



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -OR- PROGRAM)

TO: GOVERNANCE COMMITTEE (GC) AND TECHNICAL ADVISORY COMMITTEE (TAC)
FROM: EXECUTIVE DIRECTOR'S OFFICE (EDO)
SUBJECT: 2024 CHANGES TO UNL PALLID STURGEON RESEARCH
DATE: FEBRUARY 26, 2024

I. CONTEXT

The Extension Science Plan prioritizes learning about how much water is needed to provide Program-defined benefits to target species and how to best allocate this water. Accordingly, Extension Big Question (EBQ) #7 asks *"What are the effects of Program flow management to benefit whooping crane, piping plover, and interior least tern in the central Platte River on pallid sturgeon in the lower Platte River?"* To address this question, the Program is working its way through the Pallid Sturgeon Framing Document¹ which outlines a three-step process for synthesizing information from pallid sturgeon habitat research with hydrologic and hydraulic modeling efforts to identify potential impacts and benefits to pallid sturgeon in the lower Platte from Program water management in the central Platte. As the first step in the process, the Program is actively engaged in a collaborative research project with the University of Nebraska-Lincoln (UNL) with the following four objectives:

1. Identify relations among environmental conditions with the timing and extent of pallid sturgeon movement into and within the LPR.
2. Identify pallid sturgeon spawning habitat in LPR.
3. Verify successful spawning in LPR.
4. Collect pallid sturgeon genetic samples for further population and hybridization assessment.

II. INITIAL ASSESSMENT

After two years of data collection (2022-2023), the UNL research team performed an evaluation and concluded ichthyoplankton trawling to collect pallid free embryos or larvae was a large investment in time and effort with almost no potential for yielding information that would be useful for informing Program water management decisions. Time spent on this activity would be better spent filling in locational data on pallid sturgeon use of the lower Platte through reinforcing the passive receiver system and performing more frequent active tracking sweeps to improve pallid detection as they move within the system to help link movement with environmental conditions. The Technical Advisory Committee (TAC), Independent Scientific Advisory Committee (ISAC), and EDO reviewed annual reports², discussed potential method changes at the January 2024 TAC meeting³, and reviewed proposed changes with the UNL research team at the 2024 PRRIP Science Plan Reporting Session (SPRS).⁴ All parties in attendance at the SPRS supported and the research team is now implementing the methodological changes presented below in Section III.

¹ [Pallid Sturgeon Framing Document](#)

² [2022 UNL Pallid Sturgeon Annual Report, 2023 UNL Pallid Sturgeon Annual Report](#)

³ [Jan 16-17, 2024 Quarterly TAC Meeting Minutes](#)

⁴ [2024 PRRIP Science Plan Reporting Session](#)



III. 2024 CHANGES TO RESEARCH METHODS

The following changes will be made to UNL Habitat and Spawning Research for the 2024 field season:

- 1) Add additional receivers at state transition points to improve detection efficiency and better determine directionality.
 - Platte-Missouri – add 1-2 receivers.
 - Elkhorn-Platte – add 1-3 receivers directly above the Elkhorn confluence with the Platte, focus on entry/exit.
 - Loup-Platte – add gate in the Platte River upstream of Loup confluence if water levels allow to improve detection of individuals moving further up the Platte beyond the Loup.
- 2) Adjust spring active tracking and prioritization plan.
 - Continuous intensive tracking of reproductive fish will stop in favor of gathering more information on movement of multiple fish throughout the system.
 - Continuous river sweep (both crews sweeping the river weekly):
 - During pre-spawn (~March), spawn (April-May), and post-spawn period (May-early June). Exact times are temperature dependent.
 - Attempt recapture of priority fish upon detecting directional downstream movement to verify spawning if applicable.
- 3) Change egg and larval drift sampling.
 - Cease egg and larval collection via ichthyoplankton trawling:
 - Limited opportunistic egg mat deployment (1-2 days) if fish aggregations and/or female up/downstream movements in localized areas are observed.
 - Effectively terminates work on Objective 3 of the original proposal outside of behavioral observations.