ISAP Evaluation of MRRMP AM Plan v3 and Pallid Level 3 Actions

SAM WG and MRRIC Plenary Meetings

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Introduction

- **Version 3 of the AMP** and the **Pallid Sturgeon Level 3 document** are essential steps toward implementing a ecologically robust MRRP program that is responsive to human considerations

- The work carried out by a skilled and experienced team under daunting deadlines advances the program toward the final planning phase in which AM actions will be selected and implementation can begin

Introduction (cont.)

- While breaking new ground in a model approach to conservation planning, many details of program process and governance are yet to be fully developed

- Uncertainties regarding fundamental aspects of pallid sturgeon ecology, behavior, and habitat relationships challenge adaptive managers in developing the near-term action plan for that species

- We expect that Version 4 of the AMP, currently being prepared, will address many of the concerns and observations in the ISAP evaluation

AMPv3 – Q1: Governance

- Major components of governance are identified, but additional details are needed
- Governance structure appears to be superimposed on current management organization of USACE; some decisions may be split in awkward ways
- This superimposed structure may not be the most effective for AM
- Recognize new governance planning recently

AMPv3 – Q2: Decision Pathways

- The Plan describes a 5-step process for decision-making in support of adaptive management
- Recognition of adaptive management in context of federal and state laws and regulations (“useable decision space”)
- Need additional clarity regarding actual entities involved in data analysis, communication, and decision-making

AMPv3 – Q3: EA Integration

- Plan reiterates contributions of models (e.g., CEMs, EA model results) in informing the adaptive management process
- Contributions of modeling well developed in relation to managing the listed bird species
- ISAP recognizes current uncertainties related to early pallid sturgeon life stages, but urges development of a modeling framework that can readily accommodate new data and information

AMPv3 – Q4 & Q5: Monitoring

- Need to further develop the monitoring section, although bird monitoring is well described
- Monitoring designs should be closely tied to specific research hypotheses and Level 3 and 4 actions
- Consider restructuring current monitoring for pallid sturgeon to link to specific management actions
- Integration of data from external sources is addressed and seems logical

AMPv3 – Q6 & Q7: Data Management

- AM plan presents general structure of data management
- Detail is needed with respect to real-time processing of data and the transfer of that information to policy makers and stakeholders
- Suggest an online, easily accessible system to give ready access to all potential users; other programs provide examples

AMPv3 – Q8: Technical Expertise

- Governance and staffing section needs more detail
- Need to describe the participant skill sets of the AM Technical Team
- The AM Technical Team will interpret monitoring data, develop and prioritize essential studies, and is the focal advisory body

AMPv3 – Q9: Linking ESA to AMP

- Piping Plover
  - Limited justification for jeopardy and RPA decisions to date
  - The new approach, “population viability”, provides a means to estimate management targets
  - Viability approach based on model (ESH) with large uncertainty; do not take target estimates as “truth”
- Pallid Sturgeon
  - Likely negative impacts of dams and BSNP on pallid sturgeon
  - Near-term species objectives need definition for achieving natural reproduction and recruitment, and evidence of a diverse age structure

AMPv3 – Q10: Big Questions

- Very similar to Q6 of Pallid Sturgeon Level 3 document (will address there)

AMPv3 – Q11: Flow Regime

- Very similar to Q7 and Q8 of Pallid Sturgeon Level 3 document (will address there)

AMPv3 – Q12: Plover Nesting Habitat

- AM plan does not include off-channel habitat for the plover/tern, but is biologically useful
- Three types – in-channel sandbars, reservoir associated, and off-channel habitat
- Each type of potential nesting habitat may be effective under particular circumstances
- Off-channel should be considered in the AM plan, perhaps as a Level 2 action

AMPv3 – Summary

- A useful and productive first draft overall
- More detail is needed for the plan to be fully implementable, which is probably several iterations away from this draft
- Encourage the authors to write the plan such that it could be implemented by another team

Level 3 Doc – Q1: Timelines

- Timelines optimistic given natural variability in large river systems
- Need to provide detailed decision criteria and metrics (e.g., Table 2)
- Need to present the risks associated with timeframes for implementation of Level 3 actions when scientific understanding is equivocal

Level 3 Doc – Q2: Action Approach

- Level 1 and 2 actions include surge, parallel, and sequential approaches
- A parallel approach, as presented, may be appropriate to address multiple potential population bottlenecks and habitat issues
- For each Big Question, select and justify surge, sequential, or parallel approach

Level 3 Doc – Q3: Decision Criteria

- Level of detail in current AMPv3 precludes using the Plan to set up specific AM programs
- More detailed AM guidance will follow identification of specific management actions to be implemented
- Specific decision criteria and metrics for Table 2 are currently being developed
- Scientific merit of individual lines of evidence used for decision-making should be evaluated

Level 3 Doc – Q4: Action Justification

- Justification of Level 3 implementation in part based on policy
- Level 3 implementation without Level 1 and 2 understanding might produce no measurable effect on pallid sturgeon
- A self-sustaining population of pallid sturgeon might not be possible under current river operations

Level 3 Doc – Q5: LMR Spawning Needs

- Location and distribution of pallid sturgeon spawning habitat remains poorly characterized for the Missouri River
- Document emphasizes Gavins Point Dam mainly in relation to spring flow manipulations
- Justification of focus on upriver spawning because of flows and transport of early life stages to the middle Mississippi River

Level 3 Doc – Q6: Big Questions

- The “Big Questions” address major prevailing hypotheses as described in the Effects Analysis – given the considerable uncertainty in pallid sturgeon biological needs
- However, individual and original hypotheses are sometimes obscured in this consolidation and should be periodically re-examined for relevance to population limitation as new Level 1 and 2 research emerges

Level 3 Doc – Q7: Flow Regime

- “Natural” flow regime may be better thought of in terms of “manipulated” flow regime in the highly modified Missouri River system
- Some elements of a “naturalized” flow regime may be achievable to benefit pallid sturgeon
- Current successful spawning in LMR suggests that other recruitment bottlenecks be prioritized in developing Level 3 actions

Level 3 Doc – Q8: Flow Needs

- The extent that flows can be ‘matched’ to pallid sturgeon needs is constrained by imprecise knowledge of life history needs
- Regardless, efforts should be made to test and potentially align flows with habitat needs for different life history stages of pallid sturgeon

Level 3 Doc – Q9: Channel Reconfiguration

- “Channel reconfiguration”, as presented, can refer to suite of channel modifications including provision of spawning habitat, SWH, and IRC
- The ISAP recommends using precise language when describing channel reconfiguration both in terms of the activity and the proposed location, along with the life stage benefited

Level 3 Doc – Q10: Level 3 Scope

- The justifications for the minimum and maximum scope for Level 3 actions are not well described
- As the Level 3 document evolves, it will be important to clearly articulate the scientific justification for the action and the associated uncertainty

Level 3 Doc – Q11: Pulse Flow Criteria

- Pulse flow criteria presented in great detail
- Releases defined mainly by navigation and flood control requirements
- Minimal efficacy of proposed spring pulses as spawning cue for pallid sturgeon
- Interrelationships needed between managed flows and impacts on birds and key habitats for pallid sturgeon

Level 3 Doc – Summary

- Overall the structure seems logical given the current science, and usefully expands on AMPv3
- Similar to the AMPv3, additional detail is needed to make this a usable/implementable document