CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2007-0161

WATER BOARDS' ACTIONS
TO PROTECT BENEFICIAL USES OF THE
SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY

WHEREAS:

1. The State Water Resources Control Board (State Water Board), Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board), and San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Regional Water Board) (collectively Water Boards) share responsibility to protect beneficial uses of water in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta).[1] There are numerous existing and potential impacts to beneficial uses of water in the Bay-Delta that require action by the Water Boards. Many of these actions are being, or will be, implemented by the Water Boards.

2. Governor Schwarzenegger's "Action Plan for California's Environment" includes protection for California's water supply and water quality through watershed management efforts that foster accountability and action. Governor Schwarzenegger's Action Plan specifically mentions the 22 million Californians that rely on the Bay-Delta for the supply and quality of their drinking water.

3. The Governor signed Executive Order S-17-06 to require development of a durable vision for sustainable management of the Delta (Delta Vision). The Water Boards will respond to changes in Delta management proposed through this process and will establish appropriate balancing of water supply and other beneficial uses of water.

4. In October of 2006 water users (including the Department of Water Resources (DWR) and the U.S. Bureau of Reclamation (USBR)), the Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries), and other interested persons began an effort to develop a comprehensive conservation plan for the Bay-Delta referred to as the Bay Delta Conservation Plan (BDCP). The BDCP is a voluntary mechanism to provide water users in the Delta with compliance with Federal Endangered Species Act, California Endangered Species Act or the Natural Community's Conservation Plan Act. The BDCP Steering Committee is currently evaluating conservation strategy options that include changing water conveyance methods in the Delta.

5. The CALFED Bay-Delta Program was formed in 2000 as a 30-year cooperative effort between 25 State and federal agencies to improve the quality and reliability of California's water supplies while restoring the Bay-Delta ecosystem. CALFED recently

[1] The State Water Board has authority over water rights and water quality throughout the State. The Central Valley Regional Water Board has water quality authority in the Central Valley and eastern portions of the Delta. The San Francisco Bay Regional Water Board has water quality authority in the western portions of the Delta and the San Francisco Bay.

issued a draft report on the end of stage 1 of the program. Among other findings, the report concludes that conveyance of water through the Delta should be reevaluated.

6. The CALFED Record of Decision proposed completion of a Delta Risk Management Strategy (DRMS) that would look at sustainability of the Delta, and that would assess major risks to Delta resources from floods, seepage, subsidence, and earthquakes. DRMS would also evaluate the consequences, and develop recommendations to manage the risk. Water Code section 139.2 requires DWR to evaluate the potential impacts on water supplies derived from the Delta based on 50-, 100-, and 200-year projections for each of the following possible impacts: subsidence, earthquakes, floods, changes in precipitation, temperature, and ocean levels, or a combination of the above. The DRMS work will provide the majority of this required information. The report is due to the Legislature no later than January 1, 2008.

7. In December 2006 the State Water Board adopted a Water Quality Control Plan for the Bay-Delta (Bay-Delta Plan) to protect beneficial uses. This Bay-Delta Plan identified four emerging issues that all require additional action by the State Water Board: Delta and Central Valley salinity; San Joaquin River flows; the pelagic organism decline (POD); and climate change.

8. The State Water Board adopted the southern Delta salinity objectives for agriculture in the 1978 Bay-Delta Plan. The objectives are based on conditions, crops, and irrigation practices in the southern Delta at the time the objectives were adopted. These objectives were unchanged, but fully implemented in the 1995 Bay-Delta Plan. The objectives were unchanged in the 2006 Bay-Delta Plan. However, during the proceedings leading to adoption of the 2006 Plan, parties submitted information to support further review of the objectives. State Water Board staff has begun to conduct this review.

9. Elevated salinity in surface water and groundwater in California's Central Valley is an increasing problem. The Water Boards have initiated a comprehensive effort to address salinity problems in the Central Valley and adopt long-term solutions that will lead to enhanced water quality and economic sustainability referred to as Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).

10. The State Water Board issued Order WR 2006-0006 to DWR and USBR for the threatened violation of certain water right permit and license conditions placed on the State Water Project (SWP) and the Central Valley Project (CVP) requiring implementation of southern Delta salinity objectives and other matters. In Order 2006-0006 the State Water Board, among other things, ordered DWR and USBR to implement measures to obviate the threat of non-compliance. DWR has requested changes to Order WR 2006-0006.

11. Pursuant to State Water Board Decision 1641 (D-1641) and Order WR 2006-0006, DWR and USBR are only authorized to use each other's points of diversion in the southern Delta (referred to as Joint Points of Diversion or JPOD) if they are, at the time of diversion, in compliance with all of the conditions of their water right permits and license. This year DWR and USBR used JPOD while southern Delta salinity objectives were being exceeded.

12. San Joaquin River Basin salmonids have declined since adoption of the San Joaquin River flow objectives in the 1995 Bay-Delta Plan and the implementation of those objectives in D-1641. At the same time, pelagic organisms in the Delta have shown significant declines. The State Water Board did not change the San Joaquin River flow objectives in the 2006 Bay-Delta Plan due to a lack of scientific information on which to base any changes. However, the State Water Board has committed to evaluate this issue upon completion and review of DFG's San Joaquin River salmon escapement model, which is now expected in June of 2008. In addition, the State Water Board has requested that parties to the San Joaquin River Agreement (SJRA) complete a review of the Vernalis Adaptive Management Plan (VAMP)[2] experiment to determine whether changes should be made to the experimental design. The State Water Board requested that the parties to the SJRA present the findings of the review to the State Water Board during a workshop.

13. Delta smelt and several other pelagic fish and aquatic organisms in the Bay-Delta have experienced dramatic and unexpected population declines in recent years. The Interagency Ecological Program (IEP)[3] determined that at least three general factors may be acting individually or in concert to lower pelagic productivity: toxic contaminants; exotic species; and water project operations. The Water Boards have authority over water pollution and water project operational requirements.

14. The State Water Board in Resolution No. 2007-0078 authorized funding in the amount of $600,000 from the Cleanup and Abatement Account to DFG to cover expenses necessary to establish and maintain a delta smelt refuge at Byron through December of 2008. The State Water Board fully supports the development of a delta smelt refuge and encourages State, federal, and local agencies, among others, to work cooperatively to establish and fund a refuge beyond December 2008, and to ensure the continued survival of delta smelt and other pelagic organisms.

15. The delta smelt biological opinion for operations of the SWP and CVP has been found to be inadequate by a United States District Court for the Eastern District of California. The court has ordered the USFWS to develop a new biological opinion, which is expected to be completed in November of 2008. In the interim, the court has imposed limitations on diversions by DWR and USBR from the Delta and other measures.

16. The Resources Agency's March 2007 Pelagic Fish Action Plan identifies potential direct and indirect impacts to pelagic fisheries and other estuarine species from two Delta power plants in Pittsburg and Antioch. These plants are regulated by National Pollutant Discharge Elimination System (NPDES) permits issued by the Central Valley Regional

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[2] The VAMP is designed to evaluate the relative effects on the survival of marked juvenile chinook salmon migrating through the Bay-Delta of varying the San Joaquin River flow and SWP and CVP water exports at times when a barrier is installed at the head of Old River to restrict the flow of water into Old River.

[3] The IEP for the Bay-Delta consists of ten member agencies: three State agencies (DWR, DFG, and the State Water Board); six Federal agencies (USFWS, USBR, Geological Survey, Army Corps of Engineers, NOAA Fisheries, and U.S. Environmental Protection Agency (USEPA)); and one non-government organization (The San Francisco Estuary Institute (SFEI)). These ten program partners work together to develop a better understanding of the estuary's ecology and the effects of the SWP and CVP operations on the physical, chemical, and biological conditions of the Bay-Delta estuary.

Water Board and the San Francisco Bay Regional Water Board for intakes and discharges of water used for once-through cooling operations.

17. The Pelagic Fish Action Plan identifies the ballast water of ships as the primary mechanism by which invasive species are transported and spread into marine and estuarine environments and recommends implementation of mandatory performance standards for ballast water treatment technologies. The State Lands Commission (SLC) operates a regulatory program to control invasive species introductions from ballast water discharges. The Water Boards are working with SLC by participating on an advisory panel for ballast water control issues.

18. A growing body of information suggests that climate change could result in: (1) sea level rise that would adversely impact levees, water quality, and conveyance of water supplies through the Delta; (2) decreased snowmelt in the Sierra Nevada that would reduce effectiveness of existing water storage facilities; (3) increased rainfall that could exacerbate flooding; and (4) adverse biological effects from changes in inflow and water quality. Water quality control planning and water right management must begin to address these possible effects.

19. Many agencies and groups monitor water quality, water flows, and ecological conditions in the Bay-Delta, but there is no comprehensive contaminants monitoring assessment program. IEP, CALFED, and other organizations, including the Water Boards, conduct some of these analyses, but due to their specific mandates, information gaps may exist. Emerging concerns with contaminants related to the POD, waste water treatment plant discharges, agricultural discharges, pesticides, blue-green algae toxicity, and unknown toxicity events all highlight the need to improve contaminants monitoring. A system is needed for coordinating among monitoring programs and integrating contaminants monitoring into existing monitoring efforts whereby all data is synthesized and assessed on a regular basis. An example of such a program is the San Francisco Bay Regional Monitoring Program (RMP).[4]

20. The IEP was initially established to investigate the impacts of the SWP and CVP, and became the vehicle to meet the environmental monitoring requirements placed on the SWP and CVP by the State Water Board in its water right decisions. IEP has since expanded its role to conduct additional research, monitoring and analyses. In the past few years, IEP has taken on primary responsibility for conducting POD research.

21. The Delta covers approximately 738,000 acres and is interlaced with hundreds of miles of waterways. The primary land use is agriculture. Approximately 1,800 agricultural water diversions divert in excess of 10 percent of mean annual Delta inflow in an average dry year. Water not consumed through evapotranspiration is returned to the Delta by one or two large drainage pumps on each island. Limited information is available about the quantity and nature of the diversions, and the quantity and quality of the return flows. The lack of information is an impediment to assessing flow and water quality in the Delta channels.

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[4] The RMP is a required collaborative effort between the San Francisco Regional Water Board, regulated dischargers, and SFEI, which administers the program, to monitor contamination in the San Francisco Estuary. The San Francisco Regional Water Board uses this information to make management decisions regarding the estuary.

22. The Water Boards are determining Total Maximum Daily Loads (TMDL) of various pollutants and adopting associated programs to implement TMDLs by allocating receiving water pollutant assimilative capacities. These actions are under development or being implemented to address water quality impairments in the Delta or its tributaries as described below.

    - The Water Boards adopted TMDLs to control toxicity from organophosphorus (OP) pesticides in the Sacramento, Feather, and San Joaquin rivers and Delta waterways. The TMDL implementation plans contain provisions to prevent OP pesticides, as well as any products used in replacement of OPs, from impairing beneficial uses.
    - The Water Boards adopted a phased TMDL to address low dissolved oxygen conditions in the Stockton Deep Water Ship Channel (SDWSC) portion of the San Joaquin River. The TMDL requires more studies of the causes of the impairment prior to development of a final TMDL in 2009. The Water Boards are working with the CALFED Ecosystem Restoration Program (ERP) to carry out CALFED Record of Decision commitments to fund needed TMDL studies, totaling approximately 2.5 million dollars. The needed studies include: (1) completion of field work to understand the fate of algae between Vernalis and the SDWSC; (2) updating existing models to incorporate findings and recalibration; and (3) continuation of monitoring upstream of Vernalis on the San Joaquin River to characterize upstream sources of algae.
    - Low oxygen levels periodically develop during summer in Middle and Old Rivers when rock barriers are installed in the south Delta to benefit agricultural diversions. The low oxygen levels can adversely impact aquatic organisms and violate the Water Quality Control Plan for the Sacramento and San Joaquin River Basins. Limited information exists on the causes of the problem or the responsible parties.
    - The Water Boards adopted a TMDL addressing salt and boron in the San Joaquin River at Vernalis, and negotiations are underway with USBR to implement a real-time management approach to control sources for compliance with objectives.
    - The agricultural supply beneficial use in the San Joaquin River upstream of Vernalis is impaired for salinity and boron. The Water Boards are currently developing salinity objectives and a TMDL to address this impairment.
    - Selenium concentrations measured in ducks, fish, and invertebrates in the northern part of the Bay and Delta could cause health risks to people and wildlife. The Water Boards are in the detailed planning and public outreach phase of TMDL development to address this selenium impairment.
    - Mercury concentrations in Delta and San Francisco Bay fish tissues exceed human health criteria. The Water Boards are developing a TMDL for mercury in the Delta, and have adopted and are implementing a TMDL in San Francisco Bay, including an allocation of loads from the Delta.
    - Pathogen counts in a number of Delta waterways exceed applicable numerical criteria. Requirements for stormwater monitoring and best management practices are being required in NPDES permits for discharges in the affected waterways.

- The California Office of Environmental Health Hazard Assessment (OEHHA) issued a sport fish consumption advisory in response to concerns about high levels of polychlorinated biphenyls (PCBs) in fish from San Francisco Bay and the westernmost Delta. A draft TMDL has been developed to allocate and implement load limits to sources that will attain safe fish tissue PCB concentrations.

23. Delta waterways are listed as impaired due to unknown toxicity. In addition, in 2007, IEP observed toxicity in Delta waterways that may be attributed to pesticides.

24. Surface waters of the Bay-Delta and upstream watersheds provide drinking water supplies for more then 65 percent of California's population. Impairment of these waters poses treatment challenges and public health concerns for people who drink the water. The Water Boards' Water Quality Control Plans include objectives for many constituents that threaten drinking water sources. However, some constituents are not addressed, specifically pathogens, organic carbon, and bromide. The Central Valley Regional Water Board is currently developing a drinking water policy to address these issues.

25. Sediments in bays and estuaries, including those in the Bay-Delta, are often contaminated with a variety of pollutants stemming from sources including industrial and agricultural discharges, municipal wastewater treatment plants, and stormwater. Exposure to contaminated sediments can have a significant effect on the health, diversity, and abundance of invertebrates such as clams and worms. Foraging fish and birds may also be exposed by ingesting contaminated invertebrates or sediments. In turn, those organisms consuming contaminated fish may be exposed to toxic pollutants. These effects underscore the need to develop sediment quality objectives that protect aquatic organisms and human health.

26. Recent studies have raised the possibility that ammonia concentrations in the Bay-Delta may be inhibiting primary production or contributing to fish toxicity. The Water Boards are organizing screening studies to investigate these effects further and will evaluate the need for additional toxicity monitoring of NPDES permitted discharges to Delta waterways. Based on the outcome of these studies, further regulatory action should be considered.

27. Cyanobacteria (also known as blue-green algae) are common and naturally occurring in many aquatic systems around the world and generally occur in areas with elevated temperature and nutrients and decreased water flow. Certain species of blue-green algae have the ability to produce toxins that have an adverse effect on human health and the ecosystem. These species have been detected in the Bay-Delta. The State Water Board, Department of Public Health (DPH), and OEHHA, through the Blue Green Algae Work Group, prepared a Blue-Green Algae Voluntary Guidance Document in June of 2007. The State Water Board is also pursuing a contract with DPH to develop a statewide monitoring approach for blue-green algae.

28. A Habitat Management, Preservation, and Restoration Plan for Suisun Marsh is currently being developed by agencies with primary responsibility for management of Suisun

Marsh[5] to: preserve and enhance managed seasonal wetlands; implement a levee protection and improvement program; and protect ecosystem and drinking water quality while restoring habitat for tidal marsh-dependent sensitive species.

29. All of the above described issues require action by the Water Boards. A long-term strategic workplan for addressing the above issues is needed to assure comprehensive, consistent, and coordinated protection of beneficial uses and the equitable administration of water rights. The strategy and workplan should: (1) clearly define the Water Boards' objectives and priorities for the Bay-Delta; (2) describe how strategy development and implementation will be coordinated with and informed by other regulatory and planning activities in the Bay-Delta, including Delta Vision, the BDCP, CALFED; and DRMS; (3) describe the scope of individual activities and the resources available to implement them; and (4) include a time schedule for achieving strategy goals and objectives; and (5) reference detailed project-specific workplans, as needed. More immediate actions should also be taken.

30. Water use efficiency within the Bay-Delta and its tributaries and the export areas is critical to ensuring the protection of beneficial uses of water from the Bay-Delta now and in the future.

31. The State Water Board adopted a similar resolution on 4 December 2007, and the San Francisco Bay Regional Water Board will consider a similar resolution at an upcoming Board meeting.

THEREFORE BE IT RESOLVED THAT:

1. The Water Boards are committed to ensuring protection of beneficial uses of water and to the equitable administration of water rights in the Bay-Delta and its tributaries. The Water Boards will ensure that impairments to beneficial uses are identified and comprehensively addressed while balancing the need for water quality and water supply reliability. The Water Boards will coordinate with existing Bay-Delta planning efforts to assure that the Water Boards' activities achieve these objectives.

2. Water Boards' staff will work with stakeholders and interested persons, including participants in the Delta Vision, BDCP, CALFED, and DRMS process to prepare a strategic workplan that prioritizes and describes the scope of individual activities and provides specificity regarding timelines and resources needs for implementing coordinated activities in the Bay-Delta, including the activities listed below. As appropriate, program level workplans have been, or will be, prepared for individual activities. The strategic workplan will be coordinated with and informed by ongoing Bay-Delta regulatory and planning efforts and will consider potential future conditions related to global climate change and other factors. The final strategic workplan and scope of specific activities will be submitted to the Water Boards for consideration by June 2008.

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[5] USFWS, USBR, DFG, DWR, Suisun Resource Conservation District, California Bay-Delta Authority, and the National Marine Fisheries Service.

Water Board staff will schedule monthly reports on the State Water Board's meeting agendas on development and implementation of the strategy and workplan.

3. The Water Boards will take actions to address salinity issues in the Bay-Delta and upstream areas including: (1) develop and implement CV-SALTS, a comprehensive long-term salinity management program for the Central Valley; (2) act on DWR's request to change Order WR 2006-0006; (3) enforce the southern Delta salinity objectives and take other corrective actions; (4) pursue a contract to review the southern Delta salinity objectives in the Bay-Delta Plan. In the strategic workplan, the Water Boards' staff will propose for the State Water Board's consideration the scope of a basin planning and water right process to review and, as appropriate, amend the southern Delta salinity objectives or their implementation, while ensuring that agricultural uses are protected, and allocate responsibility for meeting the objectives. These actions are in addition to the TMDL actions discussed below.

4. The Water Boards will assess the POD synthesis report, the revised delta smelt biological opinion, and other information regarding the POD. The State Water Board will hold a workshop in January of 2008 to identify specific actions that should be taken to address the POD based on information obtained at the workshop. As part of the strategic workplan, the Water Boards staff will propose for the State Water Board's consideration a timeline to review and amend, as appropriate, the Bay-Delta Plan to provide additional protection to pelagic organisms and other species and, following notice and opportunity for hearing, water rights permit or license requirements. The Water Boards will also implement other water quality actions based on this assessment. Short term actions will be taken as appropriate.

5. The Water Boards will assess DFG's San Joaquin River salmon escapement model, VAMP data and information, and other information regarding San Joaquin River flows needed to protect beneficial uses. The State Water Board will hold a workshop in summer of 2008 on San Joaquin River flow issues. As part of the strategic workplan, the State Water Board staff will propose for the State Water Board's consideration a timeline to review and, as appropriate, amend the San Joaquin River flow objectives or their implementation.

6. Through the strategic workplan, the State Water Board will consider a proceeding to: (1) protect public trust resources and balance the competing demands for water in and from the Bay-Delta; and (2) evaluate the reasonableness of the SWP's and CVP's method of diversion from the Delta.

7. The Water Boards staff will propose for the Water Boards' consideration a comprehensive long-term Delta-wide monitoring program to provide data on contaminants in sediments, water, and aquatic organisms. The San Francisco Bay RMP will be used as a model for this program. This monitoring program will be integrated into current monitoring efforts such as the San Joaquin River Basin Monitoring Partnership[6] and monitoring conducted by the IEP.

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[6] The San Joaquin River Basin Monitoring Partnership is a project to encourage a public-private partnership to produce information for improved water quality management throughout the San Joaquin River Region. The project is technically directed and staffed by the SFEI, with funding and participation from USEPA, in consultation with the Central Valley Regional Water Board and other agencies.

8. The Water Boards will require characterization of discharges to and from Delta islands for water quality purposes.

9. The Water Boards will execute a contract to conduct screening studies of potential inhibition of primary productivity and toxicity to fish associated with ambient ammonia concentrations in the Delta in consultation with the IEP's POD investigations, and implement appropriate regulatory controls to protect beneficial uses.

10. The Water Boards will implement, in conjunction with other state agencies including DPH, a standardized monitoring program to better understand blue-green algae blooms. The program will be used to determine the need for, and development of, appropriate regulatory controls to protect beneficial uses throughout the state, including the Bay-Delta.

11. The Water Boards will take the following actions to develop or implement TMDLs or other actions addressing water quality impairments.

    - To implement the OP pesticide TMDL, the Water Boards will require management plans to address exceedances of OP pesticide water quality objectives in discharges and evaluate water quality impacts from replacement products, such as pyretheroid pesticides.
    - The Water Boards will obtain the study information required to complete the final San Joaquin River SDWSC Dissolved Oxygen TMDL allocation.
    - The Water Boards will evaluate dissolved oxygen and other relevant data to evaluate low dissolved oxygen conditions in Old and Middle rivers, and prioritize development of a TMDL.
    - The Water Boards will continue to negotiate a management agency agreement with USBR to implement a real-time salinity management program by August of 2008, as required by the San Joaquin River at Vernalis Salt and Boron TMDL.
    - The Water Boards will develop and adopt salt and boron water quality objectives in the San Joaquin River upstream of Vernalis, and an associated TMDL.
    - The Water Boards will develop and adopt a selenium TMDL in the Delta and northern San Francisco Bay.
    - The Water Boards will adopt a TMDL for mercury in the Delta and begin implementation along with the existing TMDL for mercury in San Francisco Bay.
    - Pathogen counts in a number of Delta waterways in the City of Stockton urban area exceed applicable numerical criteria. A TMDL is tentatively scheduled for consideration by the Central Valley Regional Water Board in January of 2008. The TMDL will be implemented by including stormwater monitoring and best management practices in NPDES permits for discharges in the affected waterways.
    - The Water Boards will complete and consider adopting a PCB TMDL for San Francisco Bay and the westernmost Delta (tentatively scheduled for San Francisco Bay Regional Board consideration in January 2008).

12. To address unknown toxicity in the Delta, the Water Boards will compile and assess available data on contaminants and toxicity to determine whether contaminants are a likely contributor to the POD in the Delta. The Water Boards also will develop a short and long-term toxicity response program focused on identifying, and quickly eliminating, toxic conditions in the Delta.

13. The Water Boards will track progress in maintaining a delta smelt refuge population and will take action, as appropriate, to ensure a refuge population is sustained as long as necessary.

14. The Water Boards will encourage the Department of Pesticide Regulation (DPR) to expedite their pyrethroid pesticide re-registration process and provide agricultural commissioners with guidance on pesticide use restrictions that could be implemented in the interim. The Water Boards will work with DPR and Delta county agricultural commissioners to consider the feasibility of special restrictions on pesticide use on Delta islands and lands on the Delta's periphery.

15. The Water Boards will develop and consider adopting as a Basin Plan amendment a comprehensive policy and implementation plan to improve water quality for municipal and domestic supply beneficial uses (Delta Drinking Water Policy) by the end of 2009.

16. The Water Boards will develop and adopt sediment quality objectives for enclosed bays and estuaries that will protect beneficial uses of water in the Bay-Delta. The State Water Board will consider adoption of final sediment water quality objectives for enclosed bays and interim sediment quality objectives for estuaries (including the Delta) in January of 2008. By 2010, the State Water Board will consider adoption of final sediment quality objectives for estuaries (including the Delta).

17. To remedy the impacts of once-through cooling water intake structures on marine and estuarine life, the Water Boards will develop and consider adopting a statewide policy to implement Clean Water Act section 316(b) (33 U.S.C. § 316(b)) which requires that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. Following adoption of the policy, the Water Boards will impose appropriate NPDES permit conditions on the power plants in Pittsburg and Antioch consistent with the once-through cooling policy. The Water Boards will also consider other interim regulatory actions to address potential impacts of the power plants before the once-through cooling policy is adopted.

18. The Water Boards will develop and implement regulatory controls in coordination with SLC and USEPA to address the introduction of invasive species and other pollutants from ballast water discharges and other vessel-related vectors such as hull biofouling[7] introductions.

19. The Water Boards will participate in the development of the Suisun Marsh Habitat Management, Preservation, and Restoration Plan. Following development, the Water

[7] Biofouling or biological fouling is the undesirable accumulation of microorganisms, plants, algae, and animals on submerged structures, especially ships' hulls.

Boards will consider making any necessary changes to the Bay-Delta Plan, water right permit and license conditions, and take other appropriate actions to resolve water quality concerns.

20. In their Strategic Plan update, the Water Boards will address the use of water use efficiency to promote the efficient use of water supplies and the protection of beneficial uses of water from the Bay-Delta and areas throughout the state.

21. Water Board staff will use the existing interagency agreement with the University of California to assure that their activities and actions are based upon sound science.

CERTIFICATION

I, PAMELA CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 December 2007.

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PAMELA C. CREEDON, Executive Officer