

TO: U.S. Fish and Wildlife Service, SAM Work Group

FROM: Independent Science Advisory Panel (ISAP)

RE: ISAP Preliminary Observations on “Bird Targets” White Paper

DATE: October 26, 2016

The ISAP has read and briefly discussed the white paper *Establishing piping plover and least tern targets for development of the U.S. Army Corps of Engineers Missouri River Recovery Management Plan* issued by the U.S. Fish and Wildlife Service (dated 1 October 2016). The panel considered the document with the understanding that it should provide the rationale underpinning the objectives statements and program targets for the two birds by describing (1) how best available science, the effects analysis, and the emerging adaptive management plan combine to justify and validate those targets, (2) how the program allows for adjustments in the targets through time and implementation of the program, and (3) how program participants will recognize when targets have been achieved. The ISAP looked for a clear description of the derivation for the objectives and targets and expected that their application in the Missouri River Recovery Plan (MRRP) would be explained. ISAP also expected some reference to how actions carried out in the MRRP program planning area (intended to avoid jeopardy to the piping plover from operations of the dams on the Missouri River) are justified and fit into the greater plan for recovering the piping plover across its full distributional range.

The ISAP was challenged by both the substance and organization of the document and is unable to offer a scientific review of the current draft. ISAP suggests that a next draft of the white paper be organized under a clear statement of purpose, and address the following questions to provide the empirical basis for linking the available science for the listed birds with programmatic intent and obligations under the Endangered Species Act.

1. *Are the demographic models for piping plover used in the MRRP effects analysis supported by best science to the extent that the resulting models can provide reliable numerical targets that can be used to identify and evaluate alternative management actions?*
2. *Does the approach taken in the bird modeling effort under the MRRP produce a range of outcomes from which bird and habitat targets can be identified that are consistent with sub-regional, regional, and global conservation goals for the species?*
3. *Is the relationship between the piping plover and its habitats sufficiently understood such that the extent, distribution, and condition of habitat can be used as a management target in meeting the MRRP goal of avoiding jeopardy to the species?*

4. *Is the species-habitat relationship adequately robust such that in-channel habitat can be used as a proxy measure to assess the performance of conservation efforts for piping plover under the MRRP?*
5. *How isolated is the demographic unit of in-channel piping plovers from plovers that reside around reservoirs and in uplands surrounding the lower Missouri River and its tributaries, and similar areas in and around the upper river and its tributaries, and what is the assumed productivity of those areas?*
6. *What are the ranges of plover population sizes and plover habitat targets in the MRRP planning area that meet the requirement for project (dam) operations to avoid jeopardizing the piping plover?*
7. *What does the best available science indicate is a lower limit for the size and distribution of a population of piping plovers on the lower Missouri River that can reasonably be expected to persist in the face of inter-year variation in in-channel habitat availability?*
8. *How does meeting the program's demographic and habitat targets in the lower Missouri River contribute to the recovery of and potential for delisting piping plovers?*
9. *Are piping plovers on the lower Missouri River likely to rely permanently on conservation actions carried out under the MRRP, or is it possible that in the future habitat-building and habitat-degrading hydrodynamic processes could sustain plovers on the lower river without targeted management intervention?*
10. *Does the MRRP approach to piping plover conservation appropriately balance the conservation of the species with "human considerations"?*

Note that this is a provisional, not necessarily comprehensive, list of questions. The ISAP can offer further input, potentially including or incorporating more specific questions of the sort presented by SAM-member Brian Barels in correspondence preceding the SAM Work Group/ISAP call scheduled for 27 October. The ISAP looks forward to further discussion on that call and at the November MRRIC meeting.