

**Draft Recommendations of the
San Joaquin Water Quality
Management Group**

**Plan for Achieving Salinity/Boron and DO
Objectives**

1/25/05

Plan for Achieving Salinity/Boron and DO Objectives

Overview

- Group and Objectives
- General Structure and Strategy
- Tools and Management Strategies Evaluated
- Draft Recommendations
- Next Steps

Plan for Achieving Salinity/Boron and DO Objectives

List of Participants

- U.S. Bureau of Reclamation
- Department of Water Resources
- USFWS
- California Dept. Fish and Game
- Central California Irrigation District
- Friant Water Users Authority
- Grassland Water District
- James Irrigation District
- Merced Irrigation District
- Modesto Irrigation District
- Oakdale Irrigation District
- San Luis Canal Company
- San Joaquin County and Delta Water Quality Coalition
- San Joaquin County RCD
- San Joaquin River Exchange Contractors Water Authority
- San Joaquin Valley Drainage Authority
- San Joaquin River Group
- San Luis and Delta Mendota Water Authority
- South San Joaquin Irrigation District
- State Water Contractors
- South Delta Water Agency
- Stockton East Water District
- Tranquility Irrigation District
- Turlock Irrigation District
- Venice Island RD 2023
- California Farm Bureau
- Western Growers

Plan for Achieving Salinity/Boron and DO Objectives

- Group Objective: *Prepare and implement a plan to meet the water quality objectives for Salt and Boron at Vernalis and Dissolved Oxygen at the Stockton Deep Water Ship Channel in coordination with CALFED Stage I objectives*

Plan for Achieving Salinity/Boron and DO Objectives

- Salinity/Boron Objectives: April-August - 0.7 EC; September-March – 1.0 EC
- Dissolved Oxygen – 6.0 mg/l September – November 6.0 between Turner Cut and Stockton, 5.0 mg/l all other Delta locations, all times

Plan for Achieving Salinity/Boron and DO Objectives – Tools and Strategies

- Flow Related Actions
- Recirculation
- Tributary Coordination:
 - Operations
 - Transfers/exchanges
 - VAMP Modifications
- Management of Urban Wastewater Flows
- South Delta Improvements Project
- Load Related Actions
- Sub-basin load reduction, west side of SJ Valley, and others
- Accretion Flow Diversion
- Franks Tract Modifications
- Other
- Dissolved Oxygen Aerator
- Additional real-time monitoring

Elements of SJRWQMG Draft Preferred Alternative

- Permitted Banks Pumping Plant capacity at 8500 cfs
- Operable barriers in the south Delta
 - Protect water levels and water quality in south Delta
 - Expanded use of HOR barrier operations (April-May and July-November) to augment flows in the Stockton DWSC
- Mid- or high-priority DMC re-circulation July-September
 - Maintain Vernalis salinity objective
 - Augment flows in the Stockton DWSC

Elements of SJRWQMG Draft Preferred Alternative (cont'd)

- Phased implementation of SJRIP
 - 27,300 acre-ft annual reduction in Grasslands Bypass Project return flows (zero discharge) at full implementation
 - High salinity return flows – 3,800-5,300 uS/cm
- Strategic water transfers from the SJR Group members to address unique time-specific salinity problems in dry and critical years during the interim period
- Modified Stanislaus River dissolved oxygen compliance location to preserve New Melones storage

Elements of SJRWQMG Draft Preferred Alternative (cont'd)

- Phased implementation of City of Stockton's ammonia removal project
- Implementation of aeration project in the Stockton DWSC

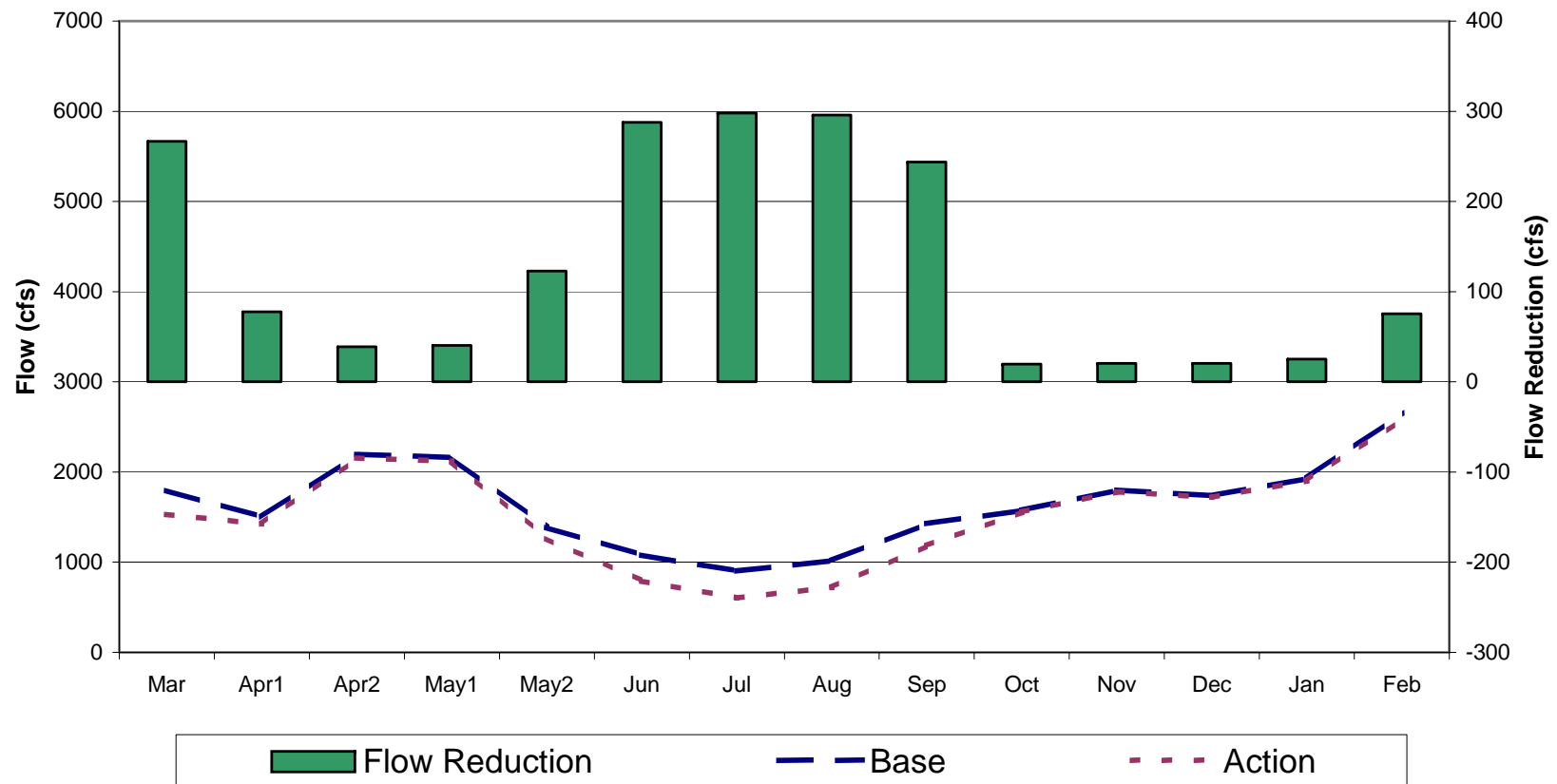
SANMAN Model Features

- First model to predict Salinity at Vernalis based on upstream actions
- Uses revised baseline data – *the problem is less than previously believed for salinity*
- Model operates available recirculation and New Melones storage to achieve water quality based upon past hydrology and discharge data, as well as predicted discharge changes
- Does not model DO but can tell you about flow

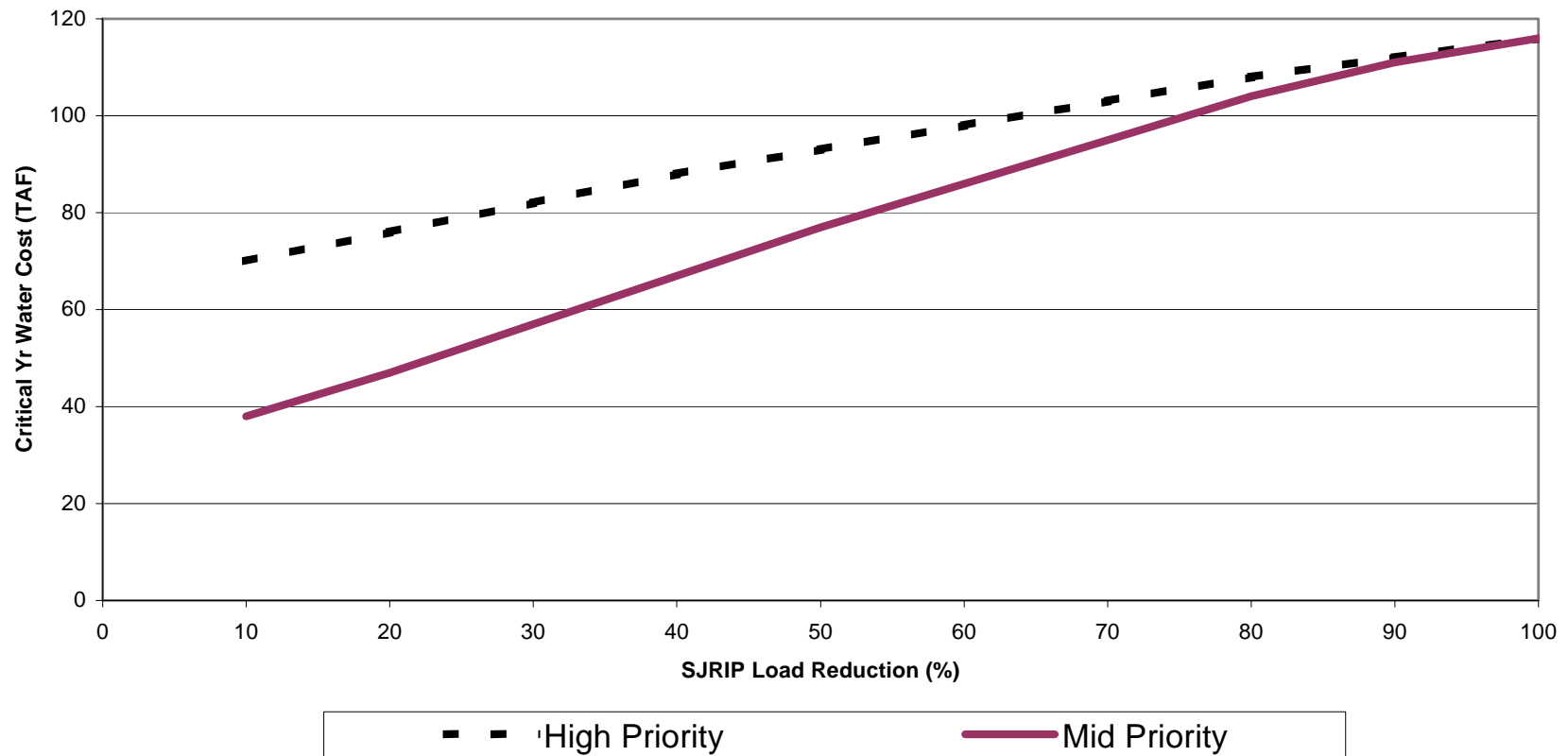
Critical Year Observations as SJRIP is Phased In

- Water transfer needs diminish
- Vernalis water quality improves (typically)
- Vernalis summer flows decrease (typically)
- New Melones savings increase
- Re-circulation needs diminish
- Water costs increase
- High- and mid-priority scenarios converge

Vernalis Flow: SJRWQMG Preferred Alternative MP-100 Critical Year Average



Delta Water Supply Impacts with Phased SJRIP Implementation: Critical Year Average



SJRWQMP Implementation Issues

- Lowered flows on Lower SJR – *evaluated additional recirculation and HORB use*
- Brandt Bridge salinity objective – *additional recirculation and HORB use*
- Water costs to exports vs. New Melones (high vs. mid priority recirculation) – *a balancing issue primarily within USBR*
- Anti-degradation – *RWQCB must take action on future discharge permits to maintain quality*

SJRWQMP Implementation Issues cont.

- Real-time management – *mechanism needed*

NEXT STEPS

- Refine summary paper
- Present to Agency policy group
- Prepare implementation MOU
- Seek element funding