

# **Water Storage Investment Program**

## State Water Board Water Quality Priorities

# Draft State Water Board Water Quality Priorities

1. Improve **water temperature** conditions in water bodies on California's Clean Water Act (CWA) Section 303(d) list that are impaired for temperature.
2. Improve **dissolved oxygen** conditions in water bodies on California's CWA 303(d) list that are impaired for dissolved oxygen.
3. Improve **nutrient** conditions in water bodies on California's CWA 303(d) list that are impaired for nutrients.
4. Improve **mercury** conditions in water bodies on California's CWA 303(d) list that are impaired for mercury.
5. Improve **salinity** conditions in water bodies on California's CWA 303(d) list that are impaired for sodium, total dissolved solids, chloride, or specific conductance/electrical conductivity.

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6. Protect and/or clean up **groundwater** in DWR's CASGEM high- and medium-priority basins.
7. Achieve **Delta tributary stream flows** that resemble natural hydrograph patterns or other flow regimes that have been demonstrated to improve conditions for aquatic life.
8. Reduce current or future **water demand** on the Delta watershed by developing local water supplies.

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- I. Improve water **temperature** conditions in water bodies on California's Clean Water Act (CWA) Section 303(d) list that are impaired for temperature:

*Provide measurable improvements in temperature levels to reduce or eliminate exceedances of water quality objectives for temperature downstream of reservoirs.*

Achieving this priority may involve:

- a) Design and operate reservoirs so the manner of releasing water, both physically and temporally, results in achieving water quality objectives for temperature.

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2. Improve **dissolved oxygen** conditions in water bodies on California's CWA Section 303(d) list that are impaired for dissolved oxygen:

*Provide measurable improvements in DO levels to reduce or eliminate exceedances of water quality objectives for DO in and downstream of reservoirs.*

Achieving this priority may involve:

- a) Design and operate reservoirs so the manner of releasing water, both physically and temporally, results in achieving water quality objectives for DO.

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3. Improve **nutrient** conditions in water bodies on California's CWA Section 303(d) list that are impaired for nutrients:

*Provide measurable improvements in nutrient levels to reduce or eliminate exceedances of water quality objectives for nutrients in and downstream of reservoirs.*

Achieving this priority may involve one or more of the following strategies:

- a) Managing nutrient loading, including maintenance activities.
- b) Managing sediment.
- c) Restoring wetlands.
- d) Managing recycled wastewater.
- e) Regulating quantity and timing of freshwater flow (including from the Delta).

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3. Improve nutrient conditions in water bodies on California's CWA Section 303(d) list that are impaired for nutrients (continued):

## Potential strategies (continued):

- f) Aerating bottom waters.
- g) Capping or dredging bottom sediments.
- h) Increasing flushing or circulation rates.
- i) Harvesting aquatic plants.
- j) Managing biological communities.
- k) Inactivating nutrients.
- l) Biological control.

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4. Improve **mercury** (and methylmercury) conditions in water bodies on California's CWA Section 303(d) list that are impaired for mercury:

*Provide measurable improvements in mercury/methylmercury levels in water or sediment to reduce or eliminate exceedances in water quality objectives for mercury in and downstream of reservoirs.*

Achieving this priority may involve one or more of the following strategies:

- a) Preventing or cleaning up contamination from mine sites (e.g., acid mine drainage).
- b) Aerating anoxic bottom sediment and waters.
- c) Managing water levels, nutrients, dissolved oxygen, and other factors that affect production of methylmercury in reservoirs and bioaccumulation of methylmercury in fish.
- d) Changing the timing and location of reservoir discharges.

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4. Improve mercury (and methylmercury) conditions in water bodies on California's CWA Section 303(d) list that are impaired for mercury (continued).

## Potential strategies (continued):

- e) Managing fisheries to control bioaccumulation.
- f) Reducing the source of mercury before flooding.
- g) Limiting the extent of flooded areas.
- h) Communicating health risks associated with fish consumption.
- i) Capping or dredging bottom sediment.

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5. Improve **salinity** conditions in water bodies on California's CWA Section 303(d) list that are impaired for sodium, total dissolved solids, chloride, or specific conductance/electrical conductivity:

*Provide measurable improvements in salinity levels to reduce or eliminate exceedances of water quality objectives for salinity in the Delta or San Joaquin River, or any other waters downstream of reservoirs.*

Achieving this priority may involve one or more of the following strategies:

- a) Releasing stored water to meet salinity objectives.
- b) Operational or physical changes at the Delta export pumps.
- c) Operational or physical changes to Delta channels.
- d) Treating or reusing agricultural drainage.
- e) Re-operation of agricultural drainage (e.g., real-time salinity management).

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6. Protect and/or clean up **groundwater** in DWR's CASGEM high- and medium-priority basins.

## Potential strategies (continued):

- a) Capture and infiltration of storm water runoff, emphasizing low impact development and green infrastructure technologies.
- b) Increasing percolation of low-nitrate/low-salt waters.
- c) Developing and implementing Salt and Nutrient Management Plans (per Recycled Water Policy).
- d) Establishing or enhancing local groundwater management efforts (e.g., Integrated Regional Water Management planning) that include performance standards for maintaining groundwater quality and quantity.

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6. Protect and/or clean up groundwater in DWR's CASGEM high- and medium-priority basins (continued).

## Potential strategies (continued):

- e) Using recycled water to improve or protect groundwater quality in manner that also offsets overdraft and increases surface water storage.
- f) Providing large-scale groundwater cleanup where there is not a readily identifiable or viable responsible party.
- g) Constructing and using barrier wells to prevent or reduce seawater intrusion.
- h) Preventing contamination in groundwater from spreading, especially to groundwater used as drinking water.

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7. Achieve **Delta tributary stream flows** that resemble natural hydrograph patterns or other flow regimes that have been demonstrated to improve conditions for aquatic life.

Achieving this priority may involve:

- a) Designing to divert and store (in surface impoundments or groundwater basins) high flows that exceed established instream flow criteria caps or other levels that are demonstrated to exceed flows needed for aquatic habitat, or to cause human or environmental harm.

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8. Reduce current or future **water demand** on the Delta watershed by developing local water supplies.

Achieving this priority may involve one or more of the following strategies:

- a) Maximizing use of recycled water.
- b) Increasing storm water capture and reuse, emphasizing low impact development and green infrastructure technologies, that provide multiple benefits (e.g., water quality, supply, habitat, flood control, etc.).
- c) Conjunctive use or other groundwater storage that result in measurable improvements to Delta flows or flow variability conducive to enhancing conditions for native aquatic life.