

Individual Review Form

Proposal number: __2001-K220-3

Short Proposal Title: _ Re-introduction of
Native Anadromous Salmonids

1a) Are the objectives and hypotheses clearly stated?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The objectives are clearly stated. The hypotheses are clearly stated what information is required in response to each hypothesis. The tasks and schedule are practical. The approach is straight forward. The first phase is to assess previous studies and other data regarding up-stream passage at various dams around the rim of the Central Valley. The second phase is an assessment of 11 rivers of the Valley having rim dams to identify relative promise / success of passage and re-introduction of spring-run Chinook and steelhead into the upper watershed. Adequacy of available habitat (flows, both in quantity and quality, temperatures throughout the year, barrier and operational constraints) will be determined. The third phase is an in depth analysis of three of the most promising watersheds for supporting self-sustaining populations of re-introduced spring-run Chinook salmon and steelhead.

1b1) Does the conceptual model clearly explain the underlying basis for the proposed work?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The concept model is illustrated by a pictograph is valid for the proposed work and hoped for outcome. A monitoring program would need to an integral part of any re-introduction effort and be for several years. Data to be evaluated and weighted before the next project is undertaken with some assured some level of success. Adaptive management of such a project, is quite different from that of the nearly day to day monitoring required of a pumping facility in the Delta or monitoring releases from power plants to minimize impacts to aquatic resources.

1b2) Is the approach well designed and appropriate for meeting the objectives of the project?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The various tasks and products (reports) as indicated in Figure 5 are reasonable. Each task has a clear statement of what is to be accomplished, how it will be accomplished and what will be reported. Phase 1 tasks 1a thru 1I will take about 3 months, phase 2 about 3 to 4 months and phase 3, the in depth analysis about 8 to 9 months. This part is very well done. The last phase is the final report and project assessment. Suggestion. The reporting of river discharges at selected points, should present not just the mean daily flow but also the high and low for the day. Water temperature should be reported in the same manner, daily mean with high and low for the day.

1c1) Has the applicant justified the selection of research, pilot or demonstration project, or a full-scale implementation project?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The proposal is a research and planning project. From all the analyses of all pertinent information, three passage opportunities with the greatest potential for success would be selected for more detailed planning and evaluation. It is from this more refined evaluation that a pilot demonstration re-introduction project may be proposed. The purpose is to conduct a pilot demonstration project for re-introducing spring-run Chinook salmon and steelhead into headwaters. A demonstration project would require its own funding which is not a part of this proposal.

1c2) Is the project likely to generate information that can be used to inform future decision making?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The various tasks to be undertaken and products / reports generated are indicated in Figure 5. The information in the reports / products should useable by CALFED and other interests. The actual quality and appropriate timing /receipt of reports will be up to the CALFED project manager to enforce.

2a) Are the monitoring and information assessment plans adequate to assess the outcome of the project?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

This is a research and planning project not a structural project. This project will follow the progress and results of the Yuba River stakeholders effort which is assessing the potential of restoring/re-introducing spring-run Chinook and steelhead to the Middle and South Forks of the Yuba River. Information gathered from other tasks should provide the necessary information to assess the potential of a re-introduction project or what has to be investigated or modified before the re-introduction can be assured some level of success.

2b) Are data collection, data management, data analysis, and reporting plans well-described, scientifically sound and adequate to meet the proposed objectives?

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The various products / reports generated by the various tasks should provide an information rich foundation for what should be known and what should be undertaken before the re-introduction of anadromous salmonids to headwaters can be assured some level of success.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

Accomplishing the various tasks on the established timetable appears feasible. There should be no major obstacles through phases one and two. There may be data gaps that may have to be filled by contacting people on site of active projects. If this is not possible, it may come down to

the best bioengineering and biological theory developed or presented by the advisory committee or technical team. The project appears ready to go awaiting notification of selection and the notification to proceed.

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

Provide detailed comments in support of your conclusion [Note: in the electronic version, this will be an expandable field]

The individuals, the organizations and those under contract which compose the team have extensive experience and have demonstrated success in the engineering, science, and social science arenas. They are well qualified to carry out the various tasks to a successful conclusion.

The final report could recommend that a pilot passage demonstration project be initiated. However the pilot demonstration project would require its own funding and more detailed engineering for the passage identified. This level of detail and associated costs are not a part of this proposal. Reports meeting NEPA / CEQA would be needed before there could be any significant facility modification or construction. In addition State and Federal permits and licenses along with structures and their operations may have to be modified if there is going to be long term sustainability of re-introduced species. If the pilot re-introduction project is successful in producing self-sustaining populations, there could be a potential for opening vast areas of upper watershed to the re-introduction of salmonid species. This objective is long term requiring a long term monitoring and evaluation program.

Miscellaneous comments

[Note: in the electronic version, this will be an expandable field]

The re-introduction objective appears dependent upon passage at the Valley's rim dams. In several situations there are stair step facilities up-stream that must be thoroughly addressed. Assessment of the issues/constraints surrounding the stair-step reservoirs and what should be done to offset or help assure the success of any re-introduction efforts will be critical to the effort.

The production of electricity energy is the primary purpose of these stair-step dams and reservoirs and associated power plants. The operation of these facilities have been particularly destructive to riverine ecosystems, associated aquatic resources, uses and values. Because flows are heavily regulated by storage, diversion and hydro generation, the downstream reaches suffer from poor stream flow regimens, fluctuating stream flows, and ramping of stream flows along with abrupt changes in temperature, and sediment deposit impacts to various life stages of resident and anadromous salmonid fishes. For example this includes the series of hydro dams on the Pit River above Shasta Dam. The same is true for the North Fork of the Feather River where spring-run Chinook salmon and steelhead were known to make their way to spawning grounds near Quincy, before the stair step hydro facilities were constructed. On the Middle and South Forks of the American River, stream flows are heavily regulated by storage, diversion and power plant releases. There are rivers in the San Joaquin Basin where flows are heavily regulated by storage, diversion and power plant releases. Instream flow data on river discharges should be reported from selected points, and not just mean daily flow but also the high and low for the day. Water temperature

should be reported in the same manner, mean daily with high and low for the day at these same points. Such information would better illustrate project impacts to aquatic systems / resources by such storage, diversion and power plant releases.

Adequate stream flow regimens will be needed in the various streams or stream reaches involved. In order to help restore and protect our native anadromous salmonids such as chinook salmon (all races) and steelhead in all downstream waters, the full force of the Public Trust Doctrine should be used. Public trust doctrine findings and enforcement provisions of the State and Federal Endangered Species Acts should be used to obtain flow releases from watershed dams and reservoirs, consistent with instream ecological needs (quantity and timing of flows as well as water quality such as temperature).

Judge Racanelli in his 1986 decision, (U.S. v State Water Resources Control Board, 227 Cal. Rpt.161 -1986), commented on the duties of the State Board indicating that the Board needs to consider the impacts of all upstream diversions and uses of water and that taking a global perspective is essential for the Board to carry out its water quality planning obligation. The same can be said regarding the restoration and protection of anadromous salmonids. The global perspective of Racanelli is to have all rivers and streams tributary to Delta, contribute instream flows to protect water quality and other beneficial uses. Each water right holder in the watershed (particularly reservoirs) would contribute or bypass the flows necessary to keep in "good condition" instream resources, ecological uses and values, as well as provide Delta inflow to meet water quality standards and protect public trust interests.

The flow regimen released from up-basin reservoirs must be consistent with the "good condition" of Fish and Game code section 5937, as developed in case law and incorporated into State Water Resources Control Board (SWRCB) decisions before there can be successful re-introductions. Such "good conditions" should be incorporated into facility operations criteria. This would require modification of SWRCB water right permits or licenses and FERC licenses, in order to give any reintroduction a better chance of success.

The following suggested actions are believed necessary in order to realize the long term success of any reintroduction efforts. CALFED, should;

1. Develop or see that a basin, sub-basin reservoir / lake minimum pool and instream regimen management plan is formulated for the watershed or watersheds selected for the reintroduced anadromous salmonid species.
2. Appoint an operations group to oversee monitoring and evaluation efforts and to assist managing the waters of the basin through the process of adaptive management. This group would consist of representatives of selected stakeholders, such water right holders, facility operators, trustees such as CDFG, USFS, BLM, USFWS, NMFS, SWRCB, and representatives of county or counties of origin, and members of constituent groups such as local conservancy, local NGO, California Sportfishing Protection Alliance, Cal Trout, etc. This group would see that an adequate monitoring program is carried forth, that adequate evaluations are undertaken, and that the information is available for use in the adaptive management process. The group would review instream flows, estimated runoff, carryover storage, cool water pool in various reservoirs, and the availability of water to meet fish resource/ecosystem needs, various management options to meet desired or hoped for re-introduction outcomes.

Once restored to a reasonable self-sustainable population level, habitat protection and adaptive management will become the compelling need. This will require a funding commitment to carry out a long-term monitoring and evaluation program. The success of such re-introduction should go a long way to broaden and diversify the anadromous salmon and steelhead resources for all users and especially future generations.

**Overall Evaluation
Summary Rating**

- Excellent
- Very Good
- Good
- Fair
- Poor

Provide a brief explanation of your summary rating

[Note: in the electronic version, this will be an expandable field]

Overall Evaluation / Summary rating ---- very good to excellent

The opportunity to improve habitat quality and to act on restoration and re-introduction opportunities that have been long overlooked or discounted is now laid at the feet of CALFED. The proposal - Reintroduction of Native Salmonids in the Central Valley Headwaters; Bioengineering Requirements and Social Acceptability - is very timely. The project's outcome should help clarify issues that have been discussed for years. The proposal provides clear objectives. The products should clarify what is known and what can be theorized about passing anadromous salmonids, and what has to be accomplished before re-introductions of spring-run Chinook salmon and steelhead can be undertaken with any assured level of success. The overall approach is practical and sound. The tasks, schedule and products are identified. Assessment information from other monitoring and research activities in California, the Northwest and Columbia Basin should be very useful for evaluating potential re-introductions in the Central Valley. The data gathering, assessment and evaluation of information from other areas, are described in response to the various hypotheses. The successful re-introduction of spring-run chinook salmon and steelhead above the Valley's rim dams should diversify the anadromous salmon and steelhead resource base for all Californians and especially future generations.

I wholeheartedly support this proposal. It merits full CALFED support.