i. Proposal number.# 2001-K204*

ii. Short proposal title .# Supplementation Program to Preserve Genetic Integrity of Endangered Salmon*

APPLICABILITY TO CALFED ERP GOALS AND IMPLEMENTATION PLAN
1a1. Link to ERP Strategic Goals: What Strategic Goal(s) is /are addressed by this proposal? List the letter(s) of all that apply.

A. At-risk species
B. Rehabilitate natural processes
C. Maintain harvested species
D. Protect-restore functional habitats
E. Prevent non-native species and reduce impacts
F. Improve and maintain water quality# A*

1a2. Describe the degree to which the proposal will contribute to the relevant goal. Quantify your assessment and identify the contribution to ERP targets, when possible.# This proposed study is directed a improving genetic management techniques for winter-run chinook salmon in order to better contribute to winter-run recovery. This proposal will directly contribute to the desired goal.*

1b. Objectives: What Strategic Objective(s) is/are addressed by this proposal? List Objective (from the table of 32 objectives) and describe potential contribution to ERP Goals. Quantify your assessment, when possible.# Goal 1, Objective 1: Achieve, first, recovery and then large self-sustaining populations of winter-run chinook salmon.*

1c. Restoration Actions: Does the proposal address a Restoration Action identified in Section 3.5 of the PSP? Identify the action and describe how well the proposed action relates to the identified Restoration Action.# Yes. This proposal directly responds to the PSP request for genetic assessment proposals of Central Valley salmonids.*

1d. Stage 1 Actions: Is the proposal linked directly, indirectly or not linked to proposed Stage 1 Actions? If linked, describe how the proposal will contribute to ERP actions during Stage 1.# Genetic analyses are not directly specified in the list of Stage 1 actions and that list does not generally address issues related to comprehensive monitoring and research.*

1e. MSCS: Describe how the proposal is linked to the Multi-Species Conservation Strategy and if it's consistent with the MSCS Conservation measures. Identify the species addressed and whether the proposal will "recover", "contribute to recovery" or "maintain" each species.# Winter-run chinook salmon are classified in the MSCS as a "recover" species. This proposed study will improve propagation techniques to protect the genetic identity of winter-run and contribute to its long-term survival and recovery.*

1f. Information Richness/Adaptive Probing related to the proposal: Describe the degree to which the proposal provides information to resolve one of the 12 scientific uncertainties (Section 3.3 of the PSP), and whether the proposal offers a prudent approach to answer these uncertainties.# The proposal indirectly addresses one of the twelve uncertainties: the importance of the Delta for salmon. The techniques developed in this study will allow individual chinook to be analyzed and a determination made whether or not it is a winter-run chinook. This will have tremendous benefits to understanding the role of the Delta, in better understanding winter-run life history, and the identification of winter-run at the state and federal pumping plants.*

1g. Summarize comments from section 1a through 1f related to applicability to CALFED goals and priorities. Identify the strengths and weaknesses of the proposal, highlighting the applicability of the proposed project to CALFED and CVPIA goals and priorities. Focus on aspects of the proposal that may be important to later stages in the project review and selection process.# This study is a valuable step forward in genetic management of an endangered salmon partially supported by a hatchery propagation program. The products of this effort may represent transferable technology to establish management parameters for other endangered salmonids such as spring-run chinook and steelhead. It expands on years of winter-run chinook genetic research and will likely provide the desired outcome of identifying or separating individual conspecific chinook based on polymorphic genetic markers.*

APPLICABILITY TO CVPIA PRIORITIES

1i. Describe the expected contribution to natural production of anadromous fish. Specifically identify the species and races of anadromous fish that are expected to benefit from the project, the expected magnitude of the contribution to natural production for each species and race of anadromous fish, the certainty of the expected benefits, and the immediacy and duration of the expected contribution. Provide quantitative support where available (for example, expected increases in population indices, cohort replacement rates, or reductions in mortality rates).# By using rapid procedures for identifying natural spawned winter-run from hatchery supplemented fish enables managers to avoid hybridization of non winter-run with winter-run chinook salmon. This proposal will allow workers to identify winter-run fish prior to artificial propagation, to develop molecular markers that allow workers to annually monitor natural and anthopogenic environmental changes on stock genetic variation, genotype winter-run carcasses and emigrating juveniles to determine more accurate population estimates, assess the natural spawning population in Battle Creek and further investigate the impact of the supplementation program on the natural spawning winter-run chinook salmon population. The products from this research contribute immediately to natural production by insuring maintenance of genetic variation and enhancement of the effective population size of winter-run chinook salmon. This research is designed to overcome common problems associated with hatchery supplementation programs, hybridization between genetically distinct populations and overproduction of a few genotypes which have the ability to swamp the wild population, reducing genetic variability. The duration of the expected results are longterm.*

1j. List the threatened or endangered species that are expected to benefit from the project. Specifically identify the status of the species and races of anadromous fish that are expected to benefit from the project, any other special-status species that are expected to benefit, and the ecological community or multiple-species benefits that are expected to occur as a result of implementing the project.# This proposal targets the winter-run chinook salmon (endangered).*

1k. Identify if and describe how the project protects and restores natural channel and riparian habitat values. Specifically address whether the project protects and restores natural channel and riparian habitat values, whether the project promotes natural processes, and the immediacy and duration of benefits to natural channel and riparian habitat values.# This project does not address restoration of natural channel and riparian habitat values.*

1l. Identify if and how the project contributes to efforts to modify CVP operations. Identify the effort(s) to modify CVP operations to which the proposed project would contribute, if applicable. Efforts to modify CVP operations include modifications to provide flows of suitable quality, quantity, and timing to protect all life stages of anadromous fish as directed by Section 3406 (b)(1)(B) of the CVPIA, including flows provided through management of water dedicated under Section 3406(b)(2) and water acquired pursuant to Section 3406(b)(3).# This proposal does not modify CVP operations.*

1m. Identify if and how the project contributes to implementation of the supporting measures in the CVPIA. Identify the supporting measure(s) to which the proposed project would contribute, if applicable. Supporting measures include the Water Acquisition Program, the Comprehensive Assessment and Monitoring Program, the Anadromous Fish Screen Program, and others.# This work is applicable to Anadromous Fish Restoration Program because it deals directly with sustaining and enhancing natural producing populations of winter-run chinook salmon.*

1n. Summarize comments from section 1i through 1m related to applicability to CVPIA priorities (if applicable, identify the CVPIA program appropriate to consider as the source of CVPIA funding [for example, the Anadromous Fish Restoration Program, Habitat Restoration Program, Water Acquisition Program, Tracy Pumping Plant Mitigation Program, Clear Creek Restoration Program, Comprehensive Assessment and Monitoring Program, and Anadromous Fish Screen Program]). Identify the strengths and weaknesses of the proposal, highlighting the applicability of the proposed project to CALFED and CVPIA goals and priorities. Focus on aspects of the proposal that may be important to later stages in the project review and selection process.# The products from this research contribute immediately to natural production by insuring maintenance of genetic variation and enhancement of the effective population size of winter-run chinook salmon. This research is designed to overcome common problems associated with hatchery supplementation programs, hybridization between genetically distinct populations and overproduction of a few genotypes which have the ability to swamp the wild population, reducing genetic variability. This work supports CVPIA priorities, particularly those of the Anadromous Fish Restoration Program. This proposal represents an important component of the restoration program for chinook salmon, particularly winter-run. Past work by this group has addressed genetic identification of spring-run chinook salmon, another important race requiring genetic research and monitoring. Developing the tools necessary to adaptively manage and understand the natural and anthopogenic environmental changes on stock genetic variation is critical to adaptively managing chinook salmon populations, particularly the endangered winter-run chinook salmon race.*

RELATIONSHIP TO OTHER ECOSYSTEM RESTORATION PROJECTS

2a. Did the applicant explain how the proposed project relates to other past and future ecosystem restoration projects, as required on page 57 in the PSP? Type in yes or no.# yes*

2b. Based on the information presented in the proposal and on other information on restoration projects available to CALFED and CVPIA staff, describe how the proposed project complements other ecosystem restoration projects, including CALFED and CVPIA. Identify projects or types of projects that the proposed project would complement, now or in the future. Identify source of information.# Project is linked to genetic research to protect Central Valley chinook salmon funded by DWR conducted below the spawning grounds, through the Delta and to the ocean to

detect winter-run. This project complements CALFED work by increasing understanding of winter-run outmigration behavior. Source: Proposal*

RESULTS AND PROGRESS ON PREVIOUSLY FUNDED CALFED AND CVPIA PROJECTS, INCLUDING REQUESTS FOR NEXT-PHASE FUNDING

3a1. Based on the information presented in the proposal and on project reports and data available to CALFED and CVPIA staff, has the applicant previously received CALFED or CVPIA funding? Type CALFED, CVPIA, both, or none .# both*

3a2. If the answer is yes, list the project number(s), project name(s) and whether CALFED or CVPIA funding. If the answer is none, move on to item 4.# CVPIA 1448-11330-97-J194 - Genetic Maintenance of Hatchery-and-Natural-Origin winter-run chinook salmon. CALFED 95M08, 96M11 - Molecular Genetic Identification of Chinook Salmon Runs Focusing on Spring-run*

3b1. Based on the information presented in the proposal and on project reports available to CALFED and CVPIA staff, did the applicant accurately state the current status of the project(s) and the progress and accomplishments of the project(s) to date? Type yes or no.# yes*

3b2. If the answer is no, identify the inaccuracies:#

3c1. Has the progress to date been satisfactory? Type yes or no.# yes*

3c2. Please provide detailed comments in support of your answer, including source of information (proposal or other source):# Earlier CALFED projects 95M08 and 96M11 are completed and CVPIA project scheduled for completion this year and have published reports. Source: Proposal, contract documents*

REQUESTS FOR NEXT-PHASE FUNDING

3d1. Is the applicant requesting next-phase funding? Type yes or no.# yes*

3d2. If the answer is yes, list previous-phase project number(s) here. If the answer is no, move on to item 4.# 1448-11330-97-J194, 95M08, 96M11*

3e1. Does the proposal contain a 2-page summary, as required on pages 57 and 58 of the PSP? Type yes or no.# yes*

3e2. Based on the information presented in the summary and on project reports available to CALFED and CVPIA staff, is the project ready for next-phase funding? Type yes or no.# yes*

3e3. Please provide detailed comments in support of your answers, including source of information (proposal or other source):# See notes under 3c2. Data generated by the earlier work is being used to confirm run identity of the brood stock collected for propagation and determine parentage of spawners, validating need for further study. Source: Proposal, contract documents*

LOCAL INVOLVEMENT

4a. Does the proposal describe a plan for public outreach, as required on page 61 of the PSP? Type yes or no.# yes*

4b. Based on the information in the proposal, highlight outstanding issues related to support or opposition for the project by local entities including watershed groups and local governments, and the expected magnitude of any potential third-party impacts.# There are no outstanding issues blocking implementation of this proposed research.*

ENVIRONMENTAL COMPLIANCE

4d. List any potential environmental compliance or access issues as identified in the PSP checklists.# Will need CEQA to comply with CESA.*

4e. Specifically highlight and comment on any regulatory issues listed above that may prevent the project from meeting the projected timeline.#None*

COST

5a. Does the proposal include a detailed budget for each year of requested support? Type yes or no.# yes*

5b. Does the proposal include a detailed budget for each task identified? Type yes or no.# yes*

5c. Is the overhead clearly identified? Type yes or no.# yes*

5d. Are project management costs clearly identified? Type yes or no.# yes*

5e. Please provide detailed comments in support of your answers to questions 5a - 5d.# Indirect rates of 10
%-state for a total project amount of $356,190 and 26 %-federal for a total project amount of $400,000 are quoted.*

COST SHARING

6a. Does the proposal contain cost-sharing? Type yes or no.# no*

6b. Are applicants specifically requesting either state or federal cost share dollars? Type state, federal, or doesn't matter.# Doesn't matter*

6c. List cost share given in proposal and note whether listed cost share is identified (in hand) or proposed.

6c1. In-kind:# $0*

6c2. Matching funds:# $0*

6c3. Show percentage that cost sharing is of total amount of funding requested along with calculation.# $0%*

6d. Please provide detailed comments in support of your answers to questions 6a - 6c3.# In-kind services
being provided by Dr. Hedgecock, but no amount provided.*