CALIFORNIA BAY-DELTA AUTHORITY

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CONSIDERATION OF A RESOLUTION AUTHORIZING THE DIRECTOR, OR DESIGNEE TO SIGN AN INTERAGENCY AGREEMENT WITH DEPARTMENT OF WATER RESOURCES TO PROVIDE PROPOSITION 50 FUNDS FOR THE EXISTING UPPER YUBA RIVER STUDIES PROGRAM
Agenda Item: 10

Meeting Date: 08-14-03

Summary: This resolution would authorize the Director, or designee, to sign an interagency agreement with the Department of Water Resources to fund continuation of the Upper Yuba Studies Program. The program was initiated in 1999, to determine if introduction of wild Chinook salmon and steelhead to the upper Yuba River is biologically, environmentally, and socio-economically feasible over the long-term. This program has made significant progress and requires additional funds to continue its work.

Recommended Action: Adopt Resolution 03-08-15.

Staff Recommendation: Staff recommends that the Authority adopt the attached resolution, approving an interagency agreement with the Department of Water Resources (DWR) to provide Proposition 50 funds to continue Phases 2C and 3 of the Upper Yuba River Studies Program.

Background

The CALFED Programmatic Record of Decision (ROD) specifies that "CALFED agencies will support studies to determine if introduction of wild Chinook salmon and steelhead to the Upper Yuba River is biologically, environmentally, and socio-economically feasible over the long-term…" Support for this program also is specified in California's Water Future: A Framework for Action, which states that "CALFED also will continue facilitating stakeholder discussions and evaluation of methods for providing fish passage for Englebright Dam on the Yuba River." Furthermore, the Ecosystem Restoration Program Plan specifies the following programmatic action: "Conduct a cooperative study to determine if introduction of wild Chinook salmon and steelhead to the Upper Yuba River watershed is biologically, environmentally, and socio-economically feasible over the long-term." The impetus for this effort is an effort to recover spring-run Chinook salmon and steelhead. Spring-run are State and Federally listed as threatened and the steelhead is a Federally listed species.

In 1999, the Bay-Delta Program held several meetings to solicit public input on introducing wild Chinook salmon and steelhead into the Upper Yuba River and to establish the framework for a collaborative effort to determine the feasibility of a fish passage project, including possible

modification of Englebright Dam. Through a facilitated process supported by the Bay-Delta Program, a local stakeholder Work Group was established and study objectives were developed.

The Work Group developed scopes of work for a comprehensive study program to generate the information needed to assess feasibility. A Technical Review Panel convened by the Bay-Delta Program reviewed these study plans in September 2001. In November 2001, the Bay-Delta Program/DWR solicited qualifications (RFQ #10044666) from qualified firms to implement the study program. Through a competitive process, CH2M HILL was selected based on its statement of qualifications and performance at the interview. In August 2002, DWR Agreement No. 4600002305 was executed and funding ($2,100,000) was allocated to the data collection elements of the program as well as project management and public facilitation. Two major study elements of the program (water quality and sediment studies) are lead by USGS under a separate contract (about $4,600,000). Although, conducted by separate entities, all program studies are coordinated and conducted in collaboration with the stakeholder Work Group.

Since August 2002, the study team has made substantial progress on implementing the study program. The team has refined the study plan, initiated data collection in all six study areas (i.e., habitat, water supply, flood risk, sediment, water quality, and economics), and continues to interact routinely with the stakeholder Work Group. Completion of data collection (field conditions permitting), preparation of an interim report, and review by the Technical Review Panel is scheduled in early October 2003.

Due to budget availability at the time the CH2M HILL contract was issued, only the data collection elements of the six study areas and the corresponding project management and public facilitation tasks were funded. Approval of this interagency agreement will provide the funding needed to conduct the remaining tasks of the study program, including facilitation of a recommendation from the Work Group regarding the technical feasibility of moving forward to define a specific fish passage/habitat improvement project.

Fiscal Information

Funding Source: Proposition 50: $1,300,000
Term: July 1, 2003 to June 30, 2006
Total Amount: $1,300,000

List of Attachments

Proposed Scope of Work

Contact

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CALIFORNIA BAY-DELTA AUTHORITY
RESOLUTION NO. 03-08-15

CONSIDERATION OF A RESOLUTION AUTHORIZING THE DIRECTOR, OR DESIGNEE, TO SIGN AN INTERAGENCY AGREEMENT WITH DEPARTMENT OF WATER RESOURCES TO PROVIDE PROPOSITION 50 FUNDS FOR THE EXISTING UPPER YUBA RIVER STUDIES PROGRAM

WHEREAS, the CALFED Programmatic Record of Decision and Ecosystem Restoration Program Plan specify that "Bay-Delta agencies will support studies to determine if introduction of wild Chinook salmon and steelhead to the Upper Yuba River is biologically, environmentally, and socio-economically feasible over the long term;" and

WHEREAS, The Resources Agency previously provided Proposition 204 Ecosystem Restoration Account funds to Department of Water Resources for this cooperative study, now known as the Upper Yuba River Studies Program; and

WHEREAS, the study team established by the Department of Water Resources has made substantial progress on the Upper Yuba River Studies Program, including refining the study plan, initiating data collection in six study areas (habitat, water quality, flood risk, sediment, water quality, and economics), and interacting routinely with a stakeholder work group; and

WHEREAS, the Upper Yuba River Studies Program is consistent with the California Bay-Delta Authority's role in coordinating the implementation of the Bay-Delta Program, and ensuring a balanced approach to evaluating potential actions in the Upper Yuba River;

NOW, THEREFORE, BE IT RESOLVED that the Authority authorizes the Director, or designee, to sign an interagency agreement with Department of Water Resources to provide Proposition 50 funds for the Upper Yuba River Studies Program, as generally described in the attached proposed scope of work, for an amount not to exceed $1,300,000, subject to appropriation of adequate funds.

CERTIFICATION

The undersigned Assistant to the California Bay-Delta Authority does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the California Bay-Delta Authority held on August 14, 2003.

Dated:

Heidi Rooks
Assistant to the California Bay-Delta Authority

Attachment 1
Upper Yuba River Studies Program - Phase 2C and 3
Scope of Work

1. General Statement of Work and Deliverables

Task 1. Fish Habitat Analysis (Phase 2C)

Description of Tasks
The Upper Yuba River Studies Program (UYRSP) is intended to determine the feasibility of introducing wild Chinook salmon and steelhead into the river upstream of Englebright Dam. Phase 2B of the study program will generate the information necessary to characterize current habitat conditions upstream and downstream of Englebright Dam. Phase 2C of the program will analyze the potential effects of various options for providing fish access to the upper river and generally determine the relative contribution that habitat upstream of the dam would make to the populations of these species. These tasks address Phase 2C activities and are consistent with the scope of work approved by the Upper Yuba Studies Program Work Group and the direction provided by the Technical Review Panel.

The UYRSP Work Group identified several general options for providing access to the Yuba River upstream of Englebright Dam by wild Chinook salmon and steelhead. Each of these options will be evaluated for its potential effect on the availability and suitability of fish habitat upstream and downstream of Englebright Dam. The analysis also will include a general assessment (e.g., order of magnitude) estimate of how each of the various options would influence fish abundance.

Scope of Work

Task 1.1 Fish Telemetry Study
This task will examine the suitability of the upper river by introducing radio tagged Chinook salmon upstream of the dam and monitoring their upstream migration and holding behavior. This will be a pilot study to help determine the suitability of the river under current conditions and to develop insights on factors that might influence overall suitability. The concept and objectives of this study are supported by the Upper Yuba River Habitat Technical Committee. This task is consistent with the scope of Task Order 1 and the direction provided by the Technical Review Panel.

Twenty-four adult spring-run Chinook obtained from Feather River Hatchery will be radio tagged with temperature-sensitive radio transmitters. The availability of fish will be dependent on possible Section 10 permit authorization from NOAA Fisheries. The radio transmitters will be individually identifiable by radio frequency (48-49 MHz) and temperature sensitive to allow detection of water temperature determined by pulse rate. The salmon will be radio tagged at Feather River Hatchery and transported to the upper Yuba River. Twelve fish will be released in the Middle Yuba River and twelve fish will be released in the South Yuba River during May or June 2003. Over a period of approximately two months, three helicopter surveys of the Middle and South Yuba Rivers will be performed by scanning the river with a mobile radio receiver to detect the location of individual fish. Upon detection of each frequency, the pulse rate will be

recorded to determine water temperature at the fish location. The proximity of barriers and holding habitat to the location of individual radio-tagged spring run Chinook will be recorded.

Task 1.2 Analysis of Upper River Habitat

Previous elements of the study program produced information on the current condition of aquatic habitat in the upper river, which will serve as the baseline for evaluating potential changes that could occur under the various passage options. Under this task, the effects of the various options on fish habitat will be analyzed. The analyses will specifically address the following:

- Effect of each option on flow and the habitat attributes influenced by flow (e.g., water temperature, passage, availability of spawning areas).
- Effect of potential water quality changes (e.g., mercury) related to re-suspension and transport of sediment on fish in the upper river.
- Effect of altered sediment regimes on the suitability of spawning habitat.
- Effects of potential changes in upstream reservoir operation on stranding.

In addition, the analysis will include general discussion on the extent to which additional habitat could contribute to the continued persistence of the species (i.e., Chinook salmon and steelhead) in the Central Valley. It also will identify the potential for improvement of habitat quality through management or restoration activities, including an evaluation of the effect of flows on water temperature.

Task 1.3 Analysis of Fish Passage Options (Lower River Habitat Study)

The various identified options for introducing wild Chinook salmon and steelhead upstream of Englebright Dam have the potential to influence habitat in the lower Yuba River, particularly those that alter the configuration of the dam. Englebright Dam currently plays several important roles in watershed and river ecosystem dynamics. It will be necessary to develop an understanding of each of the roles that Englebright Dam plays in order to predict the effects of the various options on habitat in the lower Yuba River. Each of these roles is described below.

- Capture of sediment – Englebright Lake captures much of the heavy load of sediment still being carried by the Yuba River watershed above Englebright Dam. Removal or modification of the dam may allow this sediment load to reach the lower river and downstream habitats, which could have an impact on salmon and steelhead survival and population numbers.
- Water temperature – Englebright Lake allows water retention and heating of surface waters, but it also captures cold water releases from Bullards Bar Reservoir and discharges these colder waters selectively to the lower river to the benefit of salmon and trout. Removal or modifications to Englebright Dam and Lake may alter the temperature regime of the lower river.
- Chemical pollutants – pollutants such as mercury may be retained in the reservoir sediments. Changes or modifications to the dam may release toxic levels of such pollutants into the ecosystem and should be examined.
- Nutrients/Organic Carbon – nutrient budgets in the lower river are heavily influenced by releases from Englebright Dam. Nutrient budgets with and without changes or modifications to the dam need to be considered.

- Food production – aquatic invertebrates such as lake zooplankton, lake phytoplankton, and lake nutrients have a potential effect on the lower river food chain that will be altered if changes or modifications to the dam are made.

The removal or modification of Englebright Dam or a change in the flow regime to restore habitat in the Upper Yuba River could potentially lead to changes in the habitat in the lower Yuba River. Habitat changes in the lower Yuba River may also occur as a result of no action (e.g., gravel starvation). To assess the potential changes in habitat conditions in the lower Yuba River resulting from the various options (including equal analysis of no action), an examination of the effect of several analysis scenarios should be conducted for each of the parameters identified above.

Task 1. 4 Prepare Draft and Final Technical Memoranda for Phase 2C

A draft of the Upstream and Downstream Habitat technical memorandum will be prepared for distribution to the Habitat Technical Committee. Based upon comments on the draft, the final technical memorandum will be prepared for distribution to the Habitat Technical Committee. The technical memorandum will summarize the information collected as it relates to the purpose of the study program, and developed in Phase 2B and present the results of the Phase 2C analysis of effects of the various scenarios on downstream habitat. In addition, suggestions for future evaluations, including development of alternatives and mitigation measures, should be described, if appropriate. The final technical memorandum will be combined with the Phase 2B findings and incorporated into a comprehensive report describing the results of the Upper Yuba River Studies Program.

Deliverables

Contractor shall present the methods and results of the telemetry study in the draft Phase 2B Study Technical Memorandum. The Contractor will make all field data available, including geospatial information.

Contractor shall submit draft (1) and final technical memoranda summarizing the information developed in Phase 2B and presenting the results of the analyses conducted in Phase 2C.

Task 2. Flood Risk Analysis (Phase 2C)

Description of Tasks

Any modification of Englebright Dam to provide fish passage upstream could influence the risk of flood in downstream areas. Under Phase 2B of the Upper Yuba River Studies Program, current conditions and the potential for flood downstream of Englebright Dam were described. The following tasks include the analysis of flood risk under the various options for passage and identification and analysis of potential means for mitigating any changes in flood risk.

Scope of Work

Task 2.1 Analyze Action Options

The effects of the action scenarios on sediment transport and flood risks over an appropriate time period, such as 50 years, should be evaluated. The length of the appropriate time period should be selected based on results from the sediment transport analysis, as changing sediment conditions will change flood hazards over time. Projected changes in sediment supply, bed

morphology and watershed hydrology should be accounted for in the evaluation of long-term flood risks.

The potential analysis scenarios should be based on the range of study options developed by the stakeholders and should endeavor to encompass the range of potential study option impacts. These analysis scenarios will be defined with sufficient detail to allow a preliminary level of analysis with respect to their implications for flood risk management considerations.

An analysis of each scenario should be conducted to determine its expected impact on flood risks. The level of analysis must be sufficient to determine the nature of appropriate impact mitigation.

Task 2.2 Formulate Mitigation Options

Technically feasible mitigation measures that may be employed to maintain or reduce flood risk compared to the no action scenario must be identified. Mitigation associated with sediment management should be identified as part of the Sediment Studies for this effort, described elsewhere. Mitigation of any residual flood risk effects of each of the selected scenarios for fish passage at Englebright Dam may be achieved through implementation of flood risk management measures, including:

- Bypasses
- Levee setbacks
- Sediment dredging, removal, or other management
- Modification of existing dams on the Yuba system
- Modification of policies and operations rules at reservoirs on the Yuba system
- Other approaches

This evaluation of available mitigation should draw heavily upon existing flood management studies, such as those completed by the US Army Corps of Engineers and the Yuba County Water Agency. In addition, examination of basin context and the available information to identify new or previously reviewed flood management scenarios that may provide satisfactory flood mitigation for the selected scenarios is an option. After evaluating and selecting the most appropriate mix of mitigation measures for each of the selected scenarios in consultation with the project team and stakeholders, it will be necessary to assist the project team in the preparation of a preliminary description of mitigated scenarios.

Task 2.3 Analyze Mitigated Options

Using the preliminary description of mitigated scenarios, the flood risk impacts of each must be analyzed. The analysis will include an evaluation of the nature of the flood risks associated with the mitigated scenario and an assessment of how those risks would change over time as channel conditions evolved. Analyses may include probabilistic depth-area-duration analysis and depth-damage analysis or other recommended approaches. Analyses should address a range of flood risk conditions, up to and including the highest design level of flood risk protection provided in the no action scenario.

Cost information on flood management mitigation included in the Mitigated Options must also be developed as part of this task for use in the economic feasibility analysis. For budgeting purposes, it is assumed that planning level capital and maintenance cost information can be

derived for the flood risk mitigation based on available data from prior studies. The degree of uncertainty associated with each cost estimate should be identified.

Task 2.4 Perform Flood Risk Management Feasibility and Performance Analysis
In consultation with the stakeholders and the consultant team, the criterion to assess the feasibility of the mitigated scenarios with respect to flood risk management should be reviewed. This criterion is currently defined as follows:

The flood risks of each mitigated scenario evaluated over an appropriate time period must be equivalent to or better than the no action scenario to be considered "feasible" with respect to flood risk management.

An appropriate time period for analysis will be identified as part of this task. Further modification of this criterion or the development of additional flood risk criteria may also be appropriate as a result of this review.

Other aspects of implementing the mitigated scenarios should be assessed for feasibility as a part of other work tasks, such as economic analysis. For example, where cost estimates have been developed for implementing the mitigation for a given scenario, these should be included in the economic analysis of the scenario to determine economic "feasibility." Where cost estimates have not been developed for the mitigations associated with a given scenario, the economic analysis of the scenario may be found "feasible," pending additional economic information. Assessment of other impacts of implementing the mitigated scenarios may also be deferred for further analysis if the current or prior studies do not sufficiently address them. For example, some mitigation may have habitat impacts that have not been quantified or assessed by any existing study. The current study does not include assessment of all aspects of implementing flood risk mitigation. Thus, further impact assessment beyond this study may be necessary to ultimately weigh the merits of any scenarios found "feasible" or "potentially feasible" by this study.

Task 2.5 Prepare Flood Risk Management Element Technical Memorandum
A technical memorandum addressing flood risk management issues will be required. This memorandum will provide a description of the flood risk management context in the study area, an overview of the health and safety issues associated with the studied scenarios, a description of the mitigated scenarios, an assessment of the flood risk impacts of the scenarios, and an assessment of the feasibility of the scenarios from a flood risk standpoint.

The technical memorandum will contain a technical appendix describing the analysis methodology and data sources, and any additional supporting technical detail necessary to document the flood risk management analyses performed for this study.

A draft copy will be submitted for review and comment. The final technical memorandum will incorporate comments received on the draft. The final technical memorandum will be combined with the Phase 2B findings and incorporated into a comprehensive report describing the results of the Upper Yuba River Studies Program.

Deliverables
The Contractor shall prepare a flood risk management technical memorandum (i.e., Phase 2C report) that includes the following:

- Description of the methods used to evaluate the various passage option scenarios
- Presentation of the results of the analyses
- Description of potential measures to mitigate any changes in flood risk
- Review of the feasibility and performance of the identified mitigation measures

Task 3. Water Supply and Hydropower Analysis (Phase 2C)

Description of Tasks
Implementation of fish passage plans at Englebright Dam may require changes in seasonal water release patterns from existing facilities both in quantity and timing. Minimum in-stream flows may lead to changes in water supply diversions, hydropower generation releases, and water elevations in the PG&E and NID lakes and reservoirs. Some of these changes may involve modifications in water supply and hydropower operations that do not directly affect the use or value of the water. However, some of these changes may require demand and/or supply side mitigation measures. An assessment of current conditions in the watershed was conducted under Phase 2B of the study program. These tasks are intended to analyze the effects of changes in water supply and hydropower generation associated with the various options for providing fish passage identified by the Upper Yuba River Studies Program Work Group. These tasks are consistent with the scope of work approved by the Upper Yuba Studies Program Work Group and the direction provided by the Technical Review Panel.

Scope of Work

Task 3.1 Confirm Model Simulation of Existing Conditions and Evaluate Conditions of Options

The model developed under tasks 5.3 and 5.4 of Task Order 5 will be run and the results reviewed to determine that the model accurately simulates existing conditions. The sensitivity and approximate accuracy of the model also will be identified and documented.

Results from the Upper and Lower Habitat, Water Quality, Sediment, and Flood Risk study teams will be reviewed to determine the need and the method to modify input data and model assumptions to simulate operations with fish passage at Englebright Dam under various options. For the purposes of this Scope of Work, it is anticipated that the options would include:

- Decommissioning
- New or alternate channels
- "Dry" dam
- Lowering the dam
- Fish ladder

All of these options are presumed to enable fish passage into the upper reaches of the Yuba River and its tributaries. It could be assumed that this would result in a single set of minimum in-stream flows to provide appropriate habitat and attraction and out-migration flows with possible ranges during different water year types. Therefore, this scope of work assumes that the results from the other teams will yield up to five separate sets of in-stream flow options with different in-stream flow patterns for each of five water year types.

Under this task, the model will be run to determine the need for changes in diversions for direct use, or storage to modify in-stream flow options. The evaluation of options will focus on changes in in-stream flows, reservoir storage levels and carryover storage, water supply reliability, hydropower generation, recreational opportunities, and surface water elevations on adjacent lands along and within the river corridor in the Yuba River watershed and affected portions of the Bear River watershed. The monthly model outputs will be presented for each river reach and reservoir, as described above and, for each diversion in the model. The results will be presented for the entire duration of the hydrologic sequence in several methods, including as a frequency presentation, as well as summarized for each of the five water year types by monthly and annual average values as compared to the appropriate baseline conditions. Spreadsheet models will be used to evaluate the effects of in-stream flow prescriptions in time steps that are smaller than one month in duration.

Groundwater conditions will be described based upon best engineering judgment associated with the scenarios and compared to the appropriate baseline conditions.

Summary Memorandum

A memorandum will be prepared to describe the options and the results of the evaluation of options as compared to existing conditions. A draft memorandum will be provided to the Water Supply and Hydropower Technical Committee for review. Comments received on the draft memorandum will be used to modify the final memorandum.

Meetings

At the first meeting(s), the primary input values into the models will be evaluated and compared with information collected under tasks 5.1 and 5.2 of Task Order 5. At subsequent meetings, the results of the initial model runs will be reviewed to determine if changes in water release or diversion patterns would be required to meet the in-stream flow needs. Methods to support the model assumptions will be discussed. A final meeting(s) will be held to review the draft memorandum that summarizes the efforts completed under this task.

Task 3.2 Evaluate Potential Measures to Mitigate Water Supply and Hydropower Effects (from Options)

Potential need for changes in the water rights, water use, water use agreements (including the sale of water between willing sellers and willing buyers), flood control criteria, recreational water level or flow criteria, or hydropower agreements to allow changes in in-stream flows will be identified in general terms. Mitigation measures, including measures that would reduce water demands, physically modify water supply or hydropower generation facilities, modify water rights or hydropower agreements and uses, provide alternative water supplies, provide alternative recreational opportunities, provide for the sale of water between willing sellers and willing buyers, facilitate or provide other options to meet the goals and agreements of the Upper Yuba River Studies Program, will be identified for review by the water purveyors and hydropower generators and reviewed by Water Supply and Hydropower Technical Committee. (This review will be undertaken with the assistance of one independent expert chosen by each Team.) These measures may include water conservation, changes for in-district storage operations, changes in hydropower generation patterns, reuse of tailwater, reduction in agricultural water demands by changing crop patterns, conveyance system improvements, and other demand-side measures.

The potential for reduction of impacts or for providing additional benefits to Yuba River water users of these mitigation measures will be evaluated using the hydrologic model in one or more

iterations. Associated groundwater conditions and surface water conditions that cannot be simulated using the models will be described based upon best engineering judgment associated with the scenarios and compared to the appropriate baseline conditions. This analysis will evaluate the changes related to existing habitat, water supply reliability, hydropower generation and the value of generation throughout the year, recreational opportunities, flood control abilities, view-shed characteristics, and water elevations on adjacent lands along and within the river corridor in the Yuba River watershed and the affected portions of the Bear River watershed. These changes will be considered for both the beneficial and adverse impacts of these uses. For example, reduction in river flows during summer months may reduce the opportunities for agricultural diversions during extremely dry summer months, but use of water conservation measures to reduce the potential for adverse impacts to a less than significant level may reduce overall costs of irrigation in all months.

Summary Memorandum
A memorandum will be prepared to describe the mitigation measures considered and the associated impacts and benefits of these measures as compared to the appropriate baseline conditions. A draft memorandum will be provided to the Water Supply & Hydropower Technical Committee for review. Comments received on the draft memorandum will be used to modify the final memorandum.

Meetings
At the first meeting(s), an initial set of mitigation measures will be defined and described for use in subsequent model runs. At subsequent meeting(s), the results of the subsequent model runs will be reviewed to determine the need to consider other mitigation measures or sets of measures. (This will be an iterative process.) At the final meeting(s), the draft memorandum that summarizes the efforts completed under this task will be reviewed.

Task 3.3 Prepare Draft and Final Technical Report
An administrative draft of the Water Supply Tasks technical report will be prepared for distribution to the Water Supply and Hydropower Technical Committee. Comments on the administrative draft of the technical report will be incorporated, and the draft technical report will be prepared for distribution to the Workgroup. Comments received on the draft technical report will be compiled into the final technical report.

The technical report will summarize the information collected and developed in Tasks 5.1 through 5.6. In addition, suggestions for future evaluations, including further development of alternatives and mitigation measures, will be described, if appropriate. The final memoranda prepared for each task and terms and conditions for water rights and water supply agreements (initially presented in Tasks 5.1 and 5.2) will be included as appendices to the technical report.

The final technical memorandum will be incorporated into a comprehensive Phase 2C report describing the results of the Upper Yuba River Studies Program.

Deliverables
The Contractor shall prepare draft and final summary technical memoranda that describe the options and the results of the evaluation of options as compared to existing conditions. The summary memoranda also will describe the mitigation measures considered and the associated impacts and benefits of these measures as compared to the appropriate baseline conditions. A draft of this summary memorandum will be provided to the Water Supply and Hydropower

Technical Committee for review. Comments received on the draft memorandum will be used to modify the final memorandum.

The contractor shall prepare draft and final Phase 2C technical memoranda that describe the findings of the water supply and hydropower analyses.

Task 4. Economics and Social Analysis (Phase 2C)

Description of Tasks
A project to provide fish passage to the Upper Yuba River has the potential to influence the local and regional economies and the social character of the local community. Under Phase 2B of the Upper Yuba River Studies Program, baseline economic conditions in the study area were characterized. These tasks will analyze the potential economic and social impacts of various fish passage options.

Task 4.1 Economic Feasibility Analysis
This task encompasses the actual estimation and comparison of all measures recommended in Task 6.5. The output of Task 6.6 is the creation and execution of scopes of work for the individual sub-analyses and a final report that presents the results of all analyses conducted for the economic feasibility analysis.

It will be the responsibility of the consultant to ensure that the valuations conducted for benefit cost analysis are as well coordinated with the regional economic and fiscal analyses, and that all analyses are internally consistent. This consistency is required in three areas:

1. The same baseline conditions must be used in all analyses.

2. The majority of the analyses should be based on a single set of anticipated physical changes to the environment for each program option. For example, if a particular series of expected river flow conditions are used in a contingent valuation method analysis to evaluate the willingness to pay for species introduction, those same river conditions should be used in a benefits transfer analysis to evaluate the benefits from river recreation.

3. Many measures have relationships with other measures. For example, measures of non-use value of the lake ecosystem may incorporate an analysis of property values, and property values are input to the fiscal analysis through property taxes. For any economic issue, measures may be benefit-cost analysis or regional economic analysis or just the physical effect, or all of these. For example, the recreational fishing industry may want to know about their net returns, and fishing expenditures, and the number of fish. All of these might be measures to be reported, and all are related through fish populations.

The timing of when specific sub-analyses can be initiated cannot be determined at this time. This timing depends on availability of information regarding the changes in physical characteristics that the other resource sections are expected to produce. The economic analyses cannot be completed until, at a minimum, preliminary results from other resource sections are available. It is these physical changes that will be the driver of the changes in benefits, costs and economic impacts that comprise the economic feasibility analysis.

Also, the timing will depend on the number of options to be evaluated. If we are to evaluate options representing only a without-project condition and a no-lake condition, the timing of when analyses could be initiated is different than if intermediate conditions are evaluated.

It is recommended that the one economic measure should be net economic benefits from the national perspective. Where it makes sense, quantitative estimates of the benefits or costs will be generated, while some economic issues will be treated in a qualitative manner. All identifiable costs and benefits associated with the proposed program options will be included in the benefit-cost analysis.

Task 4.2 Social Analysis

The social impact analysis study will identify the potential impacts various fish passage options will have on the social character of the local communities, how community members feel about those impacts, and what social interests and concerns need to be considered by the governing bodies in selecting a fish passage option. First, the study will establish a baseline of the role that Englebright Dam plays in people's lives and its influence on people's sense of community and connection to the natural environment. Second, the study will trace the characteristics, interests, and influences, of people who will affect, or will be affected by, the various fish passage options; and the degree of attachment people have towards maintaining the status quo and/or supporting the different alternatives. The social impact analysis study will identify:

- Which stakeholders (individuals or groups) to engage as project partners
- Which stakeholders have negative interests and a high degree of influence that needs to be managed
- Which stakeholders have negative interests and a low degree of influence and can thus be safely avoided
- How stakeholders with positive interests and a high degree of influence can be best utilized
- How stakeholders with positive interests and a low degree of influence can have their influence increased
- How anticipated "losers" as a result of the project are likely to react and possible ways to mitigate their loss
- How to increase ownership among key stakeholders

The overall social analysis effort will provide the California Bay-Delta Authority (CBDA) a pulse of where community members stand in relationship to the various fish passage options; social concerns that need to be considered in designing the project; how likely the social benefits resulting from the project will be perceived by community members as widely shared; and how well the project will contribute to the local area's development objectives as well as to Authority's core mission of environmental protection.

Task 4.3 Prepare Draft and Final Phase 2C Technical Memoranda

A draft technical memorandum that presents the results of the analyses conducted under Task 12.1 will be produced and presented to the Economics Technical Team for review. The technical memorandum will include a description of the analysis techniques and economics methods applied. The final technical memorandum will incorporate comments received on the draft. The final technical memorandum will be incorporated into a comprehensive report describing the results of the Upper Yuba River Studies Program.

Deliverables
The Contractor shall prepare draft and final technical memoranda that include: the results of the economic analysis of each of the fish passage options evaluated, a description of the analysis methods used, and the results of the social analysis that places community values and efforts to provide fish passage in context.

Task 5. Project Management and Coordination (Phase 2C)

Description of Tasks
Implementation of the Upper Yuba River Studies Program requires the participation of more than 13 consultants and the integration of many specific technical studies. Most of these studies are closely linked and must be coordinated in order to ensure their successful and timely completion. In addition, the Upper Yuba River Studies Program Work Group will be providing guidance to the consultant team and will be contributing to the project decision-making throughout the process. In order to achieve this coordination, the Contractor will serve as the program manager for the project. The Contractor will be responsible for management of the consultant team, coordination of the technical feasibility studies, and facilitation of communication among the consultant and Work Group team members. These tasks cover continued project management services through Phase 2C of the program.

Task 5.1 Project Management
The Contractor will serve as the primary point of contact for CBDA and the Work Group and be responsible for managing the day-to-day activities of the project, including the following:

- Re-chartering the project team at initiation of Phase 2C to help ensure that the goals and objectives of the feasibility study are understood and that roles and responsibilities are clearly identified
- Scheduling and coordinating study elements and tasks
- Maintaining current and complete project files
- Performing monthly invoicing and documenting/reporting project progress
- Managing study or task changes or adjustments to the study program that may be necessary as a result of preliminary findings or new information
- Delivering the project on the agreed to time and budget

Task 5.2 Team Coordination
The Contractor will manage the feasibility study program and take responsibility for coordinating the consultants and technical studies and facilitating communication and the exchange of technical information among consultant team members. The Contractor also will work closely with the public facilitation consultant to keep the Work Group team members informed on project progress and to serve as the consultant team representative at Work Group meetings. The Contractor shall:

- Coordinate consultants and technical studies and exchange of information to ensure integrated technical reports
- Coordinate and schedule consultant team activities to ensure efficient collection and use of data by team members
- Attend routine Work Group meetings (including Coordination Committee, Technical Committee, and full Work Group meetings)

- Identify and coordinate consultant participation/presentations at the Work Group meetings (when necessary).
- Attend routine meetings with the public facilitation consultant
- Identify appropriate technical information for inclusion in the Upper Yuba River Studies Program Newsletter
- Coordinate interaction between the Technical Review Panel and the consultant team performing the studies

Task 5.3 Develop Analysis Scenarios

The Work Group identified six possible fish passage options (e.g., fish ladders, modification of the dam) for analysis. In order to analyze the potential effects of these options, the Contractor must define and develop the detailed assumptions that will provide a consistent basis for analyzing the potential effects of each passage option. In coordination with the technical study leads, U. S. Geological Survey, and an ad hoc committee composed of members of the Work Group, the Contractor will develop these analysis scenarios and prepare a technical memorandum describing draft scenarios for each of the passage options under consideration. The draft technical memorandum will be presented to CBDA, the Work Group, and the Technical Review Panel for review and comment prior to implementing the analyses.

Task 5.4 Project Database Maintenance

The individual study elements of Upper Yuba River Studies Program will generate a substantial amount of technical information. The various study topic areas are closely linked and the consultant team members will be dependent in part on information collected by other members. These data also will be used to draw conclusions regarding the feasibility of moving forward with a project and will serve as the basis for subsequent environmental documentation, if necessary. In order to minimize duplication of effort, the Contractor will be responsible for ensuring that the data collected by the team are consistent with the needs of the various team members. Under Phase 2C of the program, the Contractor will continue to maintain the project database that houses a complete set of project information in a format that is consistent and readily accessible to team members and others. The Contractor will maintain spatial information developed as part of the study program in a GIS database.

Task 5.5 Project Reporting

Each of the Phase 2C studies will culminate in several technical memoranda that present study results. The Contractor will coordinate the development of the individual technical memoranda and prepare a summary of all study findings. This will be delivered in the form of an integrated Phase 2C study report, which will include the individual technical memoranda as appendices.

Task 5.6 Phase 3 Coordination

Under Phase 3 of the study program, the Work Group will review and discuss the results of the studies and make a determination on whether there is sufficient habitat upstream of the dam to justify introducing fish and whether one or more of the passage options evaluated are technically feasible. This decision-making process will require continued facilitated meetings of the Work Group and its subgroups, holding meetings with the public, continued consultation with the study team members, and assistance in preparing a draft and final of the recommendation document. The Contractor will coordinate and manage these activities.

Deliverables
The Contractor will be responsible for delivering the work products:

- A draft and final technical memorandum describing the analysis scenarios for each of the project options under consideration
- A draft and final technical memorandum summarizing the information and findings developed for each of the six issue areas
- A draft and final recommendation from the Workgroup on the technical feasibility of introducing salmon and steelhead into the Upper Yuba River

Task 6. Work Group Facilitation (Phase 2C and 3)

Description of Tasks
The Upper Yuba River Studies Program is a collaborative stakeholder process. As such, consistent and effective public facilitation will be necessary. These tasks cover the continued facilitation requirements for Phase 2C of the program.

Task 6.1. Workgroup Meetings
The Contractor will facilitate and document up to 2 full Work Group meetings during Phase 2C. The Contractor will be responsible for providing meeting arrangements, noticing meeting dates, developing agendas, coordinating presentations, facilitating meeting discussions, and providing meeting summaries.

Task 6.2 Team Meetings
Individual, half-day facilitated meetings will be held with each of the three stakeholder teams, as needed. The Contractor will facilitate up to 6 team meetings (2 for each team) during Phase 2C of the program.

Task 6.3 Public Meetings
At various milestones during Phase 2C, to be determined by the Work Group, the Contractor will assist in the design and provide the facilitation for up to two sets of public meetings (each set to be held at two separate locations). These meetings will be used to present overall study progress and results, as appropriate, and to solicit comments.

Task 6.4 Communications/Coordination Committee Meetings
The Coordination Committee, composed of Team Leaders and co-leaders, serves as an executive committee with oversight responsibilities for the stakeholder driven collaborative process. The Contractor will work with the Coordination Committee on issues such as information management and general program oversight. The Contractor will arrange and facilitate up to 10 meetings of the Coordination Committee (to be conducted concurrent with the Communications Committee meetings) during Phase 2C.

The Communications Committee is designed to reach agreements on the nature and content of communications originating from the full Work Group and to actively participate in the development of press releases, newsletters, and public briefings. The Contractor will work with the Communications Committee to prepare information for dissemination to the public. The Contractor will arrange and facilitate up to 10 Communication Committee meetings during Phases 2C.

Task 6.5 Technical Studies Coordination and Committee Meetings

Technical committees composed of representatives of the Work Group were established for each of the six issue areas. These committees participated in the oversight of the development of the scopes of work and will continue to participate in oversight of the technical studies. The Contractor will continue to arrange and facilitate these meetings through Phase 2C of the program. Contractor will plan, arrange, and facilitate up to 16 technical committee meetings, as needed, during Phase 2C. Contractor will be responsible for arranging meeting locations, including logistics, and preparing meeting notices, and draft agendas. In addition, the Contractor will record all comments and agreements made during the meetings, track action items, and produce draft and final meeting summaries.

Technical studies conducted during Phase 2C will be routinely reviewed by a technical review panel convened by CBDA. The Contractor will assist with development and implementation of one technical review panel workshop similar to that conducted in September 2001, including public involvement activities. The Contractor will be responsible for assisting in the planning and preparation for the meetings, development of meeting announcements, arranging meeting location and logistics, facilitating the meetings, and preparing and distributing meeting summaries.

Task 6.6 Communications and Outreach

Both internal team and external public communications are essential elements of the Upper Yuba River Studies Program. The Contractor will assist in these efforts by maintaining a database of interested parties, preparing and distributing meeting summaries to appropriate groups, designing and placing paid announcements (when appropriate), and providing design and facilitation services for public meetings and workshops. The Contractor also will assist in the design and implementation of other ongoing public outreach activities such as press briefings, speaker's bureau, and the newsletter.

Press Briefings

In coordination with CBDA and representatives of the Work Group, the Contractor will schedule, prepare, and assist in conducting and documenting briefings with decision-makers in the region (Sacramento and northern Sierra), including Federal representatives and appropriate lawmakers.

Speaker's Bureau

The Contractor will design and provide PowerPoint slide presentations tailored to various audiences to assist the stakeholders in conducting an active speaker's bureau during Phase 2C of the program to help ensure public 'buy-in' to the final recommendations. The Contractor will also be available for speaker's bureau presentations.

Newsletters

The Contractor will prepare and distribute up to 2 project newsletters during Phase 2C.

Communications Platform

The Contractor will maintain and update the web-based communications platform developed during Phase 1 and will continue work to expand website use for both stakeholder and public communications and as a repository for information available to and from the general public.

Task 6.7 Phase 3 Facilitation
Under Phase 3 of the study program, the Work Group will review and discuss the results of the studies and make a determination on whether there is sufficient habitat upstream of the dam to justify introducing fish and whether one or more of the passage options evaluated are technically feasible. This decision-making process will require continued facilitated meetings of the Work Group.

The Contractor will facilitate meetings with the Work Group (2), the Lake and River teams (4), the Coordination Committee (2), and the technical committees (6) as described in tasks 8.7 – 8.11 above.

Deliverables
The Contractor shall serve as facilitator to the Upper Yuba River Studies Program and Work Group. The Contractor shall plan and organize facilitated meetings of work groups, team, technical committees, public, or other groups as appropriate. The Contractor will prepare meeting summaries, maintain a website for Work Group communications, and prepare and distribute newsletters. The specific deliverables include:

- Meeting summaries for each facilitated meeting
- PowerPoint presentation for speaker's bureau presentation
- Up to 2 project newsletters
- An up-to-date project website populated with relevant project information

2. Term

The term of this agreement shall be July 1, 2003 to June 30, 2006.

3. Payment

The maximum amount payable under this agreement is $1,300,000.

4. Representatives

California Bay-Delta Program Manager
Dan Castleberry
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