

# Board Hearing to Consider Adoption

Proposed Basin Plan Amendment to  
Establish Salinity Objectives in the  
Lower San Joaquin River



Anne Littlejohn  
Senior Environmental Scientist

# Presentation Overview

- I. Overview of Proposed Amendments
- II. Peer Review, Environmental and Economic Analyses
- III. Public Comments and Responses
  - Proposed Revisions
- IV. Staff Recommendation

# Overview

## LSJR Salt/Boron Control Program

### One River Segment – Two Phases

#### Phase 1 (2004/2006)

- Vernalis Salinity
- Salt Export

#### Phase 2 (Today)

- **Upstream** Salinity
- Limit New Melones Reservoir Releases



# Overview

## Proposed Amendments

EC Water Quality Objectives are:

- Protective of all Beneficial Uses in the LSJR, including AGR and MUN
  - Hoffman soil salinity model
  - Secondary MCL ranges
- Protective of Existing Boron Water Quality Objectives



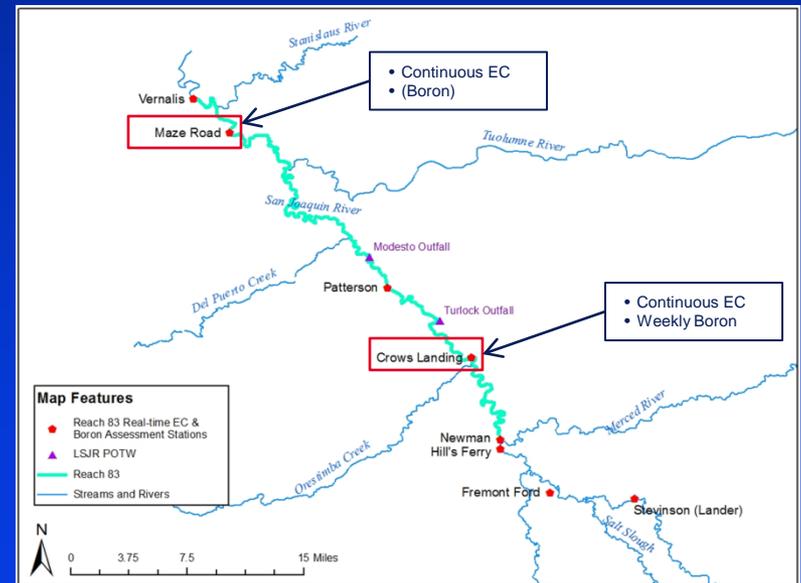
# Proposed Amendments

Fulfill PHASE 2 of the Salt and Boron Control Program by establishing:

- 1,550  $\mu\text{S}/\text{cm}$  EC WQO (30-day running average)
  - Extended Dry Period:
    - 2,470  $\mu\text{S}/\text{cm}$  as a 30-day running average
    - 2,200  $\mu\text{S}/\text{cm}$  as an annual average
- 1,350  $\mu\text{S}/\text{cm}$  EC Performance Goal
  - Seasonal and Water Year Considerations

# Implementation Program

- Salinity Management – Planned Activities
  - Full Implementation of Grassland Bypass Project
  - Other management activities (e.g. drip irrigation)
- Monitoring and Surveillance (EC and Boron)
  - LSJR @ Crows Landing
  - LSJR @ Maze Road
- Basin Plan Re-opener
  - 10 years after adoption of WQOs
  - Reassessment of WQOs/Performance Goal



# Amendment Package includes:

- Peer Review
  - Science and concepts sound
  - Consider new information/models in the future
- CEQA/Environmental and Antidegradation Analyses
  - No significant impacts
  - Salinity concentrations will improve over baseline
  - Consistent with State and Federal Antidegradation Policies
- Economic Analysis
  - Implementation actions rely on planned activities

# April 6, 2017 Board Hearing

- Public Oral Comments
  - San Joaquin Valley Drainage Authority
  - Stockton East Water District
  - CVCWA
- Board Member Comments
  - Input from fisheries agencies
  - Coordinate with other programs
    - San Joaquin River Restoration Program
    - Bay-Delta Efforts
  - Climate Change

# April 6, 2017 Board Hearing

- Response to Board Member Comments

- ◆ Outreach and Coordination

- CDFW participation in LSJR Stakeholder Process
- USBR WQ Coordinator participation in LSJR Stakeholder Process and SJR Restoration Program
- Staff participation in LSJR Committee/Bay-Delta programs and coordination with State Board
- Outreach to CDFW, US DFW, and NOAA – Did not receive back any written responses



- ◆ Climate Change

- WQOs adjusted during Extended Dry Periods

# Public Written Comments

- Comment Period: 27 Feb – 14 April 2017
  - Joseph Rizzi
  - City of Tracy
  - Richard Denton and Associates
  - US EPA
  - CVCWA
  - CALSPA, CWIN, AquAlliance, PCFFA, EWC
  - CA DWR
  - Grassland Water District
  - Merced Irrigation District
  - South Delta Water Agency
  - Stockton East Water District
- Received during CV-SALTS SNMP review period (21 Jan – 19 Feb 2017)
  - California Urban Water Users
  - South Delta Water Agency
- Received after Comment Period (5 June 2017)
  - San Francisco Baykeeper

# Public Written Comments

## Broad Issues

1. Impact on Water Quality in the Delta
2. New Melones Reservoir Dilution Flows
3. Choice of Hoffman Soil Salinity Model
4. Leaching Fraction Model Parameter
5. Aquatic Life Beneficial Use Review
6. NPDES Considerations

# Broad Issue #1

## Impact on Water Quality in the Delta

### Comments:

Concern on the impact upstream WQOs will have on Vernalis salinity objectives and south Delta water quality

### Response:

Phase 1 of the Salt and Boron Control Program will continue to require compliance with the Vernalis salinity WQOs, which are protective of the south Delta.

# Broad Issue #2

## New Melones Reservoir Dilution Flows

### Comments:

Concern that proposed WQOs will require USBR to increase dilution flows from New Melones Reservoir to meet Vernalis salinity objectives.

### Response:

Compared to baseline conditions, future salinity in the LSJR is expected to decrease with the implementation of the proposed amendments.

# Broad Issue #3

## Choice of Hoffman Soil Salinity Model

### Comments:

Concern that the steady-state Hoffman model was not adequate for predicting soil salinity.

### Response:

LSJR Committee reviewed many different models - Hoffman model chosen because it was:

- Already scientifically peer-reviewed
- Applied in the Delta in 2010
- Scientifically sound for use in calculating protective salinity criteria.

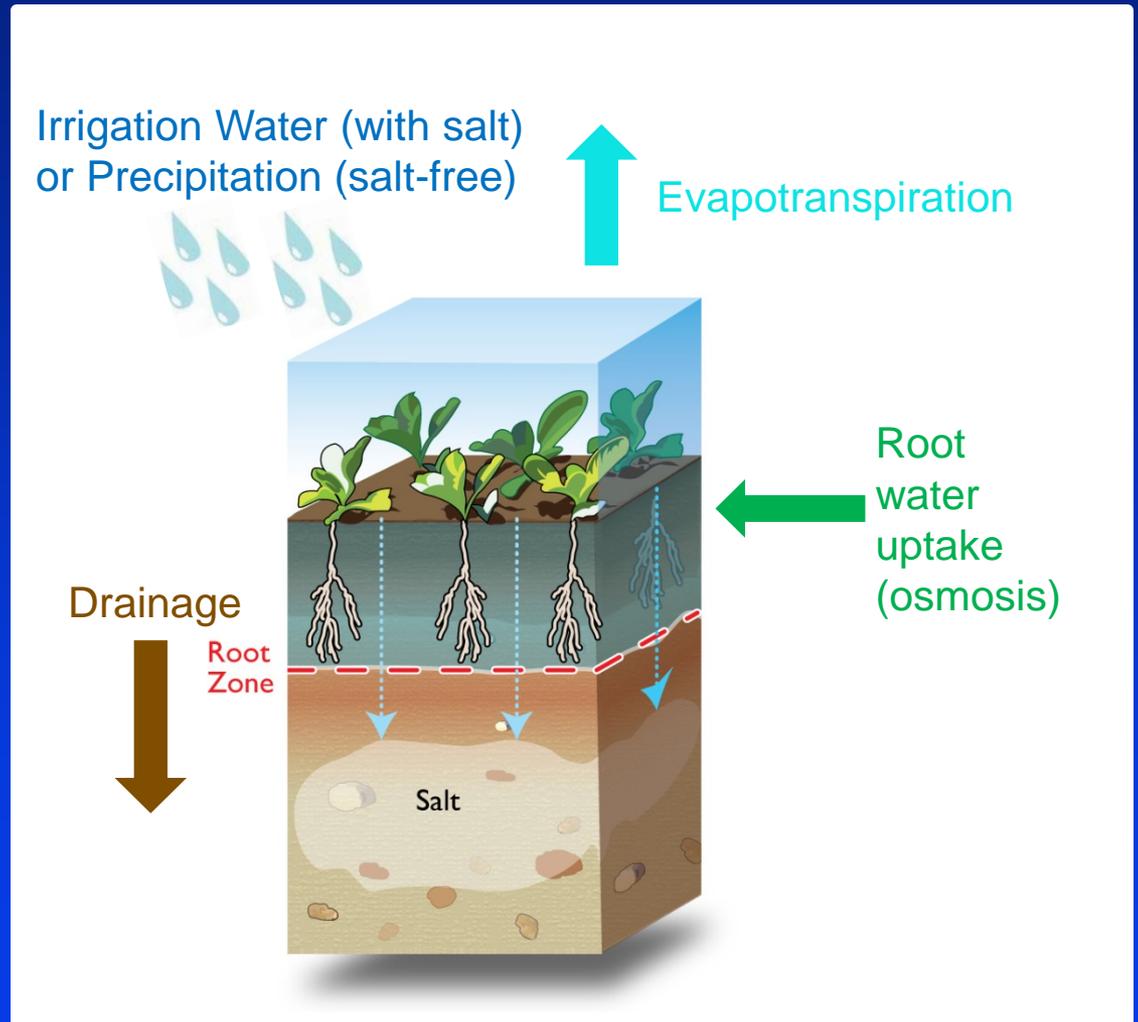
# Broad Issue #4

## Leaching Fraction Model Parameter

### Comments:

Concern that the 15% leaching fraction was not appropriate for the LSJR area.

**Leaching Fraction =  
Drainage/Water Applied**



# Broad Issue #4

## Leaching Fraction Model Parameter

### Response:

Leaching fraction can vary greatly, but 15% was a reasonable input given the data that was available and based on input from irrigators and other stakeholders with knowledge of farming practices in the basin.

# Broad Issue #5

## Aquatic Life Beneficial Use Review

### Comments:

Concern that the aquatic life review was too limited to evaluate the salinity impacts on fish migration and spawning of striped bass, sturgeon, A. shad and salmon.

### Response:

Staff Report updated: historical salinity water quality; biological resources; and beneficial uses

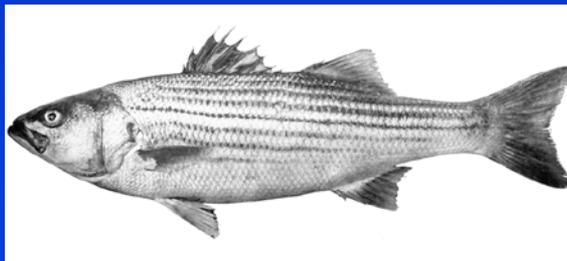
CEQA analysis updated: clarification of the environmental baseline.

# Broad Issue #5

## Aquatic Life Beneficial Use Review

### Striped Bass

- Bay-Delta Plan identifies primary spawning area at Prisoners Point in the Delta
- Vernalis objectives establish a salinity barrier to migration/spawning



# Broad Issue #5

## Aquatic Life Beneficial Use Review

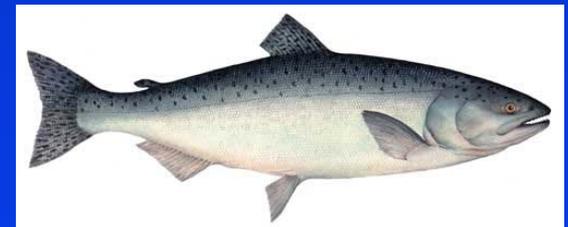
### Sturgeon/Shad

- Generally more tolerant to salinity
- Green Sturgeon have not been found to spawn in the SJR



### Salmon

- Impacts to migration linked to flow and temperature



# Broad Issue #5

## Aquatic Life Beneficial Use Review

- CEQA/Environmental review based on consideration of water quality conditions since 1996
  - ◆ Reduction of salinity due to Grasslands Bypass Project implementation
- Implementation of proposed salinity objectives is expected to improve existing water quality conditions
- Proposed salinity objectives have no impact to biological resources
- Basin Plan Re-opener will allow for additional review of fisheries

# Broad Issue #6

## NPDES Considerations

### Comments:

Proposed Basin Plan language should provide specific options for NPDES dischargers to meet upstream WQOs. Language needs to be clear that compliance with Phase 1's Vernalis salinity objectives is still required.

### Response:

- April Late Revision Option incorporated
- Additional edit clarifying compliance with the Vernalis salinity requirements.

# Summary

## Revisions since April Hearing

- Staff Report
  - Section 2 – Historical Salinity Water Quality
  - Section 4 – Review of Warm-Water Spawning and Migration
  - Appendix F – CEQA Checklist
- Basin Plan Language
  - NPDES Considerations

# Next Steps & Timeline

Regional Board Hearing to consider Adoption	Today
State Board Hearing Review/Approval	TBD (December 2017)
OAL & US EPA Review/Approval	TBD (June 2018)
Implementation Begins	January 1, 2020
Basin Plan Re-opener	TBD (June 2028)

# Staff Recommendation

## Adopt Resolution that:

- Approves the Staff Report and its supporting environmental documentation with revisions
- Adopts the Basin Plan Amendment into the Basin Plan

# Questions?