

Report to Congress for Future Water Resources Development (WRRDA 7001) Submission Package

Proposal Name: Lower Platte Watershed, Nebraska (NWO) Aquatic Ecosystem Restoration

Submission Date: 08/09/2017

Proposal ID Number: 1f0abc98-ea62-4cbb-afb7-dffc7061b1d

Purpose of Proposal: The primary issue this comprehensive study will address is assessing degraded ecosystem habitats along the Lower Platte River of eastern Nebraska. Transportation infrastructure, bank stabilization, levees, irrigation, and other encroachments and land use changes have degraded riverine and flood plain habitats along the Lower Platte River. This river reach encompasses a portion of the internationally significant Central Flyway, contain regionally important environmentally sensitive areas, critical habitats for three federally listed species (interior least tern, piping plover & pallid sturgeon) and several state listed species of concern, but is also home to over 50% of the total population in the State of Nebraska. This region of the State is seeing continued population growth and increases in development are putting even more pressure on these habitats. Remnant riparian cottonwoods & upland hardwoods provide wintering sites for bald eagles and shelter & nesting habitat for neo-tropical migratory birds. Remnant wetlands include the Todd Valley and Saline Wetlands within the Salt Creek Watershed. The goal of the study would be to develop an integrated water resource development plan to restore riverine & floodplain habitats by improving natural channel forming processes, restoring connectivity between the river & its floodplain along the corridor, and restoring side channel and wetland/riparian habitats to support native species. Restoration objectives would contribute to habitats that support the special status species listed but would aim for restoring the overall abundance & quality of habitats available contributing to system connectivity & biodiversity without limiting objective to those species. The study presents an opportunity to develop a comprehensive plan that could also be used by the State of Nebraska and regional & local governments to guide on-going and future development that supports critical social and economic values in a sustainable manner.

1. Administrative Details

Proposal Name: Lower Platte Watershed, Nebraska (NWO) Aquatic Ecosystem Restoration

by Agency: Lower Platte South Natural Resources District

Locations: NE

Date Submitted: 08/09/2017

Confirmation Number: 1f0abc98-ea62-4cbb-afb7-dffc7061b1d

Supporting Documents

File Name	Date Uploaded
Lower Platte Watershed Letter of Support.pdf	08/09/2017
Lower Platte Watershed Section 5104 WRDA Act of 2007 Authorization.pdf	08/09/2017
Lower Platte Watershed Study Area.pdf	08/09/2017

2. Provide the name of the primary sponsor and all non-Federal interests that have contributed or are expected to contribute toward the non-Federal share of the proposed feasibility study or modification.

Sponsor	Letter of Support
Lower Platte South NRD(Primary)	The Lower Platte South NRD has served as the lead/host sponsor for the Lower Platte River Corridor Alliance (LP RCA) since it was created in 1996. The mission and goals of the LPRCA and the Lower Platte South NRD remain to protect and enhance the Platte River for the common good of all people. The Lower Platte South NRD has budgeted funds again this fiscal year in hopes that we will receive a planning start for this study. We are ready, willing and able to participate in this study.
No Data	Attached

3. State if this proposal is for a feasibility study, a modification to an authorized USACE feasibility study or a modification to an authorized USACE project. If it is a proposal for a modification, provide the authorized water resources development feasibility study or project name.

Feasibility Study

4. Clearly articulate the specific project purpose(s) of the proposed study or modification. Demonstrate that the proposal is related to USACE mission and authorities and specifically address why additional or new authorization is needed.

The primary issue this comprehensive study will address is assessing degraded ecosystem habitats along the Lower Platte River of eastern Nebraska. Transportation infrastructure, bank stabilization, levees, irrigation, and other encroachments and land use changes have degraded riverine and floodplain habitats along the Lower Platte River. This river reach encompasses a portion of the internationally significant Central Flyway, contain regionally important environmentally sensitive areas, critical habitats for three federally listed species (interior least tern, piping plover & pallid sturgeon) and several state listed species of concern, but it is also home to over 50% of the total population in the State of Nebraska. This region of the State is seeing continued population growth and increases in development are putting even more pressure on these habitats. Remnant riparian cottonwoods & upland hardwoods provide wintering sites for bald eagles and shelter & nesting habitat for neo-tropical migratory birds. Remnant wetlands include the Todd Valley and Saline Wetlands within the Salt Creek Watershed. The goal of the study would be to develop an integrated water resource development plan to restore riverine & floodplain habitats by improving natural channel forming processes, restoring connectivity between the river & its floodplain along the corridor, and restoring side channel and wetland/riparian habitats to support native species. Restoration objectives would contribute to habitats that support the special status species listed but would aim for restoring the overall abundance & quality of habitats available contributing to system connectivity & biodiversity without limiting objective to those species. The study presents an opportunity to develop a comprehensive plan that could also be used by the State of Nebraska and regional & local governments to guide on-going and future development that supports critical social and economic values in a sustainable manner.

5. To the extent practicable, provide an estimate of the total cost, and the Federal and non-Federal share of those costs, of the proposed study and, separately, an estimate of the cost of construction or modification.

	Federal	Non-Federal	Total
Study	\$2,250,000	\$750,000	\$3,000,000
Construction	\$9,750,000	\$3,250,000	\$13,000,000

Explanation (if necessary)

A number of local and state entities will participate during the study and construction phases of this project. Developing a shared vision to address the needs of the basin for ecosystem restoration, resiliency, recreation and flood risk is of interest to all. We feel the Watershed Plan will identify a combination of project funding or implementation under the 5104 authority or another of the USACE CAP authorities. Whereas, some other projects will be ones that the NRDs, counties, communities, and State can partner together to accomplish. The NRD's are local political subdivisions of the State with local taxing authority to fund studies and projects such as the Lower Platte Watershed Study.

6. To the extent practicable, describe the anticipated monetary and nonmonetary benefits of the proposal including benefits to the protection of human life and property; improvement to transportation; the national economy; the environment; or the national security interests of the United States.

The Lower Platte Watershed will benefit from projects that address ecosystem restoration and flood risk management. We anticipate this study will identify projects that will be compatible and beneficial to all. Local support to implement the recommendations of the study will only result if the projects will result in benefits that exceed the cost. Protecting the resources of the Lower Platte Watershed will benefit the public water supplies, transportation, protection of life and property, and the environment. A comprehensive study of the area is the first step in identifying a vision for the region that will serve as a framework for identifying and implementing improvements in the future. We anticipate the benefits resulting from the projects identified in this study and implemented will far exceed the cost.

7. Does local support exist? If 'Yes', describe the local support for the proposal.

Yes

Local Support Description

The Lower Platte River Corridor Alliance formed by three NRDs and six state agencies: The Nebraska Departments of Natural Resources, Environmental Quality, Health & Human Services, and Military, the Nebraska Game & Parks Commission and the University of Nebraska's Conservation & Survey Division and Water Center. The Alliance works closely with and supports county and city governments in the exercise of their statutory authorities affecting water and other natural resources and land use management, and with the Corps of Engineers and other federal agencies. The Alliance's mission is to "foster the development and implementation of locally drawn strategies, actions and practices to protect, enhance, and restore the vitality of the river's resources".

8. Does the primary sponsor named in (2.) above have the financial ability to provide for the required cost share?

Yes

Primary Sponsor Letter of Support

(As uploaded)

Lower Platte Watershed Letter of Support.pdf



LOWER PLATTE SOUTH natural resources district

3125 Portia Street | P.O. Box 83581 • Lincoln, Nebraska 68501-3581 | P: 402.476.2729 • F: 402.476.6454 | www.lpsnrd.org

April 4, 2017

Colonel John W. Henderson, P.E., Commanding
United States Army Corps of Engineers, Omaha District
1616 Capitol Ave.
Omaha, NE 68102-4901

RE: Lower Platte River Watershed Restoration, Nebraska – Aquatic Ecosystem Restoration
Comprehensive Study – Letter of Intent.

Dear Colonel Henderson:

A comprehensive study is needed to better assess degraded ecosystem habitats and identify potential actions to achieve and sustain a healthier river ecosystem in the Lower Platte River Watershed. The Lower Platte River Watershed provides the water supply to over 50% of Nebraska's population who depend on the Platte River for drinking water. The 24 communities and 8 counties within the Lower Platte River Corridor constitute the area of the State with the largest sustained population growth.

The Lower Platte River is also home to three federally threatened and endangered species and additional species of concern. The increasing population and changes in land use in the watershed along the Lower Platte River pose significant challenges to continue to protect and maintain necessary quality habitat and water supply. The Lower Platte River Corridor Alliance (LPRCA) continues to work collaboratively to address these issues but additional study is needed to integrate data to identify projects that can be conducted across the watershed to restore degraded habitat and provide immediate and multiple benefits to the watershed.

The Lower Platte South NRD, on behalf of the Lower Platte River Corridor Alliance stands ready and able to serve as the local sponsor for this project and to cost share at a rate of 75%-25% on this comprehensive study currently estimated to cost \$3,000,000.

Sincerely,

Paul D. Zillig
General Manager

cc: John Miyoshi, General Manager – Lower Platte North NRD
John Winkler, General Manager – Papio-Missouri River NRD



Additional Proposal Information

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**Lower Platte Watershed Section 5104 WRDA Act of 2007
Authorization.pdf**



**US Army Corps
of Engineers**

Lower Platte Watershed, Nebraska (NWO)

Aquatic Ecosystem Restoration

Authorization: Section 5104, Water Resources Development Act of 2007 (P.L. 110-114).

SEC. 5104. LOWER PLATTE RIVER WATERSHED RESTORATION, NEBRASKA.

(a) **IN GENERAL.**—The Secretary may cooperate with and provide assistance to the Lower Platte River natural resources districts in the State of Nebraska to serve as non-Federal interests with respect to—

(1) conducting comprehensive watershed planning in the natural resource districts;

(2) assessing water resources in the natural resource districts; and

(3) providing project feasibility planning, design, and construction assistance for water resource and watershed management in the natural resource districts, including projects for environmental restoration and flood damage reduction.

(b) **FUNDING.**—

(1) **FEDERAL SHARE.**—The Federal share of the cost of carrying out an activity described in subsection (a)(1) shall be 75 percent.

(2) **NON-FEDERAL SHARE.**—The non-Federal share of the cost of carrying out an activity described in subsection (a) may be provided in cash or in kind.

(c) **AUTHORIZATION OF APPROPRIATIONS.**—There is authorized to be appropriated to the Secretary to carry out this section \$12,000,000.

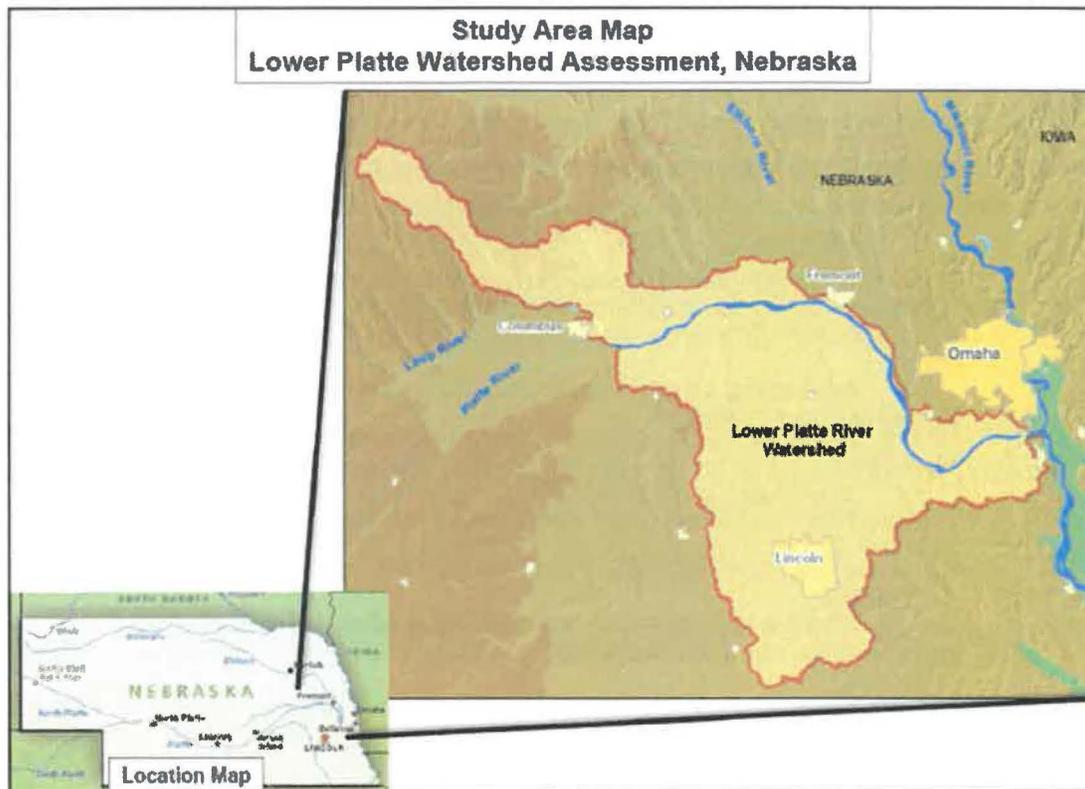
Sponsors and Letter of Intent (LOI):

Most recent Letter of Intent was received from the Lower Platte South Natural Resources District dated April 13, 2016.

Project Location Description (see Map):

The Lower Platte Study area includes the lower 110 miles of the Platte River from Columbus, Nebraska to the mouth. The study area includes 24 communities and 8 counties including over 50-percent of the population in the State of Nebraska. The Lower Platte River is a wide, braided, sand-bed stream and serves as the defining river system of the Central Plains. The Upper end of the Lower Platte Basin includes the Loup River watershed which drains much of the Nebraska Sand Hills. The Salt Creek watershed along the southern edge of the Lower Platte Basin is the only saline wetlands complex in the State of Nebraska and the only known habitat worldwide for the endangered Salt Creek tiger beetle (over 90% has been degraded or lost due to development). Underlying the Central and Lower Platte is the Ogallala Aquifer which is the largest groundwater aquifer in North America. The in-stream, floodplain, and wetland/riparian habitat along the Lower Platte River forms a critical connection between habitats along the Missouri River and those along upper reaches of the Platte River as well as its tributaries.

Lower Platte is classified as a mid-order, warm water river. Historically the river itself has been frequented by endangered pallid sturgeon and many other at risk species such as blue sucker, lake sturgeon, plains topminnow, sturgeon chub, and pimpleback mussels. Sandbars within the river channel are used as nesting sites for endangered interior least terns and threatened piping plovers. Other aquatic and terrestrial species which are dependent on wetlands and riparian areas along the river corridor are also at risk including: wood thrush, Blandings turtles, North American river otters, massasauga, and Bell's vireo.



Problems and Opportunities:

The primary issue this comprehensive study will address is assessing degraded ecosystem habitats along the Lower Platte River of eastern Nebraska. Transportation infrastructure, bank stabilization, levees, irrigation, and other encroachments and land use changes have degraded riverine and floodplain habitats along the Lower Platte River. This river reach encompasses a portion of the internationally significant Central Flyway, contains regionally important environmentally sensitive areas, and critical habitats for three federally listed species and several state listed species of concern, but is also home to over 50% of the total population in the State of Nebraska. This region of the State is seeing continued population growth and increases in development are putting even more pressure on these habitats. The Nebraska Natural Legacy Project identified 17 at-risk native species at risk on the Lower Platte including: interior least tern, piping plover, pallid sturgeon, blue sucker, sturgeon chub, lake sturgeon, Blanding's turtle, western prairie fringed orchid, wood thrush, Bell's vireo, and North American river otter. The Lower Platte is frequented by endangered pallid sturgeon during spring runoff and its numerous sandbars are used for nesting by endangered interior least terns and threatened piping plovers. Remnant riparian cottonwoods and upland hardwoods provide wintering sites for an average of 45-50 bald eagles and shelter and nesting habitat for neo-tropical migratory birds. The Association of State Wetlands Managers estimates that the State of Nebraska has lost approximately 35% of its historic wetlands, and the 1991 Nebraska Wetlands Priority Plan identifies acquisition and restoration of remnant wetlands along the Lower Platte River corridor, the Todd Valley (adjacent wetlands in the vicinity of the Lower Platte), and the Saline Wetlands within the Salt Creek Watershed as priority sites.

The goal of the study would be to develop an integrated water resource development plan to restore riverine and floodplain habitats by improving natural channel forming processes, restoring connectivity between the river and its floodplain along the corridor, and restoring side channel and wetland/riparian habitats to support native species. Restoration objectives would contribute to habitats that support the

special status species listed but would aim for restoring the overall abundance and quality of habitats available contributing to system connectivity and biodiversity without limiting objectives to those species. The study presents an opportunity to develop a comprehensive plan that could also be used by the State of Nebraska and regional and local governments to guide on-going and future development that supports critical social and economic values in a sustainable manner.

Budget Criteria:

Habitat Scarcity: Unique sand bed, braided large river system (NAS); 35% wetlands loss (ASWM); 90% saline wetlands loss (Natural Legacy Project); invasive vegetation encroachment (Natural Legacy Project); and multiple ESA species. The Lower Platte is a critical large river tributary to the Missouri River system providing vital fish, wildlife, and bird habitat including breeding/spawning and rearing habitat. **Score = 25**

Connectivity: Direct reconnection of main channel to backwaters, chutes, and floodplain (where feasible) along 110 miles of river providing linkages to habitats in the Central Flyway, the Nebraska Sand Hills, and the Salt Creek Saline Wetlands for threatened and endangered species and species of concern. **Score = 18**

Special Status Species: USFWS 1994 Biological Opinion on Platte River operations. Platte River Recovery Implementation Program, basin-wide effort by Department of Interior, CO, NE, & WY for Endangered Species Habitat on the Central Platte, authorized 8 May 2008. 17 at-risk native species (Nebraska Natural Legacy Project) on the Lower Platte. 40-50 over-wintering bald eagles annually. Internationally unique and endangered Salt Creek tiger beetle. **Score = 10**

Hydrologic Characteristic: The Loup and Elkhorn Rivers and Salt Creek tributaries provide a more stable flow regime on the Lower Platte than other reaches of the river. Opportunities to improve flows on the Central Platte are underway by others and the study would investigate opportunities to capitalize on integrating the restored flows into furthering the value of restored habitats on the Lower Platte. Study integrates water resource management, including critical for water supplies for Omaha and Lincoln, which rely on the alluvial aquifer beneath the river. **Score = 15**

Geomorphic Characteristic: Study aims to restore best attainable condition characteristics of the unique braided river, including allowing natural meanders and geographic functions through obstruction removal, reconnection of floodplain habitat, and restoration of habitat form including actions that will assist in maintaining natural formation and maintenance of sandbars, multiple channels, and floodplain processes. The more stable flow regime of the Lower Platte sustains some scouring flows and meandering processes. **Score = 15**

Self-Sustaining: N/A **Score = ##**

Plan Recognition: Links to Platte River BiOp, USFWS recovery plans for pallid sturgeon, interior least tern, and piping plover. Links to the Lower Platte Basin-Wide Water Management Plan under development in 2016. **Score = 10**

Budget Criteria Summary: The Comprehensive Plan will leverage and synthesize data from numerous projects being carried out by the Corps and others and apply a systems-approach to restoring and reconnecting habitats producing immediate and sustainable benefits for this river system. The Plan will identify key stressor variables affecting the habitats and linkages to potential restoration opportunities. The study will culminate in an integrated water resource management plan identifying a suite of actions that restore these habitats and shape future development actions in a manner that sustains and preserves the Lower Platte as a critical resource supporting ecological, social, and economic values. The study will formulate an implementation strategy that the local

sponsor can then use to pursue project funding through federal, state, local, and non-profit means. Comprehensive restoration and integration of water resources needs on the Lower Platte River is both regionally and nationally significant, and the study will set the stage for achieving that end through collaboration and partnerships.

Regionally Significant: The Lower Platte River provided critical regional and national benefits as a unique and scarce large braided river system. The river is a priority area for FWS and the Nebraska Game and Parks Commission due to its critical role in the Central Flyway, importance to federal and state listed species and its importance to fisheries resources on both the Platte and Missouri Rivers. The study area specifically links the Central Platte and Missouri River regions that have specific BiOp actions, and potential exists to restore connectivity throughout the reach. **Total Score = 63 [Y]**

Nationally Significant: N/A Total Score = 63 [N]

Relationship to Corps or Projects Funded by Other Agencies: The Corps has constructed several FRM projects and one AER project within the Lower Platte Basin historically, and is currently studying flood risks in the vicinity of the City of Fremont which has one of the highest flood risks in the state with the entire City being located in the Platte River floodplain. The State of Nebraska Department of Roads has been improving highway transportation networks in eastern Nebraska in response to population growth and traffic volumes. NRCS and others have established several wetland restoration sites along the Platte River. The Department of Interior and States of Wyoming, Colorado, and Nebraska are partnering on implementation of the Platte River BiOp on the Central Platte River upstream from the study area reach.

Map Document

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Lower Platte Watershed Study Area.pdf

