

Program Review

- 2007 - Initiation and Scoping, Waterboards directed study
- 2008 - Stakeholder Development and Organization
- 2009 - Planning, Funding and First Projects
- 2010 - BUOS and Program Development (mid-program review)
- 2011 - BUOS and Data Collection
- 2012 - Data Collection and Analysis
- 2013 - Analysis and Implementation Planning (mid-program review)
- 2014 - Implementation Plan/BPA Preparations
- 2015 - BPA Approval and Implementation/Funding
- 2016 - Major Projects Funding/Initiation
- 2017 - Major Projects Construction and Operations

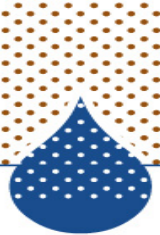




**Central Valley Salinity/Nutrient
Management Planning Through CV-
SALTS
Existing Framework and Roles**

What is it CV-SALTS?

- Alternative regulatory process to allow full stakeholder engagement
- Stakeholders lead collaborative funding/oversight
- Develop credible science and smart policy
- Maximum benefits and long term sustainability
- Innovative program to allow industry and communities flexibility in meeting regulations
- Protect uses of water for people, economy and environment



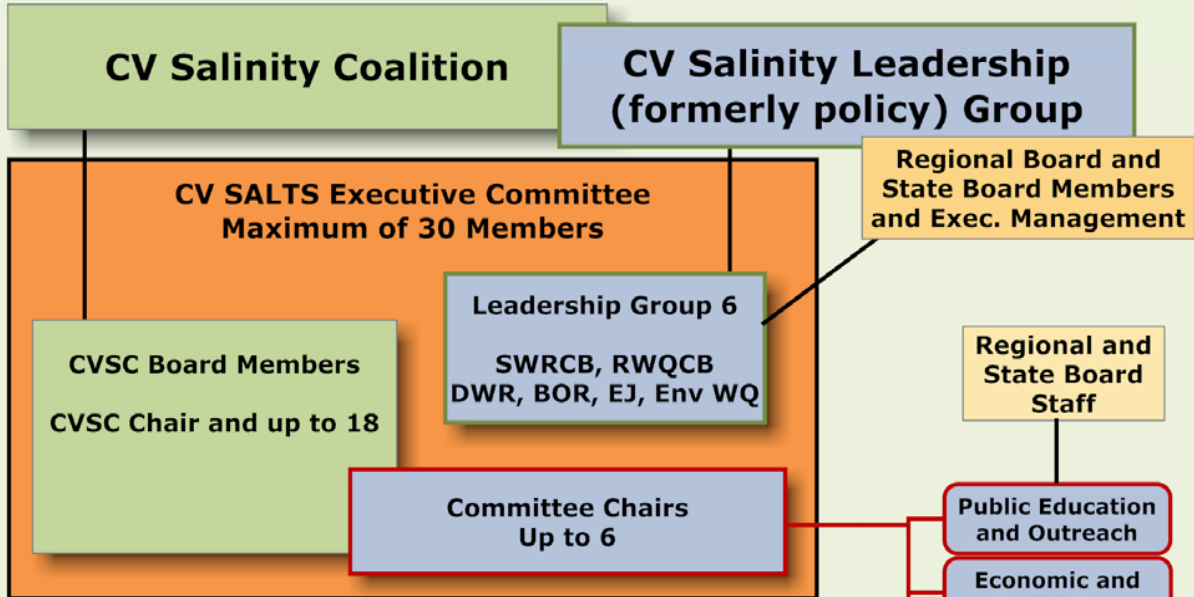
MOA and Standing Rules define the roles

- Documentation of the Existing Organization by MOA
 - ◆ State Board
 - ◆ Regional Board
 - ◆ CV Salinity Coalition
- Partners
- Stakeholders
- Leadership Group (steering)

CV Salinity Coalition and CV SALTS Initiative

Ensuring Sustainable High Quality Water Supply
For All users of Central Valley Waters

Leadership
Steering
Groups



Efforts
Approval

Group membership is nonexclusive



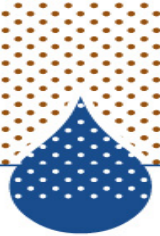
Working
and
Review
Groups

Partners and Stakeholder

- **Partners (Non-MOA and Non-CVSC)**
 - ◆ DWR
 - ◆ Reclamation
 - ◆ Environmental
- **Stakeholders – Community & Industry participants**
- **Leadership Group (steering)**

CV

Central Valley



SALTS

Salinity Alternatives for Long-term Sustainability

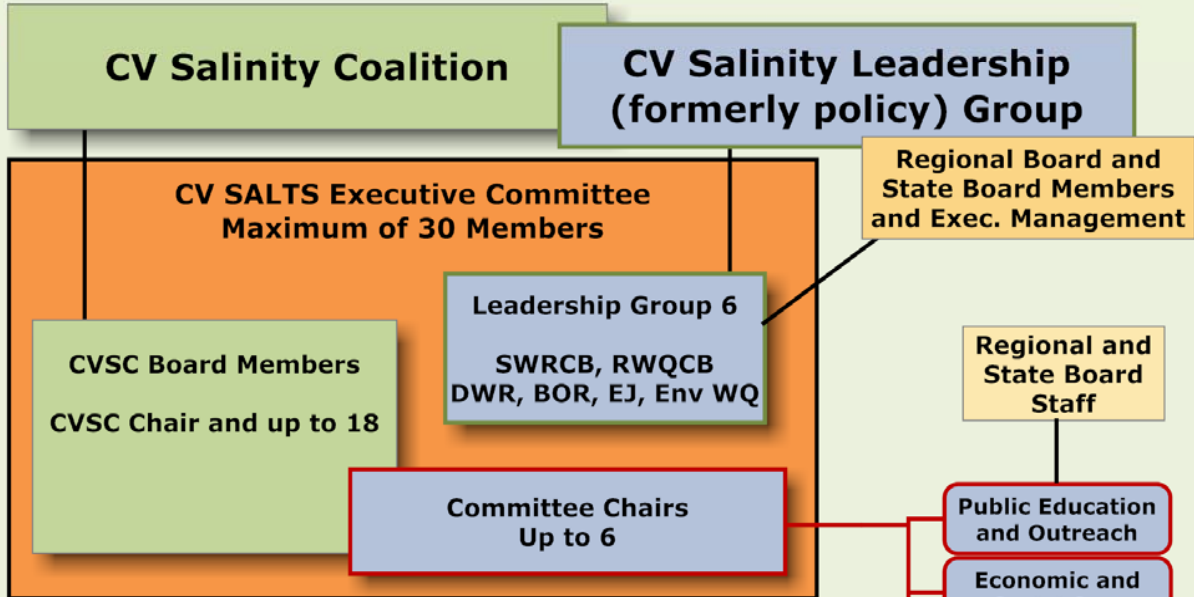
Leadership Group

- **Targets high level executives in stakeholder Agencies & Organizations, developing/formalizing**
- **Predated the MOA and structure as “Policy Group”**
- **Formed the Executive Committee and other Committees**
- **Co-Chaired by Regional and State Board Chairs**
- **Meets Annually to provide steering level policy and direction feedback**
- **Important because of the impacts beyond the stakeholders and the funding with partners**

CV Salinity Coalition and CV SALTS Initiative

Ensuring Sustainable High Quality Water Supply
For All users of Central Valley Waters

Leadership
Steering
Groups



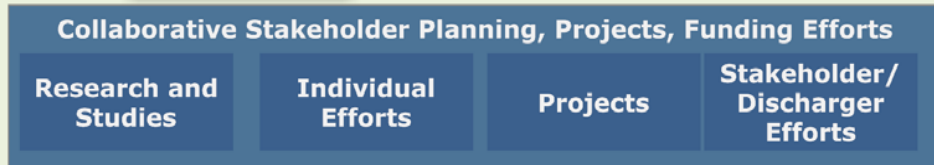
Efforts
Approval

Working
and
Review
Groups

Group membership is nonexclusive



Outcome

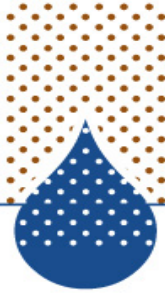


Central Valley Salinity Coalition

- Non-Profit coalition of users of Central Valley Water
 - ◆ Water and wastewater
 - ◆ Agricultural and irrigation
 - ◆ Industry and others
- Effective efficient manner developing and funding studies, planning and implementation efforts

CV

Central Valley



SALTS

Salinity Alternatives for Long-term Sustainability

Central Valley Salinity Coalition

Founding Members:

- ❖ California League of Food Processors*
- ❖ The Wine Institute*
- ❖ Western United Dairymen
- ❖ City of Fresno*
- ❖ San Joaquin Valley Drainage Authority*
- ❖ California Assoc of Sanitation Agencies*
- ❖ Central Valley Clean Water Agencies*

New Members 2009/2010:

- ❖ E. San Joaquin Water Quality Coalition*
- ❖ City of Manteca*
- ❖ California Rice Commission*
- ❖ Pacific Water Quality Association

* Denotes Board of Directors Member

New Members Continued:

- ❖ City of Modesto*
- ❖ Sacramento Reg. Co. Sanitation District*
- ❖ San Joaquin River Group Authority*
- ❖ Discovery Bay CSD
- ❖ Iron House Sanitary District
- ❖ City of Tracy*
- ❖ City of Stockton*
- ❖ Mountain House CSD
- ❖ Agricultural Council of CA
- ❖ Western Plant Health Association*
- ❖ Tulare Lake Drainage and Water Storage Districts*
- ❖ Stockton East Water District*
- ❖ City of Vacaville*

Basin Plan Amendment **without** CV Salinity Coalition and CV SALTS Initiative

Leadership
Steering
Committee

Regional Board and State Board
Members and Exec. Management

Stakeholders
Scoping

Efforts
Approval

Regional and State Board Staff

Public Review
and Comment

Approval

Regional Board and State Board



Implement

Regulatory Implementation

Permit Limits

WDRs

Prohibitions

Discharger
Compliance
Efforts





Current Program Overview

CV

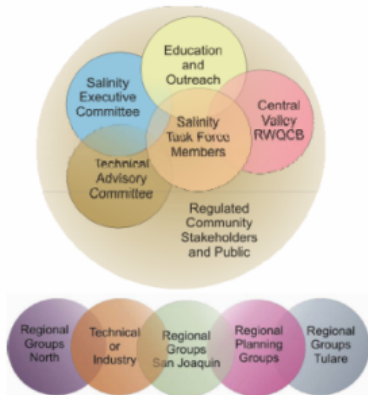
Central Valley



SALTS

Salinity Alternatives for Long-term Sustainability

Draft Salinity Management Strategy Report February 2008



Prepared for
Central Valley Region Water Quality Control Board

Prepared by
Integrated Planning and Management Inc.



Toward a Sustainable Central Valley Future for Its Economy, People and Environment

Salinity Strategy Report

- Provide Alternatives for organization including salinity stakeholder group now Coalition
- Developed efforts and communication, planning and study
- Identified long term implementation strategy

Report Contents

- 1 Executive Summary
- 2 Report Organization and Scope
- 3 Current Group Process and Organization with Alternatives
- 4 Development Stages, Geographic Scale and Detail Level
- 5 Priorities and Success Criteria by Stage
- 6 Policy Issues and Alternatives
 - 6.1 Incentive or Market vs. Regulatory
 - 6.2 Salinity Policy, Regional or Statewide
 - 6.3 Centralized and Distributed Systems
 - 6.4 Basin Plan Revision Opportunities
 - 6.4.1 Plan A & 6.4.2 Plan B
 - 6.5 Economic and Funding Strategies



Distributed Approach

CV-SALTS

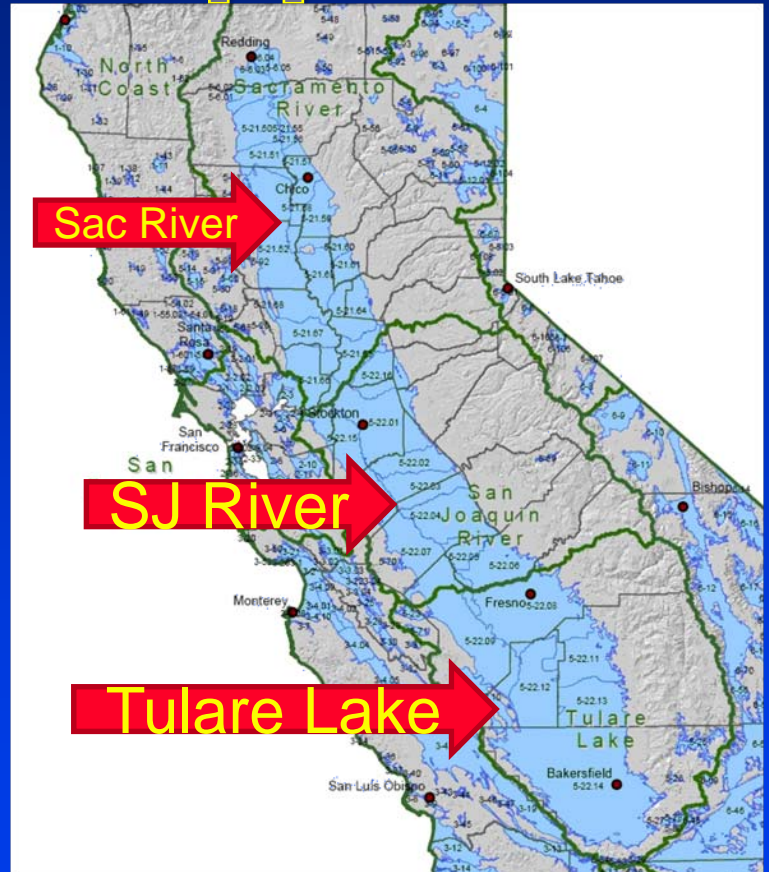
Requirements, Standards, Validation

Basins or Regions

Data Aggregation and Review

Sub-Region/Sub-Basin

Data Sources, Local Knowledge, Implementation



Should the efforts be separated?
If so when and how should they reaggreated?

Strategy Report

1 Executive Summary

1.1 The Purpose of the Document

1.2 Existing Condition

1.2.1 Ongoing Studies and Reports

1.2.2 Existing Committees

1.3 Key Strategies

1.3.1 Communication Strategy

1.3.2 Group Formation and Organization Strategies

1.3.3 Standard Basin Planning Versus Alternative Strategy

1.3.4 Local Alternatives, Distributed Management and Storage

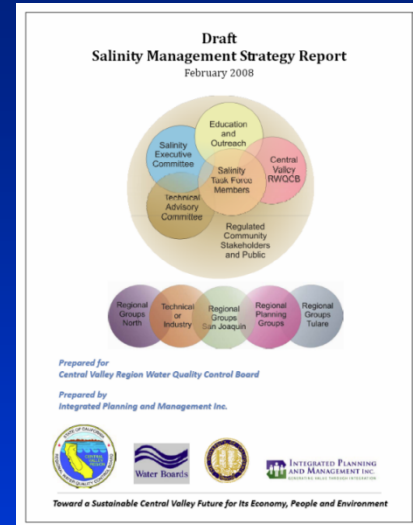
1.3.5 Long-term Salt Balance Plans Help Growth Build Solutions

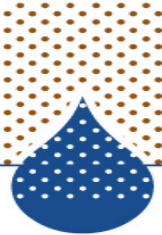
1.3.6 Integrate Salinity Solutions with Statewide Efforts

1.4 Efforts and Plan

1.5 Conclusions and Roadmaps

1.5.1 Report Conclusions



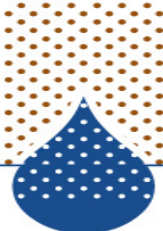


Workplan Outline

- **Overarching Work Plan Outline**
- **Distributed implementation for efficiency**
- **Cost efficient management opportunities**
- **Economic benefits of salt management**
- **Stakeholder and public outreach**
- **Monitoring and adaptive management**
- **Stakeholder implementation**
- **Grant opportunities and matching**

CV

Central Valley



SALTS

Salinity Alternatives for Long-term Sustainability

Salinity and Nutrient Management Planning

Program Management - Work Planning - Funding

Work Plan Outline

Beneficial Use Study and Analysis

Preliminary Objectives

Proposed Objectives

Finalized Objectives

Document Salinity Management Plan (Basin Plan Amendment and CEQA)

Final Review and Approvals

Salinity Sources and Control Opportunities

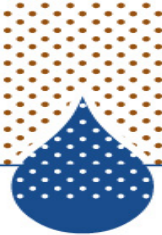
Surface and Groundwater Data Past and Present

Limit Implementation Planning and Analysis

Pilot Area Data Collection

Local and Sub-regional Distributed Data Collection

Early Best Practice Implementation

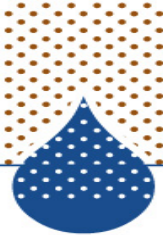


Activities to Date

- MOA with State and Regional Boards
- Overarching Work Plan Outline
- Coordination Matrix
- Policy Issue List and Consensus
- BMP Guideline Draft
- Outreach Workshops
- BUOS Phase 1

CV

Central Valley



SALTS

Salinity Alternatives for Long-term Sustainability

Activities to Date

- Leadership Group Development
- Partner studies of salt and nitrates
- Salt and Nitrate Pilot Study
- State Board CAA Funds \$5M
- Coalition Members Board Members 18
- Contributed by CVSC Members \$532K
- Members budgeted to contribute \$250K
- Stakeholder In-kind Funding \$392K



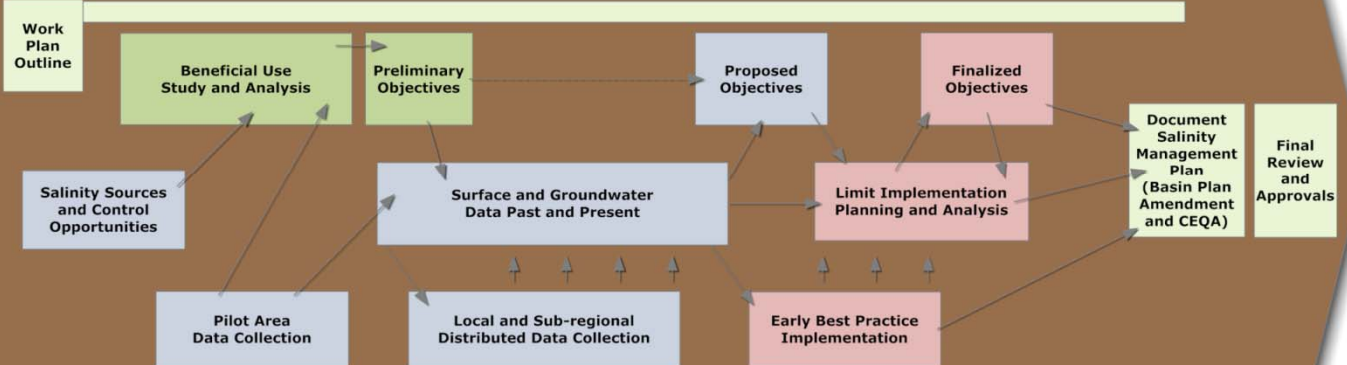
Beneficial Uses in CV Basin Plans

CV-SALTS Technical
Topics

Workplan Process

Salinity and Nutrient Management Planning

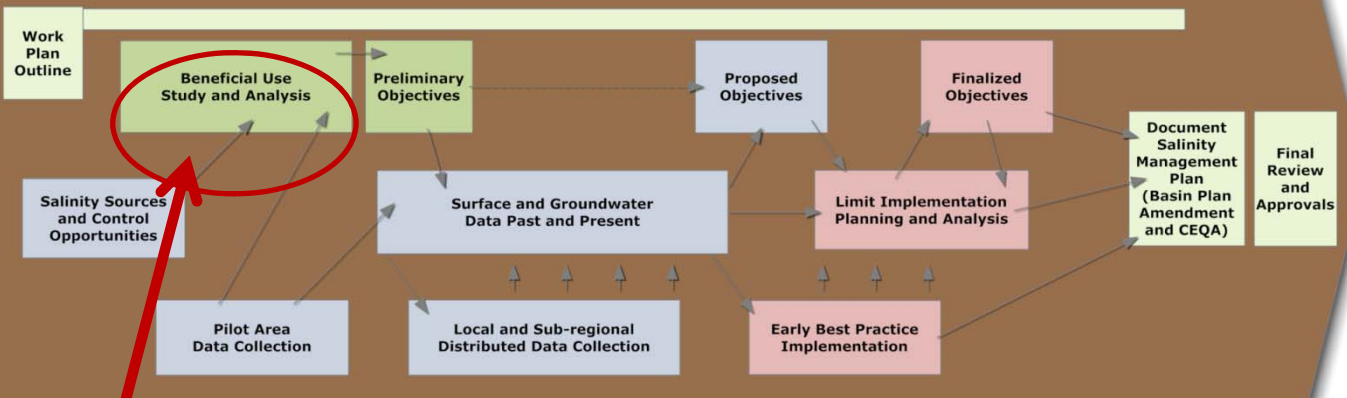
Program Management - Work Planning - Funding



Workplan Process

Salinity and Nutrient Management Planning

Program Management - Work Planning - Funding



YOU ARE HERE

Where We Are

- **Salt and Nitrate Pilot Study (ongoing)**
- **Beneficial Use Objective Study (scoping)**
 - ◆ **Develop work plan for BUO Study**
 - ◆ **Implement work plan for BUO Study**
 - ◆ **Develop work plan for other elements**
 - Use Attainability Analysis study
 - Groundwater and Surface Data Collection and Analysis and Revised Objectives
 - Implementation Planning and Alternatives Study
 - Wasteload Allocation Study
 - Basin Plan Drafting and CEQA

Distributed Approach

CV-SALTS

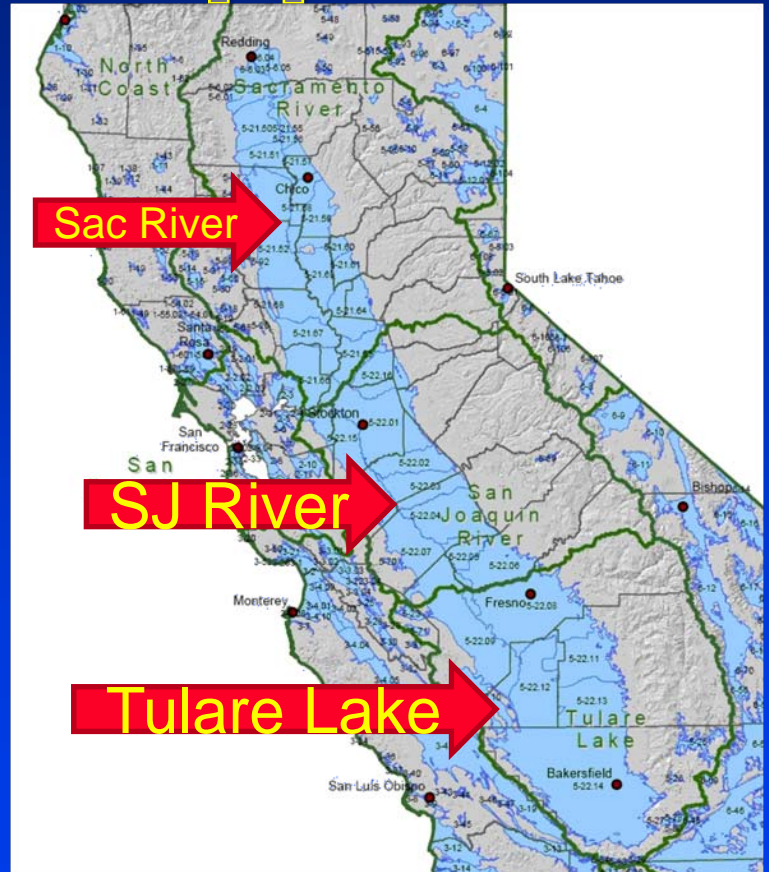
Requirements, Standards, Validation

Basins or Regions

Data Aggregation and Review

Sub-Region/Sub-Basin

Data Sources, Local Knowledge, Implementation



Should the efforts be separated?
If so when and how should they reagggregated?

Salt and/or Nitrate

- Salt as sources of salinity without other effects
 - ◆ EC, TDS, Ions as Tier 1
- Nitrate and Nitrogen species
 - ◆ NO₃, Ammonia, etc as location appropriate

Major Scope of Work Areas for Beneficial Use and Preliminary Objectives

- Work plan for BUO Study
- Develop work plan for other elements
- Assemble surface and groundwater data on salinity or nitrate sensitive uses in all geographies
- Assemble data on salinity and nitrate impact levels in surface and groundwater
- Assemble data on current surface and groundwater uses and reasonable potential uses and impact levels
- Assemble available data on surface and groundwater quality current, trend, historic
- Review use attainability based on surface and groundwater impact levels and quality
- Generate preliminary draft objectives needed to meet beneficial uses
- Document and report draft and final data
- Significant sources of salt, nitrate and dilution

Requirements for Salt and Nutrient Management Plan

(3) Each salt and nutrient management plan shall include the following components:

- (a) A basin / sub-basin wide monitoring plan that includes an appropriate network of monitoring locations.** The scale of the basin / sub-basin monitoring plan is dependent upon the site-specific conditions and shall be adequate to provide a reasonable, **cost-effective means of determining whether the concentrations of salt, nutrients and other constituents of concern as identified in the salt and nutrient plans are consistent with applicable water quality objectives.** Salts, nutrients and depending upon the local situation, other constituents that may adversely affect groundwater quality, shall be monitored. The frequency of monitoring shall be determined in the salt/nutrient management plan and approved by Regional Board.
- (i) The monitoring plan must be designed to determine water quality in the basin.** The plan must focus on basin water quality **near water supply wells** and areas proximate to large water recycling projects, particularly groundwater recharge projects. Also, monitoring locations shall, where appropriate, **target groundwater and surface waters** where groundwater has connectivity with adjacent surface waters.
- (ii) The preferred approach to monitoring plan development is to collect samples from existing wells if feasible as long as the existing wells are located appropriately to determine water quality throughout the most critical areas of the basin.**
- (iii) The monitoring plan shall identify those stakeholders responsible for conducting, compiling, and reporting the monitoring data.** The data shall be reported to the Regional Water Board at least every three years.
 - (b) A provision for annual monitoring of Emerging Constituents/Constituents of Emerging Concern (e.g., endocrine disrupters, personal care products or pharmaceuticals) (CECs) consistent with recommendations by CDPH and considering the recommendations of the expert panel.**
- (c) Water recycling and stormwater recharge/use goals and objectives.**
- (d) Salt and nutrient source identification, basin / sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.**
- (e) Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.**
- (f) An antidegradation analysis demonstrating** that the projects included within the plan will, collectively, satisfy the requirements of Resolution 68-16.

Extras

Salinity and Nitrate Objective and Beneficial Use Study Project - Funding Year 1

The following describes the work to be done as part of the Salinity and Nitrate Objective and Beneficial Use Study project:

1. **Establish a project work plan** in accordance with program work plan outline.
2. **Collect salinity and nitrate water quality data, land and site characteristics, waterbody characteristics and other key information from all available sources throughout the Central Valley,**
3. Analyze and evaluate the known data to establish **appropriate beneficial uses and salinity and nitrate objectives for protection for waterbodies with existing data,**
4. Using the data and characteristics of known sites, develop a decision matrix protocol and process that can be used as a model to establish beneficial uses and preliminary objectives.

Deliverable - *final report and data attachments supporting establishment of beneficial uses and preliminary objectives acceptable for protection of beneficial uses in known areas and a model to be used for establishment of uses and objectives throughout the region with limited or no data.*

Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act, the Regional Water Board must consider past, present, and probable future beneficial uses. Paraphrased from the Tulare Lake Basin Plan.

Significant points concerning beneficial uses are:

1. All water related problems can be stated in terms of whether there is water of sufficient quantity and quality to protect or enhance beneficial uses.
2. Fish, plants, and other wildlife, as well as humans, depend on and use water beneficially both directly or indirectly.
3. Defined beneficial uses do not include all possible uses of water. (waters for disposal of wastewaters or dilution of salt is not included as a beneficial uses they may be reasonable and desirable uses of water, but are not protected uses
4. The protection and enhancement of beneficial uses requires that certain quality and quantity objectives be met for surface and ground waters.
5. Quality of water in upstream reaches and upper aquifers may impact the quality and beneficial uses of downstream reaches and lower aquifers.

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PRO) - Uses of water for industrial activities that depend primarily on water quality.

Industrial Service Supply (IND) - Uses of water for industrial activities that do not depend primarily on water quality, including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Hydropower Generation (POW) - Uses of water for hydropower generation.

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Warm Freshwater Habitat (WARM) - Uses of water that support warm water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates

Cold Freshwater Habitat (COLD) - Uses of water that support cold water ecosystems, including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife.

Wildlife Habitat (WILD) - Uses of water that support terrestrial or wetland ecosystems, terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Rare, Threatened, or Endangered Species (RARE) - Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

Spawning, Reproduction, and/or Early Development (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction early development of fish. SPWN only in COLD.

Migration of Aquatic Organisms (MIGR) - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Ground Water Recharge (GWR) - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or saltwater intrusion into aquifers.

Freshwater Replenishment (FRSH) - Uses of water for natural or artificial maintenance of surface water quantity or quality.

Aquaculture (AQUA) - Uses of water for aquaculture or mariculture operations including, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals.

Preservation of Biological Habitats of Special Significance (BIOL) - Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or **Areas of Special Biological Significance (ASBS)**, where the preservation or enhancement of natural resources requires special protection.

Navigation (NAV) - Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

The beneficial uses of any specifically identified water body generally apply to its tributary streams.

In some cases a beneficial use may not be applicable to the entire body of water. In these cases the Regional Water Board's judgment will be applied. It should be noted that it is impractical to list every surface water body in the Region. For unidentified water bodies, the beneficial uses will be evaluated on a case-by-case basis.

Upstream from the foothill reservoirs, the quality of surface waters remains good to excellent. The quality of the major streams is suitable for all beneficial uses. Beneficial uses below the dams, however, may be significantly impacted because of the reduced flows in the channels.

For ground water, the following beneficial uses occur throughout the Basin:

- ✓ **Municipal and Domestic Supply (MUN)**
- ✓ **Agricultural Supply (AGR)**
- ✓ **Industrial Process Supply (PRO)**
- ✓ **Industrial Service Supply (IND)**
- ✓ **Water Contact Recreation (REC-I)**
- ✓ **Wildlife Habitat (WILD)**

Surface Water Beneficial Uses Potentially Impacted by Salinity

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PRO) - Uses of water for industrial activities that depend primarily on water quality.

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Groundwater Beneficial Uses Potentially Impacted by Salinity

- ✓ **Municipal and Domestic Supply (MUN)**
- ✓ **Agricultural Supply (AGR)**
- ✓ **Industrial Process Supply (PRO)**

SURFACE WATER BODIES AND BENEFICIAL USES

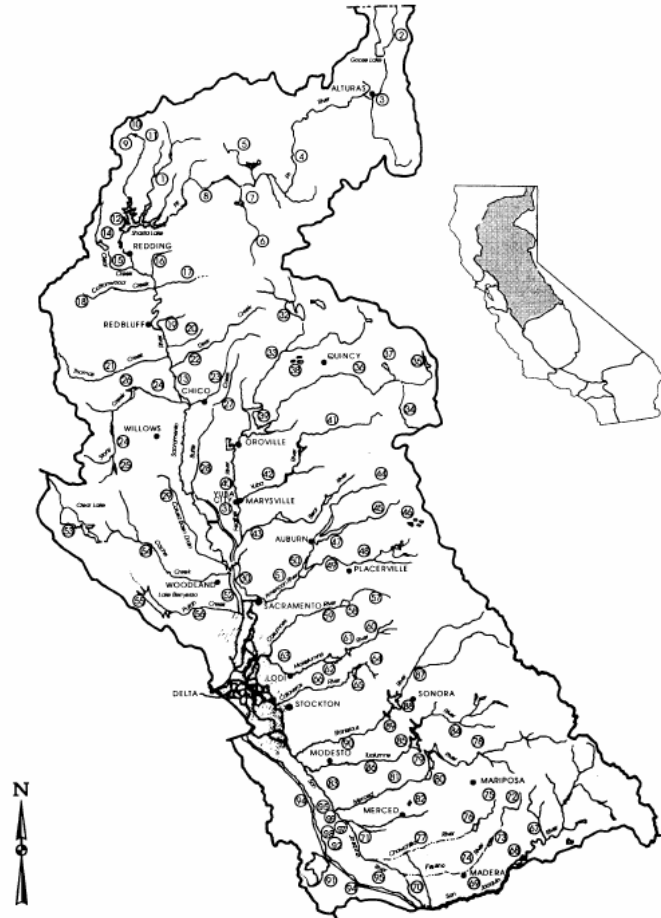


TABLE II-1

SURFACE WATER BODIES AND BENEFICIAL USES

SURFACE WATER BODIES (1)		HYDRO UNIT NUMBER	AGRI-CULTURE		INDUSTRY			RECREATION		FRESHWATER HABITAT (2)		MIGRATION		SPAWNING		WILD	NAV
			MUN	AGR	PROC	IND	POW	REC-1	REC-2	WARM	COLD	MIGR	SPWN				
														MUNICIPAL AND DOMESTIC SUPPLY	IRRIGATION		
1	McCLOUD RIVER	505	m	m													
2	GOOSE LAKE	527.20	m	m													
3	PIT RIVER		m	m													
4	NORTH FORK, SOUTH FORK, PIT RIVER	526.00	m	m													
5	CONFLUENCE OF FORKS TO HAT CREEK	526.35	m	m													
6	FALL RIVER	526.41	m	m													
7	HAT CREEK	526.30	m	m													
8	BAUM LAKE	526.34	m	m													
9	MOUTH OF HAT CREEK TO SHASTA LAKE	526	m	m													
10	SACRAMENTO RIVER		m	m													
11	SOURCE TO BOX CANYON RESERVOIR	525.22	m	m													
12	LAKE SISKIYOU	525.22	m	m													
13	BOX CANYON DAM TO SHASTA LAKE	525.2	m	m													
14	SHASTA LAKE	506.10	m	m													
15	SHASTA DAM TO COLUSA BASIN DRAIN		m	m													
16	WHISKEY TOWN RESERVOIR	524.61	m	m													
17	CLEAR CREEK BELOW WHISKEYTOWN RESERVOIR	524.62	m	m													
18	COW CREEK	507.3	m	m													
19	BATTLE CREEK	507.12	m	m													
20	COTTONWOOD CREEK	524.3	m	m	P		P										
21	ANTELOPE CREEK	509.63	m	m													
22	MILL CREEK	509.42	m	m													
23	THOMAS CREEK	523.10	m	m													
24	DEER CREEK	509.20	m	m													
25	BIG CHICO CREEK	509.14	m	m													
26	STONY CREEK	522.00	m	m													
27	EAST PARK RESERVOIR	522.33	m	m													
28	BLACK BUTTE RESERVOIR	522.12	m	m													
29	BUTTE CREEK		m	m													
30	SOURCES TO CHICO	521.30	m	m													
31	BELOW CHICO, INCLUDING BUTTE SLOUGH	520.40	m	m													
32	COLUSA BASIN DRAIN	520.21	m	m													

LEGEND

- E = EXISTING BENEFICIAL USES
 P = POTENTIAL BENEFICIAL USES
 L = EXISTING LIMITED BENEFICIAL USE

NOTE:

Surface waters with the beneficial uses of Groundwater Recharge (GWR), Freshwater Replenishment (FRSH), and Preservation of Rare and Endangered Species (PRAE) have not been identified in this plan. Surface waters of the Sacramento and San Joaquin River Basins falling within these beneficial use categories will be identified in the future as part of the continuous planning process to be conducted by the State Water Resources Control Board.



TABLE II-1 (cont'd)

SURFACE WATER BODIES AND BENEFICIAL USES

SURFACE WATER BODIES (1)		HYDRO UNIT NUMBER	AGRI-CULTURE		INDUSTRY			RECREATION		FRESHWATER HABITAT (2)		MIGRATION		SPAWNING		WILD	NAV
			MUN	AGR	PROC	IND	POW	REC-1	REC-2	WARM	COLD	MIGR	SPWN				
			MUNICIPAL AND DOMESTIC SUPPLY	IRRIGATION	STOCK WATERING	PROCESS	SERVICE SUPPLY	POWER	CONTACT	CANOEING (1) AND RAFTING	OTHER NONCONTACT	WARM	COLD	WARM (3)	COLD (4)		
30	COLUSA BASIN DRAIN TO EYE ("I") STREET BRIDGE	920.00															
31	SUTTER BYPASS	920.3	m	m				m	m	m	m	m	m	m	m	m	m
	FEATHER RIVER																
32	LAKE ALMANOR	518.41															
33	NORTH FORK, FEATHER RIVER	518.4	m					m	m	m	m						
	MIDDLE FORK, FEATHER RIVER	518.3															
34	SOURCE TO LITTLE LAST CHANCE CREEK	518.35		m													
35	FRENCHMAN RESERVOIR	518.36															
36	LITTLE LAST CHANCE CREEK TO LAKE OROVILLE	518.3	m														
37	LAKE DAVIS	518.34															
38	LAKES BASIN LAKES	518.5															
39	LAKE OROVILLE	518.12	m	m													
40	FISH BARRIER DAM TO SACRAMENTO RIVER	515.	m	m													
	YUBA RIVER																
41	SOURCES TO ENGLEBRIGHT RESERVOIR	517.	m	m													
42	ENGLEBRIGHT DAM TO FEATHER RIVER	515.3		m													
43	BEAR RIVER	515.1	m	m													
	AMERICAN RIVER																
44	NORTH FORK, SOURCE TO FOLSOM LAKE	514.5	m	m													
45	MIDDLE FORK, SOURCE TO FOLSOM LAKE	514.4															
46	DESOLATION VALLEY LAKES	514.4															
	SOUTH FORK	514.3															
48	SOURCE TO PLACERVILLE	514.3	m														
49	PLACERVILLE TO FOLSOM LAKE	514.32															
50	FOLSOM LAKE	514.23	m	m													
51	FOLSOM DAM TO SACRAMENTO RIVER	519.21				m											
52	YOLO BYPASS	510.	m	m													
	CACHE CREEK																
53	CLEAR LAKE (a)	513.52	m	m													
54	CLEAR LAKE TO YOLO BYPASS (d)	511/513															

(1) Shown for streams and rivers only with the implication that certain flows are required for this beneficial use.

(2) Resident does not include anadromous. Any Segments with both COLD and WARM beneficial use designations will be considered COLD water bodies for the application of water quality objectives.

(3) Striped bass, sturgeon, and shad.

(4) The following beneficial uses EXIST in addition to those noted in Table II-1:

Mud Slough (only): OOMM and SHELL
 Salt Slough: COMM, BIOL, and SHELL
 Wetland Water Supply Channels: BIOL
 Clear Lake: OOMM

(5) Salmon and steelhead.

(6) As a primary beneficial use.

(7) The indicated beneficial uses are to be protected for all waters except in specific cases where evidence indicates the appropriateness of additional or alternative beneficial use designations.

(8) Sport fishing is the only recreation activity permitted.

(9) Beneficial uses vary throughout the Delta and will be evaluated on a case-by-case basis.

(10) Per State Board Resolution No. 90-28, Marsh Creek and Marsh Creek Reservoir in Contra Costa County are assigned the following beneficial uses: REC1 and REC2.

A/ Hidden Reservoir = Hensley Lake
 B/ Buchanan Reservoir = Eastman Lake

(d) In addition to the beneficial uses noted in Table II-1, COMM exists for Cache Creek from Clear Lake to Yolo Bypass and in the following tributaries only: North Fork Cache Creek and Bear Creek.

TABLE II-1 (cont'd)

SURFACE WATER BODIES AND BENEFICIAL USES

SURFACE WATER BODIES (1)		HYDRO UNIT NUMBER	MUN	AGRI-CULTURE		INDUSTRY			RECREATION		FRESHWATER HABITAT (2)		MIGRATION		SPAWNING		WILD	NAV
				IRRIGATION	STOCK WATERING	PROC	IND	POW	REC-1	REC-2	WARM	COLD	MIGR	SPWN				
															DOMESTIC SUPPLY	CONTACT		
78	MERCED RIVER																	
79	SOURCE TO McCLURE LAKE	537	m	m														
80	McCLURE LAKE	537.22		m														
80	MOSWAIN RESERVOIR	537.1	m	m														
81	MOSWAIN RESERVOIR TO SAN JOAQUIN RIVER	536	m	m														
82	YOSEMITE LAKE	536.9																
83	MOUTH OF MERCED RIVER TO VERNALIS TUOLUMNE RIVER	536/541	m	m														
84	SOURCE TO (NEW) DON PEDRO RESERVOIR	536	m	m														
85	NEW DON PEDRO RESERVOIR	536.32		m														
86	NEW DON PEDRO DAM TO SAN JOAQUIN RIVER	536	m	m														
87	SOURCE TO NEW MELONES RESERVOIR (PROPOSED)	534	m	m														
88	NEW MELONES RESERVOIR	534.21		m														
89	TULLOCH RESERVOIR	534.22	m	m														
90	GOODWIN DAM TO SAN JOAQUIN RIVER	536	m	m														
91	SAN LUIS RESERVOIR	542.32		m														
92	ONELL RESERVOIR	541.2		m														
93	OTHER LAKES AND RESERVOIRS IN SAN JOAQUIN R. BASIN, (EXCLUDING HYDRO UNIT NOS. 531-533, 543, 544) (5)		m	m														
94	CALIFORNIA AQUEDUCT	541	m	m														
95	DELTA-MENDOTA CANAL	541/543	m	m														
96	GRASSLAND WATERSHED (a)	541.2																
96	MUD SLOUGH (NORTH)			L (b)														
97	SALT SLOUGH			m														
98	WETLAND WATER SUPPLY CHANNELS (10)			L (b)														
C	SACRAMENTO SAN JOAQUIN DELTA (8, 9)	544	m	m														

(1) Shown for streams and rivers only with the implication that certain flows are required for the beneficial use.

(2) Resident does not include anadromous. Any Segments with both COLD and WARM beneficial use designations will be considered COLD water bodies for the application of water quality objectives.

(3) Striped bass, sturgeon, and steelhead.

(4) Salmon and steelhead.

(5) As a primary beneficial use.

(6) The indicated beneficial uses are to be protected for all waters except in specific cases where evidence indicates the appropriateness of additional or alternative beneficial use designations.

(7) Sport fishing is the only recreational activity permitted.

(8) Beneficial uses vary throughout the Delta and will be evaluated on a case-by-case basis.

(9) Per State Board Resolution No. 90-28, Marsh Creek and Marsh Creek Reservoir in Contra Costa County are assigned the following beneficial uses: REC1 and REC2.

(10) Wetland water supply channels for which beneficial uses are designated are defined in Appendix 40.

(a) The following beneficial uses EXIST in addition to those noted in Table II-1:

Mud Slough (north): COMM and SHELL
Salt Slough: COMM, BICL, and SHELL
Wetland Water Supply Channels: BICL
Clear Lake: COMM

(b) Elevated natural salt and boron concentrations may limit the use to irrigation of salt and boron tolerant crops. Intermittent low flow conditions may also limit this use.

(c) Wetland channels can sustain aquatic life, but due to fluctuating flow regimes and habitat limitations, may not be suitable for nesting and/or propagation.

**TABLE III-2
TULARE LAKE BASIN
MAXIMUM ELECTRICAL CONDUCTIVITY LEVELS**

<u>Stream</u>	<u>Location</u>	<u>Max. Electrical Conductivity ($\mu\text{mho/cm}$)</u>
Kings River		
Reach I	Above Kirch Flat	100
Reach II	Kirch Flat to Pine Flat Dam	100 ^a
Reach III	Pine Flat Dam to Friant-Kern	100
Reach IV	Friant-Kern to Peoples Weir	200
Reach V	Peoples Weir to Island Weir	300 ^b
Reach VI	Island Weir to Stinson Weir on North Fork and Empire Weir No. 2 on South Fork	300 ^b
Kaweah River		
Reach I	Above Lake Kaweah	175
Reach II	Lake Kaweah	175 ^c
Reach III	Below Lake Kaweah	^d
Tule River		
Reach I	Above Lake Success	450
Reach II	Lake Success	450 ^e
Reach III	Below Lake Success	^d
Kern River		
Reach I	Above Lake Isabella	200
Reach II	Lake Isabella	300
Reach III	Lake Isabella to Southern California Edison Powerhouse (KR-1)	300
Reach IV	KR-1 to Bakersfield	300 ^f
Reach V	Below Bakersfield	^d

^a Maximum 10-year average - 50 μmhos

^b During the period of irrigation deliveries. Providing, further, that for 10 percent of the time (period of low flow) the following shall apply to the following reaches of the Kings River:

Reach V 400 μmhos

Reach VI 600 μmhos

^c Maximum 10-year average - 100 μmhos

^d During the irrigation season releases should meet the levels shown in the preceding reach. At other times the channel will be dry or controlled by storm flows.

Table III-3

ELECTRICAL CONDUCTIVITY AND TOTAL DISSOLVED SOLIDS

<u>PARAMETER</u>	<u>WATER QUALITY OBJECTIVES</u>	<u>APPLICABLE WATER BODIES</u>
Electrical Conductivity (at 25°C)	Shall not exceed 230 micromhos/cm (50 percentile) or 235 micromhos/cm (90 percentile) at Knights Landing above Cohusa Basin Drain; or 240 micromhos/cm (50 percentile) or 340 micromhos/cm (90 percentile) at I Street Bridge, based upon previous 10 years of record.	Sacramento River (13, 30)
	Shall not exceed 150 micromhos/cm (90 percentile) in well-mixed waters of the Feather River.	North Fork of the Feather River (33); Middle Fork of the Feather River from Little Last Chance Creek to Lake Oroville (36); Feather River from the Fish Barrier Dam at Oroville to Sacramento River (40)
	Shall not exceed 150 micromhos/cm from Friant Dam to Gravelly Ford (90 percentile).	San Joaquin River, Friant Dam to Mendota Pool (69)
Total Dissolved Solids	Shall not exceed 125 mg/l (90 percentile)	North Fork of the American River from the source to Folsom Lake (44); Middle Fork of the American River from the source to Folsom Lake (45); South Fork of the American River from the source to Folsom Lake (48, 49); American River from Folsom Dam to Sacramento River (51)
	Shall not exceed 100 mg/l (90 percentile)	Folsom Lake (50)
	Shall not exceed 1,300,000 tons	Goose Lake (2)



Salinity and Nitrate Objective and Beneficial Use Study Project - Funding Year 1

The following describes the work to be done as part of the Salinity and Nitrate Objective and Beneficial Use Study project:

1. Establish a project work plan in accordance with program work plan outline.
2. Collect salinity and nitrate water quality data, land and site characteristics, waterbody characteristics and other key information from all available sources throughout the Central Valley,
3. Analyze and evaluate the known data to establish appropriate beneficial uses and salinity and nitrate objectives for protection for waterbodies with existing data,
4. Using the data and characteristics of known sites, develop a decision matrix protocol and process that can be used as a model to establish beneficial uses and preliminary objectives.

Deliverable - final report and data attachments supporting establishment of beneficial uses and preliminary objectives acceptable for protection of beneficial uses in known areas and a model to be used for establishment of uses and objectives throughout the region with limited or no data.