



## PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP -or- Program)

### 2023 PRRIP Science Plan Reporting Session (SPRS) – Independent Scientific Advisory Committee (ISAC) Discussion Questions

#### 2023 SPRS Agenda Session #2 – Target Species: Pallid Sturgeon (PS)

- Draft reports from both PS research projects (genetics and habitat/use) are provided for review.
- Both research teams will present at the SPRS.
- General discussion of early results and next steps.

#### 2023 SPRS Agenda Session #3 – Phragmites

##### **ISAC Discussion Questions:**

##### Study design

- 1) What adjustments should be made to the field sampling methods, specifically what number, type, and location of patches should be added/subtracted from the sample?

##### Herbicide

- 2) Given the lack of patches treated with herbicide during June and September 2022, how do we evaluate the effectiveness of the herbicide treatments moving forward? Do we continue with the established protocol, or do we specifically target study patches with herbicide?

##### Inundation flow release

- 3) What would convince you that the June inundation flows are working to control the expansion of Phragmites patches into the channel, and are we collecting the right metrics to test for that?
- 4) How do we isolate the effects of June inundation flows from intra- and interannual variability in hydrology?
- 5) How do we best evaluate the effects of elevated groundwater (potential root interaction/subirrigated conditions) versus inundation by surface water (direct root and stem interaction)?

#### 2023 SPRS Agenda Session #4 – Sediment Augmentation

- Draft Sediment Augmentation Evaluation Outline is provided for review.
- General discussion about whether interpretations are reasonable and next steps.

#### 2023 SPRS Agenda Session #6 – Target Species: Whooping Crane (PS)

##### **ISAC Discussion Questions:**

- 6) Given the results from analysis step 2, what are next steps to explain similarities/differences seen in whooping crane selection patterns?
- 7) How do on-channel and off-channel metrics influence each other?



- 8) Can you suggest an appropriate way to integrate all explanatory variables into the model selection process? A way to observe how on and off-channel metrics may influence each other?
- A previous investigation considered a suite of on-channel and off-channel metrics and only combined important variables from separate model selection processes (<https://platteriverprogram.org/document/correlates-whooping-crane-habitat-selection-and-trends-use-central-platte-river> ).
  - What valid methods (exploratory analysis) would be appropriate to inform variable combinations in model development for selection?

## 2023 SPRS Agenda Session #7 – Wet Meadows

### **ISAC Discussion Questions:**

(Section numbers refer to DRAFT Wet Meadow Hydrology Report, January 2023)

#### Hydroregime (Section 3)

- 9) Is there a better way to summarize area-based statistics? The current method calculates relevant statistics for points and then interpolate to generate areas on which subsequent statistics are calculated. Another option would be to interpolate surface for each timeseries value and calculate statistics for each interpolated grid-cell.
- 10) Previous studies on wet meadow hydroregimes have lacked datasets that incorporate high-spatiotemporal coverage. Is there anything obvious we can do with this data (i.e., hourly groundwater levels) that we haven't already to learn something about wet meadow hydroregimes? Statistically or otherwise?
- 11) Is there anything in this section that seems novel enough for publication?

#### Vegetation-Groundwater Links (Section 4)

- 12) This section uses results from a previous study (Henszey et al., 2004) to evaluate hydrology and vegetation at two Program managed study sites. Are there any aspects of methodology that could be improved?
- 13) Does this seem like a useful management screening tool? If so, what would be a way to package it? White paper?

#### Modeling (Section 5)

- 14) General note: The model described in this section is most useful for deriving calibrated hydraulic parameters that can be used to make predictions. Calibration results include a series of calibrated K and S values that can be input for predictions about how stage changes will affect groundwater levels. It probably shouldn't be used to predict groundwater response to precipitation because it lacks even basic accounting for surface drainage or variably saturated flow, though model results through time show decent fits. If this were to be published, it would require more detailed calibration information and testing.



#### River-Ground surface elevation analysis (Section 6)

15) This method came about from intuition that the elevation of the river surface relative to wet meadow topography was an important control for water levels.

16) Is there a way to quantify relationships between elevation difference and L7th surface rasters? Perhaps a cell-by-cell regression?

17) Is there another standalone analysis that we could perform with the data that could be used to evaluate river-ground surface relationships with respect to wet meadows? Perhaps a simple method that could go hand in hand with this one to support / verify the general findings.

### **2023 SPRS Agenda Session #8 – Non-Program Science**

- Draft Non-Program Science On-Boarding Framework (with Non-Program Science Review Template) is provided for review.
- Three examples of recent publications (combined into a single PDF file) are provided for review.
- Discussion to get general ISAC input:
  - How can we best make this work?
  - How do you integrate science that is not done the same way (different methods, non-comparable variables, etc.) into what we are doing within the structure of the Program?
  - Do you have experience with (or examples of) this kind of issue in other large-scale adaptive management programs?

### **2023 SPRS Agenda Session #9 – PRRIP Science Reporting**

- General discussion of updates to PRRIP science reporting; examples will be provided during the SPRS.