

Questions from Delta Vision Blue Ribbon Task Force:  
Response from CA Department of Fish and Game (DFG)  
June 30, 2008

A. *General Questions:*

1. *How do your department's activities contribute to achieving the co-equal values of sustaining both Delta ecosystem and water reliability functions, recognizing the Delta as a unique and valued area warranting special legal status?*

DFG is focused on ecosystem protection. As trustee agency for the state's fish and wildlife resources DFG's is concerned primarily with the protection of ecosystem function and other fish and wildlife values and recovery of listed and declining species within the Delta. With trustee responsibility for administering the California Endangered Species Act, DFG must balance species and ecosystem needs and water supply reliability. In addition to this regulatory role, DFG is responsible for establishing regulations for the recreational and commercial harvest of species and management actions to protect, interpret, enhance and restore habitat and species. The decisions made about the future direction of the Delta will be critical in ensuring a viable and sustainable ecosystem is maintained.

DFG is also the state implementing agency for the CALFED Ecosystem Restoration Program (ERP). ERP since its inception has been focused on advancing ecosystem restoration in the Bay Delta Estuary and tributaries to support species recovery which contributes to water quality benefits and water supply reliability. The ERP is implemented by DFG in coordination with responsible federal fish and wildlife agencies (U.S. Fish and Wildlife Service and National Marine Fisheries Service); ERP implementation will continue over the next ~20 years under the Record of Decision for the CALFED Program.

DFG participates in the Delta Levee Subventions program that focuses on minimizing and mitigating impacts from levee maintenance to facilitate flood protection, thereby minimizing threats to the through-Delta conveyance system.

DFG also has a role in the development and implementation Habitat Conservation Plans and Natural Community Conservation Plans in and around the Delta, as DFG is responsible for issuing incidental take permits associated with these plans. The plans are intended to conserve and enhance ecosystem integrity through actions that protect and restore species and the natural communities upon which they depend. The plans focus on conservation of species on a regional scale while providing a stable regulatory environment to allow development consistent with the plan.

Finally, the Department manages nearly 36,000 acres in wildlife areas and ecological reserves within the Delta and Suisun Marsh to maintain and enhance fish and wildlife values and provide hunting, fishing and interpretive opportunities. DFG and partners organizations (including Solano Land Trust, The Nature Conservancy, Trust for Public Land, Suisun Resource Conservation District, U.S. Fish and Wildlife Service) are actively engaged in acquisition, management and enhancement of lands within the Delta to maintain and restore ecosystem functions and values.

2. *How do your department's activities contribute to achieving the remaining ten recommendations in the adopted vision?*

a. *The Delta ecosystem must function as an integral part of the San Francisco Bay Estuary.*

Through implementation of the ERP, DFG, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Services are charged with restoration of ecosystem functions and processes in the San Francisco Bay-Delta estuary and its tributaries. Together we are preparing the ERP Conservation Strategy for ERP Stage 2 implementation (currently focused on the Delta and Suisun Marsh). This Conservation Strategy is an ecosystem-based (rather than species-focused) approach to restoring the estuary. The Strategy priorities are adequate flows into and out of the Delta, restoration of the aquatic food web, restoration of functional floodplain and intertidal habitat, and reduction of environmental stressors.

DFG actively participates in regulatory processes affecting availability and quality of water in the estuary and its tributaries with a focus on protecting fish and wildlife resources by recommending protective flows. The Department is mandated to make recommendations to the State Water Resources Control Board on the flows necessary to protect instream habitat for fish and wildlife (Public Resources Code §10000 et seq.)

The Department also has participated in several restoration efforts including:

1. Suisun Marsh Charter Process. We have contributed to the development of the Suisun Marsh Restoration and Management Plan for preservation and restoration of the marsh to enhance existing managed wetland values, provide for levee maintenance, and restore tidal wetlands.
2. South San Francisco Bay salt ponds
3. Napa marshes.

The Department also oversaw in 1999 preparation of the Baylands Ecosystem Goals Report for San Francisco Bay which has served to guide these large scale ecosystem restoration efforts.

b. *California's water supply is limited and must be managed well to be adequate for its future population, growing economy and vital environment.*

DFG actively participates in the development of water policy to assure fish and wildlife needs are considered in water planning activities that face California's future population and economy. The Department believes that the California Water Plan provides the most appropriate forum for addressing these high level and statewide policy issues perspective.

The Department has recently repositioned itself to better engage these water planning efforts by creation of a new Water Branch in the Department. The Water Branch is focused on providing the best scientific information available to support water-related decision making. The Department is actively working through programs such as the multi-agency Interagency Ecological Program (IEP), CALFED Science Program and Independent Science Board, and other efforts to gather and apply the best available scientific data and information.

- c. *The foundation for policymaking about California water resources must be the constitutional principles of “reasonable use” and “public trust;” these principles are particularly important to the Delta.*

The concept of “public trust and “reasonable use” are central to the Department’s responsibilities. DFG’s mission is “to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.” In addition, DFG’s Water Branch has a mission “to fulfill [the department’s] public trust responsibility by providing sound leadership in the balanced and integrated management of California’s water resources, for the benefit of aquatic and terrestrial species and those habitats upon which they depend.” Balanced and integrated management of water resources will require that existing and future uses of water not only be “reasonable”, but that that reasonable use accommodates adequate protection of water quantity and quality to improve the health of species and their habitats. DFG’s Statewide Water Planning program is working closely with the State and Regional Water Quality Control Boards to inform their activities toward this end.

- d. *The goals of sustainable use and conservation must drive all of California’s water management policies.*

The Department believes that water must be used as efficiently as possible in order to protect all beneficial uses. Conservation and water reuse are critical in achieving the competing environmental, agricultural and economic needs of the State.

- e. *A revitalized Delta ecosystem may require reduced diversions, or changes in patterns of diversions upstream, within, and exported from the Delta.*

The amounts and patterns of diversion must be reevaluated to preserve the Delta’s ecosystem. The Department believes that the wide range of options being considered in the Bay Delta Conservation Planning process will address this issue for water exports south of the Delta. While water diversions have stressed the Delta ecosystem, more than just in-Delta water operations must be considered. A comprehensive evaluation of the State’s water allocation and distribution system, as opposed to evaluation of discrete components on a project by project basis would provide a better basis for policy making. In addition, water operations upstream of the Delta in the Sacramento River and the San Joaquin River watersheds must be included in the reevaluation. The most appropriate forum for addressing these issues is the State Water Plan.

- f. *New facilities for conveyance and storage, and better linkage between the two, are needed to better manage California’s water resources for both the estuary and exports.*

Isolated conveyance of water around (rather than through) the Delta would likely benefit native fish by eliminating the impacts of the state and federal water projects. However, before any decisions are made on water transport through or around the Delta, the full range of alternatives should be carefully evaluated. For every alternative, measures for water conservation and water use efficiency should be central considerations. Additionally, development of increased storage capacity may be necessary to assure reliable water supplies and providing water when it is needed to protect Delta ecosystem health. The ability to capture water when it is most abundant, during periods of high outflow, requires having adequate water storage capacity. Timing releases into the Delta during critical seasons will better protect and

preserve fish and wildlife resources by reducing certain water quality problems, providing needed fish passage, and potentially avoiding the expected additional impacts of climate change.

- g. Major investments in the California Delta and the Statewide water management system must integrate and be consistent with specific policies in this vision. In particular, these strategic investments must strengthen selected levees, improve floodplain management, and improve water circulation and quality.*

Ecosystem improvements in the Delta and upstream watersheds must address Delta Vision's goals and policies. While investments in the Delta may be costly every effort should be made to design projects to meet the co-equal benefits of ecosystem protection and reliable water supply. For example, any improvements in floodplain management should include provision for or consideration of not only levee strengthening but should incorporate creation or restoration of new habitat to support fishery resources. To help in setting priorities, the ERP Stage 2 Conservation Strategy for the Delta and Suisun Marsh will provide information on where investments could be made to improve the habitats while providing better floodplain management. This Strategy also identifies areas that could potentially be restored to intertidal and flood plain habitat.

- h. The current boundaries and governance system of the Delta must be changed. An independent body with authority to achieve the co-equal goals of ecosystem revitalization and adequate water supply for California while also recognizing the importance of the Delta as unique and valued area, with secure funding and the ability to approve spending, planning and water export levels is essential.*

The governance system is key to the restoration of the Delta. Comprehensive water planning with the necessary authority for program implementation is needed. Any new governance system must also be positioned to lead federal, state and local agencies towards better resource stewardship of environmental resources. DFG is committed to filling its role, as the state implementing agency for the CALFED ERP, of the revitalization of the Delta ecosystem.

The boundaries of the Delta should be changed if it will help influence upstream actions need for restoration or water flows. The Delta ecosystem must function as an integral part of a healthy estuary. Water quality and quantity upstream of the Delta is vital to the health of the Delta. Management of the Delta and its tributaries cannot be separated: If upstream water quality, water quantity, and fisheries problems are addressed similar impacts in the Delta will be lessened. Delta Vision's recommendations for the Delta will only be realized if actions in the Sacramento and San Joaquin River watersheds are implemented in a coordinated fashion.

- i. Discouraging inappropriate urbanization of the Delta is critical both to preserve the Delta's unique character and to ensure adequate public safety.*

DFG believes that a regional approach to land use decision making is necessary to assure protection of the ecological health of the Delta. An improved system is needed for developing and implementing a comprehensive framework for land use decision making that considers the many issues which confront the delta. The issues which such planning must address include public safety, flood control, protection of opportunities for ecological restoration and re-establishment of natural processes, and maintenance of viable wildlife-friendly agriculture that is consistent with protecting in-Delta water quality for both species protection and drinking water

supply. An entity with sufficient regional leadership and a role in land use decision making, and which can work effectively with local governments and the Delta's citizens, should be pursued.

The ERP and Wildlife Conservation Board (WCB) have programs that contribute to preserving the Delta's unique character by encouraging wildlife friendly agriculture and preserving open space for the protection and enhancement and restoration of fish and wildlife resources. WCB is DFG's "implementation arm" as it relates to acquisition of properties for ecological purposes; WCB funds both easement and fee title acquisitions, which can play a role in limiting incompatible development and protecting open space for fish and wildlife protection, management, and restoration.

*j. Institutions and policies for the Delta should be designed for resiliency and adaptation.*

Over the past three decades the Delta ecosystem has changed faster than most governing agencies can adapt. One reason for this is that changing circumstances are not well documented. Any call for adaptive management should include the need for comprehensive monitoring so agencies can have the data and information to make rational changes in the Delta system.

DFG is incorporating adaptive management into its implementation of ERP. The Department believes the existing ERP should be carried forward in Delta Vision's Strategic Plan as the mechanism for implementing ecosystem restoration in the Delta and its tributaries. ERP provides an established mechanism for identifying and implementing ecosystem restoration efforts. Greater investment in the ERP is needed to implement already identified projects and achieve restoration goals identified in the original ERP Program Plan and the ERP Stage 2 Conservation Strategy. A critical part of this investment is adequate funding for monitoring and research needed to determine if identified performance measures are being achieved and to inform decision making. In recognition of the need for clear performance measures to evaluate ERP implementation the Governor's budget contains funding for the Department to develop performance measures and the monitoring and research which will be needed to determine if they are being met.

*B. Agency Specific Questions:*

*1. What institutional and/or policy weaknesses have contributed to listing of Delta species? How might these weaknesses be addressed.*

Water inflow to the south Delta has adversely affected Delta Smelt, Longfin smelt, and San Joaquin River fall-run Chinook salmon. One way these species can be helped to recover is to ensure adequate water flow in the San Joaquin River and its tributaries. Increased instream flow during the spring in the Stanislaus, Tuolumne, and Merced Rivers has triple benefits. First, higher spring flow at Vernalis and into the south Delta will likely increase the likelihood of net positive flow in the Old and Middle Rivers and will possibly reduce entrainment of smelt by water export facilities. Second, adequate flows will also increase salmon smolt production in, and smolt out migration from the Stanislaus, Tuolumne, and Merced Rivers. And, finally, increased flows will likely aid in smolt survival of juvenile salmon migrating into and through the Delta.

With respect to water quality, the Department believes that pollutant-specific total Maximum Daily Loads (TMDLs) planned for the Delta must not be delayed. All of the Water Board TMDL work planned and underway is essential. However, all of the pollutant-specific work outcomes should be carefully considered in a wider context so that actions taken to address one pollutant do not have the unintended consequence of worsening conditions with respect to other pollutants or water flow.

This problem can be addressed by giving the ecological needs of the Delta a higher priority than they have historically had, and by changing water management in the Delta such that water exports from the Delta are related to what can be accommodated within the ecological needs of the estuary. This could be addressed further through the project planning and environmental review process, where ecological needs are better balanced with water management, including water quality and supply. The Bay Delta Conservation Plan offers the venue for addressing this issue by linking water supply reliability to conservation of listed species and the restoration of the Delta Ecosystem.

2. *Assessing experience, what is the effectiveness of these approaches in protecting the Delta ecosystem, and species of concern?*

a. *Project Mitigation*

Project-by-project mitigation does address individual project impacts but it often results in small isolated compensation which often is fragmented and is not in the context of a larger conservation or recovery strategy. The type of mitigation is often unsustainable over time. Mitigation as a component of a landscape scale or regional plan is often more effective since it results in more comprehensive and sustainable conservation.

b. *Environmental Water Account (EWA)*

The concept of EWA was to benefit and protect listed species by providing water when most needed for the environment. Unfortunately, the funding for this effort was not adequate to meet the desired benefits for fish. The species of primary interest declined in abundance during the years when EWA was being used. The CALFED technical review panel for EWA determined that EWA was too small to make a measurable difference to species conservation. The general concept of "banking" assets as a tool to more effectively manage water for ecological purposes, should still be considered.

c. *Habitat Restoration*

Habitat Restoration as identified in the ERP Stage 2 Conservation Strategy is critical to restoring habitat diversity and heterogeneity, improve productivity of the Delta, and restore physical and ecological processes. Little habitat restoration has occurred in the Delta of the type needed to address the historic loss of wetlands, physical processes and the underlying problems of reduced productivity. The most substantial restorations in the Delta have been the accidental breaching of Liberty and Prospect Islands and the floodplain restorations along the Cosumnes River. Opportunities for restoration are limited by the existing method of water conveyance through the Delta which severely limits opportunities to restore ecological processes in channels and sloughs and the effects of subsidence. Large scale restoration in

San Francisco Bay has resulted in significant increases in habitat for fish and birds and increases in vegetated marsh and miles of sloughs.

d. *County Habitat Conservation Plans*

Landscape or regional Habitat Conservation and Natural Community Conservation Plans are the most effective mechanisms for effective and comprehensive fish and wildlife conservation. There are a number of planning processes in and near the Delta (e.g., South Sacramento County, Eastern Contra Costa County, Yolo County, and Solano County HCP's; San Joaquin County Multi-Species Conservation Plan). These plans are focused primarily on terrestrial species and communities, so they are not directed at protecting the Delta's aquatic areas or species of concern.

The Bay Delta Conservation Plan (BDCP) is intended to provide for the conservation of aquatic species and communities as well as related terrestrial communities and species. Since the BDCP is focused on addressing issues associated with operation and improvements of the State and federal water projects its overall scope is limited within the Delta and its tributary watersheds. The CALFED ERP Stage 2 Conservation Strategy is intended to guide restoration and conservation activities at this larger and more comprehensive scale. The BDCP is still under development so it is not possible to assess its effectiveness.

e. *Species Recovery Plans*

Species Recovery Plans are critical for guiding recovery of listed species. Plans are not consistently available or kept updated. NMFS is currently preparing a recovery plan for Central Valley salmonids and steelhead. It is scheduled for State and Federal co-manager review in May, 2008, with public review commencing in summer, 2008. The FWS recovery plan for Delta native fish is under development, although draft information from the plan is already being made available to help Delta planning efforts.

f. *Managed, wetlands, reserves and preserves*

The Yolo Bypass Wildlife Area is a prime example of partnering with stakeholders to manage resources for multiple purposes. Cooperative agreements and leases with tenant farmers have enabled DFG to maintain base funding for managing the wildlife area while creating habitat for waterfowl and maintaining agriculture. The Yolo Bypass Wildlife Area is also being used as an important methyl mercury study area and for pilot projects that are key to answering questions about how best to manage wetlands to minimize the production of methyl mercury.

DFG and the Nature Conservancy own land at the Cosumnes River Preserve. Large portions of this preserve are grazed or farmed through cooperative agreements with local farmers, contributing to the local economy, while defraying preserve management costs. This preserve has been the site of significant areas of flood plain and riparian habitat restoration. Research in these areas has demonstrated the benefits of floodplain habitat to native fishes in addition to other wildlife.

In addition to providing opportunities for restoration, wildlife areas, reserves and preserves play a critical role in protecting remnant natural habitats and endangered

species. These areas also play an important role in protecting natural corridors and biodiversity.

*g. Other policy tools*

Other tools are available that could play an important part in protecting and restoring Delta habitats including:

- Federal Endangered Species Act section 6 Habitat Conservation Planning and Implementation grants and Safe Harbor Agreements
- Subsidies for compensating farmers for growing crops in a wildlife friendly manner (e.g. Postpone mowing/burning until after ground nesting birds have fledged, leaving residual grain for birds, set-aside buffers, planting trees for raptors, integrated pest management, etc.)
- Conservation easements (either permanent or for an extended period of time) to discourage or eliminate development and other wildlife-incompatible uses in sensitive areas.

Questions concerning these responses should be directed to Carl Wilcox, Water Branch Chief, 916-445-1231 or [CWilcox@dfg.ca.gov](mailto:CWilcox@dfg.ca.gov).

## **Additional questions posed by the Delta Vision Blue Ribbon Task Force to DFG:**

### **What information does the Department have on diversions within the legal Delta? Within the Delta watershed?**

DFG conducted surveys to inventory diversions in the Delta and its tributaries from 1995-2005, this data is currently being evaluated to assess the size of the diversions and the timing and amount of each diversion. This data has been combined with water rights data from the State Water Resources Control Board (SWRCB), to determine which of the identified diversion have recorded water rights. The Department is beginning to work with the SWRCB and landowners to improve our understanding of agricultural diversions in the Delta.

A small number of studies have been conducted to investigate the potential impacts of small Delta agricultural diversions on native and anadromous fish; these studies largely concluded that small agricultural diversions have little or no effect on listed species and fish populations.

### **How many of these diversions have received Department assessment of environmental effects?**

Department efforts have focused on larger diversions which account for the majority of water diverted or on tributary streams such as Butte Creek which support important anadromous fisheries. The Department through the ERP in coordination with the Anadromous Fish Screen Program (AFSP) is currently providing a grant to the Family Water Alliance to survey smaller (<30 cfs) agricultural diversions to determine their effects on fish prior to screening the diversion. This is to provide data, currently lacking, on the effect these diversions of fish.

AFSP has developed screening prioritization guidelines based on current fisheries knowledge and best professional judgment:

#### High priority projects (to be funded):

- 100 cfs or greater on the Sacramento River
- Highly productive tributaries where 10% of flow is diverted

#### Medium priority projects (may be funded):

- 100 cfs or greater in the Delta or San Joaquin River systems
- Under 100 cfs diversions on the Sacramento River and/or productive tributary diversions taking less than 10% of flow

#### Low priority diversions (not to be funded):

- All other diversions]

The lower priority assigned to the San Joaquin River as opposed to the Sacramento River basin is largely due to the lack of fish populations, and water on the San Joaquin River. With the recent San Joaquin River Settlement Agreement, it is expected that more flows will accommodate more fish returning to the San Joaquin system, at which point fish screens for diversions in the San Joaquin River basin will increase in priority.

**For how many has the Department required fish screens or other design features to reduce impacts on species?**

In accordance with priorities for screening large water diversions during implementation of the CALFED Ecosystem Restoration Program (ERP), the following diversions were screened:

- Sacramento River: 8 diversions screened greater than 250 cfs. 6 diversions screened less than 250 cfs.
- Battle Creek: 2 small diversions screened.
- Butte Creek: 2 small diversions screened.
- Yuba River: 1 project screened 65 cfs diversion.
- San Joaquin River: 1 screen on diversion greater than 250 cfs.
- Suisun: 1 diversion less than 250 cfs.
- Delta: 2 diversions; 1 greater than 250 cfs and 1 less than 250 cfs.

In addition, the Department of Water Resources has installed a number of fish screens as part of the permitting associated with the Temporary Barriers program with a total of 10-12 diversions being screened in the Delta.

Based on analysis in the ERP end of Stage 1 Assessment report (in preparation) all water diversions >250 cfs in the Sacramento River Basin have been screened, with the exception of Reclamation District 2035 and Natomas Mutual Water District diversions (630 cfs cumulative). Less than 10% of ~900 small diversions in the Sacramento River Basin have been screened.

The CALFED ERP draft 2007 Milestones report, identifies 2,258 diversions in the Delta and 384 diversions on Eastside Tributaries; at the time of the 2004 Milestones Assessment, only 25 diversions were screened in the Delta and four diversions were screened in the Eastside Tributaries.

**For how many has the Department required limits on operations (e.g. times of diversion) to reduce impacts on aquatic species?**

Last year, in conjunction with voluntary cutbacks in SWP export pumping (~June 2007), a letter from DFG's Director was sent to landowners in the Delta requesting that they limit their diversions during a sensitive life stage for Delta smelt. Any reductions in diversions by these individuals were voluntary. Compliance with the Director's request could not be documented.

The Wanger decision (December 2007) now includes mandatory cutbacks in diversions from both the SWP and CVP pumping facilities in the south Delta, until acceptable measures are incorporated into Biological Opinions on the water projects operations (expected by end of 2008).

**For how many has the Department issued an incidental take permit?**

No incidental take permits (ITPs) have been issued for small agricultural diversions in the Delta.

Several larger diversions in the Delta have been issued ITPs. Contra Costa Water District received an ITP as part of its Los Vaqueros reservoir expansion and an ITP's was issued for new diversions by the City of Stockton. ITPs are being drafted for Contra Costa Water District and City of Sacramento. ITPs are generally issued in conjunction with the Department's Streambed Alteration Agreement process (see response to question below).

**How does the department learn of proposed diversions? When it learns of a proposed diversion, what does the Department do? Please describe the permitting process and enforcement of any permits.**

DFG learns of proposed diversions through notices from the State Water Resources Control Board, for new diversions involving water rights, through Streambed Alteration notifications, and through environmental review of proposed projects.

For diversion projects that could have an environmental effect, a new diversion would require the project proponent to submit Streambed Alteration notification, if the diversion had the potential to take state listed species, an ITP (FGC 2081) is be required. If the project has received authorization under the Federal Endangered Species Act, the requirements of CESA are typically addressed through issuance of a Consistency Determination if the federal authorization is consistent with the requirements of CESA.

When streambed alteration agreements and/or CESA authorizations are issued they generally have monitoring and reporting requirements. Department enforcement and biological staff monitor compliance.

**What recommendations does the Department propose to more effectively exercise its responsibilities regarding diversions?**

Given the approach and priorities for fish screens, DFG has been adequately implementing its fish screen policies. As mentioned above, a number of high-priority fish screen projects were funded through the ERP; in accordance with ERP priorities, most of this investment (~\$91 million) occurred at large diversions upstream, particularly in the Sacramento River basin.

For many screening projects the Fish and Game Code requires DFG to pay half the cost of installing the screen. Due to limited funding this severely restricts DFG's ability to effectively make recommendations for the installation of fish screens. The funding provided through the CALFED ERP contributed significantly to facilitating the screening of many unscreened diversions particularly in the Sacramento River.

Existing information continues to indicate that in-Delta agriculture diversions likely have little or no impact on Delta fish populations; therefore, screening of these small diversions has not been a priority. As a result of new concerns about the effects of these diversions in light of the Pelagic Organism Decline the Department is developing a

study plan to comprehensively assess the effects of Delta Agricultural diversions. To provide scientifically valid results the study will involve a large number of diversions sampled continuously over at least one year, preferably three. This will require the cooperation of private land owners and significant new funding and staff.