

Draft Individual Review Form

Proposal number: 2001-K201-1
Valley

Short Proposal Title: Genetic Structure of Central
Chinook

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 and hypotheses are clearly stated and noteworthy in terms of genetically defining individual chinook salmon populations within the Central Valley.

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 conceptual model clearly explains the reason for the proposed work and the stated hypothesis. Sufficient references were given to show that phenotypic or life history differences do not necessarily reflect separate ancestral lineages. They correctly state that existing genetic data suggests Central Valley populations are a long-standing genetic unit distinct from other Pacific chinook salmon with more recently diverged lineages.

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]

I agree with the selection of allozyme and microsatellite DNA techniques for assessing the genetic population structure of Central Valley chinook salmon. These are the two most commonly used techniques for Pacific chinook salmon. The Pacific chinook salmon allozyme database is quite good. California, Washington and British Columbia have started using microsatellite DNA. Examination of "at least 25 microsatellite loci" is a big undertaking and beyond what has been reported in the literature for Central Valley chinook salmon. The proposal states more are "under development." Some assurance of meeting this assumption within the time frame of the proposed work and with relatively good polymorphic markers would have strengthened the proposal. I have serious reservations with the otolith microstructure analysis for meeting the objective of confirming run timing, helping confirm stream of origin, age and discrimination of naturally produced and hatchery-reared individuals. These parameters are important aspects of this proposal but I am not aware of this capability. I know of no published literature proving this capability and none are provided in the proposal.

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 fairly well convinced me of its justification but not completely. The proposal states that a pre-proposal was started to begin upgrading the existing allozyme database. This proposal was submitted before data was analyzed. Analysis of the pre-proposal data might have provided additional information into the need for more comprehensive data needs.

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]

Despite my comments of slight reservation on whether the research was justified, if the genetic data was gathered as proposed in this proposal it would undoubtedly be used in future decision making. Genetic data has a track record of being used in decision making. The question is whether or not additional data justifies the cost.

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]

Under “Monitoring and Assessment Plans” the proposal only stated “a Quality Assurance Plan (QAPP) will be developed and submitted to CALFED for review and approval before beginning field collection activities.” No details were provided in the proposal for a sampling plan.

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]

These parameters are described well. The allozyme and microsatellite DNA are scientifically sound and adequate to meet the proposed objectives. As I previously discussed, I question the scientific reliability of otolith microstructure analysis to meet the stated objectives in the proposal.

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]

No returning adult run size information was given for the populations that were proposed to be sampled for carcasses. To obtain the desired maximum of 50 fresh carcasses fair numbers of returning adults in accessible areas would be required. Again, I am not aware of how it is technically feasible to meet the objectives stated with otolith microstructure analysis using the benchmarks described.

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]

Mr. Teel and Dr. Winans are well known and have several publications in the area of genetics. Dr. Garza has one “in press” publication listed which is hard to judge. Mr. Snider and Dr. Titus have no publications listed in the area of otolith microstructure analysis for which they have primary responsibility. The Co-Principal Investigators for genetic analysis have sufficient publications and/or relevant experience to efficiently and effectively implement their work. The lack of publications and experience in the area of otolith microstructure analysis is of concern for the Co-Principal Investigators for otolith analysis.

Miscellaneous comments

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

Overall Evaluation

Provide a brief explanation of your summary rating

Summary Rating

- Excellent
- Very Good
- Good
- Fair
- Poor

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

I rated this “Good” because I believe the genetic data has a large potential to be very useful. However, the proposal did not give a convincing argument that additional genetic data would be worth the cost. What could be shown and couldn’t with existing data or soon to be available data would have been useful. Additionally, no evidence was provided that the objectives of the otolith microstructure analysis could be obtained.
