

**Department of Fish and Game  
Ecosystem Improvement Priorities  
Prepared for  
California Water Commission**

***Preface:***

Section 79743 of the Safe, Clean, and Reliable Drinking Water Supply Act of 2009 (SBX7-2, hereafter referred to as "Act"), charges the California Water Commission (CWC) with responsibility for developing a grant program for water supply projects. The grant program will, if funded, allocate \$3 billion in General Obligation Bond funding. The funds for this grant program will become available if the \$11.4 billion water bond measure, currently scheduled for the November 2012 ballot, is passed by California voters.

For purposes of developing the CWC grant program regulations, water supply projects eligible for funding include:

- (a) CALFED surface storage projects;
- (b) Groundwater storage projects;
- (c) Conjunctive use and reservoir reoperation projects; and
- (d) Local and regional surface storage projects that improve the operation of water systems in the State and provide public benefits.

Projects that receive funding through this CWC grant program must provide measurable improvements to the Delta ecosystem and the tributaries to the Delta. Funds cannot be used for the costs of environmental mitigation or meeting compliance obligations except for costs associated with public benefits as described in the statute. Funds provided by the grant program for public benefit types defined in the statute must fit into one of the five following categories: 1) ecosystem improvements (defined by the Department of Fish and Game (DFG)), 2) water quality improvements (defined by the State Water Resources Control Board), 3) flood control benefits, 4) emergency response, and 5) recreational purposes.

The Act requires the Department of Fish and Game to provide priorities for public benefits acquired from ecosystem improvements for use in the evaluation of grant proposals submitted to the CWC. To fulfill this requirement the DFG Water Branch prepared this report consistent with DFG's mission to manage California's biological resources for their ecological values and for their use and enjoyment by the public. This report is also consistent with the purpose of the DFG Water Branch to support DFG's public trust responsibility by providing leadership in the management of California's water resources for the benefit of aquatic and terrestrial species and their habitats.

***Objectives***

Section 79744 of the Act, states: "In consultation with the Department of Fish and Game, the State Water Resources Control Board, and the department [Department of

Water Resources], the commission [California Water Commission] shall develop and adopt, by regulation, methods for quantification and management of public benefits described in Section 79743 by December 15, 2012. The regulations shall include the priorities and relative environmental value of ecosystem benefits as provided by the Department of Fish and Game and the priorities and relative environmental value of water quality benefits as provided by the State Water Resources Control Board.”

DFG is required by this legislation to provide priorities for ecosystem improvements that provide a public benefit for the evaluation of grant proposals submitted to the CWC. This report provides a list of the priority ecosystem improvements that apply statewide.

DFG has a second task from this legislation: to provide the relative environmental value of these improvements to the ecosystem. The relative environmental value has not been provided within this report because DFG proposes to provide that evaluation on a case-by-case basis in review of grant proposals solicited by the CWC through a competitive public process as outlined in Water Code Section 79740 (c).

### ***DFG Priority Ecosystem Improvements***

Priority ecosystem improvements identified by DFG are projects that achieve one or more of the following:

- recovery for endangered and other at-risk species and native biotic communities, including rare natural communities;
- restore natural processes, including fluvial geomorphology and natural vegetation recruitment;
- restore natural hydrologic processes, including magnitude, duration and timing of flows;
- maintain or enhance populations of selected species for sustainable commercial or recreational harvest;
- protect or restore functional habitat types including, but not limited to, floodplain, riparian, and wetland;
- prevent or reduce negative impacts from both aquatic and terrestrial non-native species including those associated with water supply and conveyance projects such as quagga and zebra mussels; and
- improve water and sediment quality conditions, including temperature, that support healthy ecosystems.

Each of these priorities is interrelated; often accomplishments towards one goal will also provide benefits to others. DFG has identified these priority ecosystem improvements for application throughout the state.

These priorities are not ranked, and are in no particular order. DFG cannot generally elevate the importance of one improvement type over another without information on

the specific merits of the projects. This list reflects high priority ecosystem issues that could be positively influenced by water supply projects as defined by the Act.

In depth descriptions of these priorities can be found in the DFG plans, documents and reports provided at the end of this report, in the section titled “Applicable DFG Restoration and Conservation Plans.”

### ***Methods for Quantifying Public Benefits from Ecosystem Improvements***

DFG assumes that the CWC will provide methods for the quantification of benefits to the public derived from the ecosystem improvements provided in this report. This quantification may be used in conjunction with a case-by-case evaluation of relative environmental value provided by DFG. The CWC may choose to use the quantification methods prescribed by consultants (CH2M Hill) hired on behalf of the CWC by the Department of Water Resources (DWR). If the CWC does not choose the methods prescribed by CH2M Hill, then other methods will need to be determined by the CWC.

### ***Methods for Developing this Report***

This report relies upon DFG plans, documents and reports listed at the end of this report in the “Applicable DFG Restoration and Conservation Plans” section. Existing DFG restoration and conservation plans can, and should be, referenced by project proponents in the development of ecosystem improvement actions statewide. Such plans provide the existing framework used by DFG to prioritize and guide actions to improve and restore ecological processes and habitat needed to maintain the state’s fish and wildlife resources.

Section 79743(a)(1) of the Act defined ‘ecosystem improvements’ as a ‘public benefit,’ and described it as follows: Ecosystem improvements, including changing the timing of water diversions, improvement in flow conditions, temperature, or other benefits that contribute to restoration of aquatic ecosystems and native fish and wildlife, including those ecosystems and fish and wildlife in the Delta.

### ***Considerations for Prioritization of Ecosystem Improvements***

DFG encourages grant applicants to consult with DFG in developing the ecosystem improvements related to their project prior to submitting their application materials to the CWC.

It is DFG’s intention that this list of priority ecosystem improvements will be used by project proponents during their preparation for application of grants from the CWC. For example, while evaluating their individual projects and preparing their grant application materials, a proponent will be able to review the types of priority ecosystem

improvements identified and determine which types may be addressed as a part of their project.

### ***Suggestions for Use of DFG Priority Ecosystem Improvements***

For further prioritization of which individual improvements may be more relevant than others, evaluation will be needed on a case-by-case project-level basis by qualified DFG personnel. Relative environmental value of proposed project-based ecosystem improvements must be evaluated on a case-by-case basis. To accomplish case-by-case analysis as suggested here, a process will need to be determined during the development of the regulations and guidelines that will facilitate review of individual grant applications by qualified DFG staff.

Partnering with DFG will ensure fulfillment of the legislature's intent to fund the most valuable and cost effective environmental benefits proposed by applicants. The methods for accomplishing the proposal evaluations will depend upon the process determined by the CWC for the proposal review and grant award decision-making. For example, one possibility is that the more priority ecosystem improvements incorporated within a given project, the higher they are ranked for that given project in that category of evaluation. Additionally, another example may be if a project can provide significant habitat improvements for a key population of a listed species, this may warrant a higher ranking regarding their ecosystem improvement public benefit.

DFG proposes that as a part of either the regulations or the guidelines for this grant program that project proponents are asked to evaluate the DFG priority ecosystem improvements provided in this report in relation to their planned action. DFG recommends that the CWC make it the project proponent's responsibility to fully explain how their planned action would improve the conditions of these priority ecosystem improvements. DFG also encourages the CWC to adopt methods that define the net water quality and ecosystem benefits, taking into consideration the water quality and ecosystem "costs" incurred by proposed projects, as well as the benefits.

### ***Applicable DFG restoration and conservation plans:***

- Ecosystem Restoration Program Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions
  - The DFG Conservation Strategy describes future restoration priorities and actions of the Sacramento-San Joaquin Delta, the Sacramento Valley and the San Joaquin Valley Regions. It further provides the conceptual framework and process that will guide the refinement, evaluation, prioritization, implementation, monitoring, and review of ERP actions. The Conservation Strategy can be found online at: [http://www.dfg.ca.gov/erp/reports\\_docs.asp](http://www.dfg.ca.gov/erp/reports_docs.asp)
- The State Wildlife Action Plan
  - The state's wildlife action plan was developed and produced as a collaboration between the DFG and the Wildlife Health Center at the University of California, Davis, and is a comprehensive wildlife conservation strategy for California. The action plan can be found online at: <http://www.dfg.ca.gov/wildlife/WAP/>
- Areas of Conservation Emphasis (ACE-II)
  - ACE-II is a DFG project that was begun in 2009 to provide data to help guide and inform conservation priorities in California. Information can be found online at: <http://www.dfg.ca.gov/biogeodata/ace/>
- ERP Programmatic Reports & Documents
  - The Ecosystem Restoration Program is a multi-agency effort aimed at improving and increasing aquatic and terrestrial habitats and ecological function in the Delta and its tributaries. Various documents and reports related to these issues can be found online at: [http://www.dfg.ca.gov/ERP/reports\\_docs.asp](http://www.dfg.ca.gov/ERP/reports_docs.asp)
- Statewide Water Planning Program Documents
  - The DFG report "*Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta*" was completed pursuant to Water Code Section 85084.5 to inform water planning and water quality regulatory processes and can be found online at: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=25987>
  - The DFG Priority Streams List identifies 22 streams statewide where DFG needs to determine what instream flows are needed to maintain healthy conditions for fish and wildlife and can be found online at: <http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=14106>