2009

CALFED Science Program

Focused Proposal Solicitation Package

CALIFORNIA BAY-DELTA AUTHORITY

STATE OF CALIFORNIA resources AGENCY

SYNOPSIS

Proposal Solicitation Package (PSP) Synopsis

Through the California Resources Agency, the CALFED Science Program is seeking to invest grant funding in projects that will fundamentally advance the understanding of the complex environments/systems within the CALFED Bay-Delta Program jurisdiction to aid policy-makers and resource managers. The geographic area of interest is the CALFED Bay-Delta System (Figure 1), which includes California's Sacramento and San Joaquin River watersheds and the San Francisco Bay Estuary with a focus on the Delta and Suisun Marsh (Figure 2).

Specifically, the Science Program is soliciting research proposals focused on the following four topics:

1. Native Fish Biology and Ecology
2. Food Webs of Key Delta Species and their Relationship to Water Quality and Other Drivers
3. Coupled Hydrologic and Ecosystem Models
4. Water and Ecosystem Management Decision Support System Development

Award Information

- Anticipated Type of Award: Grant
- Estimated Number of Awards: Approximately 14 to 18
- Anticipated Total Funding: Approximately $8 million
- Length of Funding: Up to 3 years

Eligibility Information

Any public agency or nonprofit organization capable of entering into a grant agreement with the State or Federal government may apply. This includes, but is not limited to: (1) local agencies; (2) private nonprofit organizations; (3) tribes; (4) universities; (5) State agencies; and (6) Federal agencies.

Deadline

Proposals will be accepted beginning December 18, 2008. No set deadline is currently in place.

Contacts

PSP Submittal Website: https://solicitation.calwater.ca.gov/
Proposal Submittal Process Helpline: 916-445-5838 or via email at help@solicitation.calwater.ca.gov

CALFED SCIENCE PROGRAM

2009 FOCUSED PROPOSAL SOLICITATION PACKAGE

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I. Introduction

A. Overview of the CALFED Bay-Delta Program

The CALFED Bay-Delta Program (CALFED) is a cooperative effort of more than 20 State and Federal agencies with management and regulatory responsibilities for the San Francisco Bay, Sacramento-San Joaquin Delta, and their tributaries and watershed. The mission of the Program is to develop and implement a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system (Figures 1 and 2).

The mission is achieved through the following four Program objectives:

1. **Improve Ecosystem Quality.** Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta system to support sustainable populations of diverse and valuable plant and animal species.

2. **Improve Water Supply Reliability**. Reduce the mismatch between Bay-Delta system water supplies and current and projected beneficial uses that depend on the ecosystems of the Bay-Delta system.

3. **Improve Water Quality**. Provide good water quality for all beneficial uses.

4. **Improve Levee System Integrity**. Reduce the risk to land use and associated economic activities, water supply, infrastructure, and ecosystem from catastrophic failure of Delta levees

Following the passage of The Budget Act of 2006 and the accompanying trailer bill (AB1803), the Resources Agency assumed from the California Bay-Delta Authority responsibility for ensuring that policies are carried out as described in the CALFED Bay-Delta Program Programmatic Record of Decision and the Final Programmatic Environmental Impact Statement/Environmental Impact Report (ROD and PEIS/EIR, respectively). Among the duties assumed by the Resources Agency are providing program accountability, ensuring balanced implementation of CALFED objectives, tracking and assessing CALFED progress, using sound science through the CALFED Science Program, ensuring public involvement and outreach, and coordinating and integrating related government programs.

B. Overview of the CALFED Science Program

The long-term goal of the Science Program is to establish a body of knowledge relevant to CALFED actions and their implications. That body of knowledge, both in perception and reality, must be unbiased, relevant, authoritative, integrated across program elements, and communicated to the scientific community, CALFED agency managers, stakeholders, and the public. The mission of the Science Program is to integrate world-class science and peer review into every aspect of the CALFED program to develop the best scientific information possible to guide decisions and evaluate actions that are critical to CALFED's success.

C. Background of this Proposal Solicitation Package (PSP)

Goals of this PSP

The PSP is one of several tools the Science Program uses in accordance with its mission and goals to establish unbiased and authoritative knowledge directly relevant to CALFED actions. The goal of this PSP is not to create knowledge for its own sake nor is it to fund routine monitoring or mandated projects. The goal is to invest in knowledge that will fundamentally advance the understanding of the complex environments/systems within the CALFED jurisdiction to aid policy-makers and managers. This knowledge must be timely and highly relevant to CALFED decision-making.

This focused PSP will help to achieve this goal by:

1. identifying scientific unknowns of the highest priority to the CALFED community prior to the opening of the PSP;
2. soliciting for and supporting new scientific studies that closely investigate these scientific unknowns;
3. thoroughly analyzing what is learned through unbiased scientific review;
4. clearly articulating what is learned through publications, conferences, workshops, web-sites, and other mechanisms.

Development of this PSP

To accelerate the review process and maximize the use of scarce available funds, the Science Program has developed a focused set of research topics targeting CALFED priority issues.

The four topics in the Priority Research Topic List of this PSP were developed by a Topic Selection Panel comprising agency representatives, stakeholders, and independent scientists whose combined expertise covered the breadth of CALFED issues and interests (panelist names and affiliations are available through the PSP website at http://www.science.calwater.ca.gov/psp/psp_package_2009.html). To help them define and select these topics, the panel used draft topics developed by the CALFED Lead Scientist and the Science Program, public comments received on the draft topics, and information from recent public planning processes and priority management issues. Some of these efforts included:

- Delta Vision Strategic Plan (DVSP)
- Multiple Science Program workshops in support of DVSP:
    - Organic Carbon
    - Delta Conveyance Modeling
    - Science Issues Related to Delta Conveyance Infrastructure
    - Defining a Variable Delta to Promote Estuarine Fish Habitat
- Bay Delta Conservation Plan (BDCP)
- Interagency Ecological Program (IEP) Pelagic Organism Decline (POD) Reports
- Public Policy Institute of California (PPIC) Delta Reports and Related Workshops
- Environmental Water Account (EWA) Reviews
- Operations Criteria and Plan (OCAP) Biological Assessment and Opinions

- Delta Risk Management Strategy (DRMS)

Priority issues were considered in the context of currently funded ongoing research, such as grants from previous Science Program PSPs, the Interagency Ecological Program (IEP) Pelagic Organism Decline (POD) work, and Ecosystem Restoration Program (ERP) funded research. An additional consideration was the minimum two- to three-year time frame for most research projects to yield useful products. Integration and synthesis of available information, models, and interdisciplinary approaches were stressed.

The Priority Research Topic List was open to the public for comment from November 12, 2008 through November 14, 2008 and again from November 21, 2008 through December 3, 2008. The Topic List was approved by the Resources Agency on December 5, 2008. (See Figure 3 for a summary of the PSP process and schedule). Public comments and the Science Program response will be posted on the Science Program PSP website http://science.calwater.ca.gov/psp/psp_package_2009.html when available.

Guiding Documents

Project applicants unfamiliar with CALFED goals, objectives, and issues are encouraged to review the documents that guide CALFED activities. These documents and a host of other useful information can be found through the CALFED website (http://www.calwater.ca.gov) and the Science Program website (http://science.calwater.ca.gov). Following are some specific documents that will be particularly helpful to applicants wishing to familiarize themselves with broad and specific CALFED issues:

CALFED-wide perspective:

- CALFED Record of Decision (ROD): http://www.calwater.ca.gov/calfed/library/Archive_ROD.html
- CALFED *Draft* End of Stage 1 Report: http://www.calwater.ca.gov/calfed/library/index.html
- ERP Conservation Strategy for Stage 2 Implementation: http://www.delta.dfg.ca.gov/erp/reports_docs.asp
- CALFED Science Program's *State of Bay Delta Science, 2008*: http://www.science.calwater.ca.gov/publications/sbds.html
- CALFED Water Quality Program – Stage 1 Final Assessment and peer review: http://www.calwater.ca.gov/calfed/library/index.html

Bay-Delta issues:

- Delta Vision Blue Ribbon Task Force's Vision & Strategic Plan (DVSP): http://deltavision.ca.gov/
- Science Program support of DVSP: http://www.science.calwater.ca.gov/delta_vision/dv_index.html
- Science Program Publications: http://www.science.calwater.ca.gov/publications/pub_index.html
- Bay Delta Conservation Plan (BDCP): http://resources.ca.gov/bdcp/

- Pelagic Organism Decline (POD) Reports and Interagency Ecological Program (IEP) Workplans: http://www.science.calwater.ca.gov/pod/pod_index.html
- Delta Risk Management Strategy (DRMS): http://www.drms.water.ca.gov/
    - Science Program Review of DRMS Phase 1 Report: http://www.science.calwater.ca.gov/drms/drms_irp.html
- Delta Regional Ecosystem Restoration Implementation Plan (DRERIP): http://www.science.calwater.ca.gov/drerip/drerip_index.html or http://www.delta.dfg.ca.gov/erpdeltaplan/
- National Marine Fisheries Service Operations Criteria and Plan (OCAP) Biological Opinion workshops and reviews: http://www.science.calwater.ca.gov/events/reviews/review_ocap.html
- Environmental Water Account workshop and reviews: http://www.science.calwater.ca.gov/events/reviews/review_ewa.html

CALFED previously funded efforts:

- Science Program
    - 2004 PSP funded proposals: http://www.science.calwater.ca.gov/psp/psp_package_2004.html
    - 2006 PSP funded proposals: http://www.science.calwater.ca.gov/psp/psp_package_2006.html
    - 2007 Supplemental PSP funded proposals: http://www.science.calwater.ca.gov/psp/psp_package_2007.html

- CALFED Ecosystem Restoration Program

  ERP directed actions and research grants: http://www.delta.dfg.ca.gov/erp/grants_2007_grants.asp

D. Funding for this PSP

Approximately $8 million is targeted for this focused solicitation, reflecting the Proposition 84 funds that have been allocated to the Resources Agency for these purposes.

II. Priorities of this Proposal Solicitation Package (PSP)

A. Preamble

The Priority Research Topic List was developed by a Topic Selection Panel through the careful consideration of broad CALFED needs and objectives. The geographical area of interest is the Bay-Delta System (Figures 1 and 2). While viewing the Topic List, potential applicants should keep in mind several project aspects the Science Program considers areas of great need that would add high value:

- **Interdisciplinary Projects** — Interdisciplinary studies are crucial to extract the knowledge needed for management to answer extremely complex questions about a correspondingly complex Bay-Delta system, whose issues are inherently interconnected across multiple disciplines of study. Additionally, from a CALFED programmatic standpoint, interdisciplinary studies typically cut across multiple CALFED needs, thus maximizing the use of scarce funds.

- **Analysis, Integration and Synthesis of Existing Information** — The Bay-Delta system has a strong history of monitoring and research that has resulted in a wealth of accessible information. However, much of this information remains only partially analyzed. A very cost-effective way to provide CALFED resource managers and policy-makers needed information is to analyze, integrate, and synthesize existing information across data-sets in new ways.

- **Collaborative Proposals** — The Science Program encourages applicants from different institutions to work together on proposals. Collaborative approaches have been identified as a means of strengthening communication among different institutions; this communication can last well beyond the course of a single study and lead to further collaborative projects. Collaborative proposals typically involve applicants and institutions with different strengths and expertise, resulting in stronger interdisciplinary projects.

- **Matching Funds** — Because the CALFED Science Program has limited funds, proposals that can demonstrate they will use other funding sources (matching funds, cost sharing, in kind services, etc.) to leverage Science Program funds will have a greater likelihood of being selected over projects that do not have matching funds.

Each of the topics in the Priority Research Topic List (below) comprises two sections:

1. the **need**, i.e. importance and relevance, for the research tied to specific CALFED programs so that outcomes from the research can be directly tied to a management/policy need;

2. **possible questions** that define some of the unknowns that the research needs to clarify or answer as it relates to the need as stated above.

All proposals must address at least one of the topic needs. Cross-cutting proposals that address more than one topic need and study question are encouraged. Proposals that address a topic need through additional study questions not present in the Topic List are also encouraged because the Science Program wishes to stimulate creative thinking and new ideas. All proposals should address the need as directly and clearly as possible.

B. Priority Research Topic List

Topic 1: Native Fish Biology and Ecology

Need: One of the main goals of the CALFED Bay-Delta Program is to protect and recover, through ecosystem management and restoration, populations of native fishes that depend on the San Francisco estuary. In spite of considerable scientific progress, many uncertainties remain about the basic life history, behavior, and population structure of these fishes, and about the present and potential future factors that affect their distribution and abundance. Focused and innovative basic science investigations are needed to address these uncertainties. This research should be clearly aimed at informing conceptual and numerical modeling applications and management and restoration strategies. Research topics include migration and spawning behavior, feeding and diets, adaptations to local habitats, and physiological tolerances to key environmental stressors in a changing estuary. Fish species of special interest include delta smelt, longfin smelt, sacramento splittail, green and white sturgeon, chinook salmon, and steelhead.

Possible questions to be addressed by this research:

- How do native migratory fishes navigate through the San Francisco estuary? What factors affect their migratory behavior? What are the management implications?

- What is the spawning behavior of native fish species, and where do they spawn? How might climate change and management actions affect spawning?

- What are the physiological tolerances and adaptive traits of native fish species that determine their resilience to existing and emerging stressors?

- How do habitat attributes such as geometry, water flow, temperature, turbidity, contaminants, presence of predators, and food quantity and quality affect abundance and distribution of native fishes in the estuary? Is there evidence for important antagonistic, additive, or synergistic effects of multiple habitat attributes on native fishes?

- How do connectivity between different habitat types and the geographic extent and arrangement of habitats affect the abundance and distribution of native fishes in the San Francisco estuary? What are the implications for management and restoration activities?

Topic 2: Food Webs of Key Delta Species and their Relationship to Water Quality and other Drivers

Need: Food webs in the Bay-Delta have undergone substantial changes in the past few decades. The composition of the biota within these new and emerging food webs needs to be documented

and understood more thoroughly. Particularly important are the effects of variable and changing water quality from contaminants, sediments, and nutrient inputs. Of emerging concern are climate change effects on water temperature, salinity, and other water quality parameters that may affect aquatic food webs within the Bay-Delta. Fundamental research is needed to elucidate these inter-dependencies in more detail, yielding information that will inform management actions to protect ecological processes as well as threatened and endangered species, and reduce the impacts of non-native species.

Possible questions to be addressed by the research:

- What are the roles of native and non-native species in primary, secondary, and tertiary production in Bay-Delta food webs?

- How has nutrient and sediment loading into rivers entering the Delta affected aquatic food webs within the main aquatic ecosystems of the Delta?

- What roles do key contaminants and/or nutrients play in determining the structure of aquatic food webs within the Bay-Delta, and to what extent do they quantitatively affect populations of key Bay-Delta species?

- What are other critically important drivers of food webs now and in the near future? For example, how will climate change, increasing human population growth and urbanization, and changes in the local agricultural industry affect water flows, water quality parameters, and critical food webs?

Topic 3: Coupled Hydrologic and Ecosystem Models

Need: Hydrodynamic, sediment, particle tracking, and water quality models need to be coupled with ecosystem models such as those for native species and Bay-Delta and riverine food web dynamics to better inform management planning and operations. Where appropriate, model developers should consider building on existing conceptual and quantitative models. Potential model applications include determining flow requirements for aquatic species and assessing potential outcomes of water management alternatives. Progress is needed in linking models that provide information on discharge, water velocities, flow paths, water quality, residence time, and inundation patterns with ecosystem models that simulate key ecosystem attributes such as nutrient uptake, rates of primary and secondary production, habitat responses to inundation, and fish behavior, growth, and predation. Ecosystem modeling could also be focused on food webs, predator-prey interactions, and nutrient availability effects on production dynamics.

Possible questions to be addressed by the research include:

- How are hydrodynamic conditions, water quality, primary and secondary production, and food web dynamics linked within aquatic ecosystems of the Delta and its tributaries and floodplains?

- What are flow requirements throughout the annual hydrograph for sufficient habitat configuration for native fish species?
- How are habitat requirements for aquatic organisms distributed spatially under different river flow regimes, tidal excursions, alternative water storage and conveyance scenarios, and climate change scenarios?

- How will direct or indirect losses of organisms from export pumping and barrier operations be affected by altered flow regimes, proposed conveyance modifications, or sea level rise projections?

Topic 4: Water and Ecosystem Management Decision Support System Development

Need: The Bay-Delta ecosystem and water managers and policy-makers need tools that translate state-of-the-science understanding of hydrodynamics and ecological functions into effective planning and management. These decision support systems should include visualization components that facilitate the communication of the complexity and interconnectedness of ecological and social systems and allow for assessment of system response to management alternatives along with changing natural conditions. Resource managers need tools to: 1) evaluate the relative merits of alternatives using scientific information developed across a range of temporal and spatial scales; and 2) characterize and explore potentially important ecological and resource allocation trade-offs and the implications of various alternatives. Decision support tools that operate in a desktop mode and that integrate disparate aspects of the system (physical conditions, ecological conditions, socioeconomic factors) to promote more rational and transparent decision-making are particularly desirable. Focused research into the usefulness of particular tools will be helpful, but emphasis will be given to those efforts that integrate emerging tools into a system of effective communication involving managers, scientists, policy-makers, and tool developers.

Possible questions to be addressed by the research include:

- What approaches best translate scientific understanding into policy-relevant information that both policy-makers and scientists will trust?

- What methods can be used to effectively integrate physical and biological information with socioeconomic factors for clear communication to non-scientist decision-makers for use in decision-making under adaptive management?

- What tools best address critical dynamic processes such as river flow, volume, velocity, residence time, water quality, time series, projected changes in flood stage and timing, and flow management options?

- What tools best enable advanced graphic and presentation technologies that enable simultaneous visualization of spatial and temporal variation in multiple physical and biological properties and accurately convey uncertainty?

III. Proposal and Submittal Requirements

A. Overview

Successful proposals are those whose applicants thoroughly and accurately complete the application forms and follow the prescribed format for the proposal document. All proposals must be submitted electronically through the PSP website to be considered for funding; hard copies of proposals will not be accepted. Proposals will be accepted through the website beginning December 18, 2008. Before applying, please make sure you are eligible to receive funds by carefully reading the information below. If you need assistance, please contact the helpline at 916-445-5838 or via e-mail at help@solicitation.calwater.ca.gov.

B. Eligibility

Any public agency or non-profit organization capable of entering into a grant agreement with the State or Federal government may apply. This includes, but is not limited to: (1) local agencies; (2) private non-profit organizations; (3) tribes; (4) universities; (5) State agencies; and (6) Federal agencies. Individuals and private for-profit entities are not eligible for this PSP, and should not apply. The applicant organization must agree to the General Terms and Conditions of CALFED grants (Attachment 1).

C. Confidentiality and Conflict of Interest

Applicants should be aware that the titles and executive summaries of all proposals will be available for viewing on the Science Program website shortly after the solicitation has closed. Comments from all levels of the review process will also be posted on the website and distributed as part of the public comment process. After the Resources Agency takes formal action on the final funding recommendations, the complete text of all funded proposals will be posted on the Science Program website. By submitting a proposal, the applicant agrees to waive any right to confidentiality of the proposal.[1] For more information on confidentiality, please contact the PSP helpline.

Both applicants and individuals who participate in reviews of submitted proposals are bound to State and Federal conflict of interest laws. Any individual who has participated in planning or setting priorities for this PSP or who will participate in any part of the grant development and negotiation process on behalf of the public is ineligible to receive funds or personally benefit from funds awarded through this PSP. To help the Science Program manage potential conflicts, applicants should use the PSP Conflict of Interest Form (section III.E. below) to fully disclose individuals who participated in writing or who will benefit from the project if funded. Individuals who have participated in development of this PSP should not submit proposals.[2]

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[1] Although the Science Program will not post proposal documents for unfunded proposals on their website, all submitted proposals, whether funded or not, are considered public documents and are subject to disclosure under California law.

[2] Failure to comply with these laws, including business and financial disclosure provisions, will result in the proposal being rejected and/or any subsequent grant being declared void. Before submitting a proposal, applicants are urged to seek legal counsel regarding potential conflict of interest concerns that they may have and

Scientific reviewers and individuals participating in review panels are also subject to the same conflict of interest laws. Proposals may be reviewed and discussed by members of the public under public disclosure requirements. Applicants should also be aware that certain State and Federal agencies may submit proposals that will compete for funding. Employees of State and Federal agencies may participate in the review process as scientific/technical reviewers but are subject to the same State and Federal conflict of interest laws.

D. How to Submit a Proposal

Proposals will be considered for funding only when all four steps outlined below have been completed by the application deadline. If you need assistance, you may contact the helpline at 916-445-5838 or via e-mail at help@solicitation.calwater.ca.gov.

1. User Registration

Prior to initiating a proposal, you must complete an online registration process available through the PSP solicitation website at https://solicitation.calwater.ca.gov, unless you are already registered. Registration does not obligate the registrant to submit a proposal, but you must be registered to submit your proposal and access detailed PSP information. As part of the registration process, you will choose a user ID and password that will let you access proposal forms and submit your proposal document. Additionally, all Co-Project Investigators must be registered through the website. Registration will also facilitate communication between Science Program staff and registered users.

2. On-line Forms

The application forms available on the website must be completed before your proposal can be considered for funding. Summary information on each form can be found below in section III.E On-line Application Forms of this PSP**.** Detailed instructions for completing each form can be found on the forms themselves.

3. Proposal and Budget Composition, Upload, and Verification

Proposals may be prepared using the word processing software of your choice. Proposal documents and detailed budgets must be converted to a PDF prior to uploading. Instructions for conversion of files to PDF and uploading are available through the help section of the PSP solicitation website. Once the proposal document or budget has been accepted into the website, the registered user will be asked to verify the proposal or budget by viewing it directly from the website and checking the “Proposal Complete” or “Budget Complete” box to acknowledge that the document was submitted as intended.

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requirements for disclosure. Applicable California statutes include (i.e., are not limited to) Government Code Section 1090 and Public Contract Code Sections 10365.5, 10410, and 10411.

4. Upload or Fax Signature Page.

The signature page must be printed, signed, and either 1) scanned and uploaded to the solicitation website; or 2) faxed to the number provided on the signature page by the submittal deadline.

E. On-line Application Forms

Summary information on each of the on-line application forms is provided below. Detailed information and instructions can be found on the forms themselves. The forms can be accessed by logging into the PSP solicitation website at https://solicitation.calwater.ca.gov. Forms may be completed incrementally; you do not need to complete the process during a single session, and you may therefore provide information over multiple sessions as needed.

The following on-line forms must be completed in order to successfully submit a proposal:

- Project Information and Executive Summary
- Contacts and Project Staff
- Conflict of Interest
- Task and Budget Summary
- Detailed Budget Upload and Justification
- Schedule of Deliverables
- Proposal Document Upload
- Signature Page
- Letters of Support (optional)

Project Information and Executive Summary — This form gathers basic information about the project and its location, and requires you to insert an Executive Summary for your project. The Executive Summary should be a concise and informative stand-alone description of your proposed project.

Contacts and Project Staff — This form provides information on the principal and supporting project participants, including administrators, consultants, subcontractors, and vendors. This information is linked to and supports other forms, including the Conflict of Interest and Task and Budget Summary forms. All Co-Project Investigators (PIs) must be registered with the website.

Conflict of Interest — This form assists the Science Program in assigning reviewers to avoid conflicts of interest between applicants, co-applicants, or subcontractors and reviewers (see section III.C. Confidentiality and Conflict of Interest for policy details).

Task and Budget Summary — List major tasks and the time to complete them (in months from the date the project's grant agreement is executed), and a budget total for each task. Because funding may be awarded for only a portion of the proposal, you should organize by tasks and subtasks that may be funded separately. The total of all task budgets should equal the total entered in the Project Information form and your uploaded Detailed Budget (described below).

Detailed Budget Upload and Justification — This form comprises two sections:

Section 1. Budget Format and Upload — The first section provides information on what should be included in your detailed budget such as costs and pay rates of personnel, information on subcontractors, benefits, equipment, travel, operating expenses, etc. Use this information to construct a budget in the software of your choice. Some guidance on the budget, such as breaking it down into tasks, is included in this form and required in the format, but many format decisions are left up to you. However, if it is not abundantly clear to reviewers what project costs are commensurate with what efforts and benefits, the proposal may receive a poor review and be denied funding. When you complete your budget, you must convert it to a PDF and upload it to the website. The detailed budget total should exactly match the budget totals in the Task and Budget Summary and the Project Information forms.

Section 2. Budget Justification and Matching Funds — This section provides prompts to enter other funding commitments including matching funds (if any), and space to justify all aspects of your budget. Projects can be multi-year efforts, but may not exceed three years.

Schedule of Deliverables — List key deliverables and the time to complete them (in months from the date the project's grant agreement is executed). The required minimum deliverables are:

- Semi-annual reports
- Final Report
- 1- page project summary for public audience at beginning of project
- 1- page project summary for public audience upon project completion
- Project closure summary report or copy of draft manuscript(s)
- Presentation at CALFED Science Conference
- Presentations at other events at request of CALFED Science Program staff
- Copy of all published material resulting from the grant

Proposal Document Upload — This form allows you to upload your PDF version of your proposal document (described below) to the PSP solicitation website.

Signature Page — Your proposal will not be considered complete until a signature page is received. The signature page must be signed by a representative of your organization or agency who is authorized to enter into a contractual agreement with the State of California. Print this page from the website, sign it and either scan it and upload it to the website or fax it to the number listed on the form by the proposal submittal deadline**.** This page is used to verify that you intended to submit your proposal and that you agree to the conditions of the grant solicitation and review process.

F. Proposal Document Outline and Format

Proposal Document Outline

The proposal document comprises the written text and images that will be uploaded to the website via the Proposal Document Upload form described above. Successful proposals will be well-written, accurate, and concise. The proposal document should follow the outline below.

Make sure all the components within the outline are clearly incorporated and identified in your proposal document to help reviewers evaluate your proposal; a table of contents in the proposal document might facilitate this review process. You should read the Proposal Review and Selection section of this PSP (section IV) prior to writing your proposals to familiarize yourself with the criteria that will be used for proposal evaluation.

1. Project Purpose — Describe the purpose of your project. This section should include:

- the identification of the problem, question(s) or critical unknown(s) that your proposed effort is designed to address;
- your project goals, objectives, and how they relate to the problem, question(s) or critical unknown(s) you propose to address;
- the clearly stated hypothesis you will be testing to achieve your goals and objectives;
- a description of relevant studies or other information that documents the problem and unknowns, substantiates the goals and objectives, and includes the ways this problem has been addressed locally and elsewhere.

2. Background and Conceptual Models — This section should include all necessary background information not covered in the Project Purpose section above. A conceptual model should be provided that clearly explains the underlying basis of the knowledge that will support the proposed work. Models can be presented graphically or as narrative. A description of the project's physical setting, with maps or photographs if appropriate, should be included.

3. Approach and Scope of Work — Describe the approach you will undertake to address your project's objectives. Include specific information about methods and techniques, equipment and facilities, data collection, statistical analysis and quality assurance procedures as applicable. Provide narrative detail about the tasks and schedule listed on the Task and Budget Summary form (on-line). Clearly indicate which tasks are contingent upon other tasks, and which tasks can be done separately; this information is necessary in case only part of the project is funded. Elaborate on expected deliverables that your project will produce and submit. Deliverables can include presentations, workshops, seminars, educational programs, project summaries, websites, reports, and publications. This section should fully describe the proposed deliverables you list in the Schedule of Deliverables form (on-line). (Some examples of proposal approaches broken down by task are evident in successful proposals from the Science Program 2006 PSP available through the website at: http://www.science.calwater.ca.gov/psp/psp_package_2006.html.)

4. Feasibility — Show how your proposed project is both feasible and appropriate for the proposed work. Demonstrate how the work you've outlined in your proposal can be completed within no more than three years given reasonably foreseeable constraints (e.g. weather conditions or permitting). Thoroughly address any contingencies or requirements such as dependence upon the outcome or timing of other projects or programs, upon natural or operational conditions, and upon environmental compliance or permitting processes. Explain the current status of each permit or agreement, as well as any other constraints that could impact the schedule and your ability to complete your project. Describe how project management decisions will be coordinated.

5. *Relevance to the CALFED Science Program.* This section comprises two parts:

   Relevance to this PSP — Describe how your proposal directly meets one or more of the needs identified in the Priority Research Topic List of this PSP. Identify all "possible questions to be addressed by the research" from the Topic List that your proposal addresses and incorporates. Summarize other questions your proposal may answer that, although not found in the Topic List, address a need from the Topic List. Describe how your proposal meets other priorities described in section II of this PSP such as the need for synthesis, integration, and collaboration.

   Relevance to CALFED Issues Outside this PSP — If applicable, explain how your proposal addresses Science Program needs not mentioned in this PSP. Describe how the project will link back to or complement larger CALFED goals and efforts. Identify any synergistic, CALFED-wide benefits, including how your proposal complements projects or programs in other areas within the Bay-Delta system. Explain any relationship between your proposal and past CALFED actions or investments.

6. Qualifications — Briefly describe how the participants identified in your Contacts and Project Staff form provide the range of experience and expertise needed for your project. (If appropriate, highlight relevant field experience, completed projects, published reports, or other materials not adequately captured in the Contacts and Project Staff form). Specify individual roles and responsibilities for technical, administrative, and project management activities that are not described in the Contacts and Project Staff form. Describe the organizational structure for the staff and other resources. For projects using consultants or subcontractors, briefly describe how they were selected and why. A subcontractor role exceeding a quarter of the total project budget should be fully explained and clearly justified.

7. Literature Cited — All proposals must include a list of references for all research studies, project reports, scientific reports, or other supporting information cited in the proposal. Reference information should follow accepted scholarly practices.

Proposal Document Format

Keep in mind these formatting considerations in order to successfully upload and submit your proposal document.

Page limits — The proposal text should be no more than 20 pages, excluding literature cited. You may *not* include attachments; it is essential that you present all critical information (including figures and tables) in the body of your proposal.

File size — The help section of the PSP website includes links to tools to help you manage the size of the file containing the proposal document. Please contact the helpline early if you anticipate submitting a file greater than 2 MB. Large files are difficult to upload and sometimes cannot be viewed readily by reviewers or others who lack high-speed Internet connections.

Format — Body text must be 12 point in a readable typeface; text in tables and figures must be no smaller than 10 point in a readable typeface. Headings must be at least 14 point, but no larger

than 18 point, bold typeface, flush left. Page margins must be between three-quarters and one inch on all sides. All proposal pages, including diagrams, must be readable when printed on 8.5 x 11-inch paper.

Submission Format — You must submit your proposal as a PDF file.

Maps, Photographs, Figures, and Tables — Each map, photograph, figure, or table needs to be individually numbered and clearly titled. If you need help in incorporating these graphics into your proposal for submission as a PDF, please ask for assistance by e-mailing us at help@solicitation.calwater.ca.gov

Page Numbering — Each page of the proposal needs to be numbered sequentially.

G. Collaborative Proposals

Grant agreements will be made with only one eligible lead applicant, so the proposal needs to clearly state which applicant will sign the agreement. This organization will be responsible for payments, reporting, and accounting. Other collaborators in the project will typically be subcontractors to the lead applicant but should be identified, if known, in the application forms and proposal document. You must document that the lead institution will be able to execute all subcontracts in a timely manner. Your proposal must explain how the collaboration will work, including how decision-making authority and liability is to be allocated. Your proposal must also identify the tasks or sub-tasks that will be performed by the different entities. The names of known subcontractors must be identified. When subcontractors are identified, explain briefly how they were selected, and why. (The Science Program is aware that some subcontractors may not be known until after the proposal is selected for funding and subcontracts are put out for competitive bidding, as required by California State law.) You should include the estimated costs of subcontract work and any costs for managing subcontractors in your proposal. A subcontractor role exceeding a quarter of the total project budget should be fully explained and clearly justified.

H. Deadline

No set deadline is presently in place. A firm deadline will be established when it is clear that state bond funds are available to support the review and funding of proposals. A new firm proposal deadline will be set after the financial uncertainties are resolved. Ample time to complete proposal preparation and submission will be provided at the time a new deadline is set.

IV. Proposal Review and Selection

A. Review Process Summary and Schedule

The proposal review process and schedule, summarized in Figure 3, involves three separate reviews. All complete proposals will undergo administrative review, external scientific review, and review by a Final Review Panel. The Final Review Panel will make recommendations to the CALFED Lead Scientist who, following public comment, will make final recommendations on funding to the Resources Secretary for final approval.

B. Administrative Review

Science Program staff will conduct an initial review of proposals to ensure the following:

- all proposal components have been completed by the submission deadline, including all on-line application forms and associated uploaded documents including the proposal document and detailed budget (see section III.D. of this PSP above);
- proposals are from eligible applicants;
- proposals are responsive to the solicitation's priorities;
- applicants have an acceptable past performance, including effective management of grants previously received from CALFED.

C. External Scientific Review

Three independent external reviewers will be selected to review each proposal based on their expertise in the subject areas of the proposal. The reviewers will evaluate submissions using a set of criteria that combines classic scientific review questions and elements designed by the Science Program to address common issues. The subject experts will also make overall recommendations to the Final Review Panel as to whether proposals are superior, above average, sufficient, or inadequate, and explain their recommendations. The external scientific reviewers will thoroughly explain their reviews and base them on the following criteria:

Project Purpose

- Are the goals, objectives, hypotheses, and questions clearly stated and internally consistent?
- Is the idea timely and important? Is the study justified relative to existing knowledge?
- Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology, or approaches?

Background

- Is a conceptual model clearly stated in the proposal, and does it explain the underlying basis for the proposed work?
- Is all other information needed to understand the basis for the proposed work included and well documented?

Approach

- Is the approach well designed and appropriate for meeting the objectives of the project?
- Is it clear who will be performing management tasks and administration of the project, and are resources set aside to do so?
- Are products of value likely from the project? Is there a plan for widespread and effective dissemination of information gained from the project? Are contributions to larger data management systems relevant and considered?

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 and within the grasp of the authors?

Budget

- Is it clear how much each aspect of the proposed work will cost, including each task, salaries, equipment, etc.?
- Is the budget reasonable and adequate for the work proposed?
- Are matching funds used to leverage CALFED Science Program funds?

Relevance to CALFED

- How well does the proposal address the priorities stated in the PSP?
- Does the proposal clearly and directly address one or more of the topics in the Priority Research Topic List?
- Does the proposal address other priorities stated in the PSP such as integration, syntheses, use of existing information, collaborations, or multiple disciplines?
- Will the information ultimately be useful to CALFED resource managers and policy-makers?

Qualifications

- What is the track record of the authors in terms of past performance?
- 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?

Overall Evaluation Summary Rating

- A brief explanation of a summary rating.

D. Final Review Panel (FRP) Review

The role of the FRP is to prepare funding recommendations to the CALFED Lead Scientist based on the evaluation of each proposal's technical quality and responsiveness to the PSP priorities. The FRP will consist of technical experts whose expertise spans the range of topics covered by

the submitted proposals. The Lead Scientist (or designee) will serve as the non-voting chairman for the panel with primary responsibility for assuring that the discussion is balanced, fair, and comprehensive. The FRP will consider all external reviewer comments in their overall evaluation of the proposals. The result of these discussions will be a panel rating of superior, above average, sufficient, or inadequate, along with clear evaluation statements. The panel's funding recommendations will be based on the quality of the proposal and the amount of available funds. The FRP may also recommend conditions for funding such as modifications of tasks and products. All funding recommendations and reviews will be made available for public comment. No proposals rated inadequate by the panel will be recommended to the CALFED Lead Scientist for funding.

E. Resources Agency Review and Action

Following public comment, the Lead Scientist will make final funding recommendations to the Secretary for Resources for final funding approval. The Secretary for Resources may, at his discretion, recommend and/or award a package of grants determined to be most responsive to the charge to promote implementation of the Program in a balanced manner, consistent with the goals and objectives of the CALFED ROD.

F. Signed Grant Agreements

The process of finalizing grant agreements will begin as soon as projects are approved by the Secretary for Resources. Depending on the complexity of each project, the institution receiving the funds, review panel requirements and modifications, and the complexity of the project, it will likely take 2 to 6 months to develop and finalize the grant agreements for successful proposals. Applicants should not commence work on their projects until a funding agreement is fully executed. Work performed prior to the full execution of a funding agreement is done at the risk of the applicant and without expectation of reimbursement. General terms and conditions for grants are provided in Attachment 1. (Note that some modifications may be made to the sample agreement and attachments prior to awarding.)

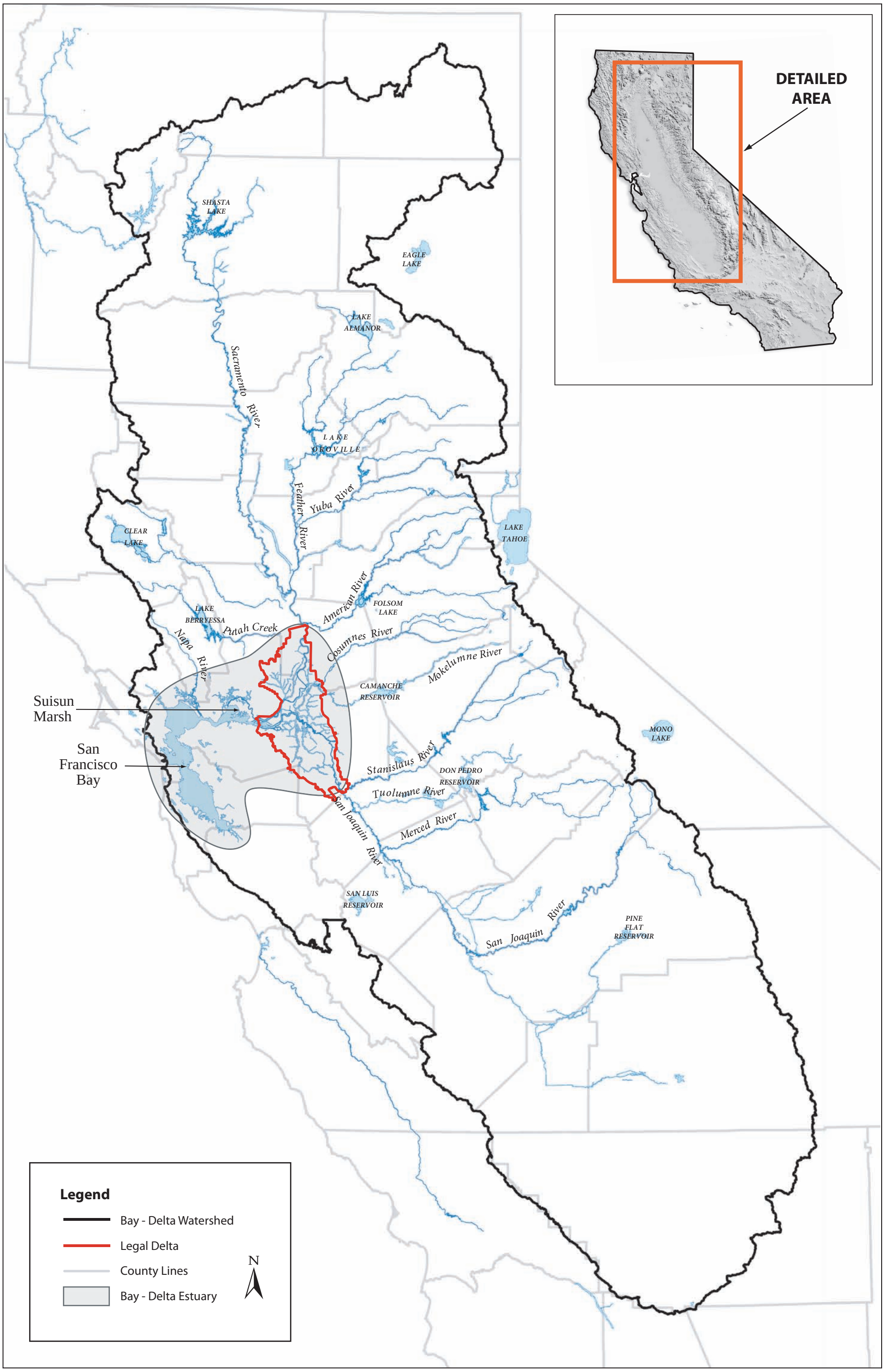


Figure 1 - The Bay-Delta System

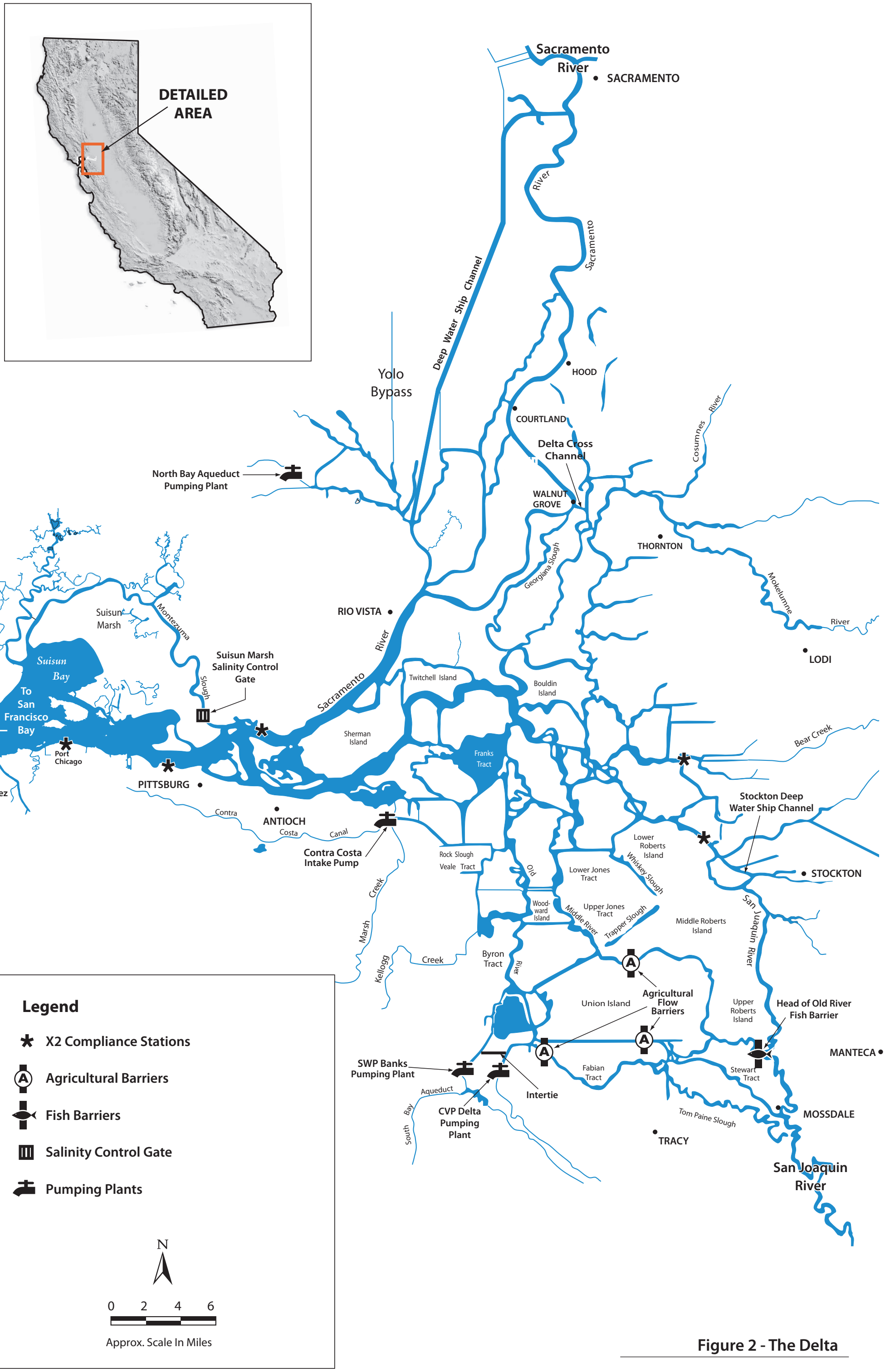
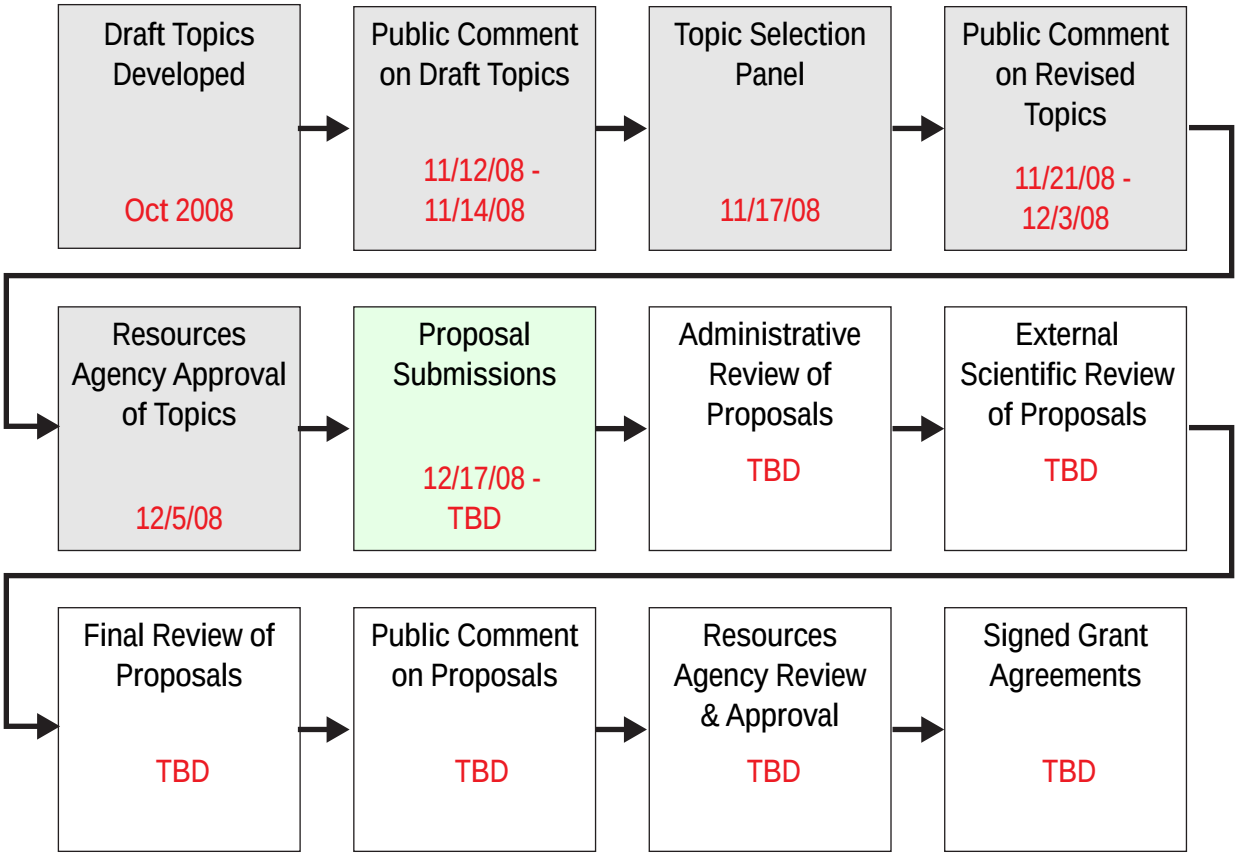


Figure 2 - The Delta

Figure 3
2009 CALFED Science Program Focused PSP Schedule



Invoicing and Payment Provisions

1. **Payment in Arrears:** Payment shall be made in arrears based on receipt of a complete, properly documented and accurately addressed invoice or payment request.

2. **Invoicing:**

2.1 Invoices shall include the Agreement Number and one copy shall be submitted not more frequently than monthly in arrears to:

Resources Agency
CALFED Bay Delta Program
650 Capitol Mall, 5th Floor
Sacramento, CA 95814
Attn: Accounting Department

2.2 Payment of any invoice will be made only after receipt of a complete and accurate invoice or payment request. All invoices must be approved by the Science Program Technical Grant Manager. Failure to use the address exactly as provided above may result in return of the invoice or payment request to the Grantee. Payment shall be deemed complete upon deposit of the payment, properly addressed, postage prepaid, in the United States mail.

2.3 Notwithstanding any other provision of this Agreement, no disbursement shall be required at any time or in any manner which is in violation of or in conflict with federal or State laws, rules, or regulation, or which may require any rebates to the federal government, or any loss of tax-free status on State bonds, pursuant to any federal statute or regulation.

2.4 Notwithstanding any other provision of this Agreement, the Grantee agrees that the Resources Agency may retain an amount equal to ten percent (10%) of the grant amount specified in this Agreement until completion of the Project in accordance with the Scope of Work. Any retained amounts due to the Grantee will be promptly disbursed to the Grantee, without interest, upon completion of the Project.

2.5 The invoice shall contain the following information:

2.5.1 The word “INVOICE” should appear in a prominent location at the top of page(s);

2.5.2 Printed name of the Grantee;

2.5.3 Business address of the Grantee, including P.O. Box, City, State, and Zip Code;

2.5.4 The date of the invoice;

2.5.5 The number of the Grant Agreement upon which the claim is based; and

2.5.6 The time period covered by the invoice, i.e., the term “from” and “to”;

2.5.6.1 The method of computing the amount due.

2.5.6.2 Supporting documentation of tasks accomplished

2.5.7 Original signature of Grantee (not required of established firms or entities using preprinted letterhead invoices).

3. Budget Contingency Clause

If the Budget Act of the current year and/or any subsequent years covered under this Agreement does not appropriate sufficient funds for the program, this Agreement shall be of no force and effect. This provision shall be construed as a condition precedent to the obligation of the Resources Agency to make any payments under this Agreement. In this event, the State shall have no liability to pay any funds whatsoever to Grantee or to furnish any other considerations under this Agreement and Grantee shall not be obligated to perform any provisions of this Agreement. Nothing in this Agreement shall be construed to provide the Grantee with a right of priority for payment over any other Grantee.

If funding for any fiscal year is reduced or deleted by the Budget Act for purposes of this program, the State shall have the option to either cancel this Agreement with no liability occurring to the State, or offer an agreement amendment to Grantee to reflect the reduced amount.

4. Line Item Budget

For the purposes of this Grant Agreement, the Budget Summary, is the line item budget for this grant.

5. Budget Line Item Flexibility

5.1 Line Item adjustment(s). Subject to the prior review and written approval of the Grant Manager, adjustments between existing line item(s) may be used to defray allowable direct costs. Line item adjustments in excess of 15% of the agreement total, or a cumulative maximum of $250,000, shall require an amendment to the Grant Agreement.

5.2 Procedure to Request an Amendment. Please refer to the Science Program Guidelines for Grant Amendment Requests document.

6. Payment of Project Costs

The Grantee agrees that it will provide for payment of its full share of Project costs and that all costs connected with the Project will be paid by the Grantee on a timely basis.

General Terms and Conditions for CALFED Bay-Delta Program Grants

1. **Approval:** This Grant Agreement is of no force or effect until signed by both parties. Grantee shall not commence work under this Grant Agreement until such signatures have been obtained. Work performed prior to having a fully executed Grant Agreement is performed at the Grantee's risk, with no expectation of reimbursement.

2. **Amendment:** No amendment or variation of the terms of this Grant Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or agreement not incorporated in the Grant Agreement is binding on any of the parties.

3. **Assignment:** This Agreement is not assignable by the Grantee, either in whole or in part, without the consent of the Resources Agency/CALFED Science Program in the form of a formal written amendment.

4. **Audit:** Grantee agrees that the awarding department, the Department of General Services, the Bureau of State Audits, or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Grant Agreement. Grantee agrees to maintain such records for possible audit for a minimum of three (3) years after final payment, unless a longer period of records retention is stipulated. Grantee agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. Further, Grantee agrees to include a similar right of the State to audit records and interview staff in any subcontract related to performance of this Agreement. (GC 8546.7, PCC 10115 et seq., CCR Title 2, Section 1896).

5. **Indemnification:** Grantee agrees to indemnify, defend and save harmless the State, its officers, agents and employees from any and all claims and losses accruing or resulting to any and all contractors, subcontractors, suppliers, laborers, and any other person, firm or corporation furnishing or supplying work services, materials, or supplies in connection with the performance of this Agreement, and from any and all claims and losses accruing or resulting to any person, firm or corporation who may be injured or damaged by Grantee in the performance of this Agreement.

6. **Disputes:** Grantee shall continue with the responsibilities under this Grant Agreement during any dispute.

7. **Termination For Cause:** The grant agreement may be terminated by written notice at any time of this Grant Agreement prior to completion of the Project, at the option of the Resources Agency/CALFED Bay-Delta Program, upon violation by the Grantee of any material provision after such violation has been called to the attention of the Grantee and after failure of the Grantee to bring itself into compliance with the provisions of this Agreement within a reasonable time as established by the Resources Agency/CALFED Bay-Delta Program. In the event of such termination, the Grantee agrees, upon demand, to immediately repay to the Resources Agency/CALFED Bay-Delta Program an amount equal to the amount

of grant funds disbursed to the Grantee prior to such termination. In the event of termination, interest shall accrue on all amounts due at the highest legal rate of interest from the date that notice of termination is mailed to the Grantee to the date of full repayment by the Grantee.

8. **Independent Status***:* Grantee, and the agents and employees of Grantee, in the performance of this Grant Agreement, shall act in an independent capacity and not as officers or employees or agents of the State.

9. **Non-Discrimination Clause:** During the performance of this Grant Agreement, Grantee and its subcontractors shall not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), mental disability, medical condition (cancer), age (over 40), marital status, and denial of family care leave. Grantee and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Grantee and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12990 (a-f) et seq.) and the applicable regulations promulgated there under (California Code of Regulations, Title 2, Section 7285 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full. Grantee and its subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other Agreement.

   Grantee shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the Grant Agreement.

10. **Compensation:** The compensation to be paid Grantee, as provided herein, shall be in compensation for all of Grantee's expenses incurred in the performance of this Grant Agreement, including travel, per diem, and taxes, unless otherwise expressly so provided.

11. **Governing Law:** This Grant Agreement is governed by and shall be interpreted in accordance with the laws of the State of California.

12. **Travel:** Any reimbursement for necessary travel and per diem shall be at rates specified by the California Department of Personnel Administration for similar employees (www.dpa.ca.gov/jobinfo/statetravel.shtm). Federal agency grantees can invoice for travel reimbursement at State rates, and make necessary arrangements with their agency to be personally reimbursed for expenses at the available federal rate.

13. **Conflicts Of Interest**: Grantee shall comply with all applicable State laws and rules pertaining to conflicts of interest including, but not limited to, Government Code section 1090, Public Contract Code sections 10410 & 10411, and Public Contract Code section 10365.5.

14. **Unenforceable Provision:** In the event that any provision of this Grant Agreement is unenforceable or held to be unenforceable, then the parties agree that all other provisions of this Grant Agreement have force and effect and shall not be affected thereby.

15. Drug-Free Workplace Requirements: Grantee will comply with the requirements of the Drug-Free Workplace Act of 1990 and will provide a drug-free workplace by taking the following actions:

a. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations.

b. Establish a Drug-Free Awareness Program to inform employees about:

1) The dangers of drug abuse in the workplace;

2) The person's or organization's policy of maintaining a drug-free workplace;

3) Any available counseling, rehabilitation and employee assistance programs; and,

4) Penalties that may be imposed upon employees for drug abuse violations.

c. Every employee who works on the proposed Agreement will:

1) Receive a copy of the company's drug-free workplace policy statement; and,

2) Agree to abide by the terms of the company's statement as a condition of employment on the Agreement.

Failure to comply with these requirements may result in suspension of payments under the Agreement or termination of the Agreement or both and Grantee may be ineligible for award of any future State agreements if the department determines that the Grantee failed to carry out the requirements as noted above.

16. Withholding Of Grant Disbursements: The Resources Agency/CALFED Science Program may withhold all or any portion of the grant funds provided for by this Agreement in the event that the Grantee has materially violated, or threatens to materially violate, any term, provision, condition, or commitment of this Agreement; or the Grantee fails to maintain reasonable progress toward completion of the Project.

17. Domestic Partners: For contracts over $100,000 executed or amended after January 1, 2007, the contractor certifies that the contractor is in compliance with Public Contract Code section 10295.3.

Special Terms and Conditions for CALFED Science Program Grants

1. Grantee Responsibilities and State Requirements

1.1 The Grantee has full responsibility for the conduct of the project or activity supported under the Grant Agreement and for adherence to the award conditions. Although the Grantee is encouraged to seek the advice and opinion of the Science Program on special problems that may arise, such advice does not diminish the Grantee's responsibility for making sound scientific and administrative judgments and should not imply that the responsibility for operating decisions has shifted to the Science Program. The Grantee is responsible for notifying the Science Program about: (1) any allegation of research misconduct that it concludes has substance (2) any significant problems relating to the administrative or financial aspects of the award.

1.2 By acceptance of this award, the Grantee agrees to comply with the applicable State requirements for grants and to the prudent management of all expenditures and actions affecting the award. Documentation for each expenditure or action affecting this award must reflect appropriate organizational reviews or approvals that should be made in advance of the action. Organizational reviews are intended to help assure that expenditures are allowable, necessary and reasonable for the conduct of the project, and that the proposed action:

1. is consistent with award terms and conditions;
2. is consistent with Science Program and grantee policies;
3. represents effective utilization of resources; and
4. does not constitute a significant project change.

Nothing in this article shall be construed to require administrative reviews or documentation that duplicates those already required by existing organizational systems.

1.3 The Grantee is responsible for ensuring that the Lead Investigator(s) or Project Director(s) receives a copy of the award conditions, including: the award letter, a copy of the Grant Agreement, and any subsequent changes in the award conditions. This provision does not alter the Grantee's full responsibility for conduct of the project and compliance with all award terms and conditions.

2. Publications/Acknowledgement of Support

2.1 *Acknowledgment of Support.* The grantee is responsible for assuring that an acknowledgment of CALFED Science Program support is made:

a. in any publication (including World Wide Web pages) of any material based on or developed under this project, in the following terms:

"This material is based upon work supported by the CALFED Bay-Delta Program under Grant No. (CALFED grant number)."

b. CALFED Bay-Delta Program support also must be orally acknowledged during all news media interviews, including popular media such as radio, television and news magazines.

2.2 *Disclaimer*. The grantee is responsible for assuring that every publication of material (including World Wide Web pages) based on or developed under this award, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer:

"Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the CALFED Bay-Delta Program."

2.3 *Copies for the Science Program.* The grantee is responsible for assuring that one electronic copy or two hard copies of every publication of material based on or developed under this award, clearly labeled with the award number and other appropriate identifying information, are sent to the Science Program Technical Grant Manager promptly after publication.

2.4 Grantee shall notify the CALFED Bay-Delta Program in writing or via electronic mail at least 10 working days prior to any public or media event publicizing the accomplishments and/or results of this Agreement and provide the opportunity for attendance and participation by the Science Program's representatives.

3. Government Permits and Environmental Review

Grantee is responsible for ensuring compliance with all applicable permitting and environmental review requirements that may be required to accomplish the project described in the Scope of Work.

As a condition of grant funding, Grantee is required to utilize the information and analysis in the CALFED Programmatic Environmental Impact Statement/Environmental Impact Report (PEIS/EIR), to the extent applicable, in evaluating the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) compliance needs for the Project.

As a further condition of grant funding, Grantee is required to utilize the information, analysis, and procedures in the CALFED Multi-species Conservation Strategy (MSCS), to the extent applicable, in complying with state and federal endangered species acts for the Project.

4. Permission for Access to Private Property

If Grantee requires access across private property, Grantee shall provide written evidence of the property owner's permission for access to the property.

5. Subcontracts

Grantee is responsible for all subcontracted work, and for compliance with all contracting laws and rules that may be applicable to it and the subcontract, including obtaining control agency approval, as may be required. Subcontracts must include all applicable terms and conditions as presented herein. For Science Program "quality control" purposes, subcontractors not specifically identified in the grant proposal must be obtained using a competitive bidding process, or non-

competitive selection process, that meets basic state requirements. Grantee must provide copies of all executed subcontracts to the Science Program Technical Grant Manager.

6. Reporting Requirements

Semi-annual Reports

Grantee will be required to submit a project report twice a year until the project is completed. These reports will serve as performance measures/project monitoring tools to allow determination of the success of the project in relation to its objectives and are due June 1 and December 1 each year of the project. The report will include descriptive information such as activities performed during the period, findings, the percentage of each task completed, the deliverables produced, problems and delays encountered, etc. Financial information should also be included with this report outlining: 1) the financial status of the project (amount invoiced to the grantee and the amount invoiced to cost share partners) and 2) six month expenditure/invoice projections to enable funding availability for payment of invoices. The final report must include copies of any publications or reports produced. The final report is due on or before the scheduled project completion date.

Summary Reports

Summary reports are required in the same frequency as grantee invoices. These reports will include a brief description (1 -2 paragraphs) of the work performed under the invoicing period and should be sent as an email or hard copy to the Technical Grant Manager and reference the corresponding invoice number.

7. Project Presentations

Grantee agrees to present project findings at the biennial CALFED Science Conference and/or other CALFED Science Program workshops and symposia.

8. Site Visits

Science Program staff, or its authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by the Science Program on the premises of the Grantee or a subcontractor under an award, the Grantee shall provide and shall require subcontractors to provide all reasonable facilities and assistance for the safety and convenience of Science Program staff or authorized representatives in the performance of their duties.

9. Equipment

Grantee Assurance. The grantee will assure that each purchase of equipment is:

(a) necessary for the research or activity supported by the grant;

(b) not otherwise reasonably available and accessible;

(c) of the type normally charged as a direct cost; and

(d) acquired in accordance with organizational practice.

10. Dispute Resolution

Any claim that the Grantee may have regarding the performance of this Grant Agreement, including, but not limited to, claims for additional compensation or extension of time, shall be submitted to the Science Program Manager within thirty days of its accrual. The Science Program Manager will attempt to facilitate a mutually acceptable resolution of the dispute.

11. Rights in Data

The Grantee agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Grant are subject to the rights of the State as set forth in this section. The State shall have the right to reproduce, publish, and use all such work, or any part thereof, in any manner and for any purposes whatsoever and to authorize others to do so. If any such work is copyrightable, the Grantee may copyright the same, except that, as to any work which is copyrighted by the Grantee, the State reserves a royalty-free, fully paid-up, nonexclusive, and irrevocable license to reproduce, publish, and use such work, or any part thereof, and to authorize others to do so for a public purpose. Except for publication or other dissemination of results for education or research purposes, the Grantee shall not utilize the materials for any profit-making venture or sell or grant rights to a third party who intends to do so.

12. Peer Review

Science Program staff may establish peer review panels to review and comment on successful applicants work product or deliverables.