# Executive Summary

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# Executive Summary

The Delta and Suisun Marsh lie at the intersection of California's two largest rivers, the Sacramento and the San Joaquin. They are also at the intersection of many of the State's water policy and science debates, a fulcrum for decisions that, in one way or another, affect almost every Californian.

After decades of debate that served mostly to prolong the *status quo,* the California Legislature in 2009 faced the challenge directly, declaring that the Delta watershed and California's water infrastructure are in crisis and that existing Delta policies are not sustainable. The Legislature further said that resolving the crisis would require fundamental reorganization of the State's management of Delta watershed resources, both upstream and in the areas that receive water taken from the Delta. This Delta Plan responds to that declaration.

The Delta is the hub of the state's major water supply systems, crossed east to west and north to south by channels, aqueducts, and pipelines intended to convey water from where it falls as rain and snow to where the vast majority of Californians need it to sustain one of the world's largest economies. The Delta also is the largest estuary on the West Coast, a place where fresh and salt water mix to support a vast array of birds, fish, and wildlife. Protected from flooding by levees, its islands are a critical resting place on the Pacific Flyway and its channels a transition zone for salmon on their way to the ocean or returning upstream to spawn. The Delta, too, is home to a half million humans on a unique patchwork of mostly agricultural islands surrounded by an increasingly urban landscape.

Today the Delta faces a crisis that has been building for some time. The Delta's tributary rivers and streams drain about 40 percent of the land in California and carry about half of the state's total annual freshwater flow. Over the past 160 years humans have sent the mercury-laden debris of hydraulic gold mining flowing toward the Delta, built levees to drain wetlands and carve out more than 50 large and several small "islands," and built massive water supply projects to take water around, through, or directly out of the estuary. They also introduced nonnative species both by accident and intent, and watched as the residue of upstream agricultural and urban uses altered the water quality and resulting characteristics of the estuary.

The Delta had been showing the effects of decades of abuse, but only in the last 15 years have we really come to understand the magnitude of change this has caused, and the tradeoffs inherent in the multiple – and often competing – functions we ask the Delta to perform.

Although the numbers of several species of fish in the Delta have fluctuated over time, four in particular dropped precipitously since 2001. Although acknowledging that the drop likely had multiple causes, fish and wildlife agencies put new rules into force to limit the timing and amount of water that could be exported by the two largest export projects – the federal Central Valley Project (CVP) and the State Water Project (SWP). Those restrictions, combined with a drought, meant water shortages in many parts of the state in 2007-2009, particularly in the San Joaquin Valley and portions of the Bay Area.

As a result, the Delta today is not meeting the needs of farmers and urban water users who want certainty of supply and – in some cases – additional water from the Delta. Nor is it meeting the needs of fish and wildlife – the numbers of some threatened or endangered species remain perilously low. And the Delta itself remains an inherently floodprone area with uneven levels of flood protection.

Finding the right balance of these competing needs and demands on the Delta has bedeviled California policy makers for decades. Regulators clash with water system operators; stakeholders often take each other to court, and Delta residents fear that the solutions will alter their way of life and land.

# A New Path Forward

Creation of the CALFED Bay-Delta Program in 1995 was supposed to bring everyone together and it did, for a short time, until State and federal budgets were cut and hard decisions ultimately were deferred. In the aftermath, a gubernatorial Delta Vision Task Force in 2008 declared that Delta problems could not be solved in isolation – they were inextricably linked to statewide water supply, habitat, and flood management programs – and that stronger governance and accountability were a must. In response, the Legislature, water agencies, and environmental groups throughout the state united in an unprecedented manner in 2009 to pass a series of water-related measures that included the Delta Reform Act.

The Delta Reform Act established coequal goals of a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem as overarching State policy. Furthermore, the Act notably required that Californians reduce their reliance on the Delta. Subsequently, Congress passed legislation requiring federal agencies to abide by the coequal goals as well, thus setting a new course for water management in the state.

In a nod to lessons learned from CALFED, the Act created the Delta Stewardship Council (Council) with the authority and responsibility to develop a legally enforceable Delta Plan, and to ensure that actions by State and local agencies in the Delta are consistent with the Plan. It was directed to adequately incorporate the best available science and adaptive management principles in order to improve decision making and reduce stakeholder conflict. The Council also was empowered to coordinate and collaborate across the myriad governmental agencies that have responsibility for some aspect of the Delta. In this way, the Delta Reform Act signaled that business-as-usual is over.

After more than 2 years, nearly a hundred public meetings, and after reviewing thousands of public comments, the resulting Delta Plan relies on a mix of legally enforceable policies and essential recommendations to prioritize actions and strategies for improved water management, ecosystem restoration, and levee maintenance. It also restricts actions that may cause harm, and provides regulatory guidance for all significant plans, projects, and programs in the Delta.

Successful implementation of the Delta Plan depends not only on the Council, but also on coordinated actions by other government agencies—federal, State, and local—and the stakeholders to which they are responsible. Through this Delta Plan, the Council details an open and transparent interagency structure for decision making that fosters communication among scientists: local, State, and federal decision makers; and stakeholders. Future plan iterations will build on successes as well as lessons learned in order to achieve the coequal goals.

# Lessons from the Delta Plan Process

## Act Now and Invest Sustainably

We have been studying the problems of our water supply and the declining Delta ecosystem for decades. Near-term actions must move forward while long-term conveyance, storage, and ecosystem solutions are

brought to completion. We also must consistently invest in the Delta ecosystem and in California's water supplies. Boom and bust funding will occur, but steady and reliable funding must be found to sustain needed scientific advancement and infrastructure improvements to achieve the coequal goals.

## Improve Water Supply Reliability

This is a responsibility shared by all Californians, who must treat water as a precious and scarce natural resource that must be used as efficiently as possible. We must make a strategic combination of State and regional investments that enable California to avoid environmental conflicts and better match water use to the amount of water that is available. New surface and groundwater storage is necessary to manage the timing of water for people and for fish, and successful completion of the Bay Delta Conservation Plan (BDCP) is essential to finding the right balance for the ecosystem and exports from the Delta.

## Commit to Delta Ecosystem Restoration

Restoring the functionality of the Delta ecosystem also is a responsibility shared by all Californians. We must preserve land for future habitat restoration, and we must immediately begin restoration efforts in priority areas. In the Delta, we must change the way we move water so that it better protects the health and viability of native species. To do this, minimum flows must be established for the Delta and its major tributaries as part of a comprehensive effort to address all ecosystem stressors.

## Protect the Delta's Unique Values

The Delta serves many demands but its unique sense of place must not be lost in that service. The inherent high flood risk in the Delta mandates that agriculture and natural resource land uses are the most appropriate, but we also must protect Legacy Communities and a mix of economic and recreational activities.

# What the Delta Plan Does

The Delta Plan seeks to first declining water reliability and environmental conditions related to the Delta ecosystem, and ultimately improve them. Additionally, it seeks to reduce flood risk, improve water quality, and protect the Delta's unique values. Generally speaking, these are long-term goals to reverse or reduce increasing long-term environmental impacts due to inaction.

In the Delta Reform Act, the Legislature outlined a process for what it called "covered actions," projects, plans, or programs over which the Council would have jurisdiction. In addition, the Legislature gave the Council the authority to hold hearings and make recommendations.

Through its policies and recommendations, the Delta Plan:

- **Increases California's water supply reliability** by calling for more regional water supply development and setting a deadline for successful completion of the BDCP, which is intended to improve water conveyance through the Delta and improve habitat for threatened and endangered species.

  Consistent with the longstanding water rights in California, it also reduces reliance on the Delta watershed by recommending that all local agencies implement local plans to diversify water supplies and improve efficiency.

- Protects and enhances the Delta ecosystem by identifying and protecting high-priority restoration areas and setting a deadline for the State Water Resources Control Board to support the coequal goals by updating flow standards for the major rivers and tributaries of the Delta.

It also reduces Delta ecosystem stressors through a suite of specific recommendations to address such problems as pollution and invasive species.

- **Protects and enhances the Delta as a place** by recognizing that all actions must be achieved in a manner that protects and enhances the values and unique but "evolving" characteristics of the Delta. The Delta Plan defines a role for local input in decision making about major projects and minimizes interference with local land use planning. It also supports designation as a National Heritage Area and encourages economic development through agriculture and recreation.
- **Improves water quality** by prioritizing State and regional actions to deal with high-priority Delta-specific water quality problems.
- **Reduces risk** by requiring new development in and around the Delta to have adequate flood protection, protects and preserves floodplains, and promotes setback levees to increase habitat and reduce flood damage.
- **Sets an example by using "best available science"** and adaptive management and requires that others do the same so that projects can move forward in a way that is efficient and allows decision making in the face of uncertain conditions.

The Delta of 2100 likely will be very different from the Delta of today. Some of the changes will be intentional or predictable, and others will be unintended and surprising. Changes are likely or expected to result from population growth, climate change and sea level rise, land subsidence, and earthquakes—most beyond human ability or willingness to control. Human-made changes in land use and water use are also expected to continue.

All of this will involve tradeoffs, between competing—in some cases mutually exclusive—values, goals, and objectives. The Delta Plan seeks to ensure that these decisions are made in a timely and open manner, based on best available information and science as a predictor of the future. Thus the Legislature required that the Delta Plan be updated every 5 years, and each plan is intended to build on an evolving base of knowledge, directing near- and mid-term actions, and preserving and protecting longer-term opportunities as yet unknown.

# The Delta Plan (Chapter 2)

## Policies

### Detailed Findings to Establish Consistency with the Delta Plan (G P1):

a) This policy specifies what must be addressed in a certification of consistency filed with regard to a covered action. This policy only applies after a "proposed action" has been determined to be a covered action because it is covered by one or more of the policies contained in Chapters 3 through 7. Inconsistency with this policy may be the basis for an appeal.

b) Certifications of Consistency must include detailed findings that address each of the following requirements:

- Covered actions must be consistent with the coequal goals, as well as with each of the policies contained in chapters 3 through 7 implicated by the covered action. The Delta Stewardship Council acknowledges that in some cases, based upon the nature of the covered action, full consistency with all relevant policies may not be feasible. In those cases, covered action proponents must clearly identify areas where consistency is not feasible, explain the reasons, and describe how the covered action nevertheless, on whole, is consistent with the coequal goals. In those cases, the Delta Stewardship Council may determine, on appeal, that the covered action is consistent with the Delta Plan.
- Covered actions not exempt from CEQA must include applicable mitigation measures identified in the Delta Plan's Program EIR, or substitute mitigation measures that the proposing agency finds are equally or more effective.
- As relevant to the purpose and nature of the project, all covered actions must document use of best available science (as described in Appendix A).
- Ecosystem restoration and water management covered actions must include adequate provisions, appropriate to the scope of the covered action, to assure continued implementation of adaptive management. This requirement shall be satisfied through:
    - An adaptive management plan that describes the approach to be taken consistent with the adaptive management framework in Appendix A, and
    - Documentation of access to adequate resources and delineated authority by the entity responsible for the implementation of the proposed adaptive management process.
- If the agency that files the certification of consistency will carry out the covered action, the certification of consistency must also include a certification from that agency that the covered action complies with all applicable laws pertaining to water resources, biological resources, flood risk, and land use and planning. If the agency that files the certification of consistency will not carry out the covered action (but will approve or fund the action), the certification of consistency must include a certification from that agency that the covered action complies with all applicable laws of the type listed above over which that agency has enforcement authority or with which that agency can require compliance.

# Recommendations

### Development of a Delta Science Plan (G R1):

The Delta Stewardship Council's Delta Science Program should develop a Delta Science Plan by December 31, 2013. The Delta Science Program should work with the Interagency Ecological Program, Bay Delta Conservation Plan, California Department of Fish and Game and other agencies to develop the Delta Science Plan. To ensure that best science is used to develop the Delta Science Plan; the Delta Independent Science Board should review the draft Delta Science Plan.

The Delta Science Plan should address the following:

- A collaborative institutional and organizational structure for conducting science in the Delta
- Data management, synthesis, scientific exchange and communication strategies to support adaptive management and improve the accessibility of information
- Strategies for addressing uncertainty and conflicting scientific information
- The prioritization of research and balancing of the short-term immediate science needs with science that enhances comprehensive understanding of the Delta system over the long term
- Identification of existing and future needs for refining and developing numerical and simulation models along with enhancing existing Delta conceptual models (e.g., \the Interagency Ecological Program (IEP) Pelagic Organism Decline (POD) and the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) models)
- Recommendations on an integrated approach for monitoring that incorporates existing and future monitoring efforts
- An assessment of financial needs and funding sources to support science

# A More Reliable Water Supply for California (Chapter 3)

## Policies

### Reduce Reliance on the Delta (WR P1):

A proposed action is inconsistent with the Delta Plan if (1) one or more water suppliers[1]that would receive water as a result of the proposed action have failed to reduce their reliance on the Delta and

[1] Water suppliers, as used in this Delta Plan, refer to both "Urban water supplier" and "Agricultural water supplier." "Urban water supplier" as used in this Delta Plan refers to both "urban retail water suppliers" and "urban wholesale water suppliers" under the Water Code. An "urban retail water supplier" means a water supplier, either publicly or privately owned, that directly provides potable municipal water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable water annual at retail for municipal purposes (Water Code section 10608.12(p)). An "urban wholesale water supplier " means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of potable water annually at wholesale for municipal purposes (Water Code section 10608.12(r)). "Agricultural water supplier" as used in this Delta Plan refers to both "agricultural retail water suppliers" and "agricultural wholesale water suppliers" under the Water Code. An "agricultural water supplier" means a water supplier, either publicly or privately owned, providing water to 10,000 or more irrigated acres, excluding recycled water. An "agricultural water

adequately contribute to improved regional self-reliance; (2) that failure has significantly caused the need for the proposed action; and (3) the proposed action would have a significant adverse environmental impact in the Delta.

This policy covers a proposed action to export water from, transfer water through, or use water in the Delta.

For the purposes of this policy, "reducing reliance on the Delta and adequately contributing to improved regional self-reliance" means a significant reduction in net water use, or in the percentage of water used, from the Delta watershed, which may be achieved through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts, and at a minimum, must be achieved through compliance with existing state laws regarding water conservation, water efficiency and urban and agricultural water management planning.

### Transparency in Water Contracting (WR P2):

The contracting process for water from the CVP and SWP must be done in a publicly transparent manner consistent with applicable policies of the Bureau of Reclamation and the Department of Water Resources.

This policy covers a proposed action to export water from, transfer water through, or use water in the Delta.

## Recommendations

### Implement Water Efficiency and Water Management Planning Laws (WR R1):

All water suppliers should fully implement applicable water efficiency and water management laws, including Urban Water Management Plans (Water Code section 10601 et seq.), the 20% reduction in statewide urban per capita water usage by 2020 (Water code section 10608 et seq.), Agricultural Water Management Plans (Water Code section 10608 et seq.), and other applicable water laws, regulations, or rules.

### Require SWP Contractors to Implement Water Efficiency and Water Management Laws (WR R2):

The Department of Water Resources should include a provision in all State Water Project contracts, contract amendments, contract renewals, and water transfer agreements that require the implementation of all State water efficiency and water management laws, goals and regulations including compliance with water code section 85021.

### Compliance with Reasonable and Beneficial Use (WR R3):

The State Water Resources Control Board should evaluate all applications and petitions for a new water right or a new or changed point of diversion, place of use, or purpose of use that would result in new or increased long-term average use of water from the Delta watershed for consistency with the constitutional principle of reasonable and beneficial use. The State Board should conduct its evaluation consistent with Water Code sections 85021, 85023, 85031 and other provisions of California law. An applicant or

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supplier" includes a supplier or contractor for water, regardless of the basis of right that distributes or sells water for ultimate resale to customers. "Agricultural water supplier" does not include DWR (Water Code section 10608.12(a)). Any agricultural water supplier than provides water to less than 25,000 irrigated acres is not required to comply with SBX7 7 requirements unless sufficient funding is provided to the supplier to implement these provisions (Water Code section 10853).

petitioner should submit to the State Board sufficient information to support findings of consistency, including, as applicable, its Urban Water Management Plan, Agricultural Water Management Plan, and environmental documents prepared pursuant to CEQA.

### Expanded Water Supply Reliability Element (WR R4):

Water suppliers that receive water from the Delta watershed should include an expanded Water Supply Reliability Element, starting in 2015, as part of the update of its Urban Water Management Plan, Agricultural Water Management Plan, Integrated Water Management Plan or other plan that provides equivalent information about the supplier's planned investments in water conservation and water supply development. The expanded Water Supply Reliability Element should detail how water suppliers are reducing reliance on the Delta and improving regional self-reliance consistent with Water Code section 85201 through investments in local and regional programs and projects, and should document achievement of a reduction in net water use, or in percentage of water used from the Delta watershed. At a minimum, these plans should include a plan for possible interruption of Delta water supplies up to 36 months due to catastrophic events, evaluation of the regional water balance, a climate change vulnerability assessment and an evaluation of the extent to which the supplier's rate structure promotes and sustains efficient water use.

### Develop Water Supply Reliability Element Guidelines (WR R5):

The Department of Water Resources, in consultation with the Delta Stewardship Council, the State Water Resources Control Board, and others, should develop and approve, by December 1, 2014, guidelines for the preparation of a Water Supply Reliability Element so that water suppliers can implement WR R4 by 2015.

### Update Water Efficiency Goals (WR R6):

The Department of Water Resources and the State Water Resources Control Board should establish an advisory group with other state agencies and stakeholders to identify and implement measures to reduce impediments to achievement of statewide water conservation, recycled water and stormwater goals by 2014. This group should evaluate and recommend updated goals for additional water efficiency and water resource development by 2018. Issues such as water distribution system leakage should be addressed. Evaluation should include an assessment of how regions are achieving their proportional share of these goals.

### Revise State Grant and Loan Priorities (WR R7):

The Department of Water Resources, the State Water Resources Control Board, the Department of Public Health, and other agencies, in consultation with the Delta Stewardship Council, should revise State grant and loan ranking criteria by December 31, 2013, to be consistent with Water Code section 85201 and to provide a priority for water suppliers that includes an expanded Water Supply Reliability Element in their adopted Urban Water Management Plans, Agricultural Water Management Plans, and/or Integrated Regional Water Management Plans.

### Demonstrate State Leadership (WR R8):

All State agencies should take a leadership role in designing new and retrofitted State owned and leased facilities, including buildings and Caltrans facilities, to increase water efficiency, use recycled water, and incorporate stormwater runoff capture and low impact development strategies.

### Update Bulletin 118, California's Groundwater Plan (WR R9):

The Department of Water Resources, in consultation with the Bureau of Reclamation, U.S. Geological Survey, the State Water Resources Control Board and other agencies and stakeholders should update Bulletin 118 information using field data, California Statewide Groundwater Elevation Monitoring (CASGEM), groundwater agency reports, satellite imagery, and other best available science by December 31, 2014 so that this information can be included in the next California Water Plan Update and be available for inclusion in 2015 Urban Water Management Plans and Agricultural Water Management Plans. The Bulletin 118 update should include a systematic evaluation of major groundwater basins to determine sustainable yield and overdraft status, a projection of California's groundwater resources in 20 years if current groundwater management trends remain unchanged, anticipated impacts of climate change on surface water and groundwater resources, and recommendations for State, Federal and local actions to improve groundwater management. In addition, the Bulletin 118 update should identify groundwater basins in a critical condition of overdraft.

### Implement Groundwater Management Plans in Areas that Receive Water from the Delta Watershed (WR R10):

Water suppliers that receive water from the Delta watershed and that obtain a significant percentage of their long-term average water supplies from groundwater sources should develop and implement sustainable groundwater management plans that are consistent with both the required and recommended components of local groundwater management plans identified by the Department of Water Resources' Bulletin 118 (Update 2003) by December 31, 2014.

### Recover and Manage Critically Overdrafted Groundwater Basins (WR R11):

Local and regional agencies in groundwater basins that have been identified by the Department of Water Resources as being in a critical condition of overdraft should develop and implement a sustainable groundwater management plan, consistent with both the required and recommended components of local groundwater management plans identified by the Department of Water Resources' Bulletin 118 (Update 2003), by December 31, 2014. If local or regional agencies fail to develop and implement these plans, the State Water Resources Control Board should take action to determine if the continued overuse of a groundwater basin constitutes a violation of the State's Constitution Article X, Section 2 prohibition on unreasonable use of water and whether a groundwater adjudication is necessary to prevent the destruction of or irreparable injury to the quality of the groundwater, consistent with Water Code sections 2100-2101.

### Complete Bay Delta Conservation Plan (WR R12):

The relevant federal, State and local agencies should complete the Bay Delta Conservation Plan, consistent with the provisions of the Delta Reform Act, and receive required incidental take permits by December 31, 2014.

### Complete Surface Water Storage Studies (WR R13):

The Department of Water Resources should complete surface water storage investigations of proposed off-stream surface storage projects by December 31, 2012, including an evaluation of potential additional benefits of integrating operations of new storage with proposed Delta conveyance improvements, and recommend the critical projects that need to be implemented to expand the State's surface storage.

### Identify Near Term Opportunities for Storage, Use and Water Transfer Projects (WR R14):

The Department of Water Resources, in coordination with the California Water Commission, Bureau of Reclamation, State Water Resources Control Board, California Department of Public Health, the Delta Stewardship Council, and other agencies and stakeholders, should conduct a survey to identify projects throughout California that could be implemented within the next 5 to 10 years to expand existing surface and groundwater storage facilities, create new storage, improve operation of existing Delta conveyance facilities, and enhance opportunities for conjunctive use programs and water transfers in furtherance of coequal goals. The California Water Commission should hold hearings and provide recommendations to DWR on priority projects.

### Improve Water Transfer Procedures (WR R15):

The Department of Water Resources and the State Water Resources Control Board should work with stakeholders to identify and implement measures to reduce procedural and administrative impediments to water transfers while protecting water rights and environmental resources by 2014.

### Supplemental Water Use Reporting (WR R16):

The State Water Resources Control Board should require water rights holders submitting supplemental statements of water diversion and use or progress reports under their permits or licenses to report on the development and implementation of all water efficiency and water supply projects and on their net (consumptive) use.

### Integrated Statewide System for Water Use Reporting (WR R17):

The Department of Water Resources, in coordination with the State Water Resources Control Board, the Department of Public Health, Public Utilities Commission, Energy Commission, Bureau of Reclamation, California Urban Water Conservation Council, and other stakeholders to complete development of a coordinated statewide system for water use reporting. This system should incorporate recommendations for inclusion of data needed to better manage California's water resources. The system should be designed to simplify reporting, reduce the number of required reports where possible, be made available to the public online and be integrated with the reporting requirements for the Urban Water Management Plans/Agricultural Water Management Plans and Integrated Regional Water Management Plans. Water suppliers that export water from, transfer water through, or use water in the Delta watershed should be full participants in the data base.

### California Water Plan (WR R18):

The Department of Water Resources, in consultation with the State Water Resources Control Board, and other agencies and stakeholders, should evaluate and include in the next and all future California Water Plan updates information needed to track water supply reliability performance measures identified in the Delta Plan, including an assessment of water efficiency and new water supply development, regional water balances, improvements in regional self-reliance, reduced regional reliance on the Delta, and predictability of Delta exports, and an overall assessment of progress in achieving the coequal goals.

### Financial Needs Assessment (WR R19):

As part of the California Water Plan Update, the Department of Water Resources should prepare an assessment of the state's water infrastructure. This should include the costs of rehabilitating/replacing existing infrastructure as well as an assessment of the costs of new infrastructure. The department should

also consider a survey of agencies that may be planning small-scale projects (such as storage or conveyance) that improve water supply reliability.

# Protect, Restore, and Enhance the Delta Ecosystem (Chapter 4)

## Policies

### Update Delta Flow Objectives (ER P1):

Development, implementation and enforcement of new and updated flow objectives for the Delta and high priority tributaries are key to the achievement of the coequal goals. The State Water Resources Control Board should update the Bay-Delta Water Quality Control Plan objectives as follows:

a) By June 2, 2014, adopt and implement updated flow objectives for the Delta that are necessary to achieve the coequal goals.

b) By June 2, 2018, adopt, and as soon as reasonably possible, implement flow objectives for high-priority tributaries in the Delta watershed that are necessary to achieve the coequal goals.[2]

Flow objectives could be implemented through several mechanisms including negotiation and settlement, FERC relicensing or water rights hearing.[3]

Prior to the establishment of revised flow objectives identified above, the existing Bay Delta Water Quality Control Plan objectives shall be used to determine consistency with the Delta Plan. After the flow objectives are revised, the revised objectives shall be used to determine consistency with the Delta Plan.

This policy covers a proposed action that could affect flow in the Delta.

### Restore Habitats at Appropriate Elevations (ER P2):

Habitat restoration must be carried out consistent with the elevation map attached as Figure 4-3, and the text of Appendix D, which is based on the Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (DFG 2011), with minor alterations. When habitats are restored at alternative elevations, sufficient scientific rationale must be provided.

This policy covers a proposed action that includes habitat restoration.

### Protect Opportunities to Restore Habitat (ER P3):

Impacts to the opportunity to restore habitat at the elevations shown in Figure 4-3 must be avoided or mitigated. Mitigation shall be determined, in consultation with the Department of Fish and Game,

[2] SWRCB staff will work with the Council to determine priority streams. As an illustrative example, priority streams could include the Merced River, Tuolumne River, Stanislaus River, Lower San Joaquin River, Deer Creek (tributary to Sacramento River), Lower Butte Creek, Mill Creek (tributary to Sacramento River), Cosumnes River, and American River (SWRCB 2011a, SWRCB 2011b).

[3] Implementation through water rights hearings is expected to take longer than the deadline shown here.

considering the size of the area impacted by the covered action and the type and value of habitat that could be restored on that area, taking into account existing and proposed restoration plans, landscape attributes, the elevation map shown in Figure 4-3 and other relevant information about habitat restoration opportunities of the area. Mitigation may include the restoration and/or permanent protection of other areas to provide habitats that could have been restored at the site.

This policy covers proposed actions other than habitat restoration in the priority habitat restoration areas depicted in Figure 4-4. It does not cover actions outside those areas, including areas within cities and their spheres of influence (defined as of January 2012), the Contra Costa County Urban Limit Line , the Mountain House General Plan Community Boundary , or the Legacy Communities described in Chapter 5, including Bethel Island, Clarksburg (as described by the Clarksburg Growth Boundary ), Courtland, Freeport, Hood, Isleton, Knightsen, Locke, Rio Vista, Ryde, and Walnut Grove.

### Expand Floodplains and Riparian Habitats in Levee Projects (ER P4):

Levee projects must evaluate and where feasible incorporate alternatives, including use of setback levees, to increase floodplains and riparian habitats. When available, the criteria developed under RR R6 must be used to determine appropriate locations for setback levees.

This policy covers a proposed action to construct new levees or substantially rehabilitate or reconstruct existing levees.

### Avoid Introductions and Habitat Improvements for Nonnative Invasive Species (ER P5):

The potential for new introductions of, or improved habitat conditions for, nonnative invasive species must be fully considered and avoided or mitigated in a way that appropriately protects the ecosystem.

This policy covers a proposed action that has the reasonable probability of introducing, or improving habitat conditions for, nonnative invasive species.

## Recommendations

### Prioritize and Implement Projects that Restore Delta Habitat (ER R1):

Bay Delta Conservation Plan implementers, Department of Fish and Game, Department of Water Resources, and the Delta Conservancy should prioritize and implement habitat restoration projects in the areas shown in Figure 4-4. Habitat restoration projects should consider connections between areas being restored and existing habitat areas and other elements of the landscape needed for the full life cycle of the species that will benefit from the restoration project. Where possible, restoration projects should also emphasize the potential for improving water quality. Restoration project proponents should coordinate with local mosquito abatement districts.

- Yolo Bypass. Enhance the ability of the Yolo Bypass to flood more frequently to provide more opportunities for migrating fish, especially Chinook salmon, to use this system as a migration corridor that is rich in cover and food.

- Cache Slough Complex. Create broad nontidal, freshwater, emergent plant-dominated wetlands that grade into tidal freshwater wetlands, and shallow subtidal and deep open water habitats. Also, return a significant portion of the region to uplands with vernal pools and grasslands.

- Cosumnes River–Mokelumne River Confluence. Allow these unregulated and minimally regulated rivers to flood over their banks during winter and spring frequently and regularly to create seasonal floodplains and riparian habitats that grade into tidal marsh and shallow subtidal habitats.

- Lower San Joaquin River Floodplain. Reconnect the floodplain and restore more natural flows, to stimulate food webs that support native species. Integrate habitat restoration with flood management actions, when feasible.

- Suisun Marsh. Restore significant portions of Suisun Marsh to brackish marsh with land-water interactions to support productive, complex food webs to which native species are adapted and to provide space to adapt to rising sea levels action. Use information from adaptive management processes during the Suisun Marsh Habitat Management, Preservation, and Restoration Plan's implementation to guide future habitat restoration projects and to inform future tidal marsh management.

### Complete and Implement Delta Conservancy Strategic Plan (ER R2):

As part of its Strategic Plan, and subsequent Implementation Plan or annual work plans, the Delta Conservancy should:

Develop and adopt criteria for prioritization and integration of large-scale ecosystem restoration in the Delta and Suisun Marsh, with sustainability and use of best available science as foundational principles.

Develop and adopt processes for ownership and long-term operations and management of land in the Delta and Suisun Marsh acquired for conservation or restoration.

Develop and adopt a formal mutual agreement with the Department of Water Resources, Department of Fish Game, federal interests, and other State and local agencies on implementation of ecosystem restoration in the Delta and Suisun Marsh.

Develop, in conjunction with the Wildlife Conservation Board, the Department of Water Resources, Department of Fish and Game, Bay Delta Conservation Plan implementers and other State and local agencies, a plan and protocol for acquiring the land necessary to achieve ecosystem restoration consistent with the coequal goals and the Ecosystem Restoration Program Conservation Strategy.

Lead an effort, working with State and federal fish agencies, to investigate how to better use habitat credit agreements to provide credit for each of these steps: (1) acquisition for future restoration; (2) preservation, management, and enhancement of existing habitat; (3) restoration of habitat; and (4) monitoring and evaluation of habitat restoration projects.

Work with the Department of Fish and Game and the U.S. Fish and Wildlife Service to develop rules for voluntary Safe Harbor agreements with property owners in the Delta whose actions contribute to the recovery of listed threatened or endangered species.

### Exempt Delta Levees from the Army Corp of Engineer's Vegetation Policy (ER R3):

Considering the ecosystem value of remaining riparian and shaded riverine aquatic habitat along Delta levees, the Army Corps of Engineers should agree with the Department of Fish and Game and the

Department of Water Resources on a variance that exempts Delta levees from the Army Corps of Engineers' levee vegetation policy where appropriate.

### Update the Suisun Marsh Protection Plan (ER R4):

The San Francisco Bay Conservation and Development Commission (BCDC) should update the Suisun Marsh Protection Plan and relevant components of the Suisun Marsh Local Protection Program to adapt to sea level rise and ensure consistency with the Suisun Marsh Preservation Act, the Delta Reform Act and the Delta Plan.

### Regulate Angling for Nonnative Sport Fish to Protect Native Fish (ER R5):

The Department of Fish and Game should develop, for consideration by the Fish and Game Commission, proposals for new or revised fishing regulations designed to increase populations of listed fish species through reduced predation by introduced sport fish. The proposals should be based on sound science that demonstrates these management actions are likely to achieve their intended outcome.

### Prioritize and Implement Actions to Control Nonnative Invasive Species (ER R6):

The Department of Fish and Game and other appropriate agencies should prioritize and fully implement the list of "Stage 2 Actions for Nonnative Invasive Species" and accompanying text shown in Appendix F taken from the Conservation Strategy for Restoration of the Sacramento-San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (DFG 2011).

### Manage Hatcheries to Reduce Genetic Risk (ER R7):

As required by the National Marine Fisheries Service, all hatcheries providing listed fish for release into the wild should continue to develop and implement scientifically sound Hatchery and Genetic Management Plans (HGMPs) to reduce risks to those species. The Department of Fish and Game should provide annual updates to the Council on the status of HGMPs within its jurisdiction.

### Implement Marking and Tagging Program (ER R8):

By December 2014, the Department of Fish and Game, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, should revise and begin implementing its program for marking and tagging hatchery salmon and steelhead to improve management of hatchery and wild stocks based on recommendations of the California Hatchery Scientific Review Group, which considered mass marking, reducing hatchery programs, and mark selective fisheries in developing its recommendations.

# Protect and Enhance the Unique Cultural, Recreation, Natural Recourses, and Agricultural values of the California Delta as an Evolving Place (Chapter 5)

## Policies

### Locate New Development Wisely (DP P1):

New urban development, including residential, commercial, and industrial uses (other than commercial recreational visitor-serving uses or facilities for processing of local crops or that provide essential services to local farms) must be limited to areas that city or county general plans as of the effective date of this policy, designate for development in cities, their spheres of influence (as shown in Figure 5.1), or Legacy Communities (as shown in Appendix J).

This policy covers proposed actions that involve new urban development, including residential, commercial, and industrial uses, that is located outside of cities, their spheres of influence, or Legacy Communities. It does not cover visitor serving uses, or industrial or commercial uses to process local crops or that provide essential services to local farms.

### Respect Local Land Use When Siting Water or Flood Facilities or Restoring Habitats (DP P2):

Water management facilities, ecosystem restoration, and flood management infrastructure must be sited to avoid or reduce conflicts with existing or planned uses when feasible, considering comments from local agencies and the Delta Protection Commission. Plans for ecosystem restoration must consider sites on existing public lands, when feasible and consistent with a project's purpose, before privately owned sites are purchased. Measures to mitigate conflicts with adjacent uses may include, but are not limited to, buffers to prevent adverse effects on adjacent farmland.

This policy covers proposed actions that involve the siting of water management facilities, ecosystem restoration, and flood management infrastructure.

## Recommendations

### Designate the Delta as a National Heritage Area (DP R1):

The Delta Protection Commission should complete its application for designation of the Delta and Suisun Marsh as a National Heritage Area and the federal government should complete the process in a timely manner.

### Designate State Route 160 as a National Scenic Byway (DP R2):

The California Department of Transportation should seek designation of State Route 160 as a National Scenic Byway and prepare and implement a scenic byway plan for it.

### Plan for the Vitality and Preservation of Legacy Communities (DP R3):

Local governments, in cooperation with the Delta Protection Commission and Delta Conservancy, should prepare plans for each community that emphasize its distinctive character, encourage historic preservation, identify opportunities to encourage tourism, serve surrounding lands, or develop other appropriate uses, and reduce flood risks.

### Buy Rights of Way from Willing Sellers When Feasible (DP R4):

Agencies acquiring land for water management facilities, ecosystem restoration, and flood management infrastructure should purchase from willing sellers, when feasible, including consideration of whether lands suitable for proposed projects are available at fair prices.

### Provide Adequate Infrastructure (DP R5):

The California Department of Transportation, local agencies, and utilities should plan infrastructure, such as roads and highways, to meet needs of development consistent with sustainable community strategies, local plans, Delta Protection Commission's Land Use and Resource Management Plan, and the Delta Plan.

### Plan for State Highways (DP R6):

The Delta Stewardship Council, as part of the prioritization of State levee investments called for in RR P1, should consult with the California Department of Transportation as provided in Water Code section 85307(c) to consider the effects of flood hazards and sea level rise on state highways in the Delta.

### Subsidence Reduction and Reversal (DP R7):

The following actions should be considered by the appropriate State agencies to address subsidence reversal:

- State agencies should not renew or enter into agricultural leases on Delta or Suisun Marsh islands if the actions of the lessee promote or contribute to subsidence on the leased land, unless the lessee participates in subsidence-reversal or reduction programs.

- State agencies currently conducting subsidence reversal projects in the Delta on State owned lands should investigate options for scaling up these projects if they have been deemed successful. By January 1, 2013, the Department of Water Resources should develop a plan, including funding needs, for increasing the extent of their subsidence reversal and carbon sequestration projects to 5,000 acres by January 1, 2017.

The Council, in conjunction with the California Air Resources Board (CARB) and the Delta Conservancy, should investigate the opportunity for the development of a carbon market whereby Delta farmers could receive credit for carbon sequestration by reducing subsidence and growing native marsh and wetland plants. This investigation should include the potential for developing offset protocols applicable to these types of plants for subsequent adoption by the CARB.

### Promote Value-Added Crop Processing (DP R8):

Local governments and economic development organizations, in cooperation with the Delta Protection Commission and the Delta Conservancy, should encourage value-added processing of Delta crops in appropriate locations.

### Encourage Agritourism (DP R9):

Local governments and economic development organizations, in cooperation with the Delta Protection Commission and the Delta Conservancy, should support growth in agritourism, particularly in and around Legacy Communities. Local plans should support agritourism where appropriate.

### Encourage Wildlife-Friendly Farming (DP R10):

The Department of Fish and Game, the Delta Conservancy, and other ecosystem restoration agencies should encourage habitat enhancement and wildlife friendly farming systems on agricultural lands to benefit both the environment and agriculture.

### Provide New and Protect Existing Recreation Opportunities (DP R11):

Water management and ecosystem restoration agencies should provide recreation opportunities, including visitor-serving business opportunities, at new facilities and habitat areas whenever feasible, and existing recreation facilities should be protected, using California State Parks' Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh and Delta Protection Commission's Economic Sustainability Plan as guides.

### Encourage Partnerships to Support Recreation and Tourism (DP R12):

The Delta Protection Commission and Delta Conservancy should encourage partnerships between other state and local agencies, and local landowners and business people to expand recreation, including boating, promote tourism, and minimize adverse impacts to non-recreational landowners.

### Expand State Recreation Areas (DP R13):

California State Parks should add or improve recreation facilities in the Delta in cooperation with other agencies. As funds become available, it should reopen Brannan Island State Recreation Area, complete its park at Delta Meadows-Locke Boarding House, and consider adding new state parks at Barker Slough, Elkhorn Basin, the Wright-Elmwood Tract, and south Delta.

### Enhance Nature-Based Recreation (DP R14):

The Department of Fish and Game, in cooperation with other public agencies should collaborate with nonprofits, private landowners, and business partners to expand wildlife viewing, angling, and hunting opportunities.

### Promote Boating Safety (DP R15):

The Department of Boating and Waterways should coordinate with the U.S. Coast Guard and State and local agencies on an updated marine patrol strategy for the region.

### Encourage Recreation on Public Lands (DP R16):

Public agencies owning land should increase opportunities, where feasible, for bank fishing, hunting, levee top trails, and environmental education.

### Enhance Opportunities for Visitor-Serving Businesses (DP R17):

Cities, counties, and other local and state agencies should work together to protect and enhance visitor serving businesses by planning for recreation uses and facilities in the Delta, providing infrastructure to support recreation and tourism, and identifying settings for private visitor-serving development and services.

### Support the Ports of Stockton and West Sacramento (DP R18):

The ports of Stockton and West Sacramento should encourage maintenance and carefully designed and sited development of port facilities.

### Plan for Delta Energy Facilities (DP R19):

The Energy Commission and Public Utilities Commission should cooperate with the Delta Stewardship Council as described in Water Code section 85307(d) to identify actions that should be incorporated in the Delta Plan to address the needs of Delta energy development, storage, and distribution by 2017.

# Improve Water Quality to Protect Human Health and the Environment (Chapter 6)

## Policies

N/A

## Recommendations

### Protect Beneficial Uses (WQ R1):

Water quality in the Delta should be maintained at a level that supports, enhances and protects beneficial uses identified in the applicable State Water Resources Control Board or regional water quality control board water quality control plans.

### Identify Covered Action Impacts (WQ R2):

Covered actions should identify any significant impacts to water quality.

### Special Water Quality Protections for the Delta (WQ R3):

The State Water Resources Control Board or regional water quality control board should evaluate and, if appropriate, propose special water quality protections for priority habitat restoration areas identified in

recommendation ER R1 or other areas of the Delta where new or increased discharges of pollutants could adversely impact beneficial uses.

### Complete Central Valley Drinking Water Policy (WQ R4):

The Central Valley Regional Water Quality Control Board should complete the Central Valley Drinking Water Policy by July 2013.

### Complete North Bay Aqueduct Alternative Intake Project (WQ R5):

The Department of Water Resources should complete the North Bay Aqueduct Alternate Intake Project EIR by July 1, 2012, and begin construction as soon as possible thereafter.

### Protect Groundwater Beneficial Uses (WQ R6):

The State Water Resources Control Board should complete development of a Strategic Workplan for protection of groundwater beneficial uses, including groundwater use for drinking water, by December 31, 2012.

### Participation in CV-SALTS (WQ R7):

The State Water Resources Control Board and Central Valley Regional Water Quality Control Board should consider requiring participation by all relevant water users that are supplied water from the Delta or the Delta Watershed or discharge wastewater to the Delta or the Delta Watershed to participate in the Central Valley Salinity Alternatives for Long-Term Sustainability Program (CV-SALTS).

### Completion of Regulatory Processes, Research, and Monitoring for Water Quality Improvements (WQ R8):

The State Water Resources Control Board and the San Francisco Bay and Central Valley Regional Water Quality Control Boards are currently engaged in regulatory processes, research, and monitoring essential to improving water quality in the Delta. In order to achieve the coequal goals, it is essential that these ongoing efforts be completed and if possible accelerated, and that the Legislature and Governor devote sufficient funding to make this possible. The Delta Stewardship Council specifically recommends that:

- The State Water Resources Control Board should complete development of the proposed Policy for nutrients for Inland Surface Waters of the State of California by January 1, 2014.

- The State Water Resources Control Board and the San Francisco Bay and Central Valley Regional Water Quality Control Boards should prepare and begin implementation of a study plan for the development of objectives, for nutrients in the Delta and Suisun Marsh by January 1, 2013. Studies needed for development of Delta and Suisun Marsh nutrient objectives should be completed by January 1, 2016. The Water Boards should adopt and begin implementation of nutrient objectives, either narrative or numeric, where appropriate, for the Delta and Suisun Marsh by January 1, 2018.

- The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board should complete the Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for diazinon and chlorpyrifos by January 1, 2013.

- The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board prioritize and accelerate the completion of the Central Valley Pesticide Total Maximum Daily Load and Basin Plan Amendment for pyrethroids by January 1, 2016.

- The State Water Resources Control Board, San Francisco Bay and Central Valley Regional Water Quality Control Boards have completed Total Maximum Daily Load and Basin Plan Amendments for methylmercury and efforts to support their implementation should be coordinated. Parties identified as responsible for current methylmercury loads or proponents of projects that may increase methylmercury loading in the Delta or Suisun Marsh should participate in control studies or implement site-specific study plans that evaluate practices to minimize methylmercury discharges. The Central Valley Regional Water Quality Control Board should review these control studies by December 31, 2018 and determine control measures for implementation starting in 2020.

- The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board should complete the Phase 2 control plan for the Total Maximum Daily Load and Basin Plan Amendment for dissolved oxygen in the Stockton Ship Channel by January 1, 2015. Parties identified as responsible for dissolved oxygen depletion in the Stockton Ship Channel in the current TMDL should fund the operation and maintenance of the aeration system until the Regional Water Board adopts a Phase 2 control plan.

- The State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board should complete the Total Maximum Daily Load and Basin Plan Amendment for dissolved oxygen in Suisun Marsh Wetlands by January 1, 2013.

### Implement Delta Regional Monitoring Program (WQ R9):

The State Water Resources Control Board and Regional Water Quality Control Boards should work collaboratively with the Department of Water Resources, Department of Fish and Game, and other agencies and entities that monitor water quality in the Delta to develop and implement a Delta Regional Monitoring Program that will be responsible for coordinating monitoring efforts so Delta conditions can be efficiently assessed and reported on a regular basis.

### Evaluate Wastewater Recycling, Reuse, or Treatment (WQ R10):

The Central Valley Regional Water Quality Control Board, consistent with existing Water Quality Control Plan policies and water rights law, should require responsible entities that discharge wastewater treatment plant effluent or urban runoff to Delta waters to evaluate whether all or a portion of the discharge can be recycled, otherwise used, or treated in order to reduce contaminant loads to the Delta by January 1, 2014.

### Manage Dissolved Oxygen in Stockton Ship Channel (WQ R11):

The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board should complete Phase 2 of the Total Maximum Daily Load and Basin Plan Amendment for dissolved oxygen in the Stockton Ship Channel by January 1, 2013.

### Manage Dissolved Oxygen in Suisun Marsh (WQ R12):

The State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board should complete the Total Maximum Daily Load and Basin Plan Amendment for dissolved oxygen in Suisun Marsh Wetlands by January 1, 2014.

# Reduce Risk to People, Property, and State Interests in the Delta (Chapter 7)

## Policies

### Prioritization of State Investments in Delta Levees and Risk Reduction (RR P1):

The Delta Stewardship Council, in consultation with the Department of Water Resources, the Central Valley Flood Protection Board, and the California Water Commission, shall develop priorities for State investments in Delta levees by January 1, 2015. These priorities shall be consistent with the provisions of the Delta Reform Act in promoting effective, prioritized strategic State investments in levee operations, maintenance, and improvements in the Delta for both levees that are a part of the State Plan of Flood Control and non-project levees. Upon completion, these priorities shall be considered for incorporation into the Delta Plan. The prioritization shall identify guiding principles, constraints, and strategic considerations to guide Delta flood risk reduction investments, supported by, at a minimum, the following actions to be conducted by the Department of Water Resources, consistent with available funding:

- An assessment of existing Delta levee conditions. This shall include the development of a Delta levee conditions map based on sound data inputs, including, but not limited to:
    - Geometric levee assessment
    - Flow and updated stage-frequency analysis
- An island-by-island economics-based risk analysis. This analysis shall consider, but not be limited to, values related to protecting:
    - Island residents/life safety
    - Property
    - Value of Delta islands' economic output
    - State water supply
    - Critical local, State, federal, and private infrastructure, including aqueducts, state highways, electricity transmission lines, gas/petroleum pipelines, gas fields, railroads, and deepwater shipping channels.
    - Delta water quality
    - Existing ecosystem values and ecosystem restoration opportunities
    - Recreation
    - Systemwide integrity
- An ongoing assessment of Delta levee conditions. This shall include a process for updating Delta levee assessment information on a routine basis.

This methodology shall provide the basis for the prioritization of State investments in Delta levees. It shall include, but not be limited to, the public reporting of the following items:

- Island-by-island ranking based on economics-based risk analysis values
- Delta levee conditions status report, including a levee conditions map
- Inventory of Delta infrastructure assets

Prior to the completion and adoption of these priorities, the interim priorities listed below shall, where applicable and to the extent permitted by law, guide discretionary State investments in Delta flood risk management.

- Delta Emergency Preparedness, Response, and Recovery: Develop and implement appropriate emergency preparedness, response, and recovery strategies, including those developed by the Delta Multi-Hazard Task Force (Water Code Section 12994.5).

- Delta Levee Funding

| **Priority for State Investment in Delta Integrated Flood Management** | **Categories of Benefit Analysis** | | |
|---|---|---|---|
| | **Localized Flood Protection** | **Levee Network** | **Ecosystem Conservation** |
| First | Protect urban and urbanizing areas by providing 200 year flood protection. | Protect water quality and water supply conveyance in the Delta, especially levees that protect freshwater aqueducts and the primary channels that carry fresh water through the Delta. | Protect existing and provide for a net increase in channel-margin habitat |
| Second | Protect small communities and critical infrastructure of Statewide importance (located outside of urban areas) to a level consistent with HMP at a minimum | Protect flood water conveyance in and through the Delta to a level consistent with the State Plan of Flood Control for project levees or, HMP for non-project levees | Protect existing and provide for net enhancement of floodplain habitat |
| Third | Protect agriculture and local working landscapes, including achieving HMP for non-project levees not specifically planned for ecosystem restoration activities, and continuing the Delta Levees Subventions Program | Protect cultural, historic, aesthetic, and recreational resources to a level consistent with HMP (Delta as Place) | Protect existing and provide for net enhancement of wetlands |

This policy covers a proposed action that involves discretionary State investments in Delta flood risk management, including levee operations, maintenance, and improvements.

### Require Flood Protection for Residential Development in Rural Areas (RR P2):

New residential development of five or more parcels outside of defined urban and urbanizing areas and Legacy Communities shall provide for a minimum of 200-year flood protection, such as through the use of adequate levees or flood proofing.

This policy covers a proposed action that involves new residential development of five or more parcels outside of defined urban and urbanizing areas and outside of Legacy Communities. In addition, this policy covers any such action anywhere on Bethel Island outside of its Legacy Community.

### Protect Floodway (RR P3):

Floodways shall not be encroached upon nor diminished without mitigating for future flood flows.

This policy covers a proposed action that would encroach upon a floodway.

### Protect Floodplains (RR P4):

The following areas shall not be encroached upon without mitigating for future flood flows because they are critical floodplains9 and may provide ecosystem benefits. This does not exempt these activities from the regulations and requirements of the Central Valley Flood Protection Board.

- Areas located in the Yolo Bypass from Fremont Weir through Cache Slough to the Sacramento River including the confluence of Putah Creek into the bypass

- The Cosumnes River-Mokelumne River Confluence, as defined by the North Delta Flood Control and Ecosystem Restoration Project (McCormack-Williamson), or as modified in the future by the Department of Water Resources or the U.S. Army Corps of Engineers (DWR 2010a).

- The Lower San Joaquin River Floodplain Bypass area, located on the Lower San Joaquin River upstream of Stockton immediately southwest of Paradise Cut on lands both upstream and downstream of the Interstate 5 crossing. This area is described in the Lower San Joaquin River Floodplain Bypass Proposal, submitted to the Department of Water Resources by the partnership of the South Delta Water Agency, the River Islands Development Company, RD 2062, San Joaquin Resource Conservation District, American Rivers, the American Lands Conservancy, and the Natural Resources Defense Council, March 2011. This area may be modified in the future through the completion of this project.

This policy covers a proposed action that involves projects located in the Yolo Bypass, Cosumnes River-Mokelumne River Confluence and Lower San Joaquin River Floodplain Bypass areas as described in ER R1.

# Recommendations

## Implement Emergency Preparedness and Response (RR R1):

The following actions should be taken by January 1, 2014, to promote effective emergency preparedness and response in the Delta:

- Responsible local, State, and federal agencies with emergency response authority should consider and implement the recommendations of the Delta Multi-Hazard Coordination Task Force (Water Code section 12994.5). Such actions should support the development of a regional response system for the Delta.

- In consultation with local agencies, the Department of Water Resources should expand its emergency stockpiles to make them regional in nature and usable by a larger number of agencies in accordance with Department of Water Resources' plans and procedures. The Department of Water Resources, as a part of this plan, should evaluate the potential of creating stored material sites by "over-reinforcing" west Delta levees.

- Local levee maintaining agencies should consider developing their own emergency action plans, and stockpiling rock and flood fighting materials.

- State and local agencies and regulated utilities that own and/or operate infrastructure in the Delta should prepare coordinated emergency response plans to protect the infrastructure from long-term outages resulting from failures of the Delta levees. The emergency procedures should consider methods that also would protect Delta land use and ecosystem.

## Finance Local Flood Management Activities (RR R2):

The Legislature should create a Delta Flood Risk Management Assessment District with fee assessment authority (including over State infrastructure) to provide adequate flood control protection and emergency response for the regional benefit of all beneficiaries, including landowners, infrastructure owners, and other entities that benefit from the maintenance and improvement of Delta levees, such as water users who rely on the levees to protect water quality.
This district should be authorized to:

- Identify and assess all beneficiaries of Delta flood protection facilities.

- Develop, fund, and implement a regional plan of flood management for both Project and non project levees of the Delta, including the maintenance and improvement of levees, in cooperation with the existing reclamation districts, cities, counties, and owners of infrastructure and other interests protected by the levees.

- Require local levee maintaining agencies to conduct annual levee inspections per the Department of Water Resources' Subventions program guidelines, and update levee improvement plans every 5 years.

- Participate in the collection of data and information necessary for the prioritization of State investments in Delta levees consistent with RR P1.

- Notify residents and landowners of flood risk, personal safety information, and available systems for obtaining emergency information before and during a disaster on an annual basis.

- Potentially implement the recommendations of the Delta Multi-Hazard Coordination Task Force (Water Code section 12994.5) in conjunction with local, State, and federal agencies and maintain the resulting regional response system and components and procedures on behalf of SEMS jurisdictions (reclamation district, city, county, and State) that would jointly implement the regional system in response to a disaster event.

- Identify and assess critical water supply corridor levee operations, maintenance, and improvements.

### Fund actions to protect infrastructure from flooding and other natural disasters (RR R3):

The Public Utilities Commission should immediately commence formal hearings to impose a reasonable fee for flood and disaster prevention on regulated privately owned utilities with facilities located in the Delta. Publicly owned utilities should also be encouraged to develop similar fees. The Public Utilities Commission, in consultation with the Delta Stewardship Council, the Department of Water Resources, and the Delta Protection Commission, should allocate these funds between State and local emergency response and flood protection entities in the Delta. If a new regional flood management agency is established by law, a portion of the local share would be allocated to that agency.

The Public Utilities Commission should direct all regulated public utilities in their jurisdiction to immediately take steps to protect their facilities in the Delta from the consequences of a catastrophic failure of levees in the Delta, in order to minimize the impact on the State's economy.

The Governor, by Executive Order, should direct State agencies with projects or infrastructure in the Delta to set aside a reasonable amount of funding to pay for flood protection and disaster prevention. The local share of these funds should be allocated as described above.

### Fund and Implement San Joaquin River Flood Bypass (RR R4):

The Legislature should fund the Department of Water Resources and the Central Valley Flood Protection Board to evaluate and implement a bypass and floodway on the San Joaquin River near Paradise Cut that would reduce flood stage on the mainstem San Joaquin River adjacent to the urban and urbanizing communities of Stockton, Lathrop, and Manteca in accordance with Water Code section 9613(c).

### Continue Delta Dredging Studies (RR R5):

The current efforts to maintain navigable waters in the Sacramento River Deep Water Ship Channel and Stockton Deep Water Ship Channel, led by the U.S. Army Corps of Engineers and described in the Delta Dredged Sediment Long-Term Management Strategy (USACE 2007, Appendix K), should be continued in a manner that supports the Delta Plan and the coequal goals. Appropriate dredging throughout other areas in the Delta for maintenance purposes, or that would increase flood conveyance and provide potential material for levee maintenance or subsidence reversal should be implemented in a manner that supports the Delta Plan and coequal goals.

### Designate Additional Floodways (RR R6):

The Central Valley Flood Protection Board should evaluate whether additional areas both within and upstream of the Delta should be designated as floodways. These efforts should consider the anticipated effects of climate change in its evaluation of these areas.

### Develop Setback Levee Criteria (RR R7):

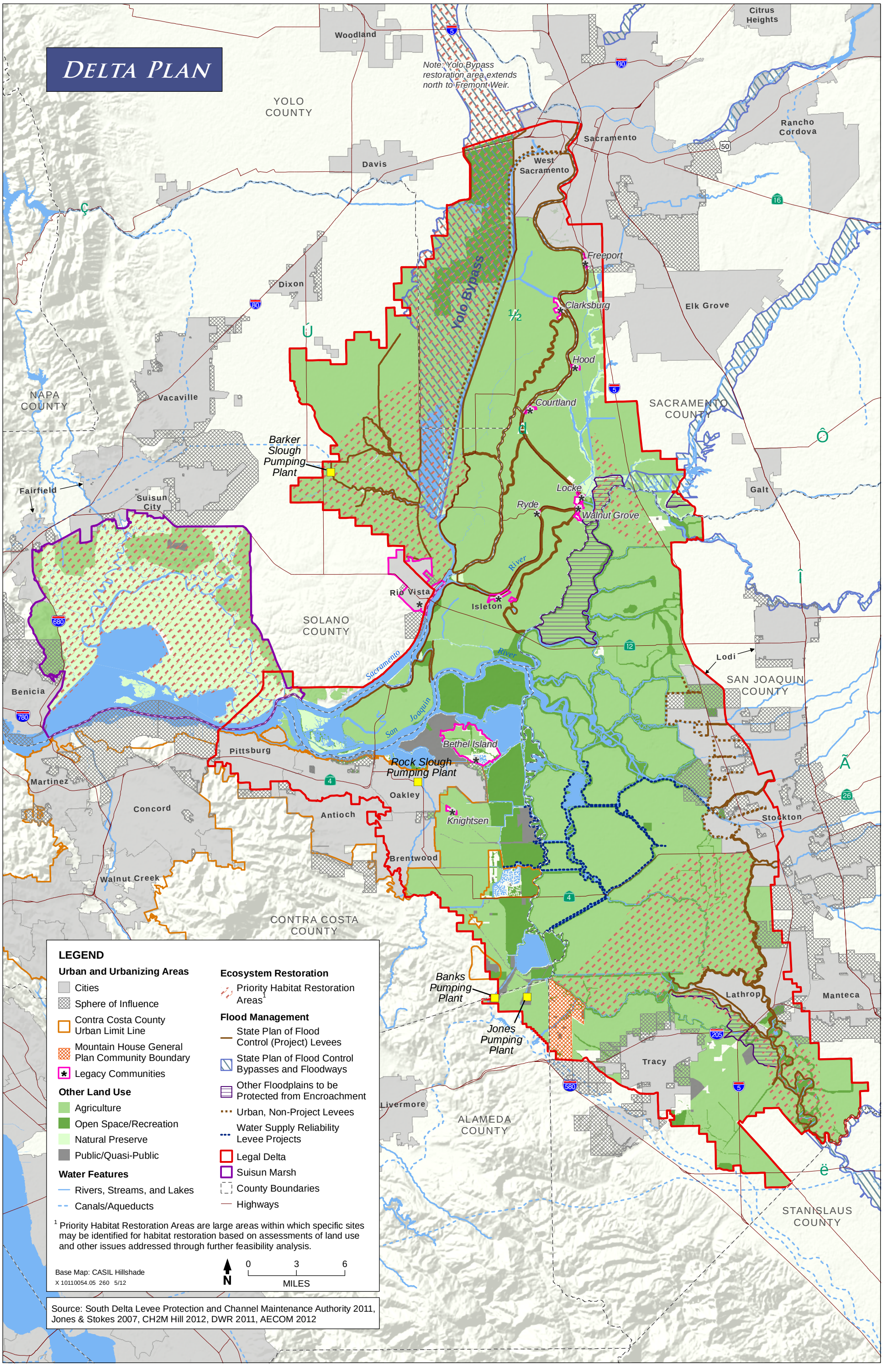
The Department of Water Resources, in conjunction with the Central Valley Flood Protection Board, the Department of Fish and Game, and the Delta Conservancy, should develop criteria to define locations for future setback levees in the Delta and Delta watershed.

### Require Flood Insurance (RR R8):

The Legislature should require an adequate level of flood insurance for residences, businesses, and industries in floodprone areas.

### Limit State Liability (RR R9):

The Legislature should consider making changes to State law that would give State agencies the same level of immunity with regard to flood liability as federal agencies have under federal law.


DELTA PLAN
Note: Yolo Bypass restoration area extends north to Fremont Weir.
YOLO COUNTY
Woodland
Davis
Dixon
Vacaville
NAPA COUNTY
Fairfield
Suisun City
Citrus Heights
Sacramento
West Sacramento
Rancho Cordova
Elk Grove
Freeport
Clarksburg
Hood
Courtland
Locke
Ryde
Walnut Grove
Galt
SACRAMENTO COUNTY
Yolo Bypass
Barker Slough Pumping Plant
Rio Vista
Isleton
SOLANO COUNTY
Sacramento River
San Joaquin River
Lodi
SAN JOAQUIN COUNTY
Benicia
Pittsburg
Bethel Island
Rock Slough Pumping Plant
Oakley
Martinez
Concord
Antioch
Knightsen
Brentwood
Stockton
Walnut Creek
CONTRA COSTA COUNTY
Banks Pumping Plant
Jones Pumping Plant
Lathrop
Manteca
Tracy
Livermore
ALAMEDA COUNTY
STANISLAUS COUNTY
LEGEND
Urban and Urbanizing Areas
Cities
Sphere of Influence
Contra Costa County Urban Limit Line
Mountain House General Plan Community Boundary
Legacy Communities
Other Land Use
Agriculture
Open Space/Recreation
Natural Preserve
Public/Quasi-Public
Water Features
Rivers, Streams, and Lakes
Canals/Aqueducts
Ecosystem Restoration
Priority Habitat Restoration Areas[1]
Flood Management
State Plan of Flood Control (Project) Levees
State Plan of Flood Control Bypasses and Floodways
Other Floodplains to be Protected from Encroachment
Urban, Non-Project Levees
Water Supply Reliability Levee Projects
Legal Delta
Suisun Marsh
County Boundaries
Highways
[1] Priority Habitat Restoration Areas are large areas within which specific sites may be identified for habitat restoration based on assessments of land use and other issues addressed through further feasibility analysis.
Base Map: CASIL Hillshade
X 10110054.05 260 5/12
N
0 3 6
MILES
Source: South Delta Levee Protection and Channel Maintenance Authority 2011, Jones & Stokes 2007, CH2M Hill 2012, DWR 2011, AECOM 2012