Draft Individual Review Form

Proposal number:2001-D202-3 Short Proposal Title:San Joaquin River NWR Hydro Model

1a) Are the objectives and hypotheses clearly stated?
Not adequately enough. The objective is actually stated as the hypothesis, which is to provide a test case for hydrodynamic modeling to predict beneficial and detrimental habitat conditions created by breaching levees along the San Joaquin. This proposal appears to have the objective of evaluating and refining the levee-breach design, but it is unclear who will perform that design. It appears the SJRNWR and ACOE are responsible for this, and the purpose of the proposed project would be to evaluate the design from a fish habitat perspective.

1b1) Does the conceptual model clearly explain the underlying basis for the proposed work?
Their conceptual model does provide some justification for the proposed work, but is presented somewhat weakly. They describe the importance of floodplain inundation to ecosystem processes, flood protection and food production. It seems the project will focus on developing a hydraulic model for assessing the project design, then use as-built conditions and subsequent monitoring to further calibrate the model. It is unclear how useful this model will be once the project is complete.

1b2) Is the approach well designed and appropriate for meeting the objectives of the project?
I get the feeling that there is considerable uncertainty as to how well the hydraulic model will perform in the complex conditions of flood water flowing through breached levees into backwater floodplain zones. Then, based on the physical conditions that floodplain inundation creates, being able to predict the resultant habitat condition, beneficial use by juvenile salmon and detrimental use by non-native, warm-water piscivores. They also mention minimizing juvenile stranding problems by designing conditions similar to those used on the Cosumnes River and Yolo Bypass projects, but do not justify that those conditions would necessarily be optimal on the Lower San Joaquin.

1c1) Has the applicant justified the selection of research, pilot or demonstration project, or a full-scale implementation project?
If this is, in fact, a demonstration project, then the design should be much more experimental, hypothesis-driven, at least in terms of the expected benefit to aquatic species and habitats.

1c2) Is the project likely to generate information that can be used to inform future decision making?
I would suppose that if the hydraulic model developed in this project actually "worked", then it could be a useful tool in other situations. Specifically they state that "the proposed project may also include the identification of a modified flow regime that would better serve this habitat function in combination with the NSA." This information could be useful in the future in light of development of a San Joaquin River Restoration Plan and eventual recommendations of San Joaquin River flows adequate to protect listed salmon species.

2a) Are the monitoring and information assessment plans adequate to assess the outcome of the project?
Task 2.6 (section F) states that the applicant will develop a proposed draft monitoring plan in coordination with the Technical Panel, but the monitoring objectives, methods, reporting, funding, etc. are unspecified.

2b) Are data collection, data management, data analysis, and reporting plans well-described, scientifically sound and adequate to meet the proposed objectives?
The proposal does not specify what data will be collected, how data collection will proceed, not how analyses will be performed, other than the limited description of the data needs of the hydraulic model (Mike 11) and availability of some of this data from the ACOE Comprehensive Flood Evaluation.

3) Is the proposed work likely to be technically feasible?
It appears the modelling will be performed by Phillip Williams and Associates, who are likely as capable as any others to develop and implement a hydraulic model. They provide justification for using a model developed and used by the Danish Hydraulics Institute (DHI), and appear to have the model developer available for consultation and review.

4) Is the proposed project team qualified to efficiently and effectively implement the proposed project?
It is unclear to me why Ducks Unlimited is the project proponent, but it appears they have the past experience, based on the list of CALFED and CVPIA projects for which they have received funding.

Miscellaneous comments
It seems reasonable that the project design and implementation of levee breaching should undergo review to improve the habitat conditions for anadromous fish. However, I am not certain why a hydraulic model is the only or best solution to provide this evaluation.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
☐ Excellent ☐ Very Good ☑ Good ☐ Fair ☐ Poor	The project purpose (objectives) seem worthy, but the proposal provides only a fair description of how the project will be implemented, nor does it explain how the project will be integrated within existing programs and activities. It seems reasonable that there could be other alternatives to the methods they propose here, but other methods are not discussed. I would be skeptical about relying entirely on the results of a model, without some definitive evidence to support this approach.