**PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM (PRRIP or Program)**

**Adaptive Management Working Group (AMWG) Virtual Meeting**

November 17, 2020

**Attendees** – **Jeff Runge**, USFWS; **Jim Jenniges**, NPPD; **Dave Zorn**, CNPPID; **Andy Caven**, Crane Trust; **Tom Econopouly**, USFWS; **Mike Drain,** CNPPID; **Brandi Flyr**, CPNRD; **Brock Merrill,** USBR; **Jojo La**, State of Colorado; **Jason Farnsworth, Malinda Henry, Patrick Farrell, Chad Smith** – Executive Director’s Office (EDO)

**Welcome & Administrative**

* Henry welcomed the group and noted the EDO had received several comments regarding the November 3rd meeting summary that may impact the agenda for today’s meeting.
* Henry provided a quick review of the November 3rd meeting and the EDO’s perspective on a Science Plan to address uncertainties related to plover productivity and predation impacts.

**Group Discussion of Science Learning Plan for PP (and LT)**

* The EDO asked for direction from the group on whether they were in agreement on moving forward with developing a science learning plan for gaining information on the impact predation has on PP productivity and the Program’s effectiveness at reducing these impacts.
* A member suggested that predation is one uncertainty, however there are other options for which we have more certainty in terms of their impacts on productivity.
* Are these being suggested as science learning alternatives or management implementation actions?
* The idea is to have more tools in the toolbox for improving productivity than just predator deterrents.
* One member expressed the opinion that the working group’s role is not to develop alternatives, but to develop hypotheses to address uncertainties. There are no real hypotheses to test here, thus no need for Adaptive Management.
* No need for a grand study for which there is often no definite answer or measurable impact, just implement management.
* Can you do better with the information?
* Add variability in site design among sites to test effects.
* Uniformity between sites is also important to test for effects of treatments.
* Resilience is important, make the off-channel sites more self-sustaining.
* Smith outlined a “Science Plan” he is discussing with the GC that integrates both science learning and traditional Adaptive Management elements depending upon whether First Increment uncertainties have been answered or not.
* The science learning for terns/plovers needs to be developed with input from both the EDO and the AMWG.
* For Whooping Cranes and flow there are still fundamental Adaptive Management questions that need to be addressed.
* The predation issue is at the crossroads between management and learning.
* Predation is a constant regardless of management efforts, and long-term fledge ratios remain steady. How do you justify the costs associated with additional management when it is difficult to measure outcome?
* Tern and plover productivity issues do not achieve the level of Big Questions and can be addressed within the appropriate committees as needed as these uncertainties are not detrimental to the Program achieving the management objective.
* Do we need a Science Plan for terns and plovers then?
* The EDO is trying to infuse robust science into our management to address tern and plover concerns in a way that effectiveness of actions can be addressed.
* The goal is to improve and maintain tern and plover nesting habitat and productivity. Options should be explored.
* Costs should be in place for management actions to ensure that this is not a constraint. If money is not limiting, it should not be a consideration. Fully implement on all sites to maximize management objectives.
* There are examples of mature conservation science programs on the CPR with fewer uncertainties compared to other systems. Questions for terns/plovers can be at a smaller scale but still present/uncertain.
* Henry: Do we as a group feel there is more learning to be done to increase tern and plover productivity? Do AMWG members want to participate in developing a plan for science learning for these type of smaller scale uncertainties?
* If there are no BIG QUESTIONS for terns and plover, then comfortable with EDO developing a Science Plan.
* Specifics can come from the EDO, the group can weigh in on the plan, present it to the TAC and then the GC for approval.
* If operating on a local scale, the EDO can just implement. Do it in an experimental way but do it.
* Smith: Does the group want EDO to develop tern and plover science plan for them to react to/comment on and then regroup to discuss whooping crane uncertainties?
* This group could help develop the questions to answer for terns and plovers. The EDO then drafts a science plan to address those questions.

**Talking about Outcomes**

* Smith introduced the GC Policy Frame. Firewall between science questions and ESA coverage through meeting species objectives.
* How do we talk about outcomes to the GC, linking science plan to inform policy discussions?
* Performance indicators are a way to speak about progress meeting management objectives or put up a red flag when management needs to be adjusted.
* Fledge ratios as a single metric can be misleading.
* Go back to Management Objective and discuss differing viewpoints of why or why not being met with explanations in a written statement from the AMWG.
* AMWG members had concerns about meeting objectives with 2 years of low fledge ratios.
* What are the implications of having high losses?
* On member expressed the opinion that AMWG goal is to make a real contribution to the species.
* Investigation of predator/bird/landscape relationships suggested.
* Recent GC meetings suggest that the GC does think we are meeting our objective for tern and plovers.
* Discussion has narrowed the scope to predation, but one member reminds group that we talked about a wider scope with non-predation uncertainties such as water management for on-channel nesting; sediment augmentation; in-channel vegetation management; and/or MCA islands.
* If we fall below threshold, what other actions could be considered?
* What is a sustainable population? Is that an appropriate indicator and how would we figure that out?
* Only a small percent of plover population on the Platte with no plan to increase habitat to maintain a sustainable population.
* Didn’t SDM process conclude 60 acres of habitat meets species objectives?
* Farnsworth iterated SDM process results. New Lexington SG pit purchased and is only remaining habitat to be acquired for terns and plovers.
* Can look at incremental benefits of additional actions on reproduction.
* It was suggested that we need performance indicators and levels to know when birds are not doing well.
* Other members have said that performance indicators appear to be outside the scope of this workgroup.
* A member stated that there is not a standardized protocol for establishing population thresholds because thresholds are based on subjective, user-defined risk in light of uncertainty (i.e., X probability of extinction in Y years; X and Y based on risk tolerance). Furthermore, the member suggested the use of a linear scale as opposed to a “doing well” threshold because a threshold is not of benefit if actions are fully implemented and birds are still not doing well.
* A single metric can be misleading, hard to define good/bad cutoff, and not easily comparable to other systems.
* A suite of metrics (not a single threshold) reflecting overall population resilience comparable to other sub-populations outside the central Platte that include life history considerations (life span) and are in line with what we can control within our system would be useful.
* If multiple metrics are declining, use what is in your management toolbox and within your control to improve.
* One member requested turning to the GC for guidance on inclusion of an additional management objective specific to performance indicators.
* Smith: Proposed EDO develop straw dog science plan for terns and plovers with predation experimental design. Presented to the AMWG for revisions.
* Question regarding timing of initiation of AMWG discussions on development of an AMP for whooping cranes.
* Can the EDO develop a tern and plover science plan while working through whooping crane AM?
* Decided that EDO will develop the tern and plover science plan straw dog for AMWG review over the next month. Dec. 3rd will be our last AMWG virtual meeting for the 2020 year, with the focus on discussing whether or not we think we are meeting the management objective for whooping cranes and brainstorming ideas for BIG QUESTIONS for whooping cranes.

**MS Teams Chat Comments**

* A request was made to have a database of site-level habitat features, predator control efforts, and fledgling rate for analysis.
* Have you examined site (shape, size, meters above median water level, water area, island slope, etc.) AND landscape level features (described below) in association with predation or fledging success in a hierarchical model? I suggest this as landscape features can predict the spatial distribution of mesocarnivores and birds of prey. For instance, distance to road, distance to river, distance to human development, proportion of adjacent landscape within a certain buffer (400m) that is woodland, grassland, agriculture, or human development etc.
* We have started to look at predator associations, site characteristics, and reproductive measures in a similar manner but those analyses are in process as of now.
* There are a number of landscape models predicting mesocarnivore abundance, it could be neat to take a tiered approach to this. First predict where predator abundances may be highest (probably separate models for terrestrial and avian) with landscape features, then examine site-level features impacts on tern and plover production in these contexts. Long-term, a model like this could help you site any future off-channel habitats and prioritize actions within the existing ones.
* Would a big picture type question be: What constitutes a sustainable population? Would it help everyone to have a better feel for defining that as to whether or not we need to do more for terns or plovers?
* Do you think predator associations are actually different at different pits over multi-year year periods because I have to believe that all the predators identified are ubiquitous to this part of the world including the sandpits and islands, although maybe not documented at each site either through trapping or photos every year. Still long-term management would need to consider all.
* I would estimate that densities are highly variable, though I think presence/absence may be more homogenous.
* I really like that framing.
* If I was the one communicating how the Program met management objectives to the GC it would be something like this. Objective summary: Relative to the 1997 baseline the Program has added 130 acres of nesting habitat that has resulted in adult plover counts going from 26 in the baseline document of (27 in 2001 first year of Program monitoring) to 88 in adults in 2019. the Program has produced ### of fledglings off that 130 acres of habitat. Those plovers would not have been produced without Program actions. Obviously, this statement depends on if you think we produced our own birds or attracted them from other areas.
* I agree.
* Regarding the notes: It is difficult to capture all of the comments made during a long meeting, and the notes reflect a very broad overview. The elements in the detailed comments may not be best to put in because other individual comments were not inserted. I think the notes are okay, but going forward we'll need to strike a balance. WITH the exception of the comments on on-channel v. off-channel, that pertains to whooping cranes right.? So should remove this comment from the notes?
  + The Program’s ability to increase the number of nests/chicks is limited absent creation of new OCSW habitats, so Program management for on-channel nesting could provide an opportunity to increase number of nests and chicks.

**Preparation for Next Meeting**

* The EDO will send out Mentimeter Polls to the group asking:
  + Are we meeting the Management Objective for Whooping Cranes
  + What don’t we know that we need to know to meet the management objective for whooping cranes? (BIG QUESTIONS to be answered during the Extension)
* We will discuss the group’s responses, making sure the EDO understands and can prepare accordingly for further discussion.

**Meeting Review & Wrap-Up**

* Henry thanked everyone for the active participation.
* She invited anyone interested in working with the EDO to develop a draft Science Plan for LT and PP before it goes to the AMWG for review and comment to please send her an email to coordinate.
* **Next meeting** – December 3rd, 2020; 1:00-3:00 PM Central Time.

Meeting adjourned at 3:40 PM Central Time.