Draft Recommendations of the San Joaquin Water Quality Management Group

Plan for Achieving Salinity/Boron and DO Objectives

2/1/05

Plan for Achieving Salinity/Boron and DO Objectives

Overview

- Group and Objectives
- General Structure and Strategy
- Tools and Management Strategies Evaluated
- Draft Recommendations
- *Critical Implementation Issues*
- 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 Evaluated

- Flow Related Actions
- Recirculation
- Tributary Coordination:
  - Operations
  - Transfers/exchanges
  - VAMP Modifications
- Management of Urban Wastewater Flows
- South Delta Improvements Project
- Refuge operational modifications

- Load Related Actions
- Sub-basin load reduction, west side of SJ Valley, and others
- Accretion Flow Diversion
- Franks Tract Modifications
- Other
- Dissolved Oxygen Aerator
- Stockton WWTP control
- Additional real-time monitoring

Evaluation with SANMAN Model

- Model predicts salinity at Vernalis based on upstream actions
- Uses revised baseline data – *the problem is less than previously believed for salinity*
- Operates available recirculation and New Melones storage to achieve salinity objective
- Does not model Dissolved Oxygen but can tell you about flow

Elements of SJRWQMG
Draft Preferred Alternative Elements

- *A phased solution is necessary:*
- Long Term 5+years: Full implementation of certain West Side drainage improvements (SJRIP) eliminates salinity violations @ Vernalis
- Short Term 0-5 years:
  - Phased implementation of improvements (SJRIP)

Elements of SJRWQMG
Draft Preferred Alternative Elements (cont'd)

- **Short –term continued**
  - Permitted Banks Pumping Plant capacity at 8500 cfs and S. Delta Improvements
  - Mid- or high-priority DMC re-circulation July-September
  - Move compliance location for Stanislaus River dissolved oxygen upstream to location of Steelhead habitat.
  - Strategic water transfers from the SJR Group members
  - Continued evaluation/implementation of Refuge actions to help in critical winter/spring periods

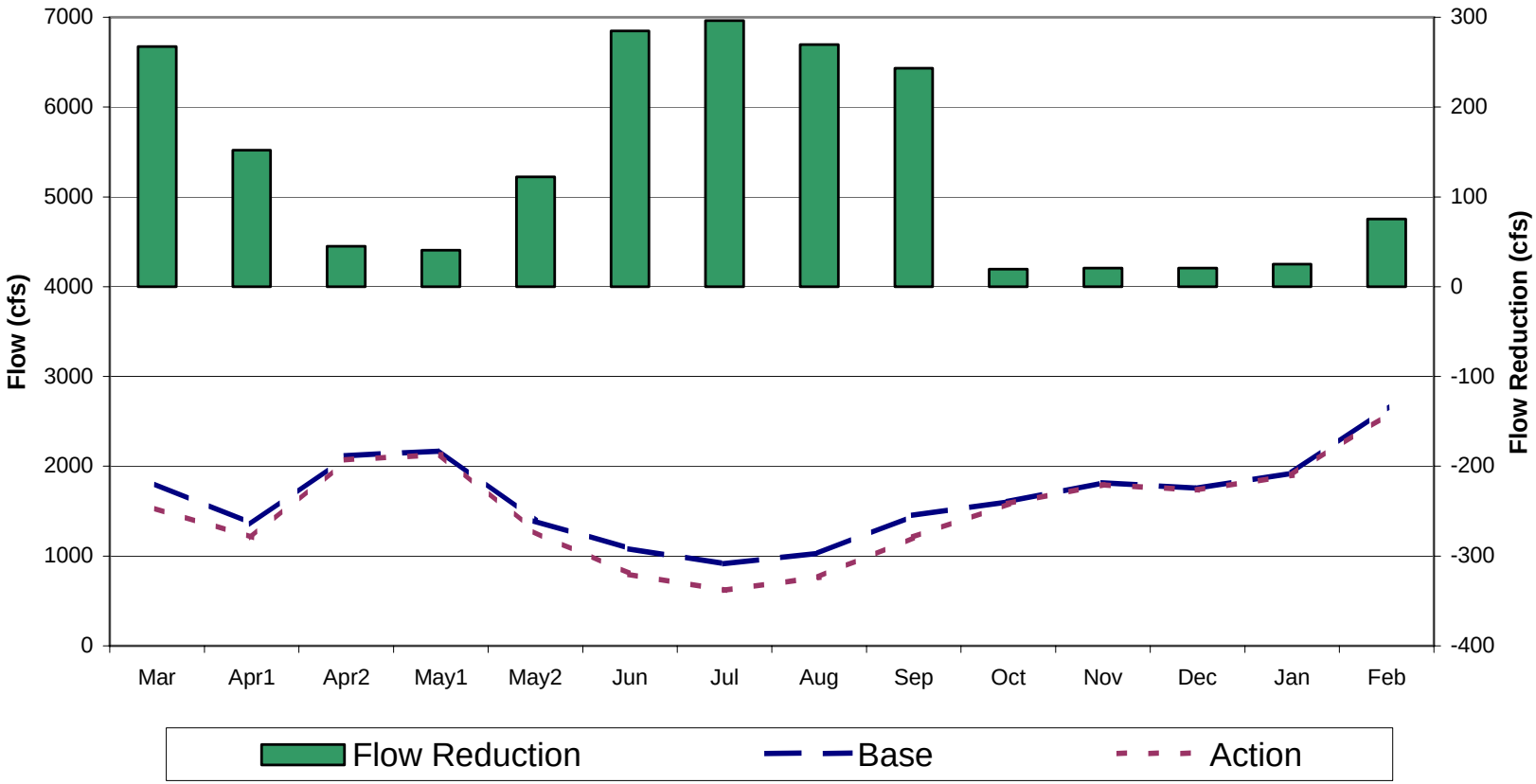
Elements of SJRWQMG
Draft Preferred Alternative Elements (cont'd)

- Dissolved Oxygen Solution: additional measures
  - Additional HOR Barrier use in April-May and July-November to augment LSJR flows.
  - Additional recirculation as available July-Sept.
  - Implementation of City of Stockton's ammonia removal project
  - Implementation of aeration project in the Stockton DWSC
  - Additional real-time monitoring and gap analysis

SJRWQMP Implementation Issues

- Technical
  - Lowered flows on Lower SJR – *evaluating additional recirculation and HORB use*
  - Brandt Bridge salinity objective – *evaluating additional recirculation and HORB use*
- Policy
  - Allocation of costs and benefits of recirculation for both salinity purposes and lowering dissolved oxygen; high vs. mid priority recirculation
  - Assignment of implementation roles

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



Solution Beneficiaries

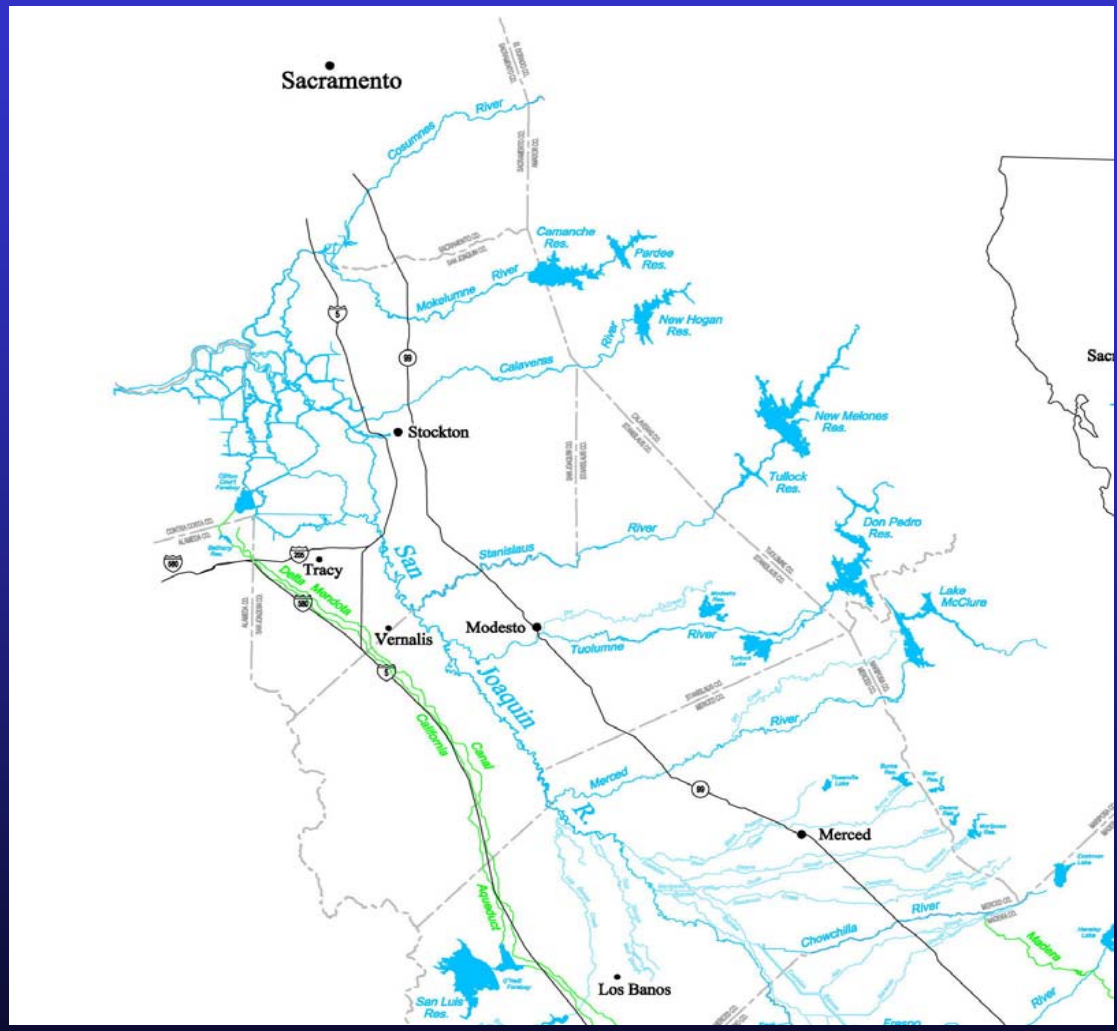
- *Assuming resolution of low-flow issues*:
  - Public/environment – SJR fisheries benefit
  - Lower SJR water users – reliability/quality
  - Exporters – improved water quality and 8500 impediment
  - Upstream users – defined contributions
  - New Melones users – lessening of other demands
  - Port of Stockton – aeration partners, other tools
  - USBR – reduced drainage solution demands, reduced New Melones conflict, meet permit conditions

SJRWQMP Implementation Issues cont.

NEXT STEPS

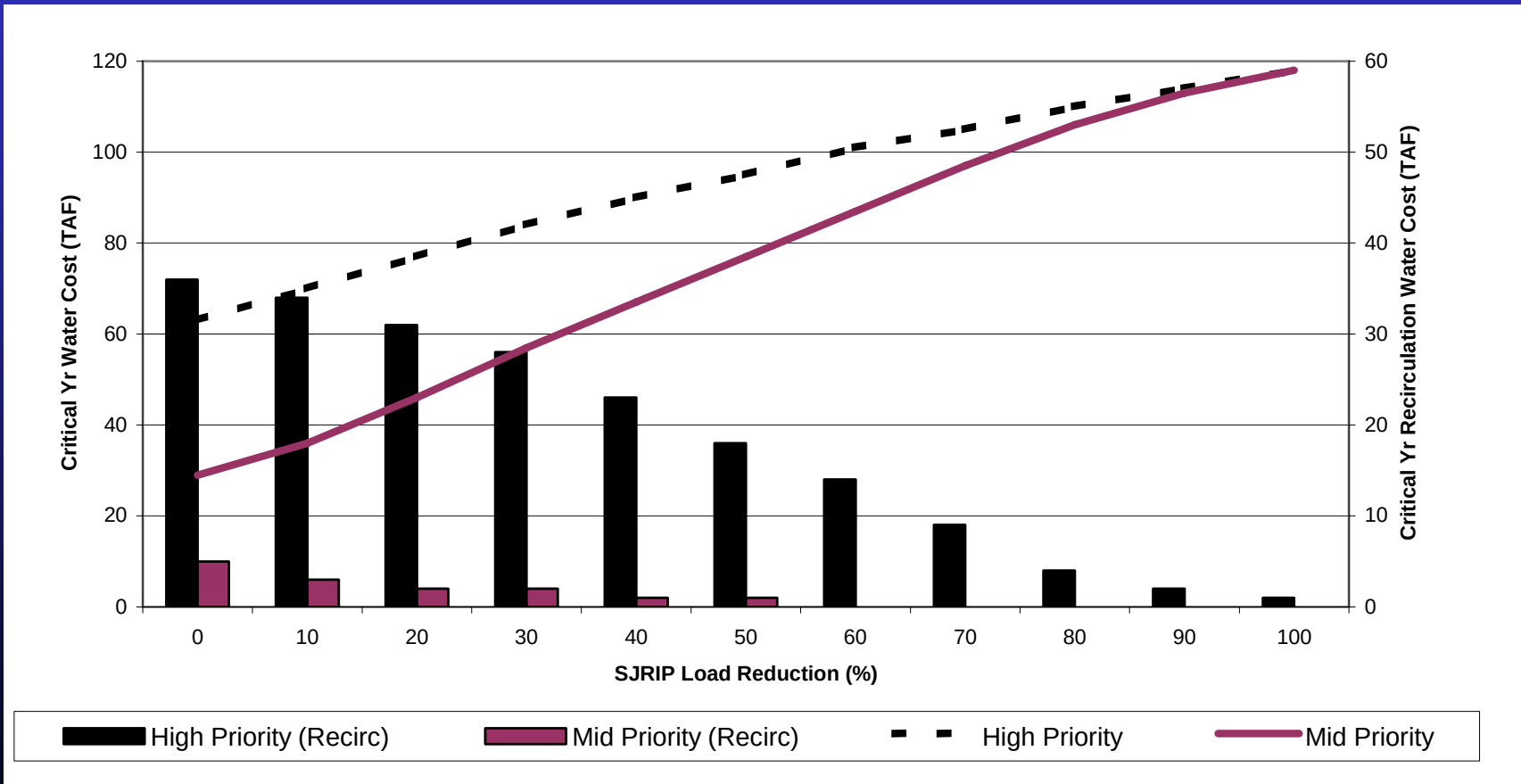
- Resolution of low flows impact/SDIP compatibility; finalize recommendation
- Form Negotiating Forum/participants for development of an implementation MOU
- Seek element funding
  - $40-50 million in drainage actions
  - Newman wasteway upgrades? $5m

extras

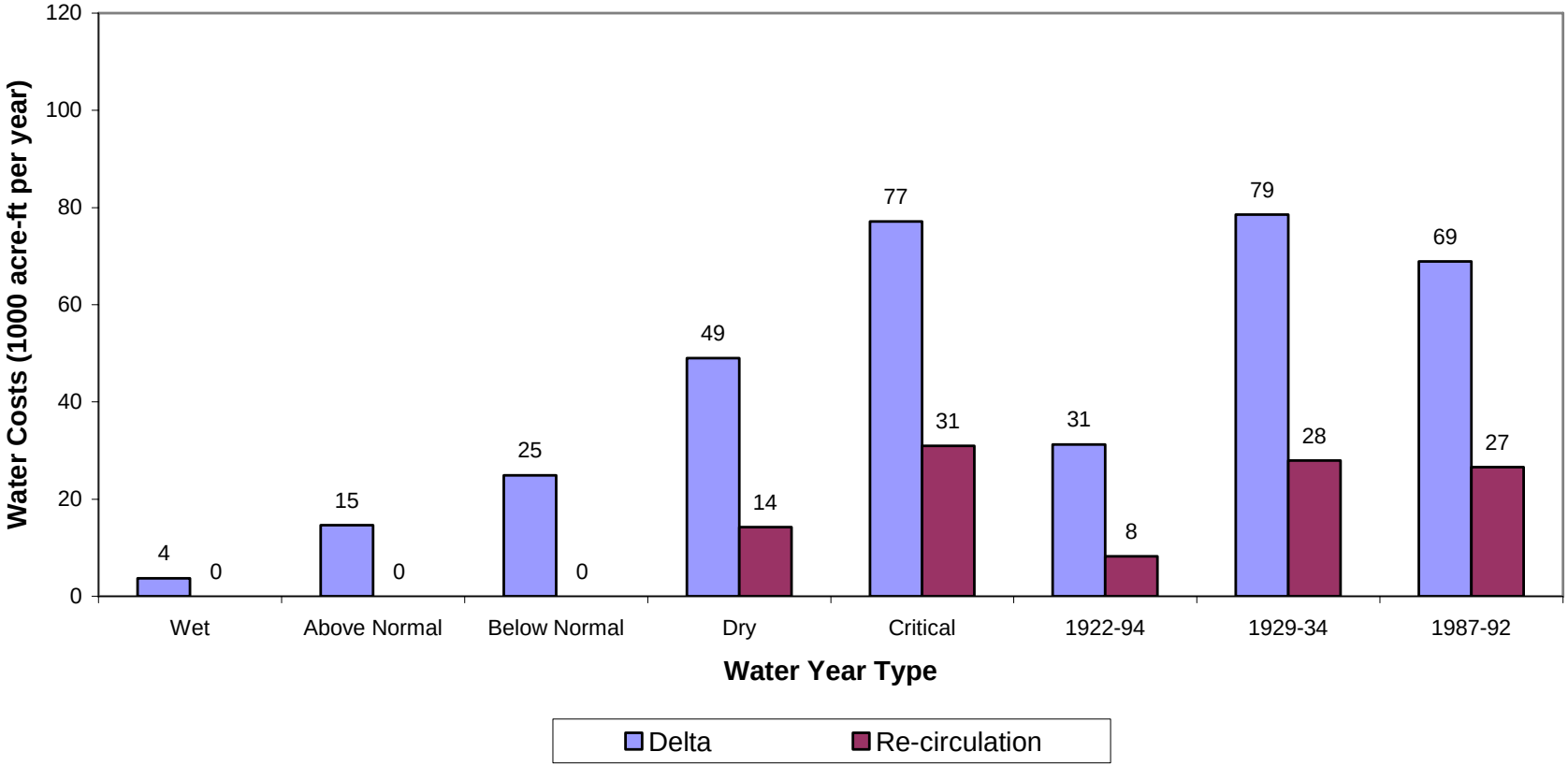

Sacramento
Cosumnes River
Camanche Res.
Pardee Res.
Mokelumne River
New Hogan Res.
Calaveras River
Stockton
New Melones Res.
Tullock Res.
Don Pedro Res.
Stanislaus River
Tracy
Delta Mendota Canal
San Joaquin R.
Lake McClure
Modesto
Vernalis
Tuolumne River
Merced River
Merced
California Aqueduct
Chowchilla River
Los Banos
San Luis Res.
Madera Canal
River

Water Supply Impacts with Phased SJRIP Implementation:

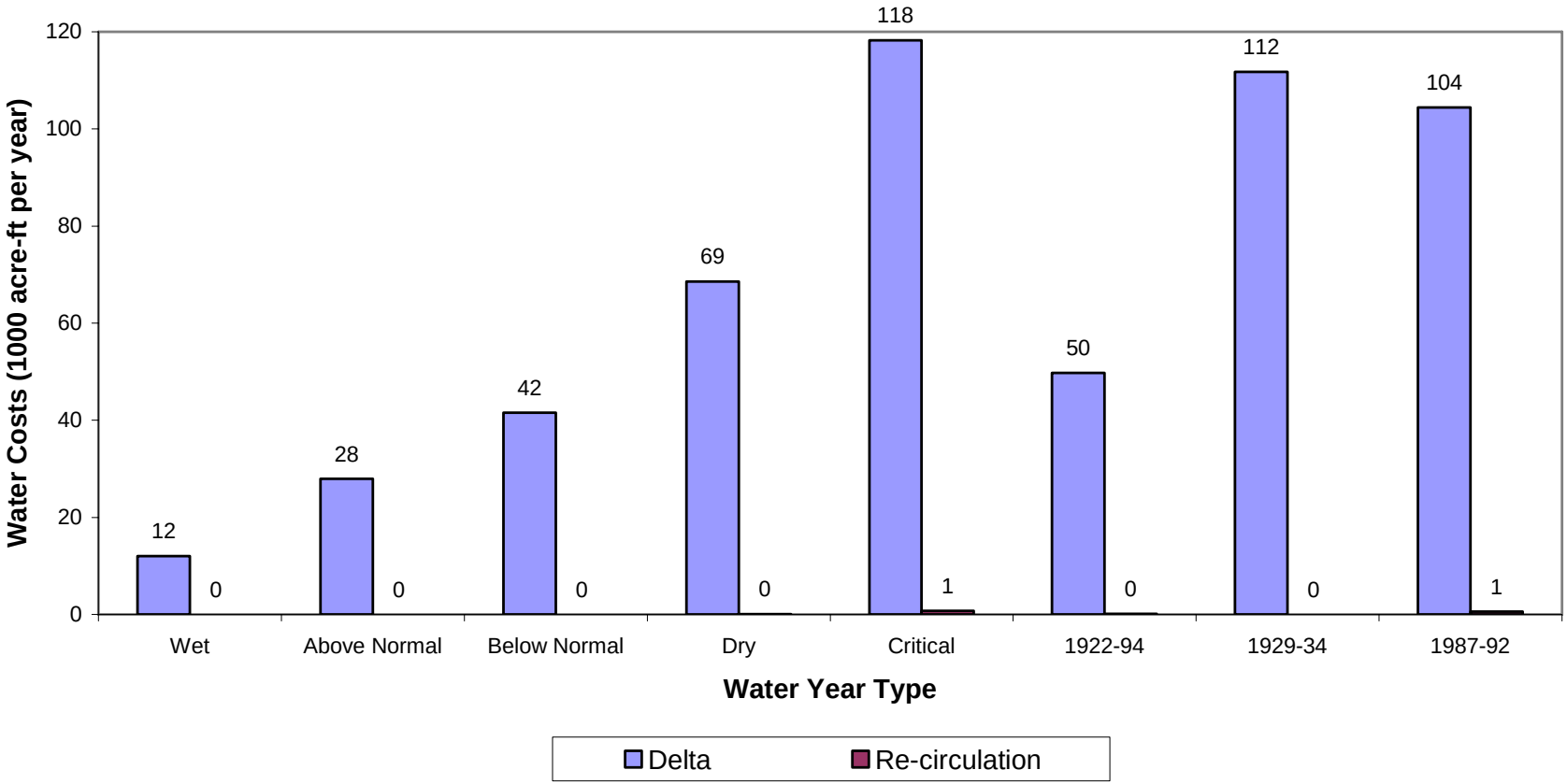
Critical Year Average High vs. Mid Priority Recirculation



Water Cost:
SJRWQMG Preferred Alternative HP-20



Water Cost:
SJRWQMG Preferred Alternative HP-100



Water Cost:
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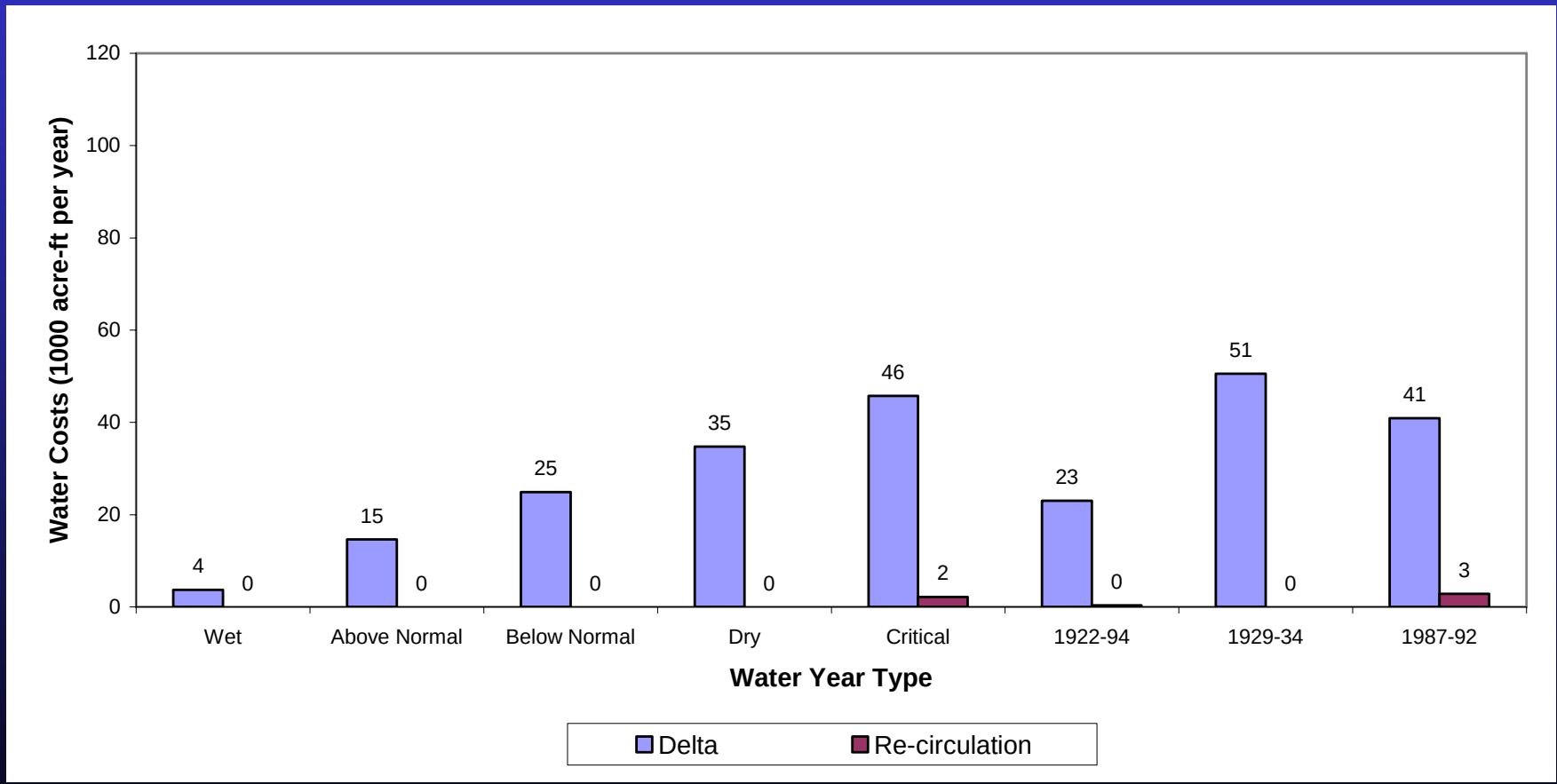
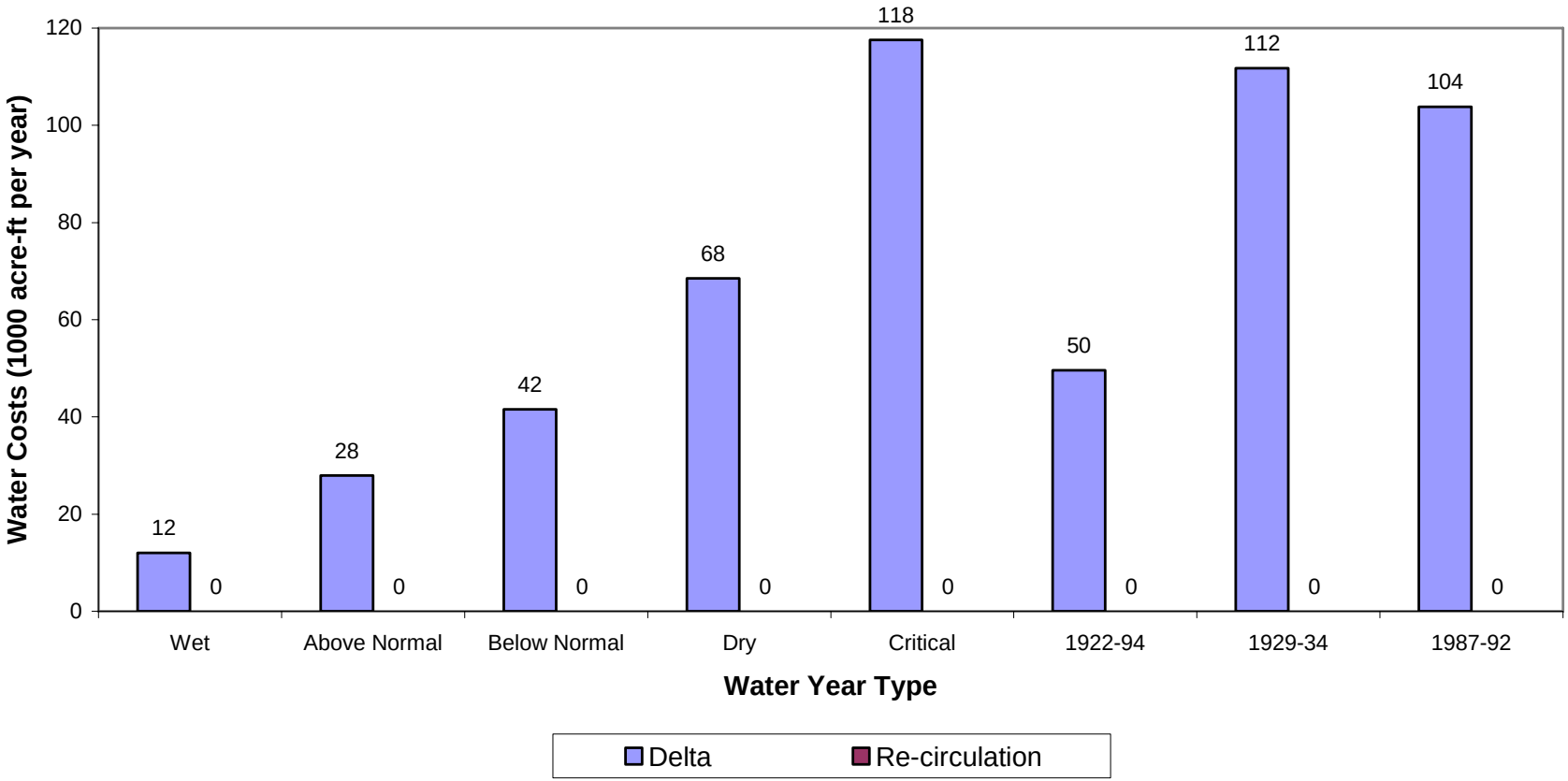
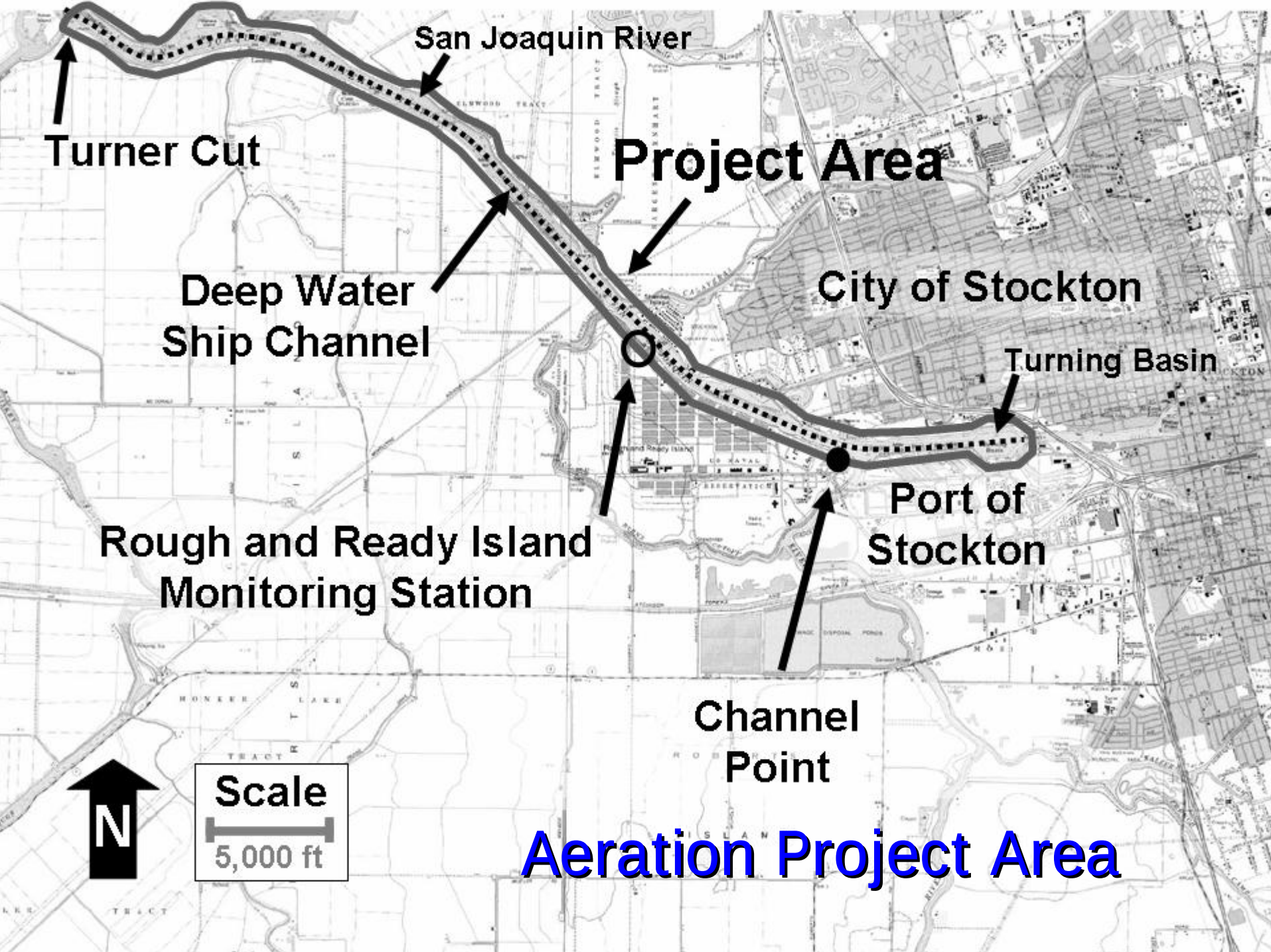


Water Cost:
SJRWQMG Preferred Alternative MP-100





Aeration Project Area