

**Suggested Materials for Review to Support the Delta Science Program
Independent Review Panel for the BDCP Effects Analysis Review, Phase 3
December 18, 2013**

Review of Specific Analyses

1. Are the analyses related to the north Delta diversion facilities appropriate and does the effects analysis reasonably describe the results? (*ICF suggests review of Appendix 5C, Sections 5C.4.3.2.4 and 5C.5.3.6.*)

In particular:

- Was existing empirical information such as Perry et al. 2010 and Newman 2003 incorporated appropriately into the modeling? Where model runs required extrapolation beyond existing data ranges, were assumptions and interpretations appropriate?
 - Does the analysis of the frequency of reverse flows at Georgiana Slough accurately characterize changes in hydrodynamics due to changes in river stage, sea level rise, and Delta habitat restoration?
2. How should the effects of changes in Feather River flows on fish spawning and rearing be characterized? In particular, how should the trade-off between higher spring flows and lower summer flows be interpreted? (*ICF suggests review of Appendix 5C, Sections 5.C.5.2.1.7 and 5.C.5.2.4.6, and Section 5.5.8.*)
 3. Does the analysis adequately capture the expected benefits of CM 2, Yolo Bypass Fishery Enhancement? (*ICF suggests review of Appendix 5C, Section 5.C.5.4.1.*)
 4. Does the analysis adequately describe the predation and other screen-related effects of the proposed north Delta diversion structures? Is the application of the observed mortality rate at the fish screen of the Glenn-Colusa Irrigation District (GCID) an appropriate assumption for expected mortality at the proposed BDCP north Delta intakes? (*ICF suggests review of Appendix 5F, Section 5.F.0.2.2.*)
Are there other studies on salmonid survival at positive barrier fish screens that would be appropriate to apply?
 5. Does the effects analysis provide a complete and reasonable interpretation of the results of physical models as they relate to upstream spawning and rearing habitat conditions, particularly upstream water temperatures and flows resulting from proposed BDCP operations? (*ICF suggests review of Appendix 5C, Section 5C.5.2.*)
 6. Does the effects analysis use a reasonable method for “normalizing” results from the salvage-density method to the population level for salmonid species? (*ICF suggests review of Appendix 5B, Section 5B.5.4.2.*)
 7. Are the assumptions of the analysis of aquatic habitat restoration food web effects appropriate for covered fish species? (*ICF suggests review of Appendix 5E.*)
Are the conclusions and net effects appropriate? (*ICF suggests review of Section 5.5.2.4*)
 8. Is the analysis of food web benefits to longfin smelt from habitat restoration appropriate?

How well do the analyses link intended food web improvements to improvement in the longfin smelt spring Delta outflow/recruitment relationship? (*ICF suggests review of Section 5.5.2.1.*)

9. How well does the analysis address population-level effects of the BDCP on white sturgeon? (*ICF suggests review of Section 5.5.8.*)

Additional Suggested Review Materials

- Executive Summary, including Natural Community Summaries, Species Summaries
- Section 3.3 provides detailed descriptions of how biological goals and objectives benefit each species at the ecosystem, natural community, and species scales.
- Table 3.3-1 links each biological objective with the conservation measures that are expected to achieve the objective.
- Appendix 2A (Species Accounts) provides detailed information on the population status, range, timing of use relative to Plan Area, habitat requirements, factors affecting the species, and information related to recovery for each species. This information is summarized in the introduction for each species in Chapter 5.
- Section 3.4, Conservation Measures 3 – 11, provides detailed information on the criteria for implementing protection and restoration actions, past success and uncertainties related to restoration actions, how each measure will meet the intended biological goals and objectives, and monitoring that will be implemented to evaluate effectiveness and address key uncertainties.
- Section 3.6 and Appendix 3D for monitoring and adaptive management, and addressing key uncertainties.
- Chapter 5 includes specific references throughout to key uncertainties that should be addressed through the adaptive management program and associated programs.
- Endangered Species Act [Section 10(a)(2)(A)] and Federal regulation [50 CFR 17.22(b)(1), 17.32(b)(1), and 222.22], describe the required components and purposes of a conservation plan, including the requirement to detail impacts likely to result from the proposed taking of the species for which permit coverage is requested. See also page 3-10 of the *FWS HCP Handbook*.