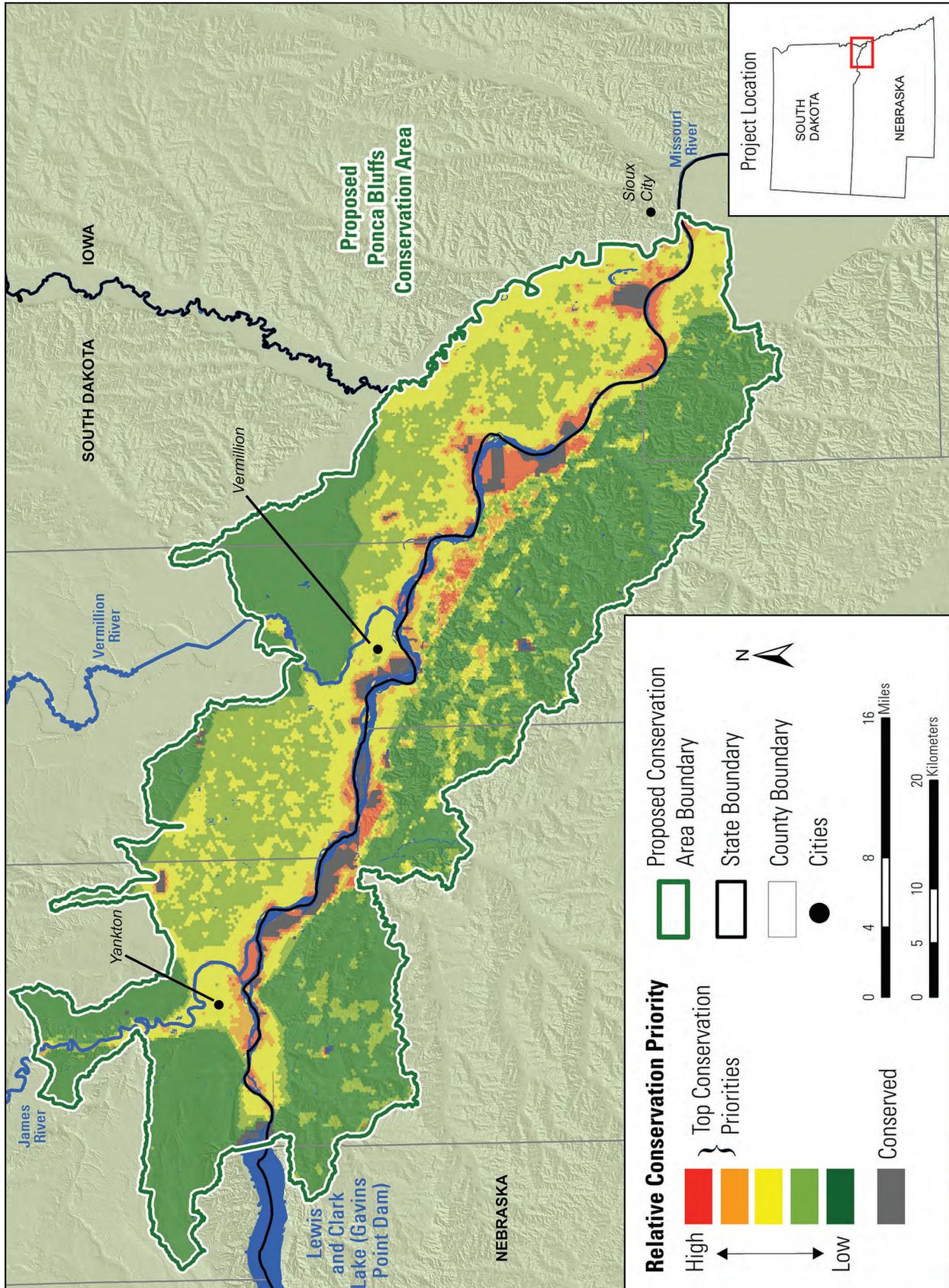


Figure 11. Prioritization map for the proposed Ponca Bluffs Conservation Area, Nebraska and South Dakota.

tegic Habitat Conservation entails strategic biological planning and conservation design integrated with conservation delivery, monitoring, and research at ecoregional scales (figure 12). Some elements of Strategic Habitat Conservation have been addressed in individual species recovery plans developed for federally listed species.

## Biological Planning

Biological planning requires the identification of specific biological objectives for focal species so that the relative success of a strategy can be assessed following implementation. The focal species identified to guide prioritization of the NCCA and PBCA were chosen because of our obligations to them as Federal trust species (candidate, threatened, and endangered species and migratory birds), and because land protection undertaken to help these species is likely to have conservation benefits for other species of conservation concern, such as species that are State-listed as threatened or endangered, FWS-designated Birds of Conservation Concern, and FWS-designated Migratory Birds focal species. For example, millions of migratory waterfowl use this portion of the Missouri River as a migratory stopover site or nest and raise their young here. Consequently, by providing for overall river health and function, the NCCA and PBCA project would help these waterfowl species and would contribute to achieving their population objectives as established by the North American Waterfowl Management Plan.

The focal species were chosen with the knowledge that there are gaps in existing data and that the habitat in the action area is likely to evolve over time in response to environmental changes and changes in human water use. As new data become available or as conditions change to the point that this conservation strategy is no longer effective, biological planning would be revisited.

## Conservation Design

Preventing loss of habitats identified for the suite of focal species is the goal of the prioritization scheme outlined in section 4.5. That process, which would guide the conservation design of the NCCA and PBCA, is intended to maximize the limited available funds while protecting the optimum configuration of available parcels. While the consensus conservation model is primarily meant to guide effective land acquisition, the individual species maps are intended to guide conservation delivery for those species.



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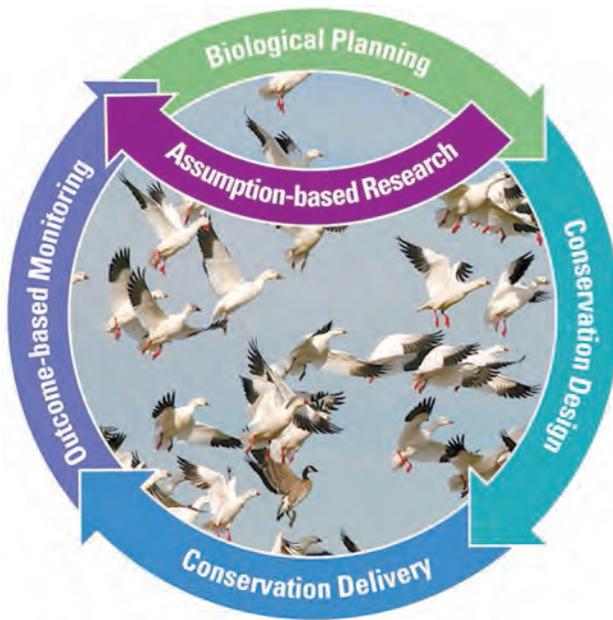
*Upland sandpipers are found in the project area.*

Targets set forth in species recovery plans are pivotal factors in conservation design. The recovery plan for interior least tern requires a minimum of 400 adults along the Missouri River in Nebraska and South Dakota, along with 200 adults along the Niobrara River (FWS 1990). The recovery plan for piping plover requires a minimum of 350 breeding pairs in South Dakota and 465 breeding pairs in Nebraska; however, these numbers are based on statewide goals and are not specific to the NCCA and PBCA (FWS 1988). The population recovery goal for pallid sturgeon is based on an adaptive management approach; many of the populations in the NCCA and PBCA are supplemented by hatchery-raised fish because spawning habitat is limited (FWS 1993). However, the tributaries of the Missouri River (especially the Niobrara River) are suggested to be potential spawning areas.

In the absence of specific population goals for the other focal species, no acreage numbers or breeding pair densities have been identified. Following the principle that between 25 and 75 percent of a region must be conserved to meet targets for biodiversity (Noss et al. 2012), the initial target for easement delivery is to protect 50 percent of priority habitat for the other focal species that now exists on private lands. As evolving survey data inform the role of the NCCA and PBCA in meeting specific regional or continental population objectives for other species, the delivery of easement and limited fee-title acquisition can be adjusted accordingly.

## Conservation Delivery

Strategic conservation easements and minimal fee-title acquisition are an effective means to conserve rivers, grasslands, and forestland habitats and aid in restoration efforts. However, programs like the FWS's Partner's for Fish and Wildlife are also avail-



**Figure 12. Strategic habitat conservation.**

able to work with landowners if a conservation easement or fee-title acquisition is not an option for the landowner. Application of the Strategic Habitat Conservation framework would build on existing partnerships and support the development of new partnerships for delivering conservation throughout the ecoregion.

Conservation design would continue to involve the development of spatially explicit decision support tools for targeting conservation delivery actions. Research and monitoring results would be used to update the modeling parameters that necessary to develop future conservation priorities.

## Monitoring and Research

An effective monitoring program is an essential component of strategic habitat conservation. Rigorous monitoring ensures that conservation delivery is resulting in net positive benefits for the focal species. Monitoring of populations would help ensure the efficacy of the program; if negative population trends for any of the focal species are detected in the conservation areas or at a regional or continental scale, then further literature review or targeted research can be applied to adjust conservation planning for the NCCA and PBCA.

Some of the monitoring phase of strategic habitat conservation can be carried out using the capacity of the refuge or park biologist and the FWS's Inventory and Monitoring assistance. However, it is important to recognize that similar monitoring would be car-

ried out by partner agencies, and communication among these agencies is crucial for effective monitoring in the face of limited staff and financial resources. Furthermore, staff should leverage biological expertise at regional academic institutions to facilitate basic and applied research while addressing research gaps as they are identified.

Specifically, monitoring and research should include the following:

- Develop, improve, and assess landscape models for focal species. Emphasis would be placed on the highest priority species with the greatest degree of uncertainty regarding limiting factors and the effectiveness of management actions—including easement and land acquisition in the conservation areas—at minimizing and reducing the limiting factors for those species. Data from existing surveys such as Breeding Bird Survey routes and the long-term pallid sturgeon population assessment program in the conservation areas would be evaluated and incorporated into spatial models. When necessary, more data would be collected to evaluate assumptions used in the modeling process, and assessments would be adjusted accordingly. These methods would provide an estimate of the population response of trust species on easement lands and non-easement properties. Similar modeling approaches may be developed or incorporated for priority nontrust species in cooperation with partners such as State wildlife agencies, nongovernmental organizations, and universities.
- Evaluate assumptions and address uncertainties identified through the biological planning, conservation design, and conservation delivery elements.
- Identify appropriate population goals for focal species and assess the contribution of land protection toward meeting the population goals. Results of this analysis would allow us and our conservation partners to refine conservation delivery to ensure maximum effectiveness.

## 4.7 Sociocultural Consideration

The human population in the conservation areas is generally sparse, and towns are widely scattered. Farm and ranch ownerships vary widely, ranging from 160- to 5,000-acre blocks; this diversity of ownership helps maintain a heterogeneous landscape. The ranchers' livelihoods depend on natural resources—grass, water, and open space—and the key to protecting the NCCA and PBCA lies primarily in sustaining the current pattern of ranching. However, this area provides an extensive recreational destination for many residents in the four-state area. Maintaining a proper balance between existing agricultural production and recreational opportunities would be a crucial component of the LPP's success. We plan to use conservation easements for approximately 80 percent of all conservation actions to keep working ranches on the landscape, keep private lands on the local tax rolls, and maintain the rural aesthetic that characterizes the area.

## 4.8 Public Involvement and Coordination

### Scoping

Public scoping began in February 2012 when we published a notice of intent to prepare an LPP and EIS in the Federal Register on February 15, 2012. We conducted five public meetings during scoping, mailed a planning update, posted information on the LPP Web page, and coordinated with Federal, State, and local agencies and Native American tribes.

An important consideration in the development of this plan—including the vision, goals, objectives, and strategies—is the opinions, perspectives, and values of all interested citizens, agencies, and organized groups. While there are no requirements to base management decisions on public opinion, we value and consider input from the public. As detailed in appendix B, we have consulted with Native American tribes and actively involved Federal and State agencies, local governments, organizations, and private citizens throughout the process.

## Draft EIS and LPP

Following publication of the notice of availability in the Federal Register, there will be a 60-day public comment period of the draft EIS and LPP. In addition we will hold public meetings to talk about the EIS and draft LPP and gather public comments. Public comments may be submitted at the public meetings, to the project Web site, or by email or hardcopy at the locations below. All public comments must be received by the dates listed in the notice of availability or public news releases.

## 4.9 Distribution and Availability

We are distributing the EIS (with the associated draft LPP in the same volume) to the project mailing list, which includes Federal and State legislative delegations, tribes, agencies, landowners, private groups, and other interested individuals. Copies can be requested.

Copies of the EIS and information about public meetings are available by visiting the project Web site or by contacting the FWS by email, postal mail, phone, or in person.

- *Web site*—<http://www.parkplanning.nps.gov/niob-ponca>
- *Email*—[niobrara\\_ponca@fws.gov](mailto:niobrara_ponca@fws.gov)
- *Telephone*—303 / 236 4387
- *Address*—  
U.S. Fish and Wildlife Service  
Attention: Nick Kaczor  
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