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FIRST CLASS AND ELECTRONIC MAIL

Mr. John Kirlin
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Dear Mr. Kirlin:

STATE WATER RESOURCES CONTROL BOARD AND REGIONAL WATER
QUALITY CONTROL BOARD (WATER BOARDS) RESPONSE TO SECOND ROUND
OF DELTA VISION QUESTIONS

Thank you again for the opportunity for the Water Boards to contribute information to the development of the Delta Vision strategic plan. This letter provides our response to the second set of questions posed by the Delta Vision Task Force on May 2, 2008. Please refer to the enclosures for both the questions and our responses.

If you have any questions regarding these responses, please contact Jim Kassel, Assistant Deputy Director for Water Rights at (916) 341-5446 or Erin Mahaney, Staff Counsel at (916) 341-5187.

Sincerely,

Dorothy Rice
Executive Director

Enclosures

cc: See next page.

California Environmental Protection Agency

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**STATE WATER RESOURCES CONTROL BOARD
RESPONSE TO SECOND ROUND OF DELTA VISION QUESTIONS**

1. *What information does the Board have on diversions within the legal Delta? Within the Delta watershed?*

The State Water Board has permitting and licensing authority over surface water diversions associated with post-1914 appropriative water rights within the legal Delta and within the Delta watershed. The State Water Board maintains paper and electronic files for pending water right applications and permitted and licensed water rights. The information in the files includes the holder of the water right, point of water diversion, limitations on the rate, amount, and season of diversion, the place and purpose of use of the water, and any other terms or conditions placed on the water right.

Water right holders are required to file progress reports with the State Water Board, and to report their water diversion and use amounts. These reports are to be completed annually for water right permit holders and triennially for water right license holders. Approximately 68 percent of permit and license holders submit completed water use reports to the State Water Board. The State Water Board is currently developing the ability to receive on-line electronic reports into its electronic database.

The State Water Board also collects Statements of Water Diversion and Use (Statements) from water diverters claiming riparian and pre-1914 water rights. (Wat. Code, § 5100 et seq.) These Statements, however, do not provide complete information about riparian and pre-1914 water diversions in California, and particularly in the Delta, because certain diverters are statutorily exempt from filing the Statements. For example, Water Code section 5101 exempts diversions that are reported by the Department of Water Resources (Department) in its hydrologic data bulletins or that are included in the consumptive use data for the Delta lowlands published by the Department in its bulletins. (*Id.*, § 5101, subds. (e)-(f).) Additionally, even if a water diverter is statutorily required to file a Statement, there is no penalty for failure to file a report. (*Id.*, § 5108.)

2. *How many of these diversions have received water permits from the Board? What is the Board's estimate of number of water diversions within the Delta watershed probably requiring a water right permit but currently without one? How could data gathering on water diversions throughout the Delta watershed be improved?*

A water right may have multiple points of diversion. There are 293 water right licenses regulating 621 points of diversion (PODs), and 37 water right permits regulating 71 PODs within the legal Delta. The State Water Board estimates that there are approximately 14,000 appropriative water rights in the Delta watershed.

The Department of Fish and Game (DFG) has attempted to locate diversions in the legal Delta through field surveys. DFG has provided the State Water Board with results of its field surveys from 1993 through 2005 for the PODs within the legal Delta. These field surveys identified 2294 PODs. Some water rights have movable PODs, so DFG's number may exceed the actual total number of PODs within the legal Delta. Even if there is some duplication, however, it is clear that the State Water Board has permitted less than a third of the diversions occurring in the

legal Delta. The State Water Board does not know at this time how many of these unpermitted diversions may be associated with legitimate riparian or pre-1914 claims of water right, or how many require a water right permit but do not have one. The State Water Board also does not have an estimate of the illegal diversions throughout the Delta watershed. As information becomes available, however, the State Water Board will take enforcement action against illegal diverters.

The ability to gather data on water diversions throughout the Delta watershed currently is limited. Data collection and analysis on the diversion and use of water is expensive, and the State Water Board has limited capacity in this area. In addition, as noted above in the response to Question #1, not all water diverters are required to report their diversions and there are few, and sometimes no, legal consequences for failing to report. The State Water Board estimates that 68% of permit and license holders and 65% of diverters who should file a Statement fail to report.

Data gathering and the effective administration of the State's water right program could be improved by legislation that requires monitoring and reporting of all water diversions along with enforcement authority to take action, including assessing penalties, against those that do not report. It is especially important that the State Water Board have authority to require monitoring by water diverters and to require compliance with monitoring and reporting requirements. Without the authority to obtain adequate monitoring records, the State Water Board may limit diversions of future water supplies using conservative estimates of existing demands, or risk jeopardizing impacts to environmental resources. Additionally, expanding the number of people who are required to file Statements and adding legal consequences for failure to file Statements will help prevent the over-allocation of the State's water resources, which is detrimental to other water users and the environment.

3. For how many diversions has the Board required limits on operations (e.g., flow requirements, limited times of diversion) to reduce impacts on the ecosystem? On downstream water users?

The State Water Board has included operational limitations in many of its water right permits and licenses. These limitations are often in the form of limited seasons of diversion, limits on diversion rates or total diversion amounts, or bypass flow requirements that are intended to protect the ecosystem, downstream diverters, or both. It is not possible to provide the number and specific purpose of the limitations that the State Water Board has placed in its water right permits and licenses without reviewing the specific files for each water right.

Specific to the Delta watershed, the State Water Board has placed Term 91 in 119 water right permits and licenses. This term is used to curtail diversions from water rights in the Delta or its tributaries when natural or abandoned flows are insufficient to meet Delta water quality objectives and the Department or Bureau is releasing upstream supplemental project water to meet in-basin entitlements.

The State Water Board also places conditions in water quality certifications issued pursuant to section 401 of the Clean Water Act (33 U.S.C. § 1341). Under this provision, any applicant for a federal license or permit to conduct any activity that may result in any discharge into the navigable waters of the United States must apply for a certification from the State that the discharge will comply with state and federal water quality standards. The State Water Board (or, as appropriate, the Regional Water Quality Control Boards) may impose conditions requiring operational constraints for the protection of the environment and to ensure that the project will comply with water quality objectives. For example, most hydropower projects must

obtain a water quality certification from the State Water Board before they can obtain a license or relicense from the Federal Energy Regulatory Commission (FERC). Any conditions, including operational limitations that are included in a 401 certification will be included in the federal license or permit.

4. How many pending water right applications within the Delta watershed are before the Board? What quantities of water are being requested for diversion from these applications?

There are 74 pending water right applications within the Delta watershed. Some of these applications have been filed by the same entity and have combined limitations on the maximum allowable annual diversion or are duplicate filings. Taking these limitations into consideration, the applications request a total amount of water of 4,232,149 acre-feet per annum (AFA) and range from 14 AFA to 750,000 AFA.

5. How does the Board balance instream water supply needs with requests for diversions?

The State Water Board has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to prevent harm to public trust uses where feasible. The State Water Board's decisions regarding water allocations are based on the particular facts before it. In general, any party requesting a new appropriation of water must demonstrate that water is available for that appropriation.

As discussed in the State Water Board's responses to the first set of Delta Vision questions, the purpose of the public trust doctrine is to protect navigation, fishing, recreation, environmental values, and fish and wildlife habitat. (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419, 434-435 [189 Cal.Rptr. 346] (*Audubon*)). The public trust doctrine also applies to activities that harm a fishery in non-navigable waters. (*People v. Truckee Lumber Co.* (1897) 116 Cal. 397, 399 [48 P. 374, 375]; see *California Trout, Inc. v. State Water Resources Control Board* (1989) 207 Cal.App.3d 585, 630 [255 Cal.Rptr. 184, 211].) Under the public trust doctrine, the State retains supervisory control over the navigable waters of the state and the lands underlying those waters. (*Audubon, supra*, at p. 445.) The public trust doctrine may be applied together with statutes to protect the environment and instream flows.

The public trust doctrine requires the State Water Board to consider the effect of the diversion or use of water on streams, lakes, or other bodies of water, and "preserve, so far as consistent with the public interest, the uses protected by the trust." (*Id.*, at p. 447.) Thus, before the State Water Board approves an appropriative water right diversion, it must consider the effect of such a diversion on public trust resources and avoid or minimize any harm to those resources where feasible. But water may be appropriated despite harm to public trust interests if the public interest in the diversion outweighs the harm to public trust values. (*Id.*, at pp. 446-47.) Like other uses of water, public trust uses must conform to the constitutional standard of reasonable use. (*Id.*, at p. 443; Cal. Const., art. X, § 2.)

In evaluating whether it is "feasible" to protect public trust values in a particular instance, the State Water Board must determine whether protection of those values, or what level of protection, is "consistent with the public interest." (*Audubon, supra*, at pp. 446-447.) This determination is based on the circumstances of each case, including the public trust values involved and the competing demands to divert water for other uses. In resolving disputes over

competing uses of water, the State Water Board may consider whether there is a physical solution by which competing needs may be met and the constitutional goal of promoting maximum beneficial use of the State's water resources may be served. (See, e.g., State Water Board Decision 1631 (1994), pp. 10-11, 118 [noting that waterfowl habitat restoration may serve public trust uses while requiring a smaller commitment of water]; State Water Board Order 90-16; *City of Lodi v. East Bay Municipal Util. Dist.* (1936) 7 Cal.2d 316 [60 P.2d 439].)

When the State Water Board considers the cumulative impacts of multiple water diversions that all have similar impacts, such as low flows resulting from numerous upstream diversions, the State Water Board must implement the public trust doctrine in accordance with water right priority unless it demonstrates that overriding considerations, such as protecting public trust values or preventing waste or unreasonable use, justify subversion of the rule of priority. (*El Dorado Irrigation Dist. v. State Water Resources Control Board* (2006) 142 Cal.App.4th 937, 944 [48 Cal.Rptr.3d 468].) Voluntary water transfers may serve to promote greater efficiency and avoid adverse economic impacts that might otherwise occur if cutbacks are imposed based solely on priority.

6. Which major rivers in the Delta watershed and their main tributaries are protected through in stream flow standards? If not, what might the implications be to current water uses to enact this protection? How might the State Board engage in this activity?

The following major rivers in the Delta watershed are protected through instream flow standards:

- Trinity River below Lewiston Dam
- Sacramento River
- Feather River
- Stanislaus River below New Melones Reservoir
- Tuolumne River below New Don Pedro Dam
- Clear Creek below Whiskeytown Dam
- American River below Nimbus Dam
- Yuba River below Bullards Bar Dam
- Mokelumne River below Camanche Dam

These flow standards are the result of operational agreements or the State Water Boards' quasi-legislative Basin Planning processes to protect beneficial uses of California's waters. The State Water Board can amend the standards or adopt additional in stream flow standards through its Basin Planning processes and impose responsibility to meet those standards through its adjudicative water right implementation processes. With its obligation to protect beneficial uses, the State Water Board may limit current or future water diversions by imposing additional in stream flow standards.

7. What actions has the Board taken to enforce compliance with Californian water laws in the Delta watershed within the past five years?

During the last five years the State Water Board has enforced conditions of water right permits held by the Department of Water Resources (DWR), the United States Bureau of Reclamation (Bureau), the North San Joaquin Water District, and individual landowners within the Delta watershed.

On February 14, 2004, the State Water Board adopted Order 2004-0004 imposing administrative civil liability on three water right holders for diverting water from the channels of the Delta during periods when their water right licenses do not authorize diversions. The licensees' water rights included Term 91, discussed above in the response to Question #3. The State Water Board concluded that the licensees' diversions of water during the curtailment periods in 2000 and 2001 violated Term 91. It also rejected the licensees' claims that they had riparian or pre-1914 rights to divert during that time. The licensees challenged Order WRO 2004-0004 in the Sacramento County Superior Court, and in 2006 the trial court affirmed the State Water Board's order in its entirety. In 2007 the Third District Court of Appeal upheld the State Water Board's enforcement of Term 91 in *Lloyd L. Phelps, Jr., et al. v. State Water Resources Control Board* (2007) 157 Cal.App.4th 89.

On February 15, 2006, the State Water Board adopted Order 2006-0006 issuing a Cease and Desist Order to the DWR and the Bureau to take corrective actions under a time schedule to correct threatened violations of their water right permits and license. The State Water Board adopted this Order to enforce the projects' permit and license conditions that require them to meet a 0.7 millimhos per centimeter (mmhos/cm) electrical conductivity (EC) objective for southern Delta agriculture at specified southern Delta compliance locations between April 1 and August 31 of each year.

On March 18, 2008, the State Water Board adopted Order 2008-0017 issuing a Cease and Desist Order and imposing administrative civil liability to the North San Joaquin Water Conservation District for violations and threatened violations of certain terms of its water right permit, including the requirements regarding fish screens and bypass flows.

8. What recommendations does the Board propose to more effectively exercise its responsibilities regarding diversions?

The State Water Board adopted Resolution No. 2007-0079 in December 2007 to initiate the preparation of a strategic workplan with the Central Valley and San Francisco Bay Regional Water Quality Control Boards (Water Boards) for the San Francisco Bay/Sacramento-San Joaquin Delta estuary. The draft workplan is tentatively scheduled for public release in June. The workplan will both describe the actions the State Water Boards should complete to protect the beneficial uses of water in the Bay-Delta Estuary and provide timelines and resource needs for implementing the actions.

In addition to the components being developed for the Bay-Delta strategic workplan, the State Water Board believes it could more effectively exercise its responsibilities with enhanced enforcement mechanisms. The Water Code provides two main statutory enforcement mechanisms: (1) the assessment of administrative civil liability for the unauthorized diversion or use of water (Wat. Code, § 1052), and (2) the imposition of a cease and desist order (*id.*, § 1831). Currently, the State Water Board does not possess sufficient authority to effectively monitor and enforce water right laws and to meet its responsibilities. In particular, the law does

not (1) provide clear authority for the State Water Board to require monitoring by diverters, (2) authorize monetary penalties for monitoring and reporting violations, (3) have adequate penalties for unauthorized diversions and violations of cease and desist orders, and (4) have provisions for interim relief. The ability to provide for interim relief during the pendency of an enforcement action is particularly important. Because of the complexity of water right issues and the propensity of parties facing enforcement to pursue tactics that drag out the proceedings, such proceedings may take years. During this time, activities that damage other water users or the environment will continue without any requirement that the violator take steps to avoid or reduce the damage during that period. Appropriate enforcement and monitoring tools are increasingly important as California faces critical water supply shortages and conflicts between water diversions and public trust issues.

CENTRAL VALLEY AND SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD RESPONSE TO DELTA VISION QUESTIONS

Introduction

Water quality in the Bay-Delta has been a concern for the State Water Board, the Central Valley Regional Water Quality Control Board, and the San Francisco Regional Water Quality Control Board (collectively Water Boards) for as long as the Boards have existed. Over the years the contaminants and discharge sources have changed and there have been significant improvements in controlling most types of contaminants. For example, discharges from wastewater treatment plants and industrial facilities to the Delta and tributaries have continually improved in quality as requirements become more stringent and treatment technologies are improved. Another example is the significant decreases in organophosphorus (OP) pesticides in Delta waters that resulted from implementation of a control program that was developed as part of a coordinated, multi-stakeholder effort. Despite the many improvements, there still are a suite of contaminants and source categories that pose a concern for some Delta beneficial uses and there is also concern for an emerging list of new contaminant categories (pharmaceuticals and endocrine disrupters).

The Water Boards have regulatory programs that control discharges of wastes from wastewater treatment facilities, industrial facilities, urban areas, irrigated agricultural lands, dredging operations and other sources of wastewater to the Bay-Delta and tributaries. If a single discharger is responsible for an impairment, the Water Boards address the impairment by working with the responsible discharger (revising the permit, taking enforcement action, etc.). The Water Boards address water quality impairments that are caused by multiple dischargers by developing total maximum daily loads (TMDLs), which set water quality objectives or targets and allocate allowable loads to sources of contaminants. TMDLs have been adopted and are in the process of being implemented for salinity and boron, OP pesticides and dissolved oxygen in the Delta. A TMDL is under development for mercury.

An important part of the Water Boards' effort is the monitoring and assessment program. This program complements the monitoring conducted by dischargers and by other agencies and entities and allows us to evaluate how effective our control efforts are and whether additional controls are needed. However, even with these programs in place, the Delta ecosystem is in peril. Scientists point to multiple causes, including water diversions, invasive species and contaminants. Consequently, the Water Boards have concluded that it is essential that we focus more attention on the Delta and make sure that our actions are coordinated with all efforts focused on addressing water supply and beneficial use issues in the Delta (efforts such as Delta Vision, Bay Delta Conservation Plan, Governor's Executive Order and others).

In order to focus more attention and effort on the Delta, staff from the State Water Board and the San Francisco Bay and Central Valley Regional Water Boards formed the Bay-Delta Team to improve coordination of the Water Boards' activities in the San Francisco Bay and Sacramento-San Joaquin Delta (Bay-Delta). In 2007, the Bay-Delta Team began developing a long-term program for addressing impacts to beneficial uses of water in the Bay-Delta.

Because of the interrelated nature of the first three questions, the following questions have been combined in to a single response for each type of waste discharge.

June 12, 2008

1. What information do the Regional Water Quality Control Boards have on discharges or any other actions which impact water quality within the legal Delta? Within the Delta watershed? Do the RWQCBs track numbers, types and quantities of discharges or any other actions which impact water quality?
2. How many of these discharges or any other actions have received assessment of water quality effects?
3. How many of these discharges or any other actions which impact water quality are permitted? Do all permits include an assessment of water quality effects? If so, what is the scope of the assessments?
4. How many unpermitted dischargers exist? Do the RWQCBs have information on the types and sizes of these dischargers? If so, please provide that information. If not, please provide the best available estimates.
5. For how many discharges or any other actions which impact water quality have the Regional Boards required actions to reduce impacts on the ecosystem?
6. How frequently are dischargers inspected?
7. How many dischargers are out of compliance with their permit conditions? How many are under compliance orders or cease and desist orders?
8. How frequently are discharge permits re-evaluated and/or re-issued?

NPDES Discharges

Municipal and industrial discharges of wastewater to surface waters are required to obtain National Pollutant Discharge Elimination System (NPDES) Permits that implement the federal Clean Water Act and California Water Code, and associated regulations. To obtain an NPDES Permit, dischargers must submit detailed information on the volume and type of waste discharged, receiving water information, treatment processes descriptions, and other information needed by the Board to determine potential water quality impacts. Potential water quality effects are assessed for every NPDES discharge. In preparing an NPDES Permit, the wastewater discharge and receiving water are monitored to determine what potential pollutants are in the discharge, and the available assimilative capacity of the receiving water. Effluent limitations and other conditions are prescribed in the NPDES Permit to assure that the receiving water beneficial uses protected and the State and Federal anti-degradation policies are complied with. This assessment can be relatively simple for some discharges, and quite complicated for other discharges, involving extensive chemical and toxicity monitoring, flow evaluation, and mathematical modeling of the discharge impact on the receiving water.

NPDES Permits contain increasingly stringent effluent limitations, resulting in upgrading of many treatment plants to meeting the new limits. Manteca, Lodi, Tracy and Stockton have either completed or nearly completed major improvements in treatment capability. Reductions in ammonia discharges at the Stockton treatment plant from recently completed nitrification facilities are likely a major reason there was not a serious dissolved oxygen problem in the San Joaquin River near the Port of Stockton last fall and winter.

There are 21 NPDES discharges in the Delta (17 in the Central Valley Region, and 4 in the San Francisco Bay Region). There are over 200 NPDES discharges in the Central Valley that discharge to waters tributary to the Delta (111 of which discharge below major reservoirs).

Many of the discharges outside the Delta have little chance of impacting Delta water quality because they are far upstream or are upstream of major reservoirs, so many of the constituents discharged have decomposed prior to entering the Delta.

All significant NPDES discharges to Delta waters and tributaries have NPDES Permits.

Almost all of NPDES Permits issued for sewage treatment plants over the last five years have required substantial upgrades of treatment facilities to protect water quality, often to implement newly established water quality objectives. Most Permits for industrial discharges have not required similar upgrades because the industrial discharges are predominantly cooling waters in which the primary "pollutant" is heat.

Major NPDES discharges (generally those of 1 million gallons/day of flow or more) are inspected annually. Minor discharges are inspected at least once every five years.

Three dischargers in the Delta currently are significantly out of compliance with discharge conditions under the definition used by U.S. EPA, although only one of these involve issues related to aquatic toxicity. Almost all discharges have at least a few violations, usually not resulting in any water quality impacts, or limited to short term, localized impacts. Seven dischargers within the Delta have enforcement orders requiring compliance with new or existing effluent limitations, many of which are not related to aquatic toxicity.

NPDES Permits expire and are re-evaluated and reissued every five years.

Storm Water Dischargers

Storm Water permits are also NPDES permits which expire and are re-evaluated and may be reissued every five years. There are three major types of storm water dischargers: municipal, industrial and construction. Municipal permits are issued to municipalities who are required to develop and implement storm water pollution control programs. The permits require monitoring of storm water runoff and implementation of best management practices to reduce pollutant loads in storm water. Delta Phase I permits are written for the City of Stockton, Eastern Contra Costa County, Port of Stockton and a portion of the City of Sacramento. Phase II storm water permits require less rigorous pollution control programs for smaller municipalities such as Tracy and Rio Vista. Municipal storm water discharges from the City of Stockton have resulted in fish kills in Smith Canal due to the resuspension of oxygen-demanding substances in the sediments of Smith Canal. The City of Stockton is developing plans to resolve this problem.

Industries that discharge storm water are also required to implement storm water pollution control programs. The State Water Resources Control Board has adopted a General Industrial Storm Water permit. Industries file a Notice of Intent to comply with the permit. Industries must monitor their runoff during two rainy season storms and implement additional control programs if pollutant levels exceed benchmark values. There are an estimated 200 industrial sites in the Delta and many more outside the Delta which discharge storm water into waterways that are tributary to the Delta. As many as 200 additional industrial sites may operate without permit coverage. Industrial spills to surface water occur but are relatively rare.

Construction sites must also be covered under a statewide general storm water permit. Permittees must develop a pollution control program to minimize the discharge of pollutants, primarily suspended soils, from construction sites. There are an estimated 700 construction

sites in the Delta. Since municipalities require building permit applicants to obtain storm water permit coverage before a building permit is issued, it is likely that most, if not all construction sites have storm water permit coverage. Construction sites sometimes discharge non-storm water to surface waters. Non-storm water discharges permitted under the construction permit include foundation dewatering and water line flushing.

Water Quality Certifications

In order to dredge or fill in waters of the US, a project proponent must obtain a Clean Water Act, Section 404 permit from the US Corps of Engineers. Before the Corps will issue the 404 permit, a water quality certification is required from the State. Annually, the Central Valley Water Board issues about 60 water quality certifications for projects in the Delta. Applicants must demonstrate that projects have completed the CEQA process and that projects will comply with the State's water quality laws.

Projects can vary from dredging in the Sacramento and Stockton ship channels and involve the removal of more than a half million cubic yards of sediment to small projects such as the construction of boating docks for individual homeowners. Levee construction and repair, pipeline and water intake projects also require water quality certification due to the work required in waters of the U.S. Other than the annual channel dredging, major projects involving the Delta include the State Department of Water Resources temporary barriers project and the City of Stockton water intake project. Compliance by government agencies is relatively good. However, many individuals may construct without proper approvals.

Water quality certifications are issued on a one-time basis and are effective for a five-year period. Most construction projects are completed within this time period so there is limited need for renewal. The water quality certification program is chronically underfunded, even though collected application fees are substantially more than the program budget. The Regional Boards will continue to request a substantial increase in funding in order to implement compliance and enforcement tasks within the certification program.

Irrigated Lands Discharges

Owners or operators of irrigated agricultural operations, nursery stock production, managed wetlands, and greenhouse operations with permeable floors that do not currently discharge under waste discharge requirements or NPDES permits must obtain regulatory coverage under the Irrigated Lands Regulatory Program, which implements the California Water Code. The Central Valley Water Board is currently regulating these dischargers under an interim Conditional Waiver of Waste Discharge Requirements (WDRs) while designing a long-term program. This program is very new: while other types of discharges have been regulated for decades, regulation for non-point source discharges from irrigated lands began five years ago.

Due to the large number of growers and irrigated land area in the Central Valley in relation to Water Board staff, the Central Valley Water Board allows growers to form coalition groups. The coalition groups conduct water quality monitoring, report to the Water Board, and respond to water quality impacts. This approach is more cost effective for growers and allows the Central Valley Water Board to manage a large number of dischargers by working with a few groups representing growers.

There are an estimated 7,400 parcels of irrigated agricultural land within the Central Valley Water Board portion of the legal Delta boundary. These 7,400 parcels comprise 482,000 acres, and are owned by 4,000 people. There are an estimated 6.7 million acres of irrigated agricultural land, owned by an estimated 36,000 people, within the Central Valley Water Board's boundaries that potentially discharge to waters tributary to the Delta.¹ Parcels and owners of lands determined to operate irrigated agriculture have been identified through the use of the Department of Conservation's Farmland, Mapping and Monitoring Program, the USDA's National Agriculture Imagery Program, and County Assessor data.

Beginning in 2004 and continuing today, over 100,000 water and sediment samples have been analyzed from irrigated land discharges and receiving waterways. These samples were collected by eight coalition groups, five individual dischargers, UC Davis, and the Central Valley Water Board.

Discharges from irrigated lands are not currently required to be permitted. Most dischargers choose to pay fees to participate in a coalition group, and the coalition representatives use the money collected to conduct water quality monitoring, submit reports to the Central Valley Water Board, and address water quality issues. All coalition groups must prepare and implement a monitoring and reporting program plan (MRP Plan) to assess water quality impacts from their participating dischargers. If water quality impacts are found, the coalition must prepare and implement a management plan to reduce or eliminate the impacts. Coalition groups are currently generally required to monitor 70 constituents at every site, monthly during irrigation season and twice during the storm season. These constituents include pesticides, metals, nutrients, toxicity, pathogens, general chemistry, and physical parameters. All dischargers must comply with the conditions in the Coalition Group Conditional Waiver.

Currently there are an estimated 12,000 dischargers owning 29,000 parcels of irrigated lands comprising 2,100,000 acres who are not participating in the Irrigated Lands Program and may not be complying with the California Water Code. Some fraction of this acreage does not discharge to surface waters and thus does not need to participate in the Program. The size of these operations can range from a few acres to a few thousand acres. Hundreds of different types of crops are grown on these acres. Central Valley Water Board staff have been sending batches of California Water Code Section 13267 Orders to these non-participating growers to ascertain whether or not they should be in the program. Follow-up via site inspections, Notice of Violations (NOVs), and Administrative Civil Liabilities (ACLs) occurs as needed.

There are currently a total of 320 management plans required from the coalition groups, and many of these are currently being developed. A management plan is required when there has been more than one exceedance of a water quality standard for a particular constituent at a location in a three-year period. Some of the constituents are clearly an aquatic toxicity concern, such as pesticides. Other constituents, such as salinity, are not an aquatic toxicity issue. The first step in implementing a management plan is often better identification of sources. Once sources are known, growers must implement best management practices to address the water quality problem.

¹ The estimated numbers of parcels, acreage, and owners provided above generally does not include nurseries, managed wetlands, or greenhouse operations with permeable floors. Water Board staff are working on obtaining estimates for these types of irrigated lands.

Staff periodically conduct inspections to determine whether a grower has the potential to discharge, and therefore should be participating in the Irrigated Lands Regulatory Program. Staff also conduct inspections in response to complaints about discharges. Routine inspections by Water Board staff are not conducted for each discharger that participates in a coalition.

None of the coalitions are currently under compliance orders or cease and desist orders. Each Coalition has had at least one minor compliance issue, usually related to report formatting, content, or submittal date. These issues have generally been corrected.

Coalition Group MRP Plans are re-evaluated annually, as will be Management Plans. The overall conditional waiver under which the Coalition Groups operate is reviewed and renewed or modified every five years.

TMDLs

When impairments are not caused by one specific type of discharge, the Clean Water Act requires the Water Board to develop a comprehensive program that assigns responsibility for addressing the impairment to the variable sources that contribute to the impairment. These comprehensive control programs are called TMDLs (Total Maximum Daily Load). Porter-Cologne also includes requirements for the Water Boards to address impaired water bodies. When the Water Board adopts TMDLs, they include load allocations for dischargers and may include other provisions, such as monitoring requirements. Each TMDL is different as to the number of dischargers that are regulated by the TMDL. Following is a summary of the TMDLs that have been adopted that are related to the Delta.

Organophosphorus Pesticides

Organophosphorus pesticide TMDLs in the Delta, Sacramento River and San Joaquin River include load allocations and monitoring requirements that apply to discharges from irrigated agriculture. The allocations and monitoring are implemented by area, but all dischargers within an area are ultimately responsible if allocations are not met. The Irrigated Lands Regulatory program implements the requirements of these TMDLs. There are roughly 2600 (900 in or immediately adjacent to the Delta) dischargers for which the OP pesticide TMDLs are applicable. Staff are working with several coalition groups (groups formed to take the lead on irrigated lands discharge issues) to implement the TMDLs. Management plans are required to address OP pesticide problems. Currently, there are management plans under development that address OP pesticides.

Salt and Boron

Salt and boron in the San Joaquin River between the Stanislaus River confluence and Vernalis are addressed through a TMDL providing load allocations to irrigated agriculture in the San Joaquin River watershed and waste load allocations to NPDES permit holders. The TMDL establishes salt loading allocations for non-point sources (irrigated agriculture) using 7 sub areas in the San Joaquin Basin covering over 1.21 million acres. Load allocations for irrigated agriculture can either be included in WDRs or Waivers of WDRs. Many of the dischargers in the seven sub areas already participate in waivers, as part of Coalition Groups, under the Irrigated Lands Regulatory Program. The Control Program also places limits on U.S. Bureau of Reclamation (USBR) for salt loads that are delivered to the valley in the Delta Mendota Canal. Point sources (NPDES dischargers such as Modesto and Turlock) are required to meet the Vernalis salinity objectives in their effluents. The Control Program encourages development of

implementation strategies that take into account real time monitoring and timing of discharges. The Agriculture Regulatory and Planning Unit, NPDES, and Irrigated Lands Regulatory Program help to implement this TMDL. Current activities include development of a draft Management Agency Agreement with USBR to address salt loads in the Delta Mendota Canal and efforts to address these constituents in Irrigated Lands Coalitions management plans.

Dissolved Oxygen

Dissolved oxygen in the Stockton Deep Water Ship Channel (DWSC) is addressed through a Control Program, which found causes for the impairment include loads of oxygen demanding substances, the geometry of the DWSC, and reduced flow through the DWSC. The Control Program requires entities responsible for sources of oxygen demanding substances and their pre-cursors to conduct studies, which are currently underway, before development of more detailed allocations regarding the load factor. Parties involved in allocations include NPDES permittee (City of Stockton WWTP), irrigated agriculture in the San Joaquin River watershed (most who are currently covered by the Irrigated Lands Regulatory Program), the U.S. Army Corps of Engineers (USACE), and the Port of Stockton. To address the channel geometry factor, the Control Program requires: (1) future projects that increase the cross-sectional area of the DWSC geometry to evaluate and fully mitigate potential impacts on excess net oxygen demand conditions when obtaining CWA Section 401 Water Quality Certifications; and (2) the USACE to evaluate the impacts of the existing DWSC geometry on excess net oxygen demand conditions pursuant to CWC § 13267. The Control Program also recommends that the USACE reduce the impacts of the existing DWSC geometry on excess net oxygen demand conditions in coordination with parties responsible for other contributing factors such that excess net oxygen demand is eliminated.

Pathogens

Pathogens in six urban waterbodies in the Stockton area are addressed through a NPDES/MS4 Permit to the City of Stockton/ San Joaquin County. On 14 March 2008, Central Valley Water Board adopted Resolution No. R5-2008-0030, which approved a non-basin plan amendment Pathogen TMDL. USEPA approved the TMDL on 14 May 2008. The TMDL is implemented through Order R5-2007-0173 (adopted on 6 December 2007), which established a NPDES/MS4 permit for monitoring and reporting requirements for storm water discharges in the City of Stockton, San Joaquin County. The TMDL relies upon the City of Stockton's current Pathogen Plan, a component of their MS4 permit, to control sources of pathogens.

Mercury

A mercury TMDL is under development for the Delta. The TMDL will likely include load allocations and requirements for studies for NPDES dischargers, urban storm water dischargers, irrigated agriculture, wetlands and others. Control actions will be integrated into existing regulatory programs. This TMDL will potentially have implications for about 20 municipal wastewater treatment plants and industries in the Delta and about 25 upstream of the Delta. In addition, it will affect about 30 urban storm water dischargers. Also included are thousands of acres of irrigated agricultural lands and thousands of acres of wetlands.

CV-Salts

Increasing salinity is a chronic problem for the Central Valley, slowly reducing the usability of surface and ground waters for drinking water, industrial use, and agricultural irrigation. Although salinity is not generally a direct threat to aquatic life, the increasing salinity of Delta waters adversely impacts Delta exports, causes the release of additional fresh water into the Delta to meet salinity standards, and increases the use of water for agricultural leaching of soil salts, resulting in higher diversions of water for agricultural usage, and larger volumes of agricultural runoff into the Delta. CV-Salts is a long-term planning effort to address the salinity problem of the Valley.

Delta Team Activities

In 2007, the Bay-Delta Team formed by the Water Boards began developing a long-term program for addressing impacts to beneficial uses of water in the Bay-Delta. At that time, staff recognized that in addition to long-term planning, there was a need to identify actions that should be implemented immediately to control known or suspected impairments (e.g., studies to assess impacts of ammonia on Delta species) and short-term actions that would contribute to development of the comprehensive program (e.g., development of a comprehensive monitoring and assessment strategy). The Water Boards adopted a resolution at their December and January meetings and, in doing so, they directed staff to develop a strategic workplan that addresses high priority actions that should be implemented or initiated. These new actions include development of a comprehensive regional monitoring program including compiling and assessing toxicity and contaminants data, characterizing discharges from Delta islands, investigating the effects of ammonia on Delta species, working with the Department of Pesticide Regulation and Delta County Agricultural Commissioners to determine the need for increased enforcement of or additional restrictions on in-Delta pesticide use, and identifying interim regulatory actions to address the potential impacts from the Contra Costa power plant diversion. The actions in the resolution are meant to complement and build upon other existing efforts of the Water Boards and efforts of other agencies and entities working on the Delta.

- 9. How do the Regional Boards learn of discharges or any other actions which impact water quality which may be subject to their authorities? When it learns of a proposed diversion or any other actions which impact water quality, what does a Regional Board do? Please describe the permitting process and enforcement of any permits.**

The Regional Board learns of most discharges by submittal of applications by the project proponent. Other potential discharges are identified through coordination with other agencies through CEQA, proposed development and other reviews. For proposed discharges, the Regional Board staff work with the project proponents to clarify the proposed discharge type, location and characteristics, and to conduct necessary studies to evaluate potential impacts on water quality. A permit is then written with limitations and conditions to prevent adverse water quality impacts.

Existing discharges and water quality problems are found through a number of mechanisms, including complaint and fish kill follow-up, follow-up on receiving water monitoring results, including those submitted for listing water bodies as impaired under Clean Water Act section 303(d), field investigations of unrelated matters, information and education outreach efforts

(particularly for new regulatory programs), and the administrative review process when an unknown existing discharger expands or changes location requiring a permit from another agency.

The response to identification of an existing discharge depends entirely on the circumstances of the individual case. Some discharges are clearly a water quality threat and are stopped through issuance of enforcement orders, often with associated fines. The discharge of manure from a dairy, for instance, contains ammonia that is toxic to aquatic life, nitrates that threaten drinking water supplies, pathogens that threaten drinking water and recreation uses, and other contaminants. Such a discharge is usually inspected jointly by the Regional Board and Department of Fish and Game, with follow-up enforcement coordinated by a multi-agency task force. The enforcement can include enforcement orders and fines issued by the Regional Board, and/or action by District Attorneys, the Attorney General, and U.S. Attorneys including fines, injunctions, and jail time through the courts. Most follow-up actions characterize the discharge and water quality impact, and either the discharge is prohibited or a permit is adopted to impose protective limits and conditions, and compliance time schedules to correct water quality problems. Enforcement orders and fines are frequently issued.

When water quality problems are identified through ambient water quality monitoring or field investigations and a specific source cannot readily be identified or there are multiple sources, the Regional Board's response is to develop a TMDL. The TMDL development process includes establishing water quality objectives for constituent causing water quality impairments if objectives do not already exist, identifying the sources of the constituent, allocating loads to the sources, and describing the program of implementation to achieve the needed load reductions. Implementation is achieved through existing regulatory programs under which dischargers already are regulated (e.g., NPDES permitting and conditional waivers of waste discharge requirements).

Sometimes, new research or information becomes available that indicates that existing requirements for a discharger or discharger group are not adequate to protect beneficial uses. Perhaps some new constituent is identified in the discharge or new research shows that some existing regulated constituent is actually much more toxic than previously known. When new information becomes available, it is incorporated into permit requirements. We need to have a more systematic method for staying on top of new information and research. One of the ideas that we discuss elsewhere is the need for a comprehensive monitoring and assessment program.

In addition to regulating dischargers, the Regional Board reviews environmental documents and various types of plans and provides comments on actions that can impact water quality. There are a lot of actions that can affect water quality that are not directly related to discharges of waste. For example, changes in hydrology and conveyance facility operation in the Delta can cause significant changes in water quality. Both mercury and dissolved oxygen can be greatly influenced by changes in Delta hydrology. It would be helpful if the Regional Board could be involved in the early planning stages of any projects that would alter hydrology.

10. What tools or methods (other than regulatory action) might the Regional Boards employ to encourage participation from water dischargers or any other actions which impact water quality to satisfy water quality policies?

Under the Porter Cologne Water Quality Control Act, all dischargers are required to be regulated by the Regional Water Boards by adoption of permits, by adoption of specific

conditions under which dischargers can operate without needing a permit and by discharger prohibitions. However, Regional Water Boards do have non-regulatory tools available to help dischargers achieve compliance, including the following:

Financial Assistance: The State Water Resources Control Board (Water Board) administers a number of financial assistance programs that includes loan and grant funding for construction of municipal sewage and water recycling facilities, remediation for underground storage tank releases, watershed protection projects, nonpoint source pollution control projects, and agricultural water quality improvement.

Technical Assistance: Water Board staff work with stakeholders to assess watershed conditions and develop watershed plans that include provisions to address water quality in a holistic manner. Water Board staff participates in technical advisory committees and other efforts to help dischargers understand the needs of water quality protection and to consider these needs when designing and implementing on the ground projects. Types of technical assistance include management practice manuals, training, assistance in developing ordinances and regulations, modeling to predict and assess effectiveness of management practices, development and management of databases to track management practice implementation, monitoring data and land use changes.

Education and Outreach: Staff develops materials and public information on the Water Board's mission and goals, water quality programs, and management practices that protect and enhance water quality.

There are many types of actions that influence water quality that are not related to discharges of waste but affect water quality. For example, exercise of water rights might lead to water quality impacts. In most cases, the Regional Board is asked to provide comments on the water quality impacts. In some cases, the Regional Board might provide technical assistance or use education and outreach to encourage entities engaged in these activities to address water quality impacts. In addition, the Water Boards might negotiate a Memorandum of Understanding with an agency with jurisdiction over the activity to use their authority to require water quality considerations.

11. What recommendations does the Regional Board propose to more effectively exercise its responsibilities?

In general, the Water Boards have the authority needed to deal with water quality issues in the Delta and tributary watersheds. We do not, however, have sufficient staff and contract resources to fully implement those authorities, as discussed below:

- The NPDES, NPDES Stormwater, Water Quality Certification, and Irrigated Lands Programs all deal directly with discharges of wastes to surface waters. None of those programs have sufficient resources to conduct all permitting, compliance and enforcement actions that are needed. Aspects of the Non-Point Source Program and other programs of the Regional Board can impact surface water quality and are also underfunded. Work in all these programs is prioritized to deal with the most significant water quality issues first, but it is difficult to evaluate the cumulative water quality impact of actions that are delayed or not taken.
- The mercury TMDL will focus attention on methylmercury discharges from wetlands. We do not want to discourage wetland restoration efforts, but we do want restoration efforts

to be implemented in a manner that minimizes the amount of methylmercury produced. It would be extremely helpful if resources were available for research on management practices that can be implemented to minimize methylmercury from wetlands.

- Resources are needed for establishment of a comprehensive monitoring and assessment program for the Delta and tributaries that is coordinated with all agencies and entities involved in the Delta. We need to continuously evaluate the effectiveness of our programs and whether beneficial uses are being protected. We need to be able to stay abreast of current research related to the Delta and research from other areas that may be applicable to the Delta. We are initiating work on developing the framework for this effort. Funding will be needed for future monitoring, to support the massive coordination effort that will be needed and for the development of periodic assessment reports.
- TMDL resources have remained constant or gone down over the years. We cannot continue to develop new TMDLs and also effectively implement the TMDLs that we have adopted. Resources are needed for TMDL implementation. We have adopted TMDLs that address significant Delta water quality problems. Speed of implementation of these TMDLs is dependent on adequate funding.
- Funding will be needed to support basin plan amendments that are needed in the Delta. In addition, resources will be needed for Regional Board staff to participate in discussions on Delta conveyance alternatives. Water quality and beneficial uses will be greatly altered in the Delta as a result of some of the proposed alternatives.

We also believe there is a shortage of grant and loan funds available for water quality improvement projects, including wastewater treatment plant upgrades, wetlands restoration and enhancement, and non-point source management practice implementation. Many local entities are trying to improve water quality conditions but are constrained by resource availability. Lastly, we believe a robust planning effort needs to be implemented to develop solutions for the salt accumulation problem in the San Joaquin River Basin. Ultimately, substantial infrastructure will need to be funded to deal with this long-term problem.