

## Recommendations from ISAC to GC, based on meetings held Oct. 16-18 / 2018.

### 1. State of the Platte Report, AM Plan and Target Flows

#### Recommendations to GC

These three items (State of the Platte Report, AM Plan and Target Flows) are closely intertwined. The ISAC recommends the following sequence of activities:

- a) Complete the State of the Platte Report for the First Increment (to be completed in 2019), providing a summary of what's been learned during the First Increment for each Big Question, with more detail on the still unresolved Big Questions (BQ 3, BQ9, BQ10). This will provide a large part of the scientific basis for new target flows.
- b) Include a section of the State of Platte Report which summarizes what has been learned in the form of conceptual models of the three bird species, pallid sturgeon and their habitats. To help set the stage for an examination of target flows, these conceptual models should be organized around the life cycle of each species when present in the Central Platte, showing what flows and other actions are required to support the species, their prey and their habitats in dry, average and wet years.
- c) Classification of water years should be determined through a defensible statistical process, not based on the historical criteria).
- d) Conduct analyses which explore how to meet the three bird species' needs for water during an extended period of drought over several years, identifying critical management uncertainties for the AM Plan.
- e) Complete tasks identified in the Proposed Approach to Pallid Sturgeon Decision Support (Compass 2018). See item 2 below for additional detail.
- f) Use items a through d to identify additional Big Questions and hypotheses for the revised AM Plan. The revised AM Plan should be short and modular, so it's easy to update over time. Restrict hypotheses to those that are actually testable.
- g) Use the above items (if supported by the GC's decisions) to develop an approach for target flows for all four PRRIP species, incorporating geomorphology, differentiating based on water year, and performing comparisons with both the historical and potential future hydrographs expected in dry, average and wet water years. Organizing species' flow needs by month (or finer time scales) is a critical step prior to examining flow tradeoffs among species.
- h) Rethink both the target flows themselves, and the method of accounting, so as to maintain flow variability (e.g., average flow over a certain period needs to be  $\geq X$  cfs, but should be variable, rather than constantly at X; or using a preferred distribution of flows within each water year to inform water management decisions).
- i) Use above items to develop alternative actions for the extension of the First Increment that builds on items a through g, and recognizes the use of money, water and land for each species (example shown in Table 1)

*Rationale:* Development of a revised AM Plan and new target flows must be based on a solid scientific foundation, as target flows will receive immense scrutiny. The learning gained in the First Increment and from implementation of the Proposed Approach to Pallid Sturgeon Decision Support, when organized into the right form, can greatly improve the scientific foundation for setting target flows.

**Table 1. Example approach to formulating alternatives for SDM exercises. Statistical analyses could lead to more than three types of water years (the Trinity program uses five); three is used here just as an example. OCSW= Off Channel Sand and Water;**

Species	Water Year Type								
	Dry			Normal			Wet		
	\$	Land / Mechanical	Water	\$	Land / Mechanical	Water	\$	Land	Water
<b>Least Tern</b>	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	<i>Maintain flow for food</i>	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	Flow OK without additions	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	Flow OK without additions
<b>Piping Plover</b>	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	<i>Maintain flow for food</i>	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	Flow OK without additions	Maintain OCSW sites; monitor	Maintain OCSW sites; monitor	Flow OK without additions
<b>Whooping Crane</b>	Monitor	<i>Prepare channel to benefit from wet years; Do sediment augmentation</i>	<i>Maintain flow for food and roosting</i>	Monitor	<i>Prepare channel to benefit from wet years; Do sediment augmentation</i>	<i>Piggyback on high flows if possible to widen channel</i>	Monitor	Do sediment augmentation	<i>Piggyback on high flows if possible to have maximum benefit on increasing channel widths.</i>
<b>Pallid Sturgeon</b>	Monitor adult migration, habitat use, spawning	n.a.	<i>Maintain flow to avoid stranding</i>	Monitor adult migration, habitat use, spawning	n.a.	No change in flow until you know more	Monitor adult migration, habitat use, spawning	n.a.	No change in flow until you know more

## 2. Pallid Sturgeon

### Recommendations to GC

The PRRIP should have clear expectations with respect to Program related benefits of proposed research on pallid sturgeon use of the Lower Platte River. This can be best accomplished in the short term by implementing the three tasks for 2019 outlined in the Proposed Approach to Pallid Sturgeon Decision Support (Compass 2018), reviewed by the GC at their September 2018 meeting. For the longer term, the ISAC supports the 2030 decision step described in Compass (2018), and also recommends that Lower Platte River pallid flow issues be embedded as a high-priority subset of the broader target flows topic and updating of the AM Plan during the First Increment Extension (as described above in section 1).

*Rationale:* The Proposed Approach to Pallid Sturgeon Decision Support (Compass 2018) identifies two separate but linked decisions towards progress on pallid sturgeon.

In the short term (2019): What methods of reducing uncertainty should the Program pursue during the Extension to: (a) better understand the role of the Platte in pallid recovery and (b) inform the connection between potential management alternatives and likely consequences on pallids?

For the longer term (2030): What management actions should the Program undertake to best fulfill its obligations to pallid sturgeon in the Program's Second Increment?

The 2019 decision is a 3 task decision process to improve understanding of key questions, uncertainties, and options for reducing the most important uncertainties. This is to be followed by evaluating trade-offs across alternative research portfolios and prioritizing actions aimed at improving understanding of the role the Platte River plays in the recovery of pallid sturgeon. This would entail a facilitated workshop, wherein the GC would review the performance of each alternative across a number of criteria (e.g., reduction in uncertainty, cost, other impacts), to identify which actions to prioritize for implementation. The outcome of this workshop will be a set of high priority field-research, modelling, and/or expert judgment activities aimed at improving understanding of the role of the Platte for pallid sturgeon.

The 2030 decisions require addressing three questions during the First Increment Extension:

- 1) What are the Program's objectives related to pallid sturgeon?;
- 2) What is the range of possible management actions available to the Program to support pallid sturgeon?; and
- 3) How might various actions affect pallid sturgeon and other Program priorities? The answers to these questions will aid in assessing if or how target flows should be used to benefit pallid sturgeon.

Work on the State of the Platte Report, the AMP, target flows and the process outlined by Compass (2018) will determine the direction that the PRRIP will take with respect to pallid sturgeon. This work will help to determine what's known about the relationships between flow and pallid sturgeon, what's not known, the ability of the Program to reduce critical uncertainties, and the ability of the Program to provide potentially beneficial flows for pallid sturgeon.

### **Literature Cited**

Compass Resource Management 2018. Proposed Approach to Pallid Sturgeon Decision Support. Document 14: PRRIP Governance Committee Quarterly Meeting, 12 September 2018, Kearney, NE