

Proposal Reviews

#9: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Bailey Environmental

Research and Restoration Technical Panel Review

Bay Regional Review

Delta Regional Review

San Joaquin Regional Review

Sacramento Regional Review

External Scientific Review #1
#2

Environmental Compliance

Budget

Research and Restoration Technical Panel Review:

CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	The project has some merit as an idea, but low regional ranks indicate proposal is based on unproven premise. The applicant should seek partners to ensure that approach is consistent with locally accepted management approaches. In addition, local and regional outreach is recommended so that difficult questions concerning fisheries management and societal acceptance is gained early in the process.
-Above average	
-Adequate	
XNot recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

Good: Yes, the goals and objectives are clearly stated. The applicant presents a clear justification of natural spawning, mixed-stock fishery, and terminal fisheries.

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

Excellent: In as much as the project is a literature and project review the applicants are very capable.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

Fair: The projects products will be a a scientifically defensible feasibility report. The project will address the problem of mixed-stock fisheries and excess returns of hatchery fish. However, the product may be of limited use to decision makers because selective terminal fisheries are not necessarily an acceptable solution to wild and hatchery harvest.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

Yes.

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

Low, medium, and low: A regional comment this application offers an unusual approach for targeting ocean fishing pressure; correction, this is only an alternative to ocean fishing pressure. Ranked low because it did not address local projects and groups. Some comments indicate lack of understanding of salmon imprinting. Sacramento Regional Review succinctly states the unproved premise of this proposal is the problem of excess spawning escapements to Central Valley streams.

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

No significant concerns.

Miscellaneous comments:

A reviewer with knowledge of the Homer Spit, Alaska, terminal fishery does not believe a coastal or island terminal fishery is a replacement for lost mixed stock ocean fisheries. Managing hatcheries to produce returning adults that do not have the deleterious effects on wild stocks is probably a better management practice.

Bay Regional Review:

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Overall Ranking: ☒Low ☐Medium ☐High

Provide a brief summary explanation of the committee's ranking:

The panel supports research that delivers scientific information which improves understanding about key ecosystem processes in the Bay + Suisun Marsh or about species and habitats which are insufficiently understood, rather than applications like this, which seems unlikely to be useful to practical decisions being made about Bay-Suisun anadromous fish restoration.

1. Is the project feasible based on local constraints?

☒Yes ☐No

How?

Mostly lit search and interviews.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

☒Yes ☐No

How?

Broadly but indirectly.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

☒Yes ☐No

How?

Difficult to determine, but likely, due to broad scale of proposal.

4. Does the project adequately involve local people and institutions?

☐Yes ☒No

How?

No local connections? Lack of support and connectivity from CA state and Federal agencies?

Other Comments:

.

Delta Regional Review:

Proposal Number: 9

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Overall Ranking: -Low **XMedium** -High

Provide a brief summary explanation of the committee's ranking:

The regional panel felt that this project could have implications for managing esp. fall-run chinook salmon, an "at-risk" species.

1. Is the project feasible based on local constraints?

XYes -No

How?

The proposed project is a literature review that will result in a feasibility report, so it is unlikely that any Delta/Eastside Tributary-based local constraints exist that will impede its completion.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

XYes -No

How?

From the Restoration Priorities for Multi-Region Bay-Delta Areas:

"6. Ensure recovery of at-risk species by developing conceptual understanding and models that cross multiple regions

· Salmonids Studies integrated across the system. Salmonid studies and conceptual models should be integrated to consider the animals' use of widely varying habitats, from the upper rivers through the Delta, into the oceans and back to the rivers. Studies of ocean cycles, harvest implications and trends, interconnections to different Bay habitats and effects on different life stages in the Delta, and movement throughout the whole system, need to be better documented."

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

XYes -No

How?

The focus of this literature review/feasibility report primarily is on compiling information on research or activities that have occurred in other states, and assessing the applicability of this information to anadromous salmonid issues in the Central Valley. The project may provide information of use to decision-makers in the Eastside Tributaries.

This project (i.e., using imprinting to "create" salmon fisheries, usually on the coast) represents a different approach to salmon ESA issues in the Central Valley compared to most ERP projects.

4. Does the project adequately involve local people and institutions?

XYes -No

How?

The geographic focus of this project is to include a much broader area than just the Delta/Eastside Tributaries (i.e., California, Oregon, Washington, Idaho, and Alaska). The applicant intends to confer with agency personnel and salmon experts from other states, but apparently no one else from California is to be consulted; perhaps there are no experts on this particular topic here. The applicant indicates that he will rely in part on his "extensive personal library" for the literature review and feasibility report, so presumably he is familiar with the views and work of other local salmon experts.

The feasibility report will be submitted "to CALFED for peer review," and results presented at a "CALFED workshop or scientific meeting."

Other Comments:

This application offers an unusual approach for targeting ocean fishing pressure on hatchery fish, potentially improving survival of naturally spawned salmonids.

San Joaquin Regional Review:

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Overall Ranking: ☒Low ☐Medium ☐High

Provide a brief summary explanation of the committee's ranking:

The committee ranked this proposal as a low priority for the San Joaquin region. The proposal was inadequately linked to local projects and to local groups and institutions. The proposal addressed primarily Multiregional issues and was not specific enough in addressing local priorities for the San Joaquin region.

1. Is the project feasible based on local constraints?

☒Yes ☐No

How?

The project does not require any permits, licenses, environmental documentation, fieldwork or collecting of specimens. It is solely a literature gathering, review, and generation of a feasibility report on the potential for conducting geographic specific harvesting of chinook salmon from the various runs in the Central Valley. The geographic constraints of Central Valley salmon populations and the location of hatcheries may preclude "geographic" imprinting as the applicant describes in his proposal. Difficulty of hatchery imprinting and effects on wild stocks are of concern. Effluent from hatcheries may contain the imprinting chemicals and expose wild fish downstream to the imprinting effect. Migration routes of salmon along the California coast and through the bay-delta environment are common to many different runs of salmon; thus separating out different runs from the imprinted runs may be geographically and logistically difficult if not impossible. In the San Joaquin region there are no federally listed chinook salmon stocks, the fall-run is only a candidate species.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

☒Yes ☐No

How?

The project addresses MR #6 (at risk species), Strategic goals #'s 1,2,3 (at-risk species, ecosystem processes and biotic communities, harvested species) and portions of the Science Program (improving management of at-risk species, scientific basis for regulatory activities).

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

-Yes XNo

How?

Since the proposal is for generating a feasibility report concerning a hypothetical management tool, it has no links with ongoing projects or activities. It would only have effects at a future time if the hypothesis were to be supported by the literature review.

4. Does the project adequately involve local people and institutions?

-Yes XNo

How?

Proposal plans to make only site visits to gather literature and to talk with technical experts, all of which are outside of California. The applicant has no plans to work with local entities in the San Joaquin region at this time.

Other Comments:

n/a

Sacramento Regional Review:

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

Overall Ranking: ☒Low ☐Medium ☐High

Provide a brief summary explanation of the committee's ranking:

Although this proposed research project would provide a thorough literature review of geographic specific imprinting for chinook salmon, the unproven premise of this proposal is the "problem of excess spawning escapements to Central Valley streams." Reviewers noted that the "problem" of excess fish returning does not have full scientific support for truly being a problem (e.g. low dissolved oxygen levels have not been found in Battle Creek during years of high spawning escapement and large numbers of naturally produced juvenile salmonids are being documented).

1. Is the project feasible based on local constraints?

☒Yes ☐No

How?

Notwithstanding that the literature review is feasible, the proposed action of geographically imprinting chinook salmon on areas other than their place of origin would cause a flurry of activity to make this feasible/locally acceptable.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

☒Yes ☐No

How?

The proposal addresses natural production of chinook salmon which is a restoration priority in the ERP and in CVPIA. The proposed feasibility report would also address forming a scientific foundation to change hatchery and harvest management practices to reduce straying caused by ill-advised downstream trucking of juveniles.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

☒Yes ☐No

How?

Overescapement is only occurring in some years, in some tributaries. It has not been documented as a problem in terms of disease or water quality (studies on both of these topics have not found any problems with overescapement). Marine derived nutrients from the decomposing carcasses have been shown to be beneficial to the stream ecosystem.

4. Does the project adequately involve local people and institutions?

-Yes **X**No

How?

Highly qualified people are involved, but no locals.

Other Comments:

The author's statements regarding hatchery fish spawning naturally and therefore putting pressure/increasing the potential for "wild" fall chinook to go extinct -- are inaccurate and misleading.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **9**

Applicant Organization: **Bailey Environmental**

Proposal Title: **Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	Good-The proposal offer an interesting variation on the problems associated with managing salmon in the Central California. The major weakness is that it doesnt specifically present a plan for evaluating feasibility relative to the unique problems of the Bay-delta fisheries.
XGood	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goal is to develop a feasibility report for a geographic specific salmon fisheries for the central Valley. The topic may be timely and important given the myriad of fishery management problems faced by CALFED and the Bay-Delta system. Mr. Bailey seems to be well versed on some of the problems faced in the management of central valley salmon population and offer some direct opinions on some of the problems.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

A clear conceptual model is not outlined. Mr. Bailey rambles on for several pages about the problem and potential solutions that seem to have worked in other systems with similar problems of hatchery verses wild stock overlap and the problems of mitigation verses salmon production. I suppose you would classify this project as research, although ultimately it will be a biological opinion/review of existing knowledge on the use of geographic specific imprinting to allocate portion of a given stock to a specific purpose without the ambiguity that exist with a mixed wild/hatchery population.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

Mr. Bailey states that the approach will be relatively straightforward. However little detail is provided for how the actual assessment will take place and how a plan for implementing a management plan might proceed. A good plan for how they will assess overall impacts. The approach section is only a half page focused on who will be involved, Mr. Baileys travels and where he plans to seek out the information to conduct the assessment of feasibility. No clear plan for actually completing the tasks or anticipating the components of a feasibility study are reported.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The proposed feasibility report is feasible. The scale of the project is reasonable for a report.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

A performance measures section is listed in the proposal that says a scientifically defensible feasibility report for geographically specific imprinting Chinook salmon for selective fisheries will provide a measure of performance. If they are already doing this in other states it seems that feasibility is without question. The real question is whether this will offer an improved management strategy for slamonids in the Central Valley.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

Some products are listed. The proposal outlines no plan for interpretive outcomes from the feasibility study. Feasibility report to CALFED and presentation at a workshop are listed as products. A demonstration project would not be within the scope of this project.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Past projects by the lead in this project offer nothing as far as evaluating his capabilities to conduct this feasibility study. Mr. Bailey clearly knows a lot about salmon in the central valley and he has proposed to collaborate with two experts on salmonids from Idaho. It is not clear

from the proposal whether Mr. Bailey has the skills to properly review the literature on imprinting and objectively interpret the feasibility aspects for the Central Valley. Clearly Mr. Bailey has enlisted two experts to review the document because he lacks the professional credentials, but the proposal suggest that they will review drafts and not participate in drafting the document.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget is ambiguous with regard to what the costs will be specifically used for beyond travel and the subcontracts to the Idaho scientists. The budget is not huge but should have been appropriately justified.

Miscellaneous comments:

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **9**

Applicant Organization: **Bailey Environmental**

Proposal Title: **Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon**

Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	The report is deficient in providing solid information upon which CALFED could use towards its goals. The documented variability in return rates when using olfactory cues suggest the problem of straying will continue. Technology fixes such as this and trucking fish, etc., do not seem in line with ERP goals. He mentions how ocean conditions can influence returns, and yet fails to see the possible influence of large numbers of hatchery fish (terminal area harvest scheme fish) on resource availability to wild stocks.
-Good	
XPoor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goals and objectives are clearly stated and internally consistent. The gentleman wishes to write a report. The concept he wishes to study might impact CALFEDs Ecosystem Restoration Program in important ways, depending on what the gentleman recommends.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project

justified?

The study is not justified relative to existing knowledge. The gentleman wishes to evaluate the feasibility of geographic specific selective fisheries for Chinook of Central Valley origin. The conceptual model is stated but contains various flaws.

1. The gentleman states, "The goal is to produce scientifically defensible feasibility report that makes recommendations on establishing geographically specific selective fisheries...." Apparently the report is already done and the recommendations are to establish geographically specific selective fisheries. Also, how could a review like this be scientifically defensible? It is possible the reviewers understanding of science and what it means for something to be defensible differs from the gentleman. Also, can a feasibility report make recommendations? Again, possible differences in understanding and grammatical style.
 2. He states, " If the science and other agencies experience with this management technique prove feasible in California....." Is it possible to prove something is feasible based on information from a different region and population? What data are required to prove something feasible? He maligns trucking fish to the Delta. Well, that technological band-aid was proven feasible.
 3. Examples are given of fish returning to a location after being imprinted as juveniles. He states, "and create these 'all harvest' fisheries in geographic locations which eliminate or greatly minimize spatial-temporal overlap with other stocks/species." Where do his numbers come from? As a reviewer I am left with 'pers. comm.' What are the return rates? How was the study/ project implemented? Considering we are told this information is locked away in non-peer-reviewed literature (gray), the author seems fairly familiar with the studies. Why not write the report now?
 4. The gentleman suggests in his "landscape" scale report that setting up a geographically specific selective fishery will have little impact on wild fish. Is it not possible that the large numbers of hatchery fish (from the terminal area harvest scheme) could have impacts on the availability of ocean resources for wild fish? Reports have suggested that low returns of hatchery fish in Alaska and Japan might be due to the ocean reaching its 'carrying capacity'. Of course, this in no way could be tested but is present in gray literature and pers. comm.
 5. Work done by Haskell (peer-reviewed) on imprinting and olfactory cues sometime in the early 80s suggested that returns were around 60%. Has recent research suggested that this number might be higher, such that a terminal area harvest scheme might work in the Central Valley. The reviewer is unaware of such literature.
 6. Statements like, " It is technically possible to design a salmon management regime, using selective imprinting and fishing techniques, which will allow CALFED's ERP objectives to be more fully met.." were a bit bold, to say the least.
3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The objectives are to right a report regarding the feasibility of geographic specific selective fisheries for Chinook of Central Valley origin. Based on the statement that Mr. Randy Bailey, "also has personal knowledge and experience with Alaska's geographically specific imprinting and associated selective fisheries." I feel the approach is excessive. The unfortunate passing of Dr. Ted Bjornn also needs to be addressed regarding the project. It is possible that the

report will add to the base of knowledge depending on the scientific criteria used in the gray literature studies and their synopsis forming the report. It is the reviewer's **OPINION** that the information will not be useful to decision-makers, based on the apparent limited scientific scrutiny and predictive nature of the work.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

It is technically feasible to write a report summarizing gray literature. The reviewer believes the scale of the project is too great considering the objectives.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

(From the report) 5. The expected performance measure for this project is well documented and scientifically defensible feasibility report on the potential for geographically specific imprinting of chinook salmon to provide selective fisheries. The reviewer is perplexed by this statement. I guess the expected performance measure is well documented and scientifically defensible feasibility.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The product of value would be a summary of gray literature on government imprinting projects.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

I hope the project team is not as sloppy as this proposal. See #5 above, for example.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

No.

Miscellaneous comments:

Environmental Compliance:

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

☒Yes ☐No

If no, please explain:

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

☒Yes ☐No

If no, please explain:

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

☐Yes ☒No

If yes, please explain:

Other Comments:

Budget:

Proposal Number: 9

Applicant Organization: Bailey Environmental

Proposal Title: Feasibility of Geographic Specific Selective Fisheries for Central Valley Origin Chinook Salmon

1. Does the proposal include a detailed budget for each year of requested support?

☒Yes ☐No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

☐Yes ☒No

If no, please explain:

budget is specified in the budget summary and budget justification

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

☐Yes ☒No

If no, please explain:

specified in budget summary and budget justification

4. Are appropriate project management costs clearly identified?

☒Yes ☐No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

☒Yes ☐No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

6. Does the budget justification adequately explain major expenses?

☒Yes ☐No

If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes ☒No

If yes, please explain:

Other Comments: