

# **Appendix E**

## **Performance Measures for the Delta Plan**

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# Appendix E

## Performance Measures for the Delta Plan<sup>1</sup>

### Performance Measure Types

Delta Plan performance measures have been placed into three general classes:

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

### Core Output/Outcome Performance Measure Criteria

- **Metrics** define the unit(s) of measure and other characteristics for tracking aspects of performance over time.
- **Baselines** are standards or historical reference conditions for comparing with the current condition.
- **Targets** are the desired future conditions or trends.

## Chapter 2: The Delta Plan

### Administrative Performance Measures

- ◆ Establishment of the Delta Plan Interagency Implementation Committee by January 31, 2013.
- ◆ Completion of Report on Revisions to Delta Plan Performance Measures by December 31, 2014.
- ◆ The initial Delta Plan and all future revisions and amendments to the Delta Plan by the Council are consistent with an adaptive management approach and are informed by the best available science, where applicable.

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<sup>1</sup> The Council authorizes staff to make non-substantive alterations to metrics within these performance measures as follows: (1) such non-substantive alterations must be driven by the availability of new data sources or technological improvements, and (2) such non-substantive alterations must be functionally equivalent to, or better than, the existing metrics or targets. The Council expects that any substantive alterations to metrics will be brought to the Council for review and approval.

- ◆ A minimum of every 5 years (beginning 5 years after adoption of the Delta Plan), the Delta Plan is reviewed by the Council and revised if deemed appropriate.
- ◆ Governance structure is reviewed and revised (if necessary) to ensure that there is adequate institutional capacity to interact, learn, and adapt in a manner that supports adaptive management.
- ◆ The Delta Science Program develops a Delta Science Plan including responding to Delta Independent Science Board review and comments by December 31, 2013.

## Chapter 3: A More Reliable Water Supply for California

**Strategy 3.1: Increase Water Conservation and Expand Local and Regional Supplies**

**Strategy 3.2: Improve Groundwater Management**

**Strategy 3.3: Improve Conveyance and Expand Storage**

**Strategy 3.4: Improved Water Management Information**

### Outcome Performance Measures

- ◆ Demonstrate a measurable reduction in reliance on the Delta at the regional level based on individual water supplier reports. (Strategy 3.1)

Metrics:

- 10-year moving average volume and percent of total water used (percent of total water portfolio) originating in the Delta watershed for all years, and for different water year types.
- 10-year moving average volume and percent of total water use met from local and regional sources. For the purposes of reporting progress in reducing reliance on the Delta and improving regional self-reliance, water conservation and efficiency measures are considered new sources of water supply.
- Projected volume and percent of total use met by local and regional sources of supply.

Baseline:

- 10-year average volume and percent of total water use met by water originating in the Delta watershed, by hydrologic region, as of Delta Plan adoption (May 2013) for all years, and for different water year types.
- 10-year average volume and percent of total water use met by local and regional supplies, by hydrologic region, as of Delta Plan adoption (May 2013).

Target:

- Decreasing trend in volume of water used from the Delta watershed or percent of total water use met by water from the Delta watershed.
- Increasing trend in volume or percent of total water use met by local and regional supplies.

- ◆ Demonstrate progress towards decreasing the overall rate of groundwater depletion in critically overdrafted basins. (Strategy 3.2)

Metrics:

- Change in groundwater in storage.
- Groundwater elevations.

Baseline:

- Regional groundwater estimates for California's Central Valley using satellite-based gravimetric sensors are available back to October of 2003. The California Department of Water Resources has a network of long-term monitoring wells in the San Joaquin Valley (3,124 wells) and Sacramento Valley (599 wells) that will be used to assess sub-basin groundwater trends.

Target:

- Decreasing rate of groundwater depletion in critically overdrafted basins.

- ◆ Demonstrate that water available to be exported through the Delta is not disrupted. (Strategy 3.3)

Metric:

- Percent of Central Valley Project/State Water Project final allocations delivered each year.

Baseline:

- Long-term historical average deviation of total deliveries from final allocations.

Target:

- Declining trend in the deviation of total deliveries from final allocations.

## Output Performance Measures

- ◆ Demonstrate California's urban water suppliers' progress toward meeting California's SB X7-7 conservation goal of achieving a 10% reduction in statewide urban per capita water usage by 2015 and a 20% reduction by 2020. (Strategy 3.1)

Metrics:

- Gallons per capita per day of urban water use.
- Percentage change in urban per capita water use from SB X7-7 baseline years.

Baseline:

- 196 gallons per capita per day (population-weighted average of baselines established in 2010 Urban Water Management Plans).

Target:

- 10% reduction by 2015 (176 gallons per capita per day).
- 20% reduction by 2020 (156 gallons per capita per day).

- ◆ Demonstrate California's progress toward achieving the State Water Resource's Control Board's Recycled Water Policy goal for the increased use of storm water runoff (e.g., capture and reuse, recharge, redirection to constructed wetlands or landscaping) of at least 500,000 acre-feet/year by 2020 and by at least 1 million acre-feet/year by 2030. (Strategy 3.1)

Metric:

- Acre-feet per year of storm water use (e.g. capture and reuse, recharge, redirection to constructed wetlands or landscaping).

Baseline:

- Volume of storm water use reported in 2015 Urban Water Management Plans and Prop 1 Storm Water Resource Plans may be the first widespread reporting of storm water use that could serve as a baseline.

Target:

- Increased use of storm water runoff of at least 500,000 acre-feet/year by 2020 and by at least 1 million acre-feet/year by 2030.

- ◆ Demonstrate an increase in efficiency in agricultural water use. (Strategy 3.1)

Metrics:

- Water management fraction (ratio of the amount of water needed to be applied for optimal crop growth and the amount of water in recoverable return flow per the total amount of water applied. As efficiency increases, this ratio approaches one.). This metric was defined by Department of Water Resources in Methodology for Quantifying the Efficiency of Agricultural Water Use, 2012.

Baseline:

- 2012 Agricultural Water Management Plans or earliest available data as they are reported by water suppliers.

Target:

- Increase in efficiency.

## Administrative Performance Measures

### Strategy 3.1: Increase Water Conservation and Expand Local and Regional Supplies

- ◆ Identify number of water suppliers that have undertaken covered actions that have (1) completed a current urban or agricultural water management plan that has been reviewed by the DWR for compliance with applicable legal requirements, (2) commenced implementation of identified measures which will reduce reliance on the Delta, and (3) starting in 2015, reported on the expected outcome for measureable reductions in reliance on the Delta and improvement in regional self-reliance as the reduction in the amount of water used, or the percentage of water used, from the Delta watershed.
- ◆ Identify number of urban and agricultural water suppliers that certify that they have adopted and are implementing supply planning, conservation, and efficiency measures required by State law by 2015, meeting the standards and deadlines established by code.
- ◆ DWR adopts and implements a requirement for SWP contracts and transfer agreements that requires implementation of State water efficiency, water management laws, goals and regulations including compliance with water code section 85021.
- ◆ SWRCB adopts a policy that requires evaluation of new water rights or a new or changed point of diversion, place of use, or purpose that result in a new or increased long-term average use of water from the Delta watershed for consistency with reasonable and beneficial use and Water Code sections 85021, 85023, and 85031 and other provisions of California law.
- ◆ Identify percentage of urban and agricultural water suppliers that receive water from the Delta watershed that have incorporated an expanded Water Supply Reliability Element in their UWMP and AWMP by December 31, 2015.
- ◆ DWR has developed and published guidelines for the preparation of an expanded Water Supply Reliability Element by December 31, 2014.
- ◆ DWR and SWRCB have established an advisory group and identified impediments to achievement of statewide water conservation, recycled water and stormwater goals by 2014 and have evaluated and recommended update goals by 2018, including an assessment of how regions are achieving their proportional share of these goals.
- ◆ State grant and loan ranking criteria have been revised by December 31, 2013.
- ◆ State agencies report to DSC on an annual basis on their actions to demonstrate state leadership, to increase water efficiency, use recycled water, and incorporate stormwater runoff capture and low impact development strategies.

### **Strategy 3.2: Improve Groundwater Management**

- ◆ Completion by DWR of the update of Bulletin 118 information (using field data, CASGEM, and best available science) and identification of the state's groundwater basins which are in a critical condition of overdraft by December 31, 2014.
- ◆ Information in updated Bulletin 118 is included in the next (2018) California Water Plan Update and the 2020 Urban Water Management Plans and Agricultural Water Management Plans.
- ◆ Number of water suppliers in areas that receive water from the Delta watershed that have developed groundwater management plans that are consistent with the required and recommended components of groundwater management plans listed in DWR Bulletin 118-03 by 2014.
- ◆ Identify number of groundwater basins identified by DWR as being in a critical condition of overdraft that have groundwater management plans consistent with the required and recommended components of groundwater management plans listed in DWR Bulletin 118-03 by 2014.
- ◆ SWRCB report to DSC on proposed action to address groundwater basins in critical overdraft.

### **Strategy 3.3: Improve Conveyance and Expand Storage**

- ◆ BDCP is completed and DWR and the Bureau of Reclamation have received required take permits by December 31, 2014.
- ◆ DWR completes Surface Water Storages studies by December 31, 2012 with recommendations for projects to be implemented.
- ◆ DWR has completed a survey of past grant applicants to identify projects that may be implemented within the next 5 to 10 years to expand existing surface and groundwater storage facilities, create new storage, improve Delta conveyance facilities, and improve opportunities for water transfers by December 31, 2012.
- ◆ California Water Commission holds hearings and provides recommendation on priority projects by December 31, 2013.
- ◆ DWR and SWRCB, in collaboration with the DSC, have established an advisory group and recommended measures to reduce procedural and administrative impediments to water transfers by December 31, 2016.

### **Strategy 3.4: Improved Water Management Information**

- ◆ DWR and Bureau of Reclamation contracting processes have been implemented consistent with applicable policies.
- ◆ SWRCB has modified its supplemental water diversion and use or progress reports to require additional information on water efficiency, water supply projects, and net (consumptive) use.
- ◆ DWR has completed the development and initiated implementation of an integrated statewide system for water use reporting in coordination with other state agencies by 2014.
- ◆ DWR has modified the California Water Plan update to include specified categories of information to be tracked.
- ◆ Development of appropriate performance measures will be done by DSC in consultation with the agencies. These performance measures will be rolled into the California Water Plan Update.

- ◆ DWR has prepared an assessment of the State’s water infrastructure.

## Chapter 4: Protect, Restore, and Enhance the Delta Ecosystem

Strategy 4.1: Create More Natural Functional Flows

Strategy 4.2: Restore Habitat

Strategy 4.3: Improve Water Quality to Protect the Ecosystem

Strategy 4.4: Prevent Introduction of and Manage Nonnative Species Impacts

Strategy 4.5: Improve Hatcheries and Harvest Management

### Outcome Performance Measures

- ◆ Progress toward restoring a healthy estuary using more natural functional flows, including in-Delta flows and tributary input flows to support ecological floodplain process, e.g., spring pulse flows along the Sacramento River, and more gradual recession flows at the end of the wet season. Progress toward restoring a healthy estuary, including flow patterns to support ecological floodplain processes in the Yolo Bypass, spring pulse flows along the Sacramento River, and more gradual recession flows at the end of the wet season. (Strategy 4.1)

Metrics:

- Frequency of achieving >17,000 acres of inundation for 14 or more consecutive days in the Yolo Bypass.
- Flows exceeding base flows. A flow, 5 to 10 times greater than the base flow, during the period of spring flows in the Sacramento River.
- Rate of change in the hydrograph on the receding limb as measured from spring high flows to summer low flows.

Baseline:

- Between 1984 and 2007 the Yolo Bypass experienced inundation events of at least 14 consecutive days between December and April, 10 out of 24 years.
- Long-term historical hydrograph data retrieved from U.S. Geological Survey stations from below Shasta Dam.

Target:

- Allow for >17,000 acres of Yolo Bypass inundation for 14 or more consecutive days between December and March in at least two out of three years.
- At least one spring flow event 5 to 10 times winter base flow each year in the Sacramento River.
- Not to exceed daily drops in flow >10%.

- ◆ Progress toward achieving the State and federal “doubling goal” for wild Central Valley salmon relative to the period of 1967-1991 levels. Trends will be derived from long-term salmon monitoring surveys conducted by the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and others. (Strategy 4.2)

Metrics:

- Number of naturally spawned wild adult salmon by run type, annually censused for the general population in the Central Valley and selected rivers:
  - Sacramento River:
    - American River



- Feather River
- Sacramento River mainstem
- San Joaquin River:
  - Tuolumne River
  - Merced River
  - Stanislaus River
  - Mokelumne River

Baseline:

- Salmon population numbers relative to average levels during the period of 1967-1991.

Target:

- As defined by the Central Valley Project Improvement Act “doubling goal” that “...natural production of anadromous fish in Central Valley Rivers and streams will be sustainable, on a long term basis, at levels not less than twice the average levels attained during the period of 1967-1991.”

- ◆ Progress toward the documented occurrence in and use of protected and restored habitats and migratory corridors by native resident and migratory Delta fish and bird species. Trends in the number of native species in protected and restored habitats and corridors will be derived from monitoring surveys that are conducted as part of adaptive management strategies for the protection and restoration of these areas. (Strategy 4.2)

Metrics:

- Assess native fish:
  - Relative abundance of native fish in and near restoration project sites.
- Assess native birds:
  - Counts of native birds, including waterfowl in the Delta.

Baseline:

- Fish relative abundance as of Delta Plan adoption, May 2013.
- Breeding waterfowl for 2010-2014:
  - Delta counts (5-year average): 7,414
  - Suisun Marsh counts (5-year average): 23,122

Target:

- Upward trend as measured by the metrics above.

- ◆ Progress toward; 1) increased habitat, connectivity, and functionality; and 2) more favorable spatial distribution of habitat types. (Strategy 4.2)

Metrics:

- Assess the function ‘Provides habitat and connectivity for fish’.
  - Spatial-temporal variability of seasonal short-term and long-term flooding and tidal inundation.
  - Marsh to open water ratio.
  - Adjacency of marsh to open water by length and marsh patch size.
  - Ratio of looped to dendritic channels (by length and adjacent habitat type).
- Assess the function ‘Provides habitat and connectivity for marsh wildlife’.
  - Marsh area by patch size (patch size distribution).
  - Marsh area by nearest large (>100 ha) neighbor distance.
  - Marsh core area ratio.
  - Marsh fragmentation index.
- Assess the function ‘Provides habitat and connectivity for waterbirds’.

- Wetted area by type in winter.
- Assess the function ‘Provides habitat and connectivity for riparian wildlife’.
  - Riparian habitat area by patch size.
  - Riparian habitat length by width class.
- Assess the function ‘Provides habitat and connectivity for marsh- terrestrial transition zone wildlife’.
  - Length of marsh-terrestrial transition zone by terrestrial habitat type.

Baseline:

Metric	Baseline (“Modern” Delta)	Metric	Baseline (“Modern” Delta)
Spatial-temporal variability of seasonal short-term and long-term flooding and tidal inundation	<u>Tidal Inundation</u> <ul style="list-style-type: none"> <li>• Dec – Feb: 3,303 ha</li> <li>• Mar – May: 3,303 ha</li> <li>• Jun – Aug: 3,303 ha</li> <li>• Sep –Nov: 3,303 ha</li> </ul> <u>Seasonal long-duration flooding</u> <ul style="list-style-type: none"> <li>• Dec – Feb: 0 ha</li> <li>• Mar – May: 0 ha</li> <li>• Jun – Aug: 0 ha</li> <li>• Sep – Nov: 0 ha</li> </ul> <u>Seasonal short-term flooding</u> <ul style="list-style-type: none"> <li>• Dec – Feb: 18,128 ha</li> <li>• Mar – May: 18,128 ha</li> <li>• Jun – Aug: 0 ha</li> <li>• Sep – Nov: 0 ha</li> </ul>	Marsh area by nearest neighbor distance	<u>&lt;=10 m:</u> 1,161 ha <u>10 – 100 m:</u> 143 ha <u>100 – 1,000 m:</u> 87 ha <u>1,000 – 10,000 m:</u> 630 ha <u>&gt;10,000 m:</u> 2,317 ha
Marsh to Open Water Ratio	<u>Marsh:</u> 4,296 ha <u>Open water:</u> 26,554 ha <u>Marsh to Open Water Ratio:</u> 0.16	Marsh core area ratio	<u>Core Habitat:</u> 815 ha <u>Edge Habitat:</u> 3,522 ha <u>Core to Edge Ratio:</u> 0.23
Adjacency of marsh to open water by length and marsh patch size	<u>Marsh Patch &gt;100 ha:</u> 31 km <u>Marsh Patch 10 – 100 ha:</u> 236 km	Marsh fragmentation index	<u>Areas of marsh core habitat within large marsh patch (&gt;100 ha) or within small patches &lt; 1km from large patch:</u> 491 ha
Ratio of looped to dendritic channels	<u>Dendritic channels adjacent to marsh:</u> 84 km <u>Dendritic channels not adjacent to marsh:</u> 255 km <u>Looped Channels:</u> 768 km <u>Fluvial or Detached:</u> 298 km	Wetted area by type in winter	<u>Ponds, Lakes, Channels and Flooded Islands:</u> 26,530 ha <u>Tidal Inundation:</u> 3,303 ha <u>Seasonal long-duration flooding:</u> 0 ha <u>Seasonal short-term flooding:</u> 18,128 ha
Marsh area by patch size	<u>&lt;=10 ha:</u> 1,427 ha <u>10 – 100 ha:</u> 1,757 ha <u>100 – 1,000 ha:</u> 1,154 ha <u>1,000 – 10,000 ha:</u> 0 ha <u>&gt;10,000 ha:</u> 0 ha		

Riparian habitat area by patch size	<u>&lt;=20 ha</u> : 1,991 ha <u>20 – 80 ha</u> : 1,364 ha <u>80 – 320 ha</u> : 1,470 ha <u>320 – 1,280 ha</u> : 2,066 ha <u>&gt;1,280 ha</u> : 0 ha	Riparian habitat length by width class	<u>0 – 100m</u> : 626 km <u>100 – 500m</u> : 87 km <u>&gt;500 m</u> : 11 km
Length of marsh-terrestrial transition zone by terrestrial habitat type	<u>Willow Riparian Scrub or Shrub</u> : 370 km <u>Valley Foothill Riparian</u> : 116 km <u>Oak Woodland and Oak Savannah</u> : 0 km <u>Alkali Seasonal Wetland Complex</u> : 19 km <u>Wet Meadow and Seasonal Wetland</u> : 30 km	<u>Stabilized Interior Dune Vegetation</u> : 0 km <u>Grassland</u> : 103 km <u>Willow Thicket</u> : 59 km <u>Vernal Pool Complex</u> : 4 km	

Target:

- Increasing extent of flooding by different inundation types throughout the year, including seasonal shallow short-term flooding, seasonal deeper long-duration flooding, and tidal inundation.
  - Increasing proportion of marsh to open water habitat.
  - Increasing proportion and extent of marsh-open water edge that occurs along large marsh patches (>100 ha). Decreasing proportion of marsh-open water edge that occurs along small marsh patches.
  - Decreasing proportion of looped to dendritic channels.
  - Increasing extent and proportion of marsh habitat that are in large size classes (>100 ha).
  - Decreasing proportion of marsh that occurs in small size classes.
  - Increasing proportion of marsh habitat that occurs in close proximity to a large marsh patch (>100 ha).
  - Increasing proportion and extent of marsh habitat that occurs in “core” habitat (at least 50 m from outside edge of marsh).
  - Increasing proportion and extent of marsh habitat that occurs either in core habitat of large marsh patches or in smaller patches less than 1 km from nearest large patch.
  - Increased extent of different types of inundation for types wintering waterfowl.
  - Increasing proportion and extent of riparian habitat that occur in larger patches. Decreasing proportion of riparian habitat that occurs in smaller patches.
  - Increasing proportion and extent of riparian habitat length that occurs in wider width size classes. Decreasing proportion of riparian habitat length that occurs in narrow width size classes.
  - Increasing length of marsh-terrestrial transition zone.
- ◆ Progress toward managing aquatic and terrestrial invasive nonnative species in the Delta over the next decade. Long-term animal and plant monitoring surveys will be conducted by the Interagency Ecological Program agencies, the California Department of Boating and Waterways, the U.S. Department of Agriculture, the San Francisco Estuary Institute, and others. (Strategy 4.4)

Metrics:

- Assess progress toward managing nonnative fish:
  - Number of newly identified nonnative fish species.
  - Relative abundance of individual native fish and individual nonnative fish in the Delta.
- Assess progress toward managing invasive nonnative vegetation:

- Number of newly identified invasive nonnative plant species reported in the Delta.
- Coverage, in acres, of invasive nonnative plant species (e.g., *Arundo donax* and *Phragmites australis*) in the Delta.

Baseline:

- Number of new invasive nonnative species set at zero.
- Abundance or coverage of existing specific nonnative species set at the adoption of the Delta Plan May 2013.

Target:

- Trends for:
  - Decreasing relative abundance of nonnative/introduced fish.
  - Decreasing the number of newly identified nonnative fish species.
  - Decreasing the number of newly identified invasive nonnative plant species.
  - Decreasing coverage of invasive nonnative plant species.

## Output Performance Measures

- ◆ Progress toward higher acreage of the following types: floodplain, tidal and subtidal, emergent wetland, shaded riverine aquatic and upland and riparian forest habitats. Tidal wetland and floodplain restoration projects should occur in the priority habitat restoration areas described in ER R2. (Strategy 4.2)

Metrics:

- Number of acres of restoration projects constructed by habitat type, including progress toward the biological opinions' targets of restoring 8,000 acres of tidal wetlands and 17,000-20,000 acres of floodplain habitat in the Priority Restoration Habitat Areas.

Baseline:

- Set at zero, the number of acres restored as of the Delta Plan's adoption date (May 2013) to capture all the restoration actions that have been implemented after the plan was completed.

Target:

- 8,000 acres of tidal wetlands and 17,000-20,000 acres of floodplain habitat projects constructed in the Priority Restoration Habitat Areas as described in the 2008 and 2009 Biological Opinions for the state and federal water projects.

- ◆ All hatchery anadromous salmonids marked and tagged. (Strategy 4.5)

Metrics:

- Percent marked and tagged, as reported by National Marine Fisheries Service and California Department of Fish and Wildlife.

Baseline:

- As of May 2013 (Delta Plan adoption date):
  - 100% marked and tagged for Chinook salmon winter-run, spring-run and late-fall run.
  - 25% marked and tagged for Chinook salmon fall-run.
  - 0% tagged and 100% marked for steelhead.

Target:

- 100% of hatchery fish are marked and tagged.

## Administrative Performance Measures

### Strategy 4.1: Create More Natural Functional Flows

- ◆ Prior to the establishment of revised flow objectives identified above, 100% of proposed actions that could significantly affect flow in the Delta are consistent with the existing Bay Delta Water Quality Control Plan objectives.
- ◆ The SWRCB adopts Delta flow objectives that are necessary to achieve the coequal goals by June 2, 2014.
- ◆ The SWRCB adopts flow objectives that are necessary to achieve the coequal goals for the major tributary rivers to the Delta by June 2, 2018.

### Strategy 4.2: Restore Habitat

- ◆ 100% of proposed actions that include habitat restoration in the Delta meet one of the following standards: 1) are consistent with the text of Appendix H, 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); or 2) are not consistent with the elevation map (Figure 4-6), but the deviation is supported by a rationale based on best available science.
- ◆ 100% of all proposed actions other than habitat restoration have clearly demonstrated that significant adverse impacts to the opportunity for habitat restoration as described in ER P2 were avoided or mitigated.
- ◆ 100% of proposed actions to construct new levees or substantially rehabilitate or reconstruct existing levees in the opportunity areas defined in Appendix 8, demonstrate that they have evaluated alternatives (including use of setback levees), and where feasible, have incorporated such alternatives into levee projects to increase the extent of floodplain and riparian habitat.
- ◆ BDCP implementers, DFW, DWR, and/or the Delta Conservancy identify number of projects and amount of funding for priority habitat restoration projects.
- ◆ The preponderance of proposed habitat restoration projects is within the six priority areas and considers landscape elements and improvement in water quality.
- ◆ 100% of proponents of habitat restoration projects consult the California Department of Public Health's *Best Management Practices for Mosquito Control in California*.
- ◆ The Delta Conservancy develops and adopts 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.
- ◆ The Delta Conservancy develops and adopts processes for ownership and long-term operations and management of land in the Delta and Suisun Marsh acquired for conservation or restoration.
- ◆ The Delta Conservancy develops and adopts a formal mutual agreement with the Department of Water Resources, Department of Fish and Wildlife, federal interests, and other State and local agencies on implementation of ecosystem restoration in the Delta and Suisun Marsh.
- ◆ The Delta Conservancy develops a plan and protocol for acquiring the land necessary to achieve ecosystem restoration consistent with the coequal goals and the Ecosystem Restoration Program's Delta Conservation Strategy.
- ◆ The Delta Conservancy leads an effort to investigate how to better use habitat credit agreements.

- ◆ The Delta Conservancy, in conjunction with DFW and USFWS, develop rules for voluntary Safe Harbor Agreements with property owners in the Delta.
- ◆ The U.S. Army Corps of Engineers develops an agreed-upon variance process to exempt Delta levees from the U.S. Army Corps of Engineers' levee vegetation policy where appropriate.
- ◆ BCDC updates the Suisun Marsh Protection Plan to address adaptation to sea-level rise and ensure consistency with the Suisun Marsh Preservation Act, the Delta Reform Act and the Delta Plan.
- ◆ BCDC submits amendments of the Suisun Marsh Protection Plan to the Council for review for consistency.
- ◆ BCDC submits amendments of components of the Suisun Marsh Local Protection Program to the Council for review for consistency.
- ◆ BCDC adopts the updated Suisun Marsh Protection Plan and the Suisun Marsh Local Protection Program.

#### **Strategy 4.3: Improve Water Quality to Protect the Ecosystem**

See Chapter 6: Water Quality.

#### **Strategy 4.4: Prevent Introduction of and Manage Nonnative Species Impacts**

- ◆ 100% of all proposed actions that have the reasonable probability of introducing, or improving the habitat conditions for, nonnative invasive species have demonstrated that the potential for new introductions of and/or improved habitat conditions for nonnative invasive species have been fully considered and avoided or mitigated in a way that appropriately protects the ecosystem.
- ◆ The Department of Fish and Wildlife develops 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 Department of Fish and Wildlife and other appropriate agencies prioritize the list of “Stage 2 Actions for Nonnative Invasive Species.”
- ◆ The Department of Fish and Wildlife and other appropriate agencies fully implement the 2014 Ecosystem Restoration Program “Conservation Strategy” list for Strategic Goal 5.

#### **Strategy 4.5: Improve Hatcheries and Harvest Management**

- ◆ Hatcheries develop scientifically sound Hatchery and Genetic Management Plans (HGMPs).
- ◆ The Department of Fish and Wildlife provides annual updates to the Council on the status of HGMPs within its jurisdiction.
- ◆ The Department of Fish and Wildlife, in cooperation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service revises and begins implementing its program for marking and tagging hatchery salmon and steelhead to improve management of hatchery and wild stocks by December 2014.

# Chapter 5: Protect and Enhance the Unique Cultural, Recreational, Natural Resource, and Agricultural Values of the California Delta as an Evolving Place

Strategy 5.1: Designate the Delta as a Special Place

Strategy 5.2: Plan to Protect the Delta's Lands and Communities

Strategy 5.3: Maintain Delta Agriculture

Strategy 5.4: Encourage Recreation and Tourism

Strategy 5.5: Sustain a Vital Delta Economy

## Outcome Performance Measures

- ◆ The Department of Water Resources and others increase the extent of their subsidence reversal and carbon sequestration projects to 5,000 acres by January 1, 2017. (Strategy 5.2)

Metrics:

- Acres of subsidence reversal and carbon sequestration projects.

Baseline:

- Set at zero as of 2008.

Target:

- 5,000 acres by January 1, 2017 (905 acres were converted in 2008-2011 and will be included towards meeting the target).

- ◆ Prevent further Delta rural farmland loss to urban development in areas designated for agricultural use in Delta Plan regulations. Track conversions of farmland to habitat restoration areas. (Strategy 5.2)

Metrics:

- Acres of farmland lost to urban development.
- Acres of farmland lost to urban development within areas designated for agricultural use in the Delta Plan regulations.
- Acres of farmland converted to habitat restoration.

Baseline:

- Number of acres of Delta rural farmland designated for agriculture in Delta Plan regulations at the time of Delta Plan adoption in May of 2013.

Target:

- Zero acres of farmland lost to urban development within areas designated for agricultural use in the Delta Plan regulations.

- ◆ Value-added crop processing trends. (Strategy 5.3)

Metrics:

- Revenues (dollars) associated with value-added crop processing.

Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

Target:

- Upward trend as measured by the metric above.

◆ Delta recreation and tourism trends. (Strategy 5.4)

Metrics:

- Acres of accessible state and federal owned land to the public for recreation and tourism.
- Length (linear feet) of shoreline accessible for public recreation.
- Number of fishing licenses bought per year by county.

Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

Target:

- Upward trend as measured by the metrics above.

◆ Delta industrial, agricultural, and recreational economic trends. (Strategy 5.5)

Metrics:

- Tonnage of port cargo.
- Agriculture revenue (dollars).
- Recreation spending (dollars).

Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

Target:

- Upward trend as measured by the metrics above.

## Output Performance Measures

◆ Water management, ecosystem restoration, and flood management projects minimize conflicts with adjoining uses by avoiding, minimizing, or mitigating adverse effects. (Strategy 5.2)

Metrics:

- Percent of projects that avoid, minimize, or mitigate adverse effects to less than significant levels.

Baseline:

- This performance measure was developed during the adoption of the Delta Plan (May 2013) with the primary purpose of measuring consistency with the Delta Plan, setting the baseline at May 2013.

Target:

- 100% consistency with the Delta Plan, measured on an annual basis.

◆ Progress toward preparing and implementing plans for the vitality and preservation of for each Delta legacy community. (Strategy 5.2)

Metrics:

- Number of projects initiated to achieve legacy community plan objectives.

Baseline:

- Set at zero as of the Delta Plan's adoption date, May 2013.

Target:

- Upward trend in the number of completed projects that improve community vitality.



- ◆ Track the extent to which recreation facilities are included in new ecosystem restoration projects. (Strategy 5.4~~3~~)

Metrics:

- Percent of new ecosystem restoration projects that include recreational facilities.

Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

Target:

- Increasing trend in the percentage of new ecosystem restoration projects that include recreation facilities.

## Administrative Performance Measures

### Strategy 5.1: Designate the Delta as a Special Place

- ◆ Delta Protection Commission completes application for designation of the Delta and Suisun Marsh as a National Heritage Area.
- ◆ The California Department of Transportation prepares a scenic byway plan and pursues National Scenic Byway status for Route 160 by January 1, 2014.
- ◆ Congress designates a National Heritage Area that includes the Delta and Suisun Marsh by January 1, 2014.

### Strategy 5.2: Plan to Protect the Delta's Lands and Communities

- ◆ 100% of proposed actions for urban development meet one of the following standards: 1) are located within areas that current city or county general plans as of the date of the Delta Plan's adoption designate for development in cities or their spheres of influence; areas within Contra Costa County's 2006 voter-approved urban limit line, except Bethel Island; areas within the Mountain House General Plan Community Boundary in San Joaquin County; or the unincorporated Delta towns of Clarksburg, Courtland, Hood, Locke, Ryde and Walnut Grove; 2) if located on Bethel Island, are consistent with the Contra Costa County general plan effective as of the date of the Delta Plan's adoption; or 3) if located outside the areas described above, are consistent with the land uses designated in county general plans as of the date of the Delta Plan's adoption and are otherwise consistent with Delta Plan policies.
- ◆ Water management facilities, ecosystem restoration, and flood management infrastructure are 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 consider sites on existing public lands, when feasible and consistent with a project's purpose, before privately owned sites are purchased.
- ◆ Local governments 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.
- ◆ Agencies acquiring land for water management facilities, ecosystem restoration, and flood management infrastructure purchase from willing sellers, when feasible, including consideration of whether lands suitable for proposed projects are available at fair prices.
- ◆ The California Department of Transportation, local agencies, and utilities develop plans 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.

- ◆ As part of the prioritization of State levee investments called for in RR P4, the Delta Stewardship Council consults 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.
- ◆ The Council, in conjunction with the California Air Resources Board (CARB) and the Delta Conservancy, investigates the opportunity for the development of a carbon market whereby Delta farmers could receive credit for growing native marsh and wetland plants.
- ◆ The Department of Water Resources has developed 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.
- ◆ 100% of State agencies have not renewed or entered 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.

### **Strategy 5.3: Maintain Delta Agriculture**

- ◆ Local governments and economic development organizations take steps to encourage value-added processing of Delta crops in appropriate locations.
- ◆ Local governments and economic development organizations take steps to support growth in agritourism, particularly in and around legacy communities.
- ◆ The Department of Fish and Wildlife, the Delta Conservancy, and ecosystem restoration agencies take steps to encourage habitat enhancement and wildlife friendly farming systems on agricultural lands to benefit both the environment and agriculture.

### **Strategy 5.4: Encourage Recreation and Tourism**

- ◆ Water management and ecosystem restoration agencies provide recreation opportunities, including visitor-serving business opportunities, at new facilities and habitat areas whenever feasible, and protect existing recreation facilities 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.
- ◆ The Delta Protection Commission and Delta Conservancy take steps to 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.
- ◆ Dedicated funding sources are identified to add or improve recreation facilities in the Delta.
- ◆ The Department of Fish and Wildlife, in cooperation with other public agencies, should collaborate with nonprofits, private landowners, and business partners to expand wildlife viewing, angling, and hunting opportunities.
- ◆ The Department of Boating and Waterways coordinates with the U.S. Coast Guard and State and local agencies on an updated marine patrol strategy for the region.
- ◆ Public agencies owning land increase opportunities, where feasible, for bank fishing, hunting, levee top trails, and environmental education.
- ◆ Cities, counties, and other local and state agencies 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.

### Strategy 5.5: Sustain a Vital Delta Economy

- ◆ The ports of Stockton and West Sacramento encourage maintenance and carefully designed and sited development of port facilities.
- ◆ The Energy Commission and Public Utilities Commission cooperate with the Delta Stewardship Council as described in Water Code section 85307(d) and identify actions that should be incorporated in the Delta Plan to address the needs of Delta energy development, storage, and distribution by 2017.

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

### Strategy 6.1: Require Delta-Specific Water Quality Protection

### Strategy 6.2: Protect Beneficial Uses by Managing Salinity

### Strategy 6.3: Improve Drinking Water Quality

### Strategy 6.4: Improve Environmental Water Quality

## Outcome Performance Measures

- ◆ Water quality in the Delta and Suisun Marsh meets the San Francisco, Central Valley, and Bay-Delta Water Quality Control Plan objectives. (Strategy 6.1)

#### Metrics:

- The reduction in the number of impaired water bodies on the 303(d) list.

#### Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

#### Target:

- Water quality objectives in the respective Water Quality Control Plans listed are met.
- TMDLs are being developed and Basin Plan amendments are being implemented for those water bodies not meeting water quality objectives (i.e., those listed under the Clean Water Act 303 (d) list).

- ◆ Monitor salinity in the Delta, utilizing extensive existing electrical conductivity and chloride concentration (D-1641) and X2 measurement data that correspond to State Water Resources Control Board objectives. (Strategy 6.2)

#### Metrics:

- Daily electrical conductivity, chloride concentration, and X2.

#### Baseline:

- Average annual salinity levels from 1995 to 2015.

#### Target:

- Meeting State Water Resources Control Board objectives for ecosystem purposes.
- Meeting all other salinity objectives for urban and agricultural use.

- ◆ Progress toward consistently meeting applicable dissolved oxygen (DO) standards in the Delta by 2020 (i.e., Stockton Deep Water Ship Channel, Suisun Marsh, and Old and Middle River). (Strategy 6.4)

Metrics:

- Milligrams of DO per liter of water (mg/L).
- Continuous, real-time DO measurements made at multiple locations throughout the Delta.

Baseline:

- Measured as of the date of the Delta Plan's adoption, May 2013.

Target:

- Meet water quality objectives for DO in the Stockton Deep Water Ship Channel, Suisun Marsh, and Old and Middle River.
- Maintain or exceed the minimum DO concentrations of:
  - 5 mg/L at all times everywhere in the Delta.
  - 6 mg/L from September through November only in the San Joaquin River between Turner Cut and Stockton.

- ◆ Trends in measurable toxicity from pesticides, including herbicides, insecticides, and fungicides, and other pollutants in Delta water will be downward over the next decade. (Strategy 6.4)

Metrics:

- Measurable toxicity testing using fish, invertebrates, and the USEPA approved test methods for algae.

Baseline:

- Trends associated with 2008 levels. (The Stream Pollution Trends Monitoring Program monitors trends in toxicity and pollution of California waters and was implemented in 2008.)

Target:

- Downward trend of measurable toxicity results for Delta water bodies.

- ◆ Trends in the abundance and spatial coverage of harmful algal blooms in the Delta. (Strategy 6.1 and Strategy 6.4)

Metrics:

- Aerial distribution estimates of harmful algal blooms (e.g., microcystis), by acres in the Delta.
- Abundance of harmful algal blooms (e.g., microcystis) in the Delta.

Baseline:

- Sighting records with the Department of Water Resources during the period of 1999-2000.

Target:

- Downward trend in abundance and spatial coverage of harmful algal blooms over the next decade.

- ◆ Trends in the spatial distribution and coverage of nuisance nonnative aquatic plants Delta. (Strategy 6.1 and Strategy 6.4)

Metrics:

- Acreage of invasive aquatic plants in the Delta (e.g., water hyacinth and others as data becomes available).

Baseline:

- 2000-2004 University of California Davis hyacinth monitoring surveys.

Target:

- Downward trend in water hyacinth acreage over the next decade.

## Output Performance Measures

- ◆ The Department of Water Resources begins constructing the North Bay Aqueduct Alternate Intake Project as soon as possible after the environmental impact report is completed. (Strategy 6.3)

Metrics:

- Project completed.

Baseline:

- The Notice of Preparation for the North Bay Aqueduct Alternate Intake Project Environmental Impact Report was published on November 24, 2009.

Target:

- The North Bay Aqueduct Alternate Intake Project's final Environmental Impact Report projected date is September/October 2016.

- ◆ Protect groundwater beneficial uses. Groundwater meets drinking water quality standards in the Central Valley<sup>2</sup> for levels of nitrate (10 ppm NO<sub>3</sub>-N) and arsenic (10 ppb As). (Strategy 6.3)

Metrics:

- Number of groundwater wells used for domestic water supply that exceed arsenic and/or nitrate drinking water limits in the San Joaquin Valley.
- Percentage of population with access to clean drinking water in the San Joaquin Valley.

Baseline:

- Water quality standards in the Central Valley for levels of nitrate (10 ppm NO<sub>3</sub>-N) and arsenic (10 ppb As).
- Baseline of population with access to clean drinking water in the Central Valley will be established once this performance measure is adopted.

Target:

- Maintain or reduce nitrate and arsenic levels from baseline levels.
- Increase percent of population with access to clean drinking water in the Central Valley from baseline.

- ◆ TMDLs for critical pesticides (e.g., diazinon, chlorpyrifos, and pyrethroids) in the waters and sediments of the Delta are met by 2020. (Strategy 6.4)

Metrics:

- Progress in developing and meeting TMDLs.

Baseline:

- December 2004 monitoring baseline data to align with USEPA TMDL report.

Target:

- As defined within applicable TMDL and published in the Central Valley Regional Water Quality Control Board amendments to the Water Quality Control Plan for the control of diazinon and chlorpyrifos runoff into the Sacramento-San Joaquin Delta (June 2006). Target date is defined in the Delta Plan as year 2020. Other

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<sup>2</sup> This performance measure refers to the San Joaquin Valley because many residents of this region rely on impaired groundwater for drinking water and have limited access to clean surface water that is exported from the Delta watershed.

compliance dates are defined in management plans submitted by dischargers. Following are in micrograms/liter:

- Chlorpyrifos:
    - 0.025, acute, 1-hour average
    - 0.015, chronic, 4-day average
    - Not to be exceeded once in a three year period
  - Diazinon:
    - 0.16, acute, 1-hour average
    - 0.10, chronic, 4-day average
    - Not to be exceeded once in a three year period.
  - Pyrethroids: Target pending the adoption of the Pyrethroid Control Program into the Water Quality Control Plan for the Sacramento San Joaquin River Basins by 2017.
- ◆ Progress toward reducing concentrations and/or loads of inorganic nutrients (ammonium, nitrate, and phosphate) in Delta waters over the next decade. (Strategy 6.4)

Metrics:

- Concentration and/or loads of ammonium, nitrate, and phosphate at key Delta water quality monitoring locations.

Baseline:

- Nutrient concentrations, loads, and trends during the period of 2004-2013.

Target:

- Water shall not contain biostimulatory substances which promote aquatic growth in concentrations that cause nuisance or adversely affect beneficial uses.

## **Administrative Performance Measures**

### **Strategy 6.1: Require Delta-Specific Water Quality Protection**

- ◆ There is no administrative performance measure for this policy at this time.
- ◆ 100% of covered actions that affect water quality in the Delta identify any significant negative water quality impacts.
- ◆ SWRCB and RWQCBs evaluate and include appropriate protections in any applicable water quality control plan.

### **Strategy 6.2: Protect Beneficial Uses by Managing Salinity**

See Chapter 4 Strategy 1: Create More Natural Functional Flows

### **Strategy 6.3: Improve Drinking Water Quality**

- ◆ Central Valley RWQCB completes the Central Valley Drinking Water Policy by July 2013.
- ◆ The Department of Water Resources completes the North Bay Aqueduct Alternate Intake Project EIR by July 1, 2012.
- ◆ SWRCB completes development of a Strategic Workplan for protection of groundwater beneficial uses by December 31, 2012.
- ◆ Central Valley RWQCB and SWRCB adopt policies and regulations necessary to require 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 participation in CV-SALTS.

#### **Strategy 6.4: Improve Environmental Water Quality**

- ◆ SWRCB develops a proposed policy for nutrients for Inland Surface Waters of the State of CA by January 1, 2014.
- ◆ SWRCB and RWQCBs begin implementation of a study plan for the development of objectives for nutrients in the Delta and Suisun Marsh by January 1, 2013, and complete studies by January 1, 2016.
- ◆ SWRCB and RWQCBs adopt objectives for nutrients in the Delta by January 1, 2018.
- ◆ TMDLs and Basin Plan Amendments for diazinon and chlorpyrifos are completed by January 1, 2013.
- ◆ The Central Valley Pesticide TMDL is completed by January 1, 2016.
- ◆ SWRCB and RWQCBs complete TMDLs and Basin Plan Amendments for methylmercury.
- ◆ The Central Valley Regional Water Quality Control Board review the methyl mercury control studies by December 31, 2018 and determine control measures for implementation starting in 2020.
- ◆ A Delta regional water quality monitoring program is developed.
- ◆ A Delta regional monitoring program is implemented within the first 5 years of the Delta Plan.
- ◆ The Central Valley Regional Water Quality Control Board requires 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.
- ◆ The State Water Resources Control Board and the Central Valley Regional Water Quality Control Board 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.
- ◆ The State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board complete the Total Maximum Daily Load and Basin Plan Amendment for dissolved oxygen in Suisun Marsh Wetlands by January 1, 2014.

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

**Strategy 7.1: Improve Emergency Preparedness and Response**

**Strategy 7.2: Finance and Implement Local Flood Management Activities**

**Strategy 7.3: Prioritize Flood Management Investment**

**Strategy 7.4: Improve Residential Flood Protection**

**Strategy 7.5: Protect and Expand Floodways, Floodplains, and Bypasses**

**Strategy 7.6: Integrate Delta Levees and Ecosystem Function**

**Strategy 7.7: Limit State Liability**

## Outcome Performance Measures

- ◆ Trends in loss of life in the Delta as a result of flood emergencies, and economic damages associated with Delta flood emergencies. (Strategy 7.1)

Metrics:

- Number of lives lost in the Delta as a result of flood emergencies.
- Dollars of National Flood Insurance Program (NFIP) claims in the Delta.

Baseline:

- Number of lives lost within the Delta in recent history is zero according to the National Oceanic and Atmospheric Administration's Storm Events Database.
- NFIP claims can date back as far as the initial NFIP Flood Insurance Rate Maps for a given area. Some areas of the Delta have maps dating back as far as 1978.

Target:

- Zero lives lost from floods.
- Reduction in dollars of NFIP claims.

- ◆ Water delivery interruptions by floods or earthquakes in the Delta. (Strategy 7.3)

Metrics:

- Number of water delivery interruptions caused by floods or earthquakes in the Delta.
- Acre-feet of water not delivered due to disruptions caused by floods or earthquakes in the Delta.

Baseline:

- N/A because this measure has a prescribed target and is not showing a change from a baseline.

Target:

- No water delivery interruptions.

- ◆ Trends in eligibility for federal reimbursement of emergency response and recovery costs. (Strategy 7.3 and Strategy 7.7)

Metrics:

- Miles of levee active in U.S. Army Corps of Engineers' Rehabilitation and Inspection Program.



- NFIP market penetration in the Delta.
- Ratings of Delta communities participating in the NFIP Community Rating System.

Baseline:

- Miles of levee active in the Rehabilitation and Inspection Program, NFIP market penetration, and community ratings at the time of Delta Plan adoption, May 2013 or nearest available date.

Target:

- Increasing trend.

## Output Performance Measures

- ◆ Responsible local, State, and federal agencies with emergency response authority implement the recommendations of the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force (Water Code section 12994.5) by January 1, 2014. (Strategy 7.1)

Metric:

- Percent of recommendations implemented.

Baseline:

- 0% (0/11) of recommendations implemented.

Target:

- 100% (11/11) of recommendations implemented.

- ◆ Level of flood risk reduction provided by Delta levees. (Strategy 7.3)

Metrics:

- Percent of urban area in the Delta protected by levees meeting the Federal Emergency Management Agency's (FEMA's) 100-year protection standard.
- Percent of Delta land protected by levees at or above the PL 84-99 standard.

Baseline:

- Percent of urban area in the Delta protected by levees meeting FEMA's 100-year protection standard and percent of Delta land protected by levees at or above the PL 84-99 standard at the time of Delta Plan adoption, May 2013.

Target:

- Target pending completion of the Delta Levees Investment Strategy.

- ◆ Consideration of sea level rise in flood protection planning for new residential development. (Strategy 7.4)

Metric:

- Number of proposed actions covered by the Delta Plan policy to require flood protection for residential development in rural areas (RR P2).

Baseline:

- N/A because this measure has a prescribed target and is not showing a change from a baseline.

Target:

- 100% of proposed actions to which RR P2 are applicable meet the requirements of RR P2.

## **Administrative Performance Measures**

### **Strategy 7.1: Improve Emergency Preparedness and Response**

- ◆ Responsible local, State, and federal agencies with emergency response authority consider the recommendations of the Delta Multi-Hazard Coordination Task Force (Water Code section 12994.5) by January 1, 2014.
- ◆ The Department of Water Resources evaluates the potential of creating stored material sites by “over-reinforcing” west Delta levees by January 1, 2014.
- ◆ Local levee maintaining agencies consider developing their own emergency action plans, and stockpiling rock and flood fighting materials by January 1, 2014.
- ◆ State and local agencies and regulated utilities that own and/or operate infrastructure in the Delta prepare coordinated emergency response plans to protect the infrastructure from long-term outages resulting from failures of the Delta levees by January 1, 2014.

### **Strategy 7.2: Finance and Implement Local Flood Management Activities**

- ◆ The Legislature creates a Delta Flood Risk Management Assessment District with fee assessment authority.
- ◆ The Public Utility Commission (PUC) does the following:
  - Holds hearings on the topic of imposing a reasonable fee for flood and disaster prevention on regulated privately owned utilities with facilities located in the Delta.
  - Directs all regulated public utilities in the PUC’s jurisdiction to immediately take steps to protect the public utilities’ facilities in the Delta from the consequences of catastrophic failure of levees in the Delta.
- ◆ The governor issues an executive order directing State agencies with projects or infrastructure in the Delta to set aside funding to pay for flood protection and disaster prevention.

### **Strategy 7.3: Prioritize Flood Management Investment**

- ◆ The Delta Stewardship Council facilitates development of funding priorities for State investments in Delta levees by January 1, 2015.
- ◆ The Delta Stewardship Council develops funding priorities for State investments in Delta levees by January 1, 2015.

### **Strategy 7.4: Improve Residential Flood Protection**

- ◆ 100% of covered actions that involve new residential developments of five or more parcels provide a minimum 200-year level of flood protection when the new developments are located outside specified areas described in the Delta Plan.

### **Strategy 7.5: Protect and Expand Floodways, Floodplains, and Bypasses**

- ◆ 100% of covered actions that encroach upon a floodway do not significantly impede the free flow of water or jeopardize public safety.
- ◆ 100% of covered actions that encroach upon a floodplain do not significantly affect floodplain values and functions, per stated requirements.
- ◆ The Department of Water Resources and the Central Valley Flood Protection Board evaluate a bypass and floodways on the San Joaquin River near Paradise Cut.

- ◆ 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 G), are 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 is implemented in a manner that supports the Delta Plan and coequal goals.
- ◆ The Central Valley Flood Protection Board evaluates whether additional areas both within and upstream of the Delta should be designated as floodways.

#### **Strategy 7.6: Integrate Delta Levees and Ecosystem Function**

- ◆ DWR develops criteria to define locations for future setback levees in the Delta and Delta watershed.

#### **Strategy 7.7: Limit State Liability**

- ◆ The Legislature requires an adequate level of flood insurance for residences, businesses, and industries in flood-prone areas.
- ◆ The Legislature considers making changes to State law and/or constitutional changes that address the State's potential flood liability, including giving State agencies the same level of immunity with regard to flood liability as federal agencies have under federal law.

## **Chapter 8: Funding Principles to Support the Coequal Goals**

### **Administrative Performance Measures**

- ◆ An inventory of current State and federal spending on programs and projects that contribute to the coequal goals is conducted.
- ◆ A Delta Finance Plan has been developed and is funded.
- ◆ State and federal funding gaps have been identified that are determined to hinder progress toward meeting the coequal goals.