

MEMORANDUM

TO: Programs, Projects and Operations Subcommittee

FROM: Marlin J. Petermann, Assistant General Manager

SUBJECT: Lower Platte Watershed Restoration, Nebraska-  
Aquatic Ecosystem Restoration Comprehensive Study

DATE: July 31, 2017

---

Through the Lower Platte River Corridor Alliance (LPRCA), the Papio-Missouri River, Lower Platte North and Lower Platte South NRDs achieved Congressional authorization of Section 5104-Lower Platte River Watershed Restoration, Nebraska in the 2007 Water Resources Development Act (WRDA). The authorization allows the US Army Corps of Engineers, along with the 3 Lower Platte Natural Resources Districts, to conduct a comprehensive watershed study for environmental restoration and flood damage reduction. However, as of 10 years later, Congress has not appropriated any funds toward the study.

In an effort to encourage Congressional funding, the Lower Platte South NRD (on behalf of the LPRCA) submitted a Letter of Intent to USACE last year to sponsor a “new start” comprehensive watershed study. The Watershed Study on the Lower Platte and its tributaries would accomplish the following (see attached fact sheet):

1. Characterize needs of the basin for flood risk, ecosystem restoration, recreation, resiliency, etc;
2. Develop a shared vision to potentially serve as a framework for future land use decision making;
3. Identify projects that contribute towards realizing that vision; and
4. Prepare an implementation strategy, which would prioritize how to achieve that vision.

The study presents an opportunity to develop a comprehensive plan that could also be used by state, regional and local governments to guide ongoing and future development that supports critical social and economic values in a sustainable manner.

Of particular interest to the Papio-Missouri River NRD is a comprehensive study and future funding of construction projects in the Southern Sarpy watershed portion of the District. The NRD and other local jurisdictions recently formed the Southern Sarpy Watershed Partnership to develop and implement strategies for comprehensive watershed management in this soon to be urbanized area. Federal assistance in planning and constructing comprehensive storm water management (flood risk reduction) and stream degradation projects (ecosystem restoration), as the watershed develops, would be of great benefit to the Partnership.

Enclosed is a proposed Letter of Intent to USACE from the three Lower Platte NRDs requesting the comprehensive study be done at a maximum total \$3 million estimated cost. As local sponsors, the NRDs would fund 25% of the study (up to \$250,000 each) over a three year period.

**Management recommends that the Programs, Projects and Operations Subcommittee recommend to the Board of Directors that the General Manager be authorized to execute the proposed Letter of Intent for the Lower Platte River Watershed, Nebraska-Aquatic Ecosystem Restoration Comprehensive Study, contingent upon approval by the Lower Platte North NRD and the Lower Platte South NRD and subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**

File 186: LPR Watershed Restoration PPO memo 7-31-17



8901 S. 154th St.  
Omaha, NE 68138-3621  
(402) 444-6222



**LOWER PLATTE NORTH  
Natural Resources District**

511 Commercial Park Road  
P.O. Box 126  
Wahoo, NE 68066  
(402) 443-4675



**LOWER PLATTE SOUTH  
NATURAL RESOURCES DISTRICT**

3125 Portia Street  
P.O. Box 83581  
Lincoln, NE 68501-3581  
(402) 476-2729

---

September 1, 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 NRD's continue 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 NRD's stand 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,

John Winkler  
General Manager  
Papio-Missouri River NRD

John Miyoshi  
General Manager  
Lower Platte North NRD

Paul D. Zillig  
General Manager  
Lower Platte South NRD

-----Original Message-----

From: Johnson, John Greg (Greg) CIV USARMY CENWO (US) [mailto:Greg.Johnson@usace.army.mil]

Sent: Tuesday, March 14, 2017 4:07 PM

To: Paul Zillig

Cc: John Miyoshi; Winkler, John; Petermann, Marlin; David Potter; tmountford@lpnnrd.org; Thompson, Bradley E CIV USARMY CENWO (US)

Subject: LPRCA: USACE Lower Platte Watershed Study -- Potential New Start (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Paul and everyone:

I think our initial strategy would be to do a Watershed Study on the Lower Platte and its tributaries (similar to an integrated water resources plan) which would accomplish the following:

- 1) characterize needs of the basin for flood risk, ecosystem restoration, recreation, resiliency, etc...;
- 2) develop a shared vision to potentially serve a framework for future land use decision making;
- 3) identify projects that contribute towards realizing that vision; and
- 4) prepare an implementation strategy which would prioritize how to achieve the vision.

In my opinion, it seems likely that a portfolio of projects could come out of the Watershed Plan. Some of the flood risk management, ecosystem restoration, and/or combination projects might be good candidates for implementation under the 5104 authority or another of the USACE CAP authorities. Whereas, some other projects might be things that the NRDs, counties, communities, and/or non-profits could look to implement on their own through other means. In the end, no matter how the individual projects get implemented they all contribute towards the ultimate goals and vision.

To me having all of the partners and stakeholders prepare a single integrated plan/vision with a strategy for how to proceed would be a good first step, and it feels like we have a lot of existing data and information to build upon to help move it forward pretty efficiently. Having an approved, integrated plan should make it easier to budget for individual projects through USACE and/or compete for grant funding from another federal agency or non-profit.

Let me know if you have any thoughts or further questions or if you would like to schedule a time to meet and discuss.

Thanks,  
Greg

J. Greg Johnson  
Chief, Plan Formulation and Project Management Section Planning Branch U.S. Army Corps of Engineers - Omaha District



**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.

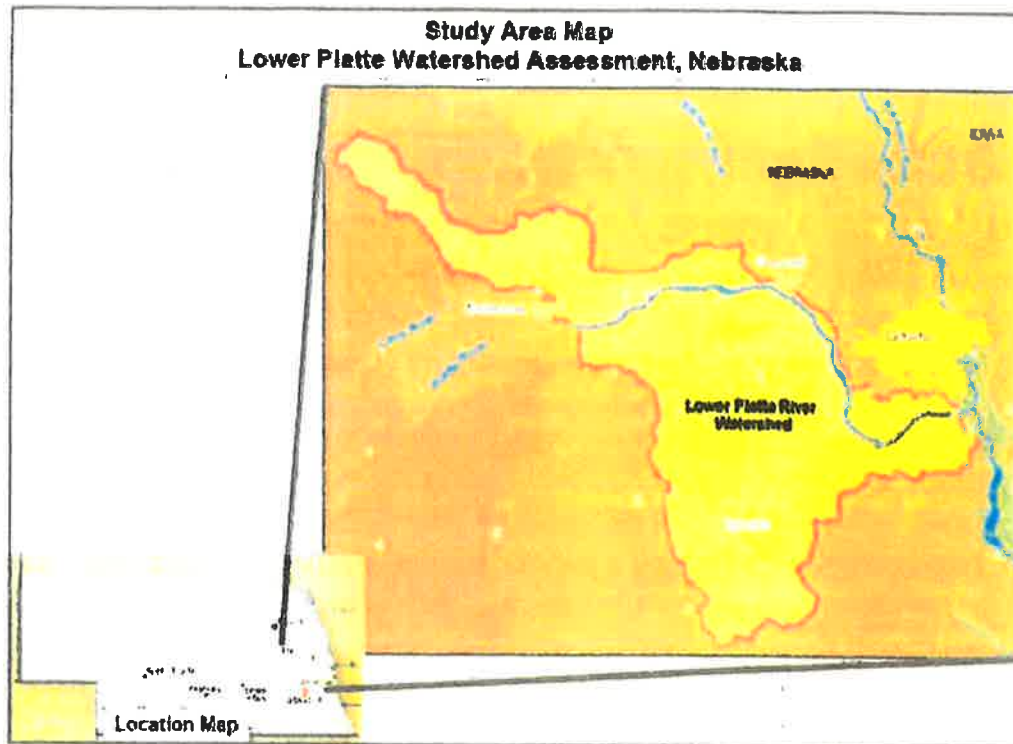
#### **Sponsors and Letter of Intent (LOI):**

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.