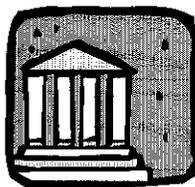


Chapter 8. Compliance with Applicable Laws, Policies, and Plans and Regulatory Framework

The CALFED Bay-Delta Program must comply with a myriad of environmental laws, regulations, and policies in fulfilling its purpose and mission. Levels of compliance sometimes depend on the nature of the document. This chapter documents the laws, regulations, and policies with which the Program must comply at the programmatic level; most of these laws also will apply to project-specific, second-tier documents.

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8. Compliance with Applicable Laws, Policies, and Plans and Regulatory Framework

This chapter lists programmatic-level environmental compliance requirements, the regulatory framework, and other environmental policies and plans to which the Program is subject. This list can be a reference for site-specific project planning, permit processing, and environmental documentation requirements that would take place during Phase III.

As a cooperative interagency effort, the CALFED Bay-Delta Program (Program) is required to comply with several federal and state environmental laws and regulations, including NEPA and CEQA. Because of the programmatic nature of this document, however, not all environmental laws and regulations (or all aspects of those laws and regulations) pertain to the Program at this phase of the process. A programmatic EIS/EIR allows agencies to evaluate the potential effects of a program as a whole and simplifies preparation of subsequent project-specific environmental documents. Under this approach, called "tiering," the programmatic EIS/EIR addresses the broad issues relating to a project, and additional environmental documentation for project-specific impacts are prepared when necessary. This approach reduces duplication of broad policy decisions when future individual aspects of the Program are under review. These second-tier documents must incorporate the programmatic EIS/EIR by reference.

Because of the programmatic nature of this document, not all environmental laws and regulations (or all aspects of those laws and regulations) pertain to the Program at this phase of the process.

During Phase III, second-tier site-specific environmental documents will be prepared for the individual actions or site-specific projects chosen during the current Phase II process. Second-tier documents will be prepared after the Programmatic EIS/EIR is certified; these documents will concentrate on issues specific to the individual parts of the Program elements or the site chosen for the action. Unlike the Programmatic EIS/EIR, information presented in the second-tier environmental documents will be specific to a smaller area or projects within the Program study area. Second-tier documents will focus on impacts in the smaller area or projects and individual action-level mitigation performance criteria and measures.



8.1 ENVIRONMENTAL COMPLIANCE AT THE PROGRAMMATIC LEVEL

8.1.1 NEPA/CEQA

NEPA requires that an EIS be prepared for all major federal actions. Similarly, CEQA requires that state agencies prepare an EIR. Both laws require that the environmental documentation be presented for public review and comment before a final document is completed. A final EIS/EIR is released after public comments have been carefully reviewed, responded to and, if appropriate, incorporated into the document. Both NEPA and CEQA include two kinds of EIS/EIRs—programmatic and project (or site) specific.

The Program is a joint effort between federal and state government agencies. Accordingly, this Draft Programmatic EIS/EIR was prepared to comply with NEPA and CEQA and their implementing regulations. The document contains information on the No Action Alternative, the Preferred Program Alternative, other Program alternatives considered, mitigation strategies, potential benefits, and potentially significant adverse impacts that could result from implementing the proposed action(s). Decision makers must consider these factors, and the public comments, before implementing the proposed actions.

The Draft Programmatic EIS/EIR describes in broad terms the Preferred Program Alternative and the other Program alternatives and their potential impacts. This level of detail is appropriate for a long-term planning document. The Draft Programmatic EIS/EIR generally evaluates Program actions, not site-specific actions, and therefore focuses on potential cumulative and long-term impacts rather than actual specific impacts.

Most areas of NEPA and CEQA overlap, but some sections in NEPA have no CEQA counterparts. These areas, such as the relationship between short-term uses of the environment and the maintenance of long-term productivity, are included in the Draft Programmatic EIS/EIR. In some cases, NEPA categories were thought to be broader than those under CEQA—for example, irreversible and irretrievable commitments of resources (a NEPA category) rather than any significant irreversible environmental changes (a CEQA category). In those instances, the Program chose to document the environmental consequences under the broader requirements.

A more detailed discussion of the nature and organization of this Draft Programmatic EIS/EIR can be found in the Preface and in Chapter 4. Past and future Program public involvement efforts are discussed in Chapter 10.

The Program is a joint effort between federal and state government agencies. Accordingly, this Draft Programmatic EIS/EIR was prepared to comply with NEPA and CEQA and their implementing regulations.



8.1.2 FEDERAL/STATE ENDANGERED SPECIES ACTS

Both the federal and state governments enacted Endangered Species Acts (ESAs) to ensure that projects do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

The Program's Multi-Species Conservation Strategy (Conservation Strategy) is a comprehensive species and habitat conservation program that addresses the multiple species and habitat needs, and the maintenance of ecological functions in the Program area. The Conservation Strategy addresses species and habitats at the ecosystem level, and provides for the integration of species-specific conservation strategies at both the site-specific and landscape level.

The Conservation Strategy addresses, at the programmatic level, all Program actions and provides a framework for site- and action-specific compliance with the federal and state ESAs. An action-specific analysis will be conducted for an action-specific implementation plan, addressing the impacts and conservation measures for specific actions (for example, Ecosystem Restoration Program actions and levee protection projects). The action-specific implementation plan, in combination with the programmatic Conservation Strategy, will form the basis for obtaining authorization to incidentally "take" species (take authorization) pursuant to the federal ESA, the California Natural Community Conservation Planning Act, and the state ESA.

The Conservation Strategy also identifies the process that will be used to obtain take authorizations for future Program actions. The process for obtaining the take authorization for an action will vary, based on among other things, the level of detail in the Conservation Strategy regarding the action, the level of benefits or impacts of the action, and the type of action proposed.

The Conservation Strategy evaluates Program actions on 243 species. The list of evaluated species includes all federally and state-listed, proposed for listing, and candidate species that may be affected by the Program for which adequate information is available. The evaluated species list includes additional species identified by the Program that may be affected by the Program for which there is adequate information and for which take authorization may be requested. The Conservation Strategy's evaluated species list includes species that occur in the Ecosystem Restoration Program's 14 ecological zones. Information compiled for each of the species includes life history, distribution and habitat requirements, and identified goals and actions for species recovery.

The Conservation Strategy identifies:

- How various components of the Program (for example, the Ecosystem Restoration Program, CMARP, and adaptive management) interrelate in regard to achieving and maintaining the identified conservation goals for species and habitats.

The Program's Multi-Species Conservation Strategy is a comprehensive species and habitat conservation program that addresses the multiple species and habitat needs, and the maintenance of ecological functions in the Program area. The Conservation Strategy addresses species and habitats at the ecosystem level, and provides for the integration of species-specific conservation strategies at both the site-specific and landscape level.

The Conservation Strategy analyzes the impacts of Program actions (beneficial, detrimental, and neutral) on the evaluated species and identifies measures that maximize beneficial impacts on species, minimize adverse impacts on species, and compensate for or minimize unavoidable adverse impacts on species.



- Species-specific conservation goals.
- Important ecological processes affected by the Program that need to be maintained or improved to achieve the conservation goals for each species.
- A framework for conducting action-specific analyses for future Program projects that facilitates take authorization for the action.
- Actions that will achieve the identified species and habitat conservation goals when carried out over time.

The Conservation Strategy analyzes the impacts of Program actions (beneficial, detrimental, and neutral) on the evaluated species and identifies measures that maximize beneficial impacts on species, minimize adverse impacts on species, and compensate for or minimize unavoidable adverse impacts on species.

The Conservation Strategy will not in and of itself provide take authorization. Rather, as appropriate for the authority under which take is being authorized, the document will be used as the:

- Biological assessment for ESA Section 7 consultations.
- Basis for preparing a conservation plan pursuant to requirements for ESA Section 10(a)(1)(B) permits.
- Natural Community Conservation Plan pursuant to requirements of California Fish and Game Code Section 2835 authorization to take species.
- Mitigation plan pursuant to requirements of California Fish and Game Code Section 2081 incidental take permit(s).

The Conservation Strategy identifies conservation measures that will be incorporated into action-specific implementation plans for specific types of future actions. The identified measures or range of measures are intended to set appropriate and approximate mitigation sideboards for actions addressed in future action-specific conservation strategies. Incorporation of identified conservation measures into an action-specific implementation plan is intended to expedite the review and approval of the take authorizations for a specific project. For example, a conservation measure might be a specific habitat replacement ratio or a standard buffer requirement for an upland habitat of an evaluated species affected by levee protection actions.

Action-specific implementation plans for Stage 1 actions currently are being developed with the programmatic Conservation Strategy and will tier off it. Other future projects will be evaluated in the context of the Conservation Strategy, and their action-specific implementation plans will be developed to be consistent with and to tier off the programmatic strategy.

The Conservation Strategy identifies conservation measures that will be incorporated into action-specific implementation plans for specific types of future actions. The identified measures or range of measures are intended to set appropriate and approximate mitigation sideboards for actions addressed in future action-specific implementation plans.



8.1.3 FISH AND WILDLIFE COORDINATION ACT

Under Subsection 2(a) of the Fish and Wildlife Coordination Act (FWCA), federal agencies are responsible for consulting with the USFWS to conserve wildlife resources by preventing loss and damage, as well as providing for their development and improvement in connection with water resource projects. Also in FWCA Subsection 2(b), the USFWS is required to (1) report its recommendations for wildlife conservation and development and the expected results, and (2) describe the damage to wildlife attributable to the project and the measures proposed for mitigating or compensating for these damages.

For the programmatic FWCA report, the USFWS will provide (1) its overall assessment of Program effects and alternatives on fish and wildlife resources, (2) recommendations for mitigation of potentially significant adverse effects (where appropriate), and (3) recommendations for implementing future (Phase III and beyond) Program actions.

The USFWS, as a member agency of the Program, provided technical assistance to Program staff throughout development of the Preferred Program Alternative. The USFWS will complete this programmatic FWCA analysis and report its findings and recommendations before the Final Programmatic EIS/EIR is completed. That report will be incorporated into the Final Programmatic EIS/EIR.

The USFWS will continue to provide technical assistance during Program implementation. Analyses of effects on fish and wildlife also will be provided for applicable Program actions as they are being planned.

The USFWS, as a member agency of the Program, provided technical assistance to Program staff throughout development of the Preferred Program Alternative.

8.1.4 COMPLIANCE WITH SECTION 404(b)(1) GUIDELINES

The Program was established to develop a comprehensive solution to the problems facing the Bay-Delta system. The Program has crafted programmatic alternatives that will address multiple concerns over a 20- to 30-year implementation period. The Preferred Program Alternative likely will include hundreds of individual actions combined with a carefully crafted monitoring program to guide implementation based on adaptive management. Many of these actions would involve potential impacts on wetlands and waters of the United States. Therefore, the actions will require Corps permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act (Section 404 permits). The actions potentially range from major, highly controversial projects (such as new surface water storage facility construction) to less controversial projects (such as creating new wetlands habitat by contouring land and changing local hydrology). It is critical to the success of the Program that an effective strategy for addressing the Section 404 permits process for this diverse range of potential actions be developed and agreed to prior to the Record of Decision (ROD) for the Program.

It is critical to the success of the Program that an effective strategy for addressing the Section 404 permits process for this diverse range of potential actions be developed and agreed to prior to the Record of Decision (ROD) for the Program.



Many stakeholders are urging that the EPA and Corps issue a “programmatic” Section 404 permit to ensure that the Program solution actions would be permissible under a clearly defined process with appropriate decision criteria. The Corps and EPA determined that the level of detail in the Programmatic EIS/EIR for the Preferred Program Alternative will not establish a sufficient basis for a final determination of Section 404 compliance at the time of the ROD before Stage 1 begins. Although no site-specific Section 404 permits will be available at the time of the ROD, the Corps, EPA, and Program staff are developing a plan to facilitate Section 404 permitting during Program implementation. The preliminary proposal includes:

- An early permitting process for those projects included in the initial actions during Stage 1 of Program implementation.
- Developing programmatic assurances regarding a process by which the water storage facilities in the Program will be evaluated under Section 404. Establishing and defining this process will allow for a more expedited Section 404 permit evaluation when Program elements need site-specific permits.

Establishing these assurances would take place no later than completion of the ROD and would include an MOA among the Corps, EPA, and appropriate CALFED agencies to establish the Section 404 compliance strategy. This MOA will include:

- Performance criteria for alternatives to surface water storage, which would represent the limit of practicability for the purpose of Section 404 (b)(1) alternatives analyses. Input for this element of the Section 404 compliance strategy currently is being developed as the result of several concurrent processes involving agency staffs and stakeholders for water use efficiency and water transfer actions.
- Commitment by all appropriate parties ensuring that the performance criteria would be fully implemented.
- Establishment of a framework by which Program implementation projects would be evaluated for permits during the Program’s implementation phase. This would define, to the extent feasible, the scope of project-level analysis that would be needed to adequately supplement the programmatic analysis completed in Phase II.
- Establishment of performance criteria for “soft path” alternatives to water storage projects, which would represent the limit of practicability for the purpose of Section 404(b)(1) alternatives analyses. Input for this element of Section 404 compliance strategy currently is being developed as the result of several concurrent processes involving agency staffs and stakeholders for water use efficiency and water transfer actions.
- Determination of the level of “soft path” alternatives that must be assured of implementation before water storage projects may be constructed.

Many stakeholders are urging that the EPA and Corps issue a “programmatic” Section 404 permit to ensure that the Program solution actions would be permissible under a clearly defined process with appropriate decision criteria.



- Establishment of a framework by which Program implementation projects would be evaluated for permits during the Program's implementation phase. Set forth a method for determining whether storage is needed after the necessary "soft path" alternatives have been assured of implementation.
- Establishment of other procedures needed to comply with the Section 404 permitting process on a wide range of potential implementation actions.

In addition to the MOA, the Corps and EPA would work with Program staff to complete the rough screening process for potential surface water storage sites, resulting in a short list of sites that would undergo detailed evaluation during the Program's implementation.

Under Section 401 of the CWA, the SWRCB certifies that federally licensed or funded projects are consistent with maintenance or attainment of water quality standards. Before the ROD, the SWRCB and other appropriate CALFED agencies will develop an MOA to establish a process for determining Section 401 certification for projects requiring such certification.

8.1.5 THE COASTAL ZONE MANAGEMENT ACT

Under the Coastal Zone Management Act (CZMA) of 1972, coastal states are required to develop Coastal Zone Management Programs, and federal agencies are required to certify that any proposed activities in or affecting the coastal zone are consistent with the State's program. In California, the San Francisco Bay Conservation and Development Commission (BCDC) oversees the San Francisco Bay segment of California's Coastal Zone Management Program. Among other areas, BCDC also has permit jurisdiction over projects in certain waterways up to the Sacramento-San Joaquin Delta (east of Chipps Island) that empty into the Bay and in specific saltponds and managed wetlands.

The Program will prepare a Programmatic Coastal Zone Management Act Consistency Determination that will document the possible effects of the Preferred Program Alternative on coastal resources. The consistency determination also will document the actions that the Program will take to ensure that the Preferred Program Alternative is carried out in a manner consistent, to the maximum extent practicable, with the CZMA and the California Coastal Act of 1976. Since the March 1998 Draft Programmatic EIS/EIR did not contain a Preferred Program Alternative, a Programmatic CZMA Consistency Determination for the Program has not been submitted to the BCDC. Now that a Preferred Program Alternative has been selected, a Programmatic CZMA Consistency Determination will be presented to the BCDC before the Final Programmatic EIS/EIR.

The Program will prepare a Programmatic Coastal Zone Management Act Consistency Determination that will document the possible effects of the Preferred Program Alternative on coastal resources.



8.1.6 THE NATIONAL HISTORIC PRESERVATION ACT

Federal agencies or other federally funded entities must consider the effects of their project on historic properties under Section 106 requirements of the National Historic Preservation Act (NHPA). NHPA regulations require that a federal agency take the lead in complying with Section 106 and outline procedures to allow for comment on the proposed actions by the Advisory Council on Historic Preservation.

The Program is taking a two-step approach to comply with Section 106 of the NHPA. The first step consisted of a Class I overview of cultural resources in the study area and a programmatic evaluation of the consequences attributable to each Program alternative. The second step will be completed after specific actions stemming from the Preferred Program Alternative are started. At that time, federal agencies will follow 36 CFR 800 procedures before beginning these actions. A discussion about cultural resources can be found in Chapter 7 of this document, as well as in the March 1998 Cultural Resources Technical Report.

Program staff also coordinated analysis of historic sites in the study area with the State Historic Preservation Office.

Federal agencies or other federally funded entities must consider the effects of their project on historic properties under Section 106 requirements of the National Historic Preservation Act.

8.1.7 THE FARMLAND PROTECTION POLICY ACT AND MEMORANDA ON FARMLAND PRESERVATION

Two policies require federal agencies to include assessments of the potential effects of a proposed project on prime and unique farmland. These policies are the Farmland Protection Policy Act of 1981 (FPPA) and the Memoranda on Farmland Preservation, dated August 30, 1976, and August 11, 1980, respectively, from the U.S. Council on Environmental Quality. Under requirements set forth in these policies, federal agencies must determine these effects before taking any action that could result in converting designated prime or unique farmland for nonagricultural purposes. If implementing a project would adversely affect farmland preservation, the agencies must consider alternatives to lessen those effects. Federal agencies also must ensure that their programs, to the extent practicable, are compatible with state, local, and private programs to protect farmland. The NRCS is the federal agency responsible for ensuring that these laws and policies are followed.

NRCS involvement in the Program will follow the tiered approach used in the NEPA/CEQA process. The analysis of the impacts of the Preferred Program Alternative and the other Program alternatives on prime and unique farmland is provided in Chapters 4 and 7 of this document. During Phase III, the NRCS will comment on project-specific analysis of an individual proposed action's effect on prime and unique

Federal agencies must consider alternatives to lessen effects on prime and unique farmland.



farmland. As mentioned at the beginning of this document and in Chapter 4, mitigation strategies outlined in Chapter 7 will serve as a foundation for project-specific actions.

The analyses of impacts of the Preferred Program Alternative and the other Program alternatives on agricultural resources were coordinated with the NRCS and were performed in compliance with the FPPA. These analyses can be found in Chapters 4 and 7 of this document, as well as in the March 1998 Agricultural Resources Technical Report.

8.1.8 THE FEDERAL AGRICULTURE IMPROVEMENT AND REFORM ACT OF 1996

The Federal Agriculture Improvement and Reform Act of 1996, also known as the 1996 Farm Bill, became law in April 1996. Title III of the act includes conservation provisions designed to provide landowners with various incentives and technical assistance for incorporating sound conservation practices into farming, grazing, and livestock operations. The 1996 Farm Bill replaces and incorporates parts of previous farm bills, including the Food Security Act of 1985 and the 1990 Farm Bill.

Under Title III, the Wetlands Reserve Program and the Conservation Reserve Program of the Food Security Act of 1985 are extended to 2002. Changes in the programs, addressed in previous farm bills, provide landowners with more options for protecting wetlands and highly erodible land. The wetland conservation provisions were modified to provide farmers with more flexibility to meet wetland conservation compliance requirements. Changes include expanding areas where mitigation can be used; allowing mitigation by restoration, enhancement, or creation; and changing the abandonment clause. Title III also addresses a new Wildlife Habitat Incentives Program to help landowners improve wildlife habitat on private land. A Flood Risk Reduction Program was established to provide incentives for moving farming operations from frequently flooded land. NRCS is the federal agency responsible for implementing the conservation provisions of the 1996 Farm Bill.

The wetland conservation provisions were modified to provide farmers with more flexibility to meet wetland conservation compliance requirements. Changes include expanding areas where mitigation can be used; allowing mitigation by restoration, enhancement, or creation; and changing the abandonment clause.

8.1.9 EXECUTIVE ORDER 11988 (FLOODPLAIN MANAGEMENT)

Executive Order 11988 is a flood-hazard policy for federal agencies, requiring them to take actions to reduce the risks of flood losses; to restore and preserve the natural and beneficial values served by floodplains; and to minimize flood impacts on human safety, health, and welfare.

At the programmatic level, the Program has complied with Executive Order 11988 by discussing the potential effects of the Preferred Program Alternative and the other

Federal agencies must take actions to reduce the risks of flood losses; to restore and pre-serve the natural and beneficial values served by floodplains; and to minimize flood impacts on human safety, health, and welfare.



Program alternatives on flooding and mitigation measures in Chapter 7 and in the March 1998 Flood Control Technical Report.

8.1.10 EXECUTIVE ORDER 11990 (PROTECTION OF WETLANDS)

Executive Order 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. The order requires federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands. When federal lands are proposed for lease or sale to nonfederal parties, Executive Order 11990 requires restrictions to be included in the lease or conveyance to protect and enhance the wetlands on the property. Executive Order 11990 can restrict the sale of federal land containing wetlands; however, it does not apply to federal discretionary authority for nonfederal projects (other than funding) on nonfederal land.

Discussions about the effects of the Preferred Program Alternative and the other Program alternatives on wetlands can be found in Chapters 5, 6, and 7 of this document, as well as in the Ecosystem Restoration Program Plan and the March 1998 Vegetation and Wildlife Technical Report.

8.1.11 EXECUTIVE ORDER 12898 (ENVIRONMENTAL JUSTICE)

Executive Order 12898 requires federal agencies to identify and address adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations that could be disproportionately high. Federal agencies must ensure that federal programs or activities do not directly or indirectly result in discrimination on the basis of race, color, or national origin. Federal agencies must provide opportunities for input into the NEPA process by affected communities and must evaluate the potentially significant and adverse environmental effects of proposed actions on minority and low-income communities during environmental document preparation. Even if a proposed federal project would not result in significant adverse impacts on minority and low-income populations, the environmental document must describe how Executive Order 12898 was addressed during the NEPA process.

Chapter 7 of this document describes the effects of the Preferred Program Alternative and the other Program alternatives on minority and low-income populations. The March 1998 Agricultural Resources, Urban Resources, and Recreation Resources Technical Reports also address this topic.

The Program developed a separate document detailing plans for multi-cultural public outreach, in addition to its general Outreach Program. The multi-cultural outreach plan

Federal agencies must follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands.

Federal agencies must identify and address adverse human health or environmental effects of federal programs, policies, and activities on minority and low-income populations that could be disproportionately high. Federal agencies must ensure that federal programs or activities do not directly or indirectly result in discrimination on the basis of race, color, or national origin.

The Program developed a separate document detailing plans for multi-cultural public outreach, in addition to its general Outreach Program.



includes meeting with ethnic community leaders throughout the state, focusing a media campaign on ethnic media, and identifying public forums that could be hosted by the Program and various community-based organizations. Chapter 10 of this document describes the Program's public involvement plan, which includes the opportunities for minority and low-income communities to provide input on the Draft Programmatic EIS/EIR preparation.

8.1.12 EXECUTIVE ORDER 13007 (INDIAN SACRED SITES) AND APRIL 29, 1994 EXECUTIVE MEMORANDUM

Executive Order 13007 is a policy for federal agencies regarding how to accommodate Indian sacred sites. This order requires federal agencies with statutory or administrative responsibility of managing federal lands to (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; (2) avoid adversely affecting the physical integrity of such sacred sites; and (3) where appropriate, maintain the confidentiality of the sacred sites.

The April 29, 1994 Executive Memorandum deals with government-to-government relations with Native American tribal governments. Under this memorandum, federal agencies that undertake activities affecting Native American tribal rights or trust resources should be implemented in a knowledgeable, sensitive manner respectful of tribal sovereignty. The memorandum outlines principles clarifying how the federal government should operate in a government-to-government relationship with federally recognized Native American tribes.

At the programmatic level, the Program has complied with Executive Order 13007 and the April 29, 1994 Executive Memorandum by discussing the potential effects of the Preferred Program Alternative and the other Program alternatives on Indian sacred sites and Native American Tribal consultation in Section 7.15.

8.1.13 FEDERAL CLEAN AIR ACT

The Federal Clean Air Act (FCAA) was enacted to protect and enhance the nation's air quality in order to promote public health and welfare and the productive capacity of the nation's population. The FCAA requires an evaluation of any federal action to determine its potential impact on air quality in the project region. California has a corresponding law, which also must be considered during the EIR process.

During Phase III of the Program, when specific projects are identified, coordination is required with the appropriate air quality management district as well as with the EPA. This coordination would determine whether the project conforms to the Federal Implementation Plan and the State Implementation Plan (SIP).

Federal agencies must: (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; (2) avoid adversely affecting the physical integrity of such sacred sites; and (3) where appropriate, maintain the confidentiality of the sacred sites.

The Federal Clean Air Act requires an evaluation of any federal action to determine its potential impact on air quality in the project region.



Section 176 of the FCAA (42 U.S.C. Section 7506[c]) prohibits federal agencies from engaging in or supporting in any way an action or activity that does not conform to an applicable SIP. Actions and activities must conform to a SIP's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and in attaining those standards expeditiously. EPA promulgated conformity regulations (codified in 40 CFR Section 93.150 et seq.).

This Draft Programmatic EIS/EIR discusses the potential air quality impacts of the Preferred Program Alternative and the other Program alternatives in Chapter 7.

8.1.14 CLIMATE CHANGE

The federal government recognizes that global climate change is a serious environmental concern. The continued emissions and changes in sinks of greenhouse gases must be viewed under NEPA as a reasonably foreseeable impact, given the current state of scientific knowledge. Therefore, federal agencies must analyze the extent to which their proposed and ongoing actions and activities could influence such emissions and sinks. Such analyses should consider how federal actions could affect global climate change and, to the extent possible, how global climate changes could affect federal actions.

The Program is proposing significant investments to improve water quality, ecosystem quality, water supply reliability, and levee system integrity. Durability of the Program could be adversely affected by future climate changes. Likewise, Program-related construction and operations could contribute to greenhouse gas production. Two potential effects of global warming of particular concern for the Program are changes in sea levels and precipitation.

The geologic record shows marks from floods and droughts, evidence of past substantial changes in global and regional climates. Sea level changes also are directly related to extremes in climate change. For example, sea levels were from 2 to 6 meters higher than present levels during the last interglacial period 125,000 years ago, and approximately 120 meters below present levels during the last ice age 20,000 years ago. Sea levels have increased by 10-25 cm over the last century. Given this fluctuation, the Delta—with sea levels near current levels—likely has existed for only a small amount of geologic time.

It is difficult to estimate future sea level changes. Not enough is known about how the ice sheets in Greenland and Antarctica will react to global warming or about how much global warming may occur. Global warming may cause ice sheets and land-based glaciers to melt and also could cause thermal expansion of sea water. Sea levels actually could decrease if global warming causes precipitation at very high latitudes to increase and results in water stored as ice sheets.

A literature search indicates that sea level rise currently is estimated at approximately 1.5 millimeters annually. One study estimates that global warming may cause further rise of about 18 cm (0.7 foot) by 2030. Also, if current trends in greenhouse gas emissions

The continued emissions and changes in sinks of greenhouse gases must be viewed under NEPA as a reasonably foreseeable impact, given the current state of scientific knowledge.



continue, the same study estimates the rise could be up to 1 meter (3.3 feet) above current levels by 2100. EPA estimates that sea levels could rise globally approximately 20 inches (ranging between 6 and 38 inches) by 2100, and that average global temperatures could increase by 2 degrees Celsius (ranging between 1 and 3.5 degrees Celsius). Each degree Celsius of warming will shift temperature zones by about 100 miles northward (or 500 feet up in elevation).

This shift in temperature could affect species distribution in the Bay-Delta system and the effectiveness of the Ecosystem Restoration Program. Considering the potential of a 1- to 3.5-degree Celsius increase in global temperatures by 2100, the greenhouse gases that could be generated by the Program would be infinitesimal. However, the Program could contribute to the cumulative impacts of the potential temperature changes.

Rising sea levels could cause significant adverse impacts on the Delta system (for example, on habitat, water supply, and agriculture) if levees are overtopped or if substantial future investments are required to prevent overtopping. Higher sea levels could increase salinity levels throughout the Delta and for many miles inland, which could alter the effectiveness of Program habitats and likely would change the entire Delta ecosystem. Water diversions from Delta channels likely would be abandoned and moved inland to areas of lower salinity. While these changes are potentially significant over the long term (hundreds or thousands of years), they are unlikely to significantly alter Program facilities or operations within the foreseeable future (20-50 years).

Temperature changes could result in more variable precipitation and runoff patterns from year to year and season to season. EPA estimates that California could experience increased winter runoff and decreased spring and summer runoff, which could result in decreased water supply and reliability in the Central Valley basin. If earlier flooding became more frequent, competition for remaining scarce water supplies could increase.

While rising sea levels are potentially significant over the long term (hundreds or thousands of years), they are unlikely to significantly alter Program facilities or operations within the foreseeable future (20-50 years).

8.1.15 STATE, REGIONAL, AND LOCAL PLAN CONSISTENCY

Determining consistency with state, regional, and local plans is not possible without specific actions. Since this is a programmatic document, coordination will consist primarily of circulating the Draft Programmatic EIS/EIR to recognized state and local clearinghouses, as well as submitting the document to federal, state, and local elected representatives for review and comment, as designated by Executive Order 12372. To fully comply with NEPA and CEQA, the Program will coordinate with appropriate state and local jurisdictions within the study area during Phase III.

Determining consistency with state, regional, and local plans is not possible without specific actions.



8.2 REGULATORY FRAMEWORK

Several laws and regulations affect the existing environment in California, and these must be considered in assessing the potential impacts of future actions. Below is a brief discussion of those regulatory and legal requirements applicable to the Program. These requirements are presented here rather than under the various resource descriptions to provide a complete overview of the regulatory framework in one place and to avoid repetition.

8.2.1 DELTA PROTECTION COMMISSION

The Delta Protection Commission (DPC) is a state regional planning agency with authority over a 450,000-acre portion of the Delta. The authorizing legislation was passed in 1992 (PRC Section 29700 et seq.), and the commission started meeting in January 1993. The DPC was charged with preparing a regional land use and resources management plan for the Delta to protect and enhance the three existing land uses: agriculture, wildlife habitat, and recreation. The plan was adopted in February 1995. Local governments were required to ensure that their general plans conformed with the regional plan; local general plan amendments were completed in March 1997. The DPC has appeal authority over the local government amendments. The 19-member DPC includes six state agency directors, five county supervisors, three city council members, and five reclamation district representatives. The DPC was slated to disband on January 1, 1999, but its authorization was extended.

The Delta Protection Commission was charged with preparing a regional land use and resources management plan for the Delta to protect and enhance the three existing land uses: agriculture, wildlife habitat, and recreation.

8.2.2 THE DELTA PROTECTION ACT OF 1959

The Delta Protection Act of 1959 requires adequate water supplies for multiple uses (for example, agriculture, municipal and industrial, and recreation) in the Delta and for export. Since the law was passed, various water quality and flow objectives have been established by the SWRCB and the Central Valley Regional Water Quality Control Board (RWQCB). These objectives are to ensure that the amount and quality of water in the Delta is sufficient to satisfy the multiple uses. For example, water quality objectives require limiting Delta water supply operations, particularly the SWP and CVP, that affect the balance of fresh water and salt water in the Delta.

The Delta Protection Act of 1959 requires adequate water supplies for multiple uses (for example, agriculture, municipal and industrial, and recreation) in the Delta and for export.

8.2.3 PORTER-COLOGNE ACT

In 1967, the Porter-Cologne Act established the SWRCB and nine regional boards as the primary state agencies with regulatory authority over water quality and appropriate surface water rights allocations. The SWRCB administers the Porter-Cologne Act, which provides the authority to establish WQCPs that are reviewed and revised periodically; the



Porter-Cologne Act also provides the SWRCB with authority to establish state-wide plans.

The nine RWQCBs carry out SWRCB policies and procedures throughout the state. The SWRCB and the RWQCBs also carry out sections of the federal CWA—administered by the EPA—including the National Pollutant Discharge Elimination System (NPDES) permitting process for point source discharges and the CWA Section 303 water quality standards program.

WQCPs, also known as basin plans, designate beneficial uses for specific surface water and groundwater resources, and establish water quality objectives to protect those uses. RWQCBs issue waste discharge requirements for the major point-source waste dischargers, such as municipal wastewater treatment plants and industrial facilities. In acting on water rights applications, the SWRCB may establish terms and conditions in a permit to carry out WQCPs.

The Enclosed Bays and Estuary Plan and the Inland Surface Waters Plan enacted by the SWRCB set numerical and narrative criteria for toxic metals and organic compounds. Litigation in 1994 against the plans resulted in their being revoked, and SWRCB is not considering readopting them. Instead, the EPA is promulgating numeric objectives for metals and organic compounds under the CWA through the California Toxics Rule, and the SWRCB is developing an implementation policy to support this rule. Both numerical and narrative water quality objectives are established to protect beneficial uses, including human health and aquatic life. Once approved by the EPA, the objectives become enforceable under the CWA and the Porter-Cologne Act.

The Delta is under the jurisdiction of the Central Valley (Region 5) and the San Francisco Bay (Region 2) RWQCBs, which carry out policies and procedures adopted under their respective WQCPs. The most recent basin plan was adopted in 1995. Amendments to the basin plan to control agricultural subsurface drainage and lower San Joaquin River water quality objectives currently are being considered for adoption.

WQCPs, also known as basin plans, designate beneficial uses for specific surface water and groundwater resources, and establish water quality objectives to protect those uses. Both numerical and narrative water quality objectives are established to protect beneficial uses, including human health and aquatic life.

8.2.4 DECISION-1485 AND THE 1978 WATER QUALITY CONTROL PLAN

In 1978, the SWRCB adopted the WQCP for the Sacramento-San Joaquin Delta and Suisun Marsh (1978 Delta Plan). At the same time, SWRCB adopted Water Right Decision-1485 (D-1485). Predecessors to D-1485 were D-1379 and D-1275. D-1485 required water diverters to comply with the water quality objectives in the 1978 Delta Plan. The objectives in the plan were designed to protect natural resources by maintaining Delta conditions as they would exist in the absence of the CVP and SWP. D-1485 also required monitoring and study of Delta aquatic resources. An effect of D-1485 was the amendment of Reclamation and DWR permits to operate the CVP and SWP. Later that year, the legality of D-1485 and the 1978 Delta Plan was challenged. Two things resulted



from that legal challenge: a new Delta plan was developed, and a new draft water rights decision was issued.

In 1986, the State was required to revise its water quality standards based on the "Rancanelli Decision" (*United States v. State Water Resources Control Board* (1986) 182 Cal. App. 3d 82). Pursuant to that decision, SWRCB began a hearing process—known as the Bay-Delta hearings—to review and amend the 1978 Delta Plan. After this hearing process, SWRCB issued revised water quality objectives in the 1991 Delta WQCP for Salinity, Temperature, and Dissolved Oxygen (1991 Delta Plan).

The SWRCB conducted a water right hearing to take evidence and recommendations about measures to protect fish and wildlife. After the hearing, the SWRCB issued a draft water right decision, D-1630, that included interim water right terms and conditions. Actions taken by NMFS and the USFWS to protect winter-run chinook salmon and Delta smelt resulted in withdrawal of D-1630 after the hearing before the decision had been adopted. However, several new Delta water management concepts originally presented in D-1630 have been partially adopted in other actions taken by SWRCB, DWR, Reclamation, fishery protection agencies, and other regulatory agencies.

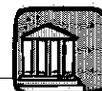
Pursuant to the Rancanelli Decision, SWRCB began a hearing process—known as the Bay-Delta hearings—to review and amend the 1978 Delta Plan.

8.2.5 1995 WATER QUALITY CONTROL PLAN

In March 1994, the SWRCB started developing new water quality objectives. The SWRCB released a draft version on December 15, 1994—the same day that the Bay-Delta Accord was signed. The SWRCB then released an EIR documenting the effects of carrying out the plan. The 1995 WQCP was adopted in May 1995 and incorporated several elements of EPA, NMFS, and USFWS regulatory objectives for salinity and endangered species protection. The 1995 WQCP objectives are expected to be fully implemented with a new water right decision that replaces D-1485. The major changes associated with the 1995 WQCP in relation to the 1978 and 1991 Delta Plans and associated D-1485 requirements are listed below.

- Water-year classifications are based on the 40-30-30 Sacramento Valley Four River Index and the 60-20-20 San Joaquin Valley Four River Index. The outflow requirements from February through June depend on the previous month's Eight River Index runoff volume.
- Delta outflow requirements are the combination of fixed monthly requirements and estuarine habitat requirements (expressed as "X2," the position of the 2 ppt salinity gradient). Because the X2 requirements in the 1995 WQCP depend on the previous month's Eight River Index runoff, the required outflow must be calculated for each month.
- Combined SWP and CVP Delta exports are limited to a percentage of the Delta river inflow (which does not include rainfall). These percentages range between 35 and 45% from February through June, depending on the Delta inflow, and 65% the rest of the

The 1995 WQCP was adopted in May 1995 and incorporated several elements of EPA, NMFS, and USFWS regulatory objectives for salinity and endangered species protection. The 1995 WQCP objectives are expected to be fully implemented with a new water right decision that replaces D-1485.



year. Export pumping during the pulse flow is limited to an amount equivalent to the pulse flow during half of April and half of May.

8.2.6 CLEAN WATER ACT—SECTION 303(D)

Section 303(d) of the federal CWA requires all states to conduct triennial reviews to evaluate and, where necessary, to protect the designated uses for the state's waters and to revise water quality standards. As part of this requirement, states develop a list of water bodies with impaired water quality. The Section 303(d) list identifies impaired water bodies and sources of contamination, such as mine drainage, agricultural drainage, urban and industrial runoff, and municipal and industrial wastewater discharges. In California, the SWRCB is responsible for the triennial review process and for developing the Section 303(d) list.

The triennial review process of Section 303(d) is particularly well suited to the adaptive management approach to ecosystem protection being proposed in the Program. The Program intends to work with the SWRCB, the RWQCB, and the EPA to ensure that implementation of the Ecosystem Restoration Program and other Program elements is consistent with and, where appropriate, incorporated into the ongoing regulatory programs based on Section 303(d).

The Program is using the Section 303(d) list from 1996 for preliminary assessment of existing environmental water quality problems in the Central Valley and Bay-Delta. This list includes 90 water bodies. In late 1998, the EPA partially approved a new Section 303(d) list submitted by the SWRCB that includes 472 polluted water bodies. The Program is reviewing this list to determine whether any revisions to its initial assessment are needed. Any revisions will be incorporated into the Final Water Quality Program Plan.

The Section 303(d) list identifies impaired water bodies and sources of contamination, such as mine drainage, agricultural drainage, urban and industrial runoff, and municipal and industrial wastewater discharges.

The triennial review process of Section 303(d) is particularly well suited to the adaptive management approach to ecosystem protection being proposed in the Program.

8.2.7 FEDERAL GUIDANCE ON WATER QUALITY FOR TOXIC POLLUTANTS

The EPA developed National Guidance on Water Quality Criteria (CWA Section 304(a)) for pollutants to protect human health and aquatic life. Relevant pollutants are identified under Section 307 of the CWA. These criteria were used by the SWRCB to develop the 1991 Inland Surface Water Plan, which was subsequently invalidated by California courts.

8.2.8 SUISUN MARSH PRESERVATION AGREEMENT

The Suisun Marsh Preservation and Restoration Act of 1979, and the 1987 Suisun Marsh Preservation Agreement (SMPA) among federal and state agencies, were designed to



mitigate the effects of CVP and SWP operations and other upstream diversions on water quality in the marsh. The agreement, which is being amended, includes specific water quality objectives for salinity in Suisun Marsh channels. The CVP and SWP will submit the amended agreement to the SWRCB for approval in the upcoming Bay-Delta Water Right hearing.

As part of the Suisun Marsh preservation efforts, a salinity control structure (tidal gate) was installed on Montezuma Slough in 1998. D-1485 also directed Reclamation and DWR to develop a protection plan for the marsh. D-1485 set water salinity standards for Suisun Marsh from October through May to preserve the area as a brackish-water tidal marsh and to provide optimum conditions for plant production as food for waterfowl.

The SWRCB's 1995 WQCP includes the SMPA normal and deficiency-period standards for the western Suisun Marsh; and recommends that the SMPA parties should "continue the actions, including facility plans, identified for implementation of the SMPA."

The Suisun Marsh also falls under other water quality criterion. The EPA proposed water quality criteria for priority toxic pollutants for California in the *Federal Register* on August 5, 1997. This proposal, called the California Toxics Rule, addresses parameters that were not covered for California under the original National Toxics Rule. The proposed rule will, when final, establish ambient water quality criteria for priority toxic pollutants for California inland waters, enclosed bays, and estuaries.

D-1485 set water salinity standards for Suisun Marsh from October through May to preserve the area as a brackish-water tidal marsh and to provide optimum conditions for plant production as food for waterfowl.

8.2.9 WATER RIGHTS

There are two basic types of water rights in California: riparian water rights and appropriative water rights. Riparian water rights are based on ownership of land adjacent to a water body, while appropriative water rights are unrelated to riparian land ownership and are based on the principle of "first in time, first in right."

Riparian water rights are not lost if they go unused and are not quantified unless they are adjudicated. Landowners with these rights can divert portions of a water body's natural flow for reasonable and beneficial use on their land, provided the land is within the same watershed as the water body and on the smallest parcel adjacent to the water body. According to the SWRCB, during times of water shortage, all riparian water rights holders must share the available supply according to each landowner's reasonable requirements and uses.

Most of the water rights in California are appropriative water rights. These rights are based on the concept that the first to claim and beneficially use a specific amount of water has a superior claim to those of later appropriators. Appropriative rights are quantified and could be lost if unused. All appropriations existing before 1914 have seniority based on the day when they were initiated. Appropriative rights obtained after 1914 require permits and licenses issued by the SWRCB. The SWRCB issues appropriative rights with conditions to protect other water rights holders, including Delta and upstream riparian

Riparian water rights are based on ownership of land adjacent to a water body, while appropriative water rights are unrelated to riparian land ownership and are based on the principle of "first in time, first in right."



water users, and to protect the public interest, including fish and wildlife resources. The quantity and quality of water used by existing riparian and senior appropriative users can be limited only by subsequent appropriations in limited circumstances when the senior rights are not legally injured.

8.3 DRINKING WATER REQUIREMENTS

Drinking water regulations primarily define requirements for treated water quality versus the regulations or requirements noted above that mainly apply to discharges into receiving waters. The following are the regulatory water quality requirements for drinking water.

8.3.1 SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) (PL 99-339) became law in 1974 and was reauthorized in 1986 and again in August 1996. Through the SDWA, Congress gave the EPA the authority to set standards for contaminants in drinking water supplies. Amendments to the SDWA provide more flexibility, more state responsibility, and more problem prevention approaches. The law changes the standard-setting procedure for drinking water and establishes a State Revolving Loan Fund to help public water systems improve their facilities and to ensure compliance with drinking water regulations and to support state drinking water program activities.

Under the SDWA provisions, the California Department of Health Services (DHS) has the primary enforcement responsibility. The California Health and Safety Code establishes DHS authority and stipulates drinking water quality and monitoring standards. To maintain primacy, a state's drinking water regulations cannot be less stringent than the federal standards.

The Safe Drinking Water Act changes the standard-setting procedure for drinking water and establishes a State Revolving Loan Fund to help public water systems improve their facilities and to ensure compliance with drinking water regulations.

8.3.2 NATIONAL PRIMARY DRINKING WATER STANDARDS

National Primary Drinking Water Standards include maximum contaminant levels (MCLs), which set the maximum permissible levels of contaminants that are legally allowed in the distribution system of a public water system. Standards also include sampling frequency, location, and reporting requirements. The federal and state MCLs are enforceable and must be met by appropriate public drinking water systems. The MCLs generally are derived based on health effects, but some are derived from balancing the technologic and economic concerns that are directly related to domestic water supply use.

National Primary Drinking Water Standards include maximum contaminant levels, which set the maximum permissible levels of contaminants that can legally enter the distribution system of a public water system.



Health effects information is developed in the risk assessment process as part of the derivation of the MCLs. Maximum contaminant level goals (MCLGs) are the maximum levels of contaminants in drinking water at which no known anticipated adverse effect on human health would occur and that allow an adequate margin of safety. MCLGs are nonenforceable health goals that are based only on health.

Primary standards also include treatment techniques when it would be economically or technically infeasible to set an MCL. Use of specific treatment technology would most generally be required where any level of a contaminant can cause near-term harm to health, as where filtration and disinfection are required to protect against waterborne illness.

The Phase I Rule was promulgated in 1987 and contains MCLs, MCLGs, and best available technologies (BATs) for eight VOCs. Phase II and IIB rules were promulgated in 1991, and regulated an additional 16 synthetic organic chemicals (SOCs), 10 VOCs, and 7 inorganic chemicals (IOCs). Phase II and IIB rules contain MCLs, MCLGs, and treatment techniques for these chemicals. The Phase V Rule was promulgated in 1992 and regulates 13 SOCs, 5 IOCs, and 3 VOCs. Phase V established MCLGs, MCLs, laboratory criteria, and BATs for these 23 chemicals.

8.3.3 NATIONAL SECONDARY DRINKING WATER REGULATIONS

In 1979 and 1991, the EPA established the National Secondary Drinking Water Regulations (NSDWR), or secondary MCLs. These standards apply at the point of delivery to the consumer and generally involve protecting drinking water taste, odor, or appearance. Federal secondary MCLs are nonenforceable; however, state secondary MCLs are enforceable for all new systems and new sources of water developed by existing systems. In California, DHS regulates and enforces secondary drinking water standards.

Secondary MCLs apply at the point of delivery to the consumer and generally involve protecting drinking water taste, odor, or appearance.

8.3.4 TRIHALOMETHANE REGULATIONS

Trihalomethane (THM) regulations apply to all public water systems that serve more than 10,000 people. Large utilities began monitoring for total trihalomethanes (TTHMs) in November 1980. The regulation established an MCL of 100 $\mu\text{g}/\text{L}$ in a distribution system. This MCL was reduced to 80 $\mu\text{g}/\text{L}$ in November 1998 and will be applied over the next few years to all community water systems. The TTHMs include the summation of chloroform, bromodichloro-methane, dibromochloromethane, and bromoform concentrations. THMs can form when water is treated with a disinfectant. Compliance with the MCL is based on the annual average of at least four representative sampling points for each treatment plant. Twenty-five percent of the samples are taken in the distribution system, representing the maximum residence time of water in the system. At least 75% of the samples are collected from representative sites in the distribution system. These

Trihalomethanes form when water is treated with a disinfectant.



representative sites are determined by the number of people served, sources of water, and treatment methods.

8.3.5 FEDERAL LEAD AND COPPER RULE

The EPA promulgated the final Lead and Copper Rule in 1991 (56 FR 26460). Under this rule, the first flush water samples from consumers' taps should be monitored. If more than 10% of these samples contain greater than the AL of 0.015 mg/L for lead or 1.3 mg/L for copper, actions may be required—potentially including optimization of control treatment, source water treatment, and public education. The Lead and Copper Rule eliminated the lead MCL and the secondary copper MCL.

Under the Lead and Copper Rule, the first flush water samples from consumers' taps should be monitored.

8.3.6 FEDERAL SURFACE WATER TREATMENT RULE

The EPA promulgated the Surface Water Treatment Rule (SWTR) in June 1989 to protect against *Giardia lamblia*, *Legionella* (a bacterium), and viruses in the nation's surface water drinking water sources and in groundwater sources influenced by surface water. These contaminants were included on the list of 83 contaminants under EPA regulation, according to the 1986 SDWA amendments.

The SWTR requires all utilities with a surface water supply, or a groundwater supply influenced by surface water, to provide adequate disinfection and, under most conditions, filtration. Avoidance from surface water supply filtration is provided on rare occasions where the source water supply meets extremely rigid water quality requirements and there are strong controls on sources of contamination in the watershed. California law requires each utility to perform a watershed sanitary survey at least every 5 years.

The Surface Water Treatment Rule requires all utilities with a surface water supply, or a groundwater supply influenced by surface water, to provide adequate disinfection and, under most conditions, filtration.

Water systems with clean and protected source waters that meet source water quality and site-specific criteria may not be required to filter. Systems that are not required to filter (that is, meet the federal filtration avoidance criteria) do not have to meet disinfectant contact time continuously. A 1-day "disinfectant holiday" per month is provided as part of the federal filtration avoidance criteria. For utilities required to filter, June 1993 was the deadline to meet filtration requirements and performance criteria for both turbidity and disinfection.

In July 1995, EPA proposed an Enhanced Surface Water Treatment Rule (ESWTR) as an amendment to the SWTR. The amendment provides additional protection against disease-causing organisms such as *Giardia lamblia*, *Cryptosporidium parvum*, and viruses in drinking water. The ESWTR outlines several alternatives for treatment requirements based on source water concentrations for these pathogens.

The Disinfectants/Disinfection By-Products Rule must balance the need for protection from cancer-causing chemicals (by-products) with the need for protection from pathogenic microbes (bacteria, viruses, and protozoans) that are killed by disinfection.

Disinfectants/Disinfection By-Products Rule. The 1986 amendments to the federal SDWA required the EPA to propose a rule for disinfectants and DBPs. The rule must balance the



need for protection from cancer-causing chemicals (by-products) with the need for protection from pathogenic microbes (bacteria, viruses, and protozoans) that are killed by disinfection. In 1992, the EPA began a rule-making process, called the "Reg-Neg" process. Negotiators in the process included state and local health and regulatory agency staff, elected officials, consumer groups, environmental groups, and representatives from public water systems. The Reg-Neg process resulted in a two-stage approach for regulation development.

The Stage I Disinfectant/Disinfection By-Products Rule (D/DBPR), was promulgated in November 1998. Compounds affected under Stage I regulations of the D/DBPR are TTHMs, total haloacetic acids, TOC, bromate, chlorine, chloramines, chlorine dioxide, and chlorite.

For Stage II, the EPA and water utilities are collecting data on parameters that influence DBP formation, occurrence, and treatment in drinking water through the Information Collection Rule, and have undertaken wide research on health effects and treatment of DBPs and microbial contaminants. Based on this information and research, EPA will evaluate the Stage I regulations and make changes as necessary. Draft Stage II regulations are expected in early 2001; final Stage II regulations are required by May 2002.

Federal Total Coliform Rule. The Total Coliform Rule became effective in 1990. The rule establishes microbiological standards and monitoring requirements that apply to all public water systems. Compliance is based on the presence or absence of total coliforms in a sample, rather than an estimate of coliform density.

8.3.7 CALIFORNIA SURFACE WATER TREATMENT REGULATIONS

State surface water treatment regulations derived from amendments to the National Primary Drinking Water Regulations. State regulations, found in Title 22 of the CCRs, became effective in 1991. Like the federal rule, the State required multi-barrier treatment for microbiological contaminants, effective June 1993. Unlike the federal rule, all public water systems in California must filter their surface water and groundwater influenced by surface water. Due to high start-up costs, this aspect of the regulation was amended to allow qualifying systems to avoid filtration, similar to the federal rule.

8.3.8 CALIFORNIA TOTAL COLIFORM REGULATIONS

California's total coliform regulations are in Title 22, Chapter 15 of the CCRs, and are analogous to the federal regulations. DHS sets the enforceable drinking water standard for total coliforms, which is identical to that of the federal rule.

Like the federal rule, the State required multi-barrier treatment for microbiological contaminants, effective June 1993. Unlike the federal rule, all public water systems in California must filter their surface water and groundwater influenced by surface water.

DHS sets the enforceable drinking water standard for total coliforms, which is identical to that of the federal rule.



A list of contaminants currently regulated for drinking water by both the EPA and DHS is in the affected environment and environmental consequence sections of the March 1998 Water Quality Technical Report. The list identifies the federal regulation and the section of the regulation, as well as the MCL or treatment technology, associated with each contaminant. In California, DHS promulgated regulations for several contaminants at levels below the EPA MCLs.

8.3.9 CALIFORNIA NONPOINT SOURCE PROGRAM

Nonpoint source pollution (NPS) in California is addressed in the Porter-Cologne Act and two primary federal statutes, CWA Section 319 and Coastal Zone Act Reauthorization Amendments (CZARA) Section 6217. Enacted by Congress in 1987, CWA Section 319 required California to develop an assessment report detailing the extent of nonpoint pollution and a management program specifying nonpoint source controls, in order to obtain federal funding to carry out nonpoint source controls. In 1990, Congress passed Section 6217(c)(1) of the CZARA. These amendments require the state to “develop and implement management measures for nonpoint source pollution to restore and protect coastal waters...,” which serves as an update and expansion of the existing NPS program.

The California Nonpoint Source Management Plan, adopted by the SWRCB in 1988, outlines a systematic approach to managing nonpoint source pollution in the state. Three approaches form the basis for California’s program: voluntary implementation of BMPs, regulatory-based encouragement of BMPs, and effluent limitations.

In February 1994, the State initiated a comprehensive process to consider the CZARA requirements and update the existing state-wide Nonpoint Source Program, rather than create a separate program to deal exclusively with coastal waters. The State’s updated program, described by the Coastal Nonpoint Pollution Control Submittal (September 1995) and Initiatives in Nonpoint Source Management (September 21, 1995), calls for managing nonpoint sources on a watershed basis and focuses on nonpoint source problems associated with pesticides, grazing, urban runoff, hydromodification, and abandoned mines.

As of February 1998, California is still working to improve the Nonpoint Source Program and to receive full program approval from the EPA in compliance with the CZARA.

The California Nonpoint Source Management Plan outlines a systematic approach to managing nonpoint source pollution in the state, including voluntary implementation of BMPs, regulatory-based encouragement of BMPs, and effluent limitations.



8.4 FEDERAL AND STATE COORDINATION FOR A DELTA SOLUTION

8.4.1 BAY-DELTA FRAMEWORK AGREEMENT AND BAY-DELTA ACCORD/RESTORATION COORDINATION

A Bay-Delta Framework Agreement was signed in June 1994 by the Federal Ecosystem Directorate and the Governor's Water Policy Council of the State of California. The framework established a comprehensive program in the Bay-Delta estuary for coordinated and cooperative environmental protection and water supply. The Principles for Agreement, also known as the Bay-Delta Accord, was signed on December 15, 1994, and has been extended to December 31, 1999.

The Bay-Delta Accord also included a commitment by the agency and stakeholder signatories to develop and fund non-flow-related ecosystem restoration actions to improve the health of the Bay-Delta ecosystem. This commitment is commonly referred to as "Category III." Some of the specific non-flow factors that need to be addressed as part of the Category III commitment include unscreened water diversions, waste discharges, water pollution prevention, fishery impacts due to harvest and poaching, land-derived salts, exotic species, fish barriers, channel alterations, riparian wetlands loss, and other causes of estuarine habitat degradation.

Category III actions could result in long-term benefits regardless of the final Preferred Program Alternative configuration. The Category III actions must be consistent with any alternative configuration and provide early implementation benefits. This implementation also will provide valuable information for adaptively managing the system later in the program. Category III projects must have appropriate environmental documentation, result in no significant adverse cumulative impacts, and not limit the choice of a reasonable range of alternatives.

Funding for near-term restoration activities include \$60 million from State Proposition 204 (Bay-Delta Agreement Program) and stakeholder contributions of \$31.75 million. Congress also authorized \$430 million for fiscal years 1998, 1999, and 2000—both to fund the federal share of Category III projects and to start up the Ecosystem Restoration Program. In federal fiscal years 1998-99, \$160 million was appropriated (\$85 million and \$75 million, respectively) for the Bay-Delta ecosystem restoration, a portion of which is considered Category III funding. Proposition 204 also includes \$390 million to begin the Ecosystem Restoration Program.

Category III projects are selected through a request for proposal process; competition is fierce for these funds, and the number of applications regularly exceed the available funding 10 to 1. In 1997, more than \$85 million was dispersed to 71 projects through

The Bay-Delta Accord also included a commitment by the agency and stakeholder signatories to develop and fund non-flow-related ecosystem restoration actions to improve the health of the Bay-Delta ecosystem. This commitment is commonly referred to as "Category III."



12 programs targeted at specific issues addressed by individual CALFED agencies. In 1998, more than \$25 million was dispersed to 64 projects.

About three-fourths of the money was earmarked to projects that restore rivers, riparian forests, wetlands, and marshes. The remainder went to projects such as installing fish screens to keep endangered fish from being pumped out of rivers, preventing the introduction of exotic species into state water bodies, and researching key questions that must be answered to implement adaptive management. Many of the ecosystem projects also provide benefits to other Program objectives, such as water supply reliability, levee system integrity, and water quality.

As the long-term Program developed, the priorities and project selection processes were revised to ensure that expenditures were consistent with the overall direction of the Program and efficiently targeted ecosystem restoration through adaptive management.

8.4.2 CENTRAL VALLEY PROJECT IMPROVEMENT ACT

The USFWS and Reclamation jointly are responsible for carrying out the CVPIA. The Act includes provisions intended to restore anadromous fish populations, improve and facilitate water transfers, implement water conservation actions, provide water for wildlife refuges in the Central Valley, and improve flows on the Trinity River for anadromous fish.

Many of the CVPIA provisions parallel elements of the Program. The Ecosystem Restoration Program, Water Transfer Program, Water Use Efficiency Program, and water project operations for Stage 1 would complement programs with similar goals under the CVPIA. Congress and stakeholders identified coordinating similar elements of the CALFED and CVPIA Programs as a priority to ensure that the elements common to both are carried out in the most efficient way possible.

USFWS and Reclamation, as member agencies of the Program, provided assistance to Program staff throughout development of the Preferred Program Alternative. USFWS and Reclamation will continue this assistance to Program staff to ensure that the CVPIA provisions are supported and coordinated with Program elements. Specific examples could include coordinating CVPIA's Anadromous Fish Restoration Program and Trinity River actions with the Program's water project operations in Stage 1.

The USFWS and Reclamation jointly are responsible for carrying out the CVPIA. Many of the CVPIA provisions parallel elements of the Program.

8.4.3 CALIFORNIA-FEDERAL OPERATIONS GROUP

The 1994 Bay-Delta Framework Agreement also established the California-Federal Operations Group (CALFED Ops Group) to coordinate SWP and CVP operations. The

The CALFED Ops Group recommends changes in combined Delta operations that could provide additional fish protection and allow Delta exports with reduced fishery impacts.



group recommends changes in combined Delta operations that could provide additional fish protection and allow Delta exports with reduced fishery impacts. The CALFED Ops Group specifically was charged with recommending operational changes to minimize incidental take and satisfy other ESA biological opinion requirements based on real-time fish monitoring results.

Other responsibilities of the CALFED Ops Group include carrying out fish protection measures through information exchange and strategy discussions, satisfying 1995 WQCP water quality objectives, and cooperating with the Interagency Ecological Program to (1) determine factors that affect Delta habitat and the health of fisheries, and (2) identify appropriate corrective measures for the CVP and SWP.

8.5 PUBLIC TRUST

The State of California must consider the public trust when planning and allocating water resources, and preserve for the public interest the uses protected by the trust. In common law, the public trust doctrine protects navigation, commerce, and fisheries uses in navigable waterways. However, the courts have expanded the doctrine's application to include protecting tideland, wildlife, recreation, and other public trust resources in their natural state for recreational, ecological, and habitat purposes as they affect birds and marine life in navigable waters. In the *National Audubon Society v. Superior Court* (1983) 33 Cal 3d 419, the California Supreme Court ruled that in administering water rights laws and approving water diversions, the State also has a duty of continuous supervision over the taking and use of appropriated water to protect these public trust uses.

In common law, the public trust doctrine protects navigation, commerce, and fisheries uses in navigable waterways. The courts have expanded the doctrine's application to include protecting tidelands, wildlife, recreation, and other public trust resources in their natural state for recreational, ecological, and habitat purposes as they affect birds and marine life in navigable waters.

8.6 WATER USE EFFICIENCY

Two California water use efficiency laws require water suppliers to plan for water conservation activities. The first is the Urban Water Management Planning Act (California Water Code Section 10610 et seq.). This act requires every public or private urban water supplier who meets certain operational criteria to prepare, adopt, and submit to DWR an urban water management plan, and to update the plan at least once every 5 years. These operational criteria are providing water directly or indirectly for municipal use to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually.

An urban water management plan must include the following:

- Estimates of past, current, and future water use
- Identification of current conservation and recycling measures
- Analysis of potential alternative conservation measures



The plan must include water shortage contingency provisions, as well as provisions for using recycled water optimally in the water supplier's service area.

The second law is the Agricultural Water Conservation and Management Act (California Water Code Section 10520 et seq.), which provides that agricultural water suppliers may institute water conservation or water management programs.

Under California Water Code Section 10904, DWR assists agricultural water suppliers in implementing efficient water management practices to improve agricultural water use efficiency.



