MAA Draft Compliance and Evaluation Plan

CVSALTS TAC

June 17, 2009
Management Agency Agreement

• Requirement of the Basin Plan (Salinity and Boron TMDL for the Lower San Joaquin River)
• Executed in November 2008 by Regional Water Board and Reclamation
• Cooperative implementation, initially a 2 year monitoring, assessment and reporting program
• Contains several reporting agreements
• Contains a goal of 25 percent reduction and/or offset of salts transported to basin by CVP
Basin Plan Requirements

• MAA execution within 2 years
• Load allocation established for salts in DMC irrigation water deliveries
• Load allocation set to offset or reduce all salt loads above “Sierra quality” water
• CVP water supply allowance granted to recipients of DMC water, 50% of water supply load
• Basin divided into 7 subareas, prioritized by salt load contribution, and put on different compliance schedules from 8 to 20 years
Some details from the TMDL

- Design flows based on DWRSIM modeling of 73 years of flow and on water quality data from 1985 to 1997
- Groundwater contributions treated as static monthly volumes and quality, removed from subareas and accounted for at Vernalis
- Subarea loads and consumptive use allowances calculated based on flow and water quality at most downstream point of subarea
- CVP loads based on DWRSIM modeling and Delta conditions pre-1997
Draft Compliance Evaluation and Monitoring Plan

- First draft of Plan submitted on January 1, 2009
- This draft will go to Executive Director of Regional Board for approval by July 1, 2009
- Next draft will be submitted on January 1, 2010
- Final Compliance Evaluation and Monitoring Plan due to Regional Board by July 1, 2010
Draft Compliance Evaluation and Monitoring Plan
Contents (2008 monthly data)

• Action Plan Elements
  – Status
  – Quantification of Potential Load Offsets
• DMC Supply Water Load
  – Methodology for Calculations
• Future Reclamation Actions
  – Status
  – Quantification of Potential Load Offsets
• Vernalis Water Quality
• Summary of Potential Offsets to DMC Loads
• Proposal for Continuing Public Participation
Action Plan Elements

- **Providing Flows to the System**
  - New Melones Reservoir Operations
  - Water Acquisition
    - Water Acquisitions Program
    - EWA flows

- **Salt Load Reductions**
  - Grassland Bypass Project
  - Westside Regional Drainage Plan
  - Water Use Efficiency Grant Programs
    - Water Conservation Field Services Program
    - Water 2025 Program
    - CALFED Water Use Efficiency Program
**Action Plan Elements (continued)**

- **Mitigation**
  - Develop Stakeholder interest in Real Time Management
    - Lead the effort to revitalize and develop the Real Time Management effort
    - Engage stakeholders in the development of monitoring and modeling work
    - Assist Wetlands in developing and implementing Best Management Plans
  - Participate in the work to establish a real time monitoring network
    - Develop a monitoring plan
    - Install and upgrade necessary stations
    - Develop a data management and storage strategy
  - Participate in the work to develop a forecast model for Real Time Management
    - Model development
    - Model calibration
    - Model refinement
DMC Water Supply Salt Loads

• Reclamation Central Valley Operations Office prepares monthly water supply delivery reports and monitors daily water quality at several points in the DMC
• Diversion locations are characterized by three separate water quality monitoring stations
• Monthly water deliveries are multiplied by monthly average salinity to determine monthly salt loads
• Excess salt loads are those loads above a water quality of 52 mg/L TDS
Calculating Potential Offsets: Dilution Flows

Subarea Allocation

Consumptive Use Allowance: 
Actual flow * trigger value

Subarea Base Load Allocation: 
Table 4-15 of TMDL

Subarea Load

Assimilative Capacity from Subarea: 
Allocation – Actual Load

Actual Load: 
Actual flow * actual EC
Example: Stanislaus Allocation vs. Load

- Allocation
- Actual Load

Tons Salt

Jan | Feb | Mar | Beg Apr | VAMP | End May | Jun | Jul | Aug | Sep | Oct | Nov | Dec
Potential “Dilution Flow” Offsets

- **Recirculation**
- **Merced**
- **Tuolumne**
- **Stanislaus**

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Calculating Potential Offsets: Salt Load Reductions

- Grassland Bypass Project/Westside Regional Drainage Plan implementation measures the amount of drainage released to the San Luis Drain
- Estimates avoided drainage based on a historical baseline
- Instead, Draft Plan examines the amount of assimilative capacity or excess salt loads generated by the entire Grassland subarea in 2008
- Could not obtain enough data to examine Northwest subarea
- Desire to base ongoing discussions/efforts on current information (calculations for discussions are for 2000-2008)
Calculating Potential Offsets: Salt Load Reductions

- **Subarea Allocation**
  - DMC Supply Water Credit: Table 4-19
  - Consumptive Use Allowance: Actual flow * trigger value
  - Subarea Base Load Allocation: Table 4-15 of TMDL

- **Subarea Load**
  - Actual Load: Actual flow * actual EC – Groundwater Accretions (Table 4-4)
  - Portion that offsets CVP Import Load
  - Assimilative Capacity from Subarea: Allocation – Actual Load

- **DMC Supply Water Credit**
  - Table 4-19
Grassland Subarea: Allocation v. Load
Grassland Subarea Load Characterization

- **AC > DMC Allowance**
- **AC = DMC Supply Allowance**
- **Exceedance**
- **Surface Load**

Actual Load

Tons Salt

Jan | Feb | Mar | Beg Apr | VAMP | End May | Jun | Jul | Aug | Sep | Oct | Nov | Dec
Summary of Offset Potentials

Monthly Vernalis EC

Potential Offsets

- Remaining DMC Excess
- WRDP
- Recirculation
- WAP
- New Melones

Percent DMC Load is Potentially Offset

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RECLAMATION
## Proposed Ongoing Review Process

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<td>Status of Efforts, Assimilative Capacity, Potential Uses</td>
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<td>Offsets, Credits, Trading</td>
<td>Application of Potential Offsets, Credits to CVP-Delivered Loads</td>
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Contacts

Draft Plan is posted at:
http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/
central_valley_projects/vernalis_salt_boron/

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