State Water Resources Control Board

Consideration of the
Pelagic Organism Decline
in the San Francisco Bay / Sacramento-San Joaquin Delta Estuary

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POD Investigations Require Comprehensive Approach

- CCWD supports the comprehensive approach taken by the State Board.
- CCWD has reviewed and agrees with actions suggested by State Water Contractors (SWC) regarding:
  - Sampling efficiency and population estimates,
  - Toxics,
  - Suisun Marsh Salinity Control Gates (SMSCG) and water quality, and
  - Direct mortality at unscreened water diversions.

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Environmentally Responsible Water Diversions

Not all water is diverted in the same manner

- State Board has added terms and conditions to water rights permits to protect fisheries.
- Protective actions taken by CCWD have been successful and may serve as an example.

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CCWD Protective Actions Have Proven Successful

- Physical Barrier to Entrainment:
  Positive barrier fish screen
- Operational Protection:
  - Cease diversions for 30 days in spring of each year
  - Reduce diversions for additional 45 days each year (total of 75 days of diversion restrictions)
  - Timing of diversion curtailments is flexible; defined each year by consultation with fishery agencies
- Monitoring:
  - In 10 years, only 2 delta smelt were taken at CCWD intakes
  - Field data and research indicate screen and operations are highly efficient in protecting aquatic species

Measures to Reduce Salvage at the Export Facilities

- *NRDC v Kempthorne*
  Interim solution: regulate exports and San Joaquin River flows based on mathematical average of Old and Middle River flows from January to June to reduce salvage

- Ongoing research will be incorporated into OCAP

- Rather than considering implementation of similar restrictions at this time, State Board should facilitate peer review of POD studies

Measures to Reduce Salvage at the Export Facilities

- Restrictions based on Old and Middle River flows
  - **Goal:** Reduce salvage at export facilities
  - **Problem:** Requires Projects to respond to factors beyond their control (tides, low pressure systems, other diversions), when there is **no evidence** that these factors affect salvage
  - **Solution:**
    Relate salvage (effect) directly to
    Export pumping (cause) taking into account
    other factors

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Focus on Causal Mechanisms

- Current studies on salvage
  - Indirect relationship with two step process:
    - OMR average flow = function of exports and San Joaquin River flow
    - Salvage = function of average OMR flow
- Future Direction
  - Direct relationship approach:
    - Salvage = function of exports and San Joaquin River flow
    - Preliminary work by CCWD has shown improved correlation coefficients and significance

Immediate Measures to Reduce Salvage at the Export Facilities

- Franks Tract barriers
  - Restrict transport of larvae and adults into lower San Joaquin River or Franks Tract, or both.
  - Reduce transport to export facilities.
  - Improve water quality.

- Pilot Screen, Physical Barrier
  - Screen a portion of the export capacity.
  - When curtailments are necessary to protect fisheries, exports could continue to pump at reduced rate without endangering fish.

Suisun Marsh Salinity Control Gates

- Comments by SWC concerning SMSCG bear serious consideration:
  - SMSCG may divert aquatic species from the Sacramento River to Montezuma Slough.
  - SMSCG clearly contributes to fall salinity increase near the confluence and in Suisun Bay.
- Reduction in fall salinity would be beneficial:
  - increase smelt habitat, away from the export pumps;
  - decrease Corbula (overbite clam) habitat; and
  - improve Delta water quality for all users.

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Summary

Recommended State Board actions:

- support Immediate Actions to reduce direct mortality at export pumps, which will protect fish and improve water supplies;
- encourage studies to examine direct relationships with causal factors - e.g. salvage (effect) related to exports (cause) taking into account other factors;
- address toxics, gates, unscreened intakes (per SWC); and
- support efforts to compile and synthesize data from multiple sources, encourage an open process, and facilitate peer review.