Draft Individual Review Form

Proposal number: 2001-C214-2 **Short Proposal Title:** Sacramento Floodplain Acquisition...

1a) Are the objectives and hypotheses clearly stated?
1b1) Does the conceptual model clearly explain the underlying basis for the proposed work?
1b2) Is the approach well designed and appropriate for meeting the objectives of the project?
1c1) Has the applicant justified the selection of research, pilot or demonstration project, or a full-scale implementation project?
1c2) Is the project likely to generate information that can be used to inform future decision making?

The basic goals of this project are to take public title of 259 acres of low-value agricultural land and to document recovery of native riparian vegetation while using the area to promote agricultural methods which provide limited habitat value for wildlife (wildlife-friendly farming); 96 acres will be converted to riparian vegetation and there is substantial connectivity with other riparian habitat in the area. The hypotheses are overly general and quite weak, with little explanation of how 'research' will be designed to produce rigorous assessment of vegetation and wildlife trends. The project certainly offers some potential to conduct a more scientifically sound study, but perhaps the proposer did not anticipate that scientific criteria would be as critical to determining whether work would be supported.

While the goals are reasonable and desirable, there is not as much ecological benefit to this particular project as may first appear: there will be no change in hydro-geomorphic features like levees at the sites, so it is not clear that solely changing the land tenure status and planting trees will yield self-sustaining riparian habitat. Furthermore, the orchards are considered non-productive at this point anyway so maybe they would have returned to riparian vegetation anyway (although admittedly with uncertain chance of resulting in high quality habitat) without the expenditures of $6,500/acre for poor quality ag. land. The concept of studying how agricultural land-use can interact with ecological processes does seem interesting and useful, with a lot of potential for application elsewhere, although there was little explanation of just how management practices would be altered and studied. Interactions with flow regimes was mentioned, but is this to compare resistance to bank erosion? To measure hydrological 'roughness' factors caused by orchards? Is a comparison of wildlife use of orchards vs. native plants, or of organic material between the two vegetations, really novel? If so, this needs to be better framed. Experiments to compare 'various types' of restored vegetation is a good start, and a lot of the important parameters were mentioned, but were minimally addressed. Again, a more comprehensive and description of how the work might be done and how it would compare with related research and applications would increase the strength of this proposal.

2a) Are the monitoring and information assessment plans adequate to assess the outcome of the project?
2b) Are data collection, data management, data analysis, and reporting plans well-described, scientifically sound and adequate to meet the proposed objectives?

As stated above, many of the important parameters that would be monitored in a project such as this were mentioned, but were not well-described and gave limited basis for determining whether methods and data handling plans were adequate. This is unfortunate, because the framework otherwise looks good for providing increased habitat and is of sufficient spatial scale to allow some useful experimental studies to be developed. For example, descriptions such as:

Hydrological monitoring which involves "Set-up procedures for monitoring during flood events, and compare between restored area and orchards" hardly inspires confidence that rigorous data will result.

3) Is the proposed work likely to be technically feasible?

Based on other work that the Sacramento River Partners are involved in, many of the management actions should prove to be feasible for improving the quality of these streamside habitats. However, feasibility of the monitoring projects has not been adequately justified in this proposal, nor has the practicality of the proposed comparisons between orchard and natural habitats. Another uncertainty is that some of the areas to be restored appear to be patches within the orchard system – are these really appropriate locations to do restoration even though they don't appear to be creating contiguous riparian habitat? I had difficulty reading these details in the maps provided, so maybe they something else?

4) Is the proposed project team qualified to efficiently and effectively implement the proposed project?

The team has only recently (1998) been incorporated, yet has undertaken impressive responsibilities for restoring and managing riparian lands in the region. The principles have excellent experience with agronomics and reasonable experience with riparian vegetation management, but it would be useful to see some of the other subsidiary partners (academic and FWS researchers, PRBO scientists, etc.) get more involved in project development.

Miscellaneous comments

If work is to address goals such as non-native species, what are the species that are of concern here besides 'weeds to be...controlled or sprayed', and how will invasive species be managed within the riparian zone itself?

How will 'factors limiting native species establishment in the floodway…compared to…inside the levee' be assessed? This seems more complex than this statement might imply. Is the potential for native species to colonize and establish naturally known for this area?

Can orchards themselves be positive factors in this environment, by stabilizing substrates, providing 'nurse sites' for other plants to establish, or provide superior roosting sites for some species? Can they allow floodflows to pass readily without trapping excess sediments?

I like that individual trees will be routinely monitored to document survival. Does monitoring include other parameters such as growth or productivity?

Overall Evaluation Summary Rating

- ☐ Excellent
- ☐ Very Good
- **X** ☐ **Good**
- ☐ Fair
- ☐ Poor

Provide a brief explanation of your summary rating

Good I was inclined to judge this project as Fair, but felt that limitations in monitoring and data assessment strategies were errors of omission rather than flaws I judgment. The area acquired suggests a large increase in habitat, but we have to keep in mind that only a third of it will actually be returned to native vegetation, and the lack of hydrological change (e.g. levee set-backs) impinges on the overall ecosystem benefits of the program. Nonetheless, this project would be a quite productive addition in a region where a lot of damage has taken place, yet substantial potential remains for providing high quality riparian values.