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## Technical Memorandum Task 2 – Phase 1

### Basin Plans Data Compilation

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Prepared for

Central Valley Salinity  
Alternatives for Long Term  
Sustainability Initiative

Under contract to:

San Joaquin Valley Drainage  
Authority  
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## Section 1: Introduction

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The memo is part of the Phase 1 Beneficial Use and Objectives (BUO) Study conducted under a subcontract with the San Joaquin Valley Drainage Authority which is responsible for the work pursuant to a contract with the State Water Resources Control Board. The work supports the development of a comprehensive Central Valley Salinity Management Plan. The technical memorandum describes the data compiled for the GIS layers in support of the work associated in Task 1 as described in the TM "Identification of Beneficial Use – A Geodatabase". Summarizing the data collected, the basin plans referenced, summary of permits reviewed, and identification of data gaps which include beneficial uses without water quality objectives are included in this document.

Water quality objectives and beneficial uses compiled from the Basin Plans for the Sacramento River and San Joaquin River Basin and Tulare Lake Basins were included in GIS layers. The San Francisco Bay/Sacramento-San Joaquin Delta plans that were included in the GIS layers encompass the locations within Region 5 as well as locations outside the region such as the Delta. Both surface and groundwater beneficial uses and water quality objectives were included in the GIS geodatabase. For the purposes of this work, salinity and nutrient objectives included TDS, EC, sodium, chloride, sulfate, nitrate, and boron. Data gaps where assignment of beneficial uses occurred, but for which no objectives were identified in the basin plans, are summarized in the tables of this document. To facilitate interpretation of the guidelines, permit summaries included in this work provide a basis and example for implementation in various regions of the Central Valley. Representative permits from the Region 5 Water Quality Control Board provided information regarding the implementation of the guidelines.

The compiled information provides a geographic inventory and assessment of salinity and nitrate related water quality objectives and beneficial uses in the Central Valley. The compiled data and viewer serve as a tool for the CVSC to assess the assignment of beneficial uses and objectives, perform comparisons, and establish geographic links between the data and permits.

## Section 2: Basin Plans

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### 2.1 Populated data

The GIS data contains beneficial use data and water quality objectives from the following Basin Plans:

- Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins with a publication date of 15 September 1998.
- Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for The Control of Salt and Boron discharges into the Lower San Joaquin River with a publication date of 10 September 2004.
- Water Quality Control Plan for the Tulare Lake Basin Second Edition with a publication date of January 2004.
- Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary with a publication date of 13 December 2006.

The data were compiled into tables and the basin plans merged into one data set. The descriptions and water quality objectives originated from the basin plans while the Maximum Contaminant Level (MCL) and Secondary Maximum Contaminant Level (SMCL) information are part of drinking water standard from the California Department of Public Health. Only Municipal and Domestic (MUN) beneficial use designations in the basin plan will have the drinking water standard associated with the water body.

### 2.2 Exceptions

Each basin plan has exceptions to the designated beneficial uses. The exceptions are based on the water quality existing in a water body.

#### 2.2.1 Sacramento River/San Joaquin River Basin Plan

The basin plan contains two exemptions for surface waters.

- “MUN, COLD, MIGR and SPWN do not apply to Old Alamo Creek (Solano County) from its headwaters to the confluence with New Alamo Creek”
- “MUN and human consumption of aquatic organisms do not apply to Sulphur Creek (Colusa County) from School house Canyon to the confluence with Bear Creek.”

The criteria to exempt a beneficial use for groundwater are below per:

- TDS in excess of 3,000 mg/L for groundwater is not a public water supply.

- Contamination that can not be reasonably treated by Best Management Practices is not a public water supply, agricultural supply, or industrial supply.
- Source produces insufficient supply as defined as average sustained yield of 200 gallons per day is not a public water supply, agricultural supply, or industrial supply.
- Groundwater that is maintained as a geothermal source is not a public water supply or agricultural supply.

## 2.2.2 Tulare Lake Basin Plan

The basin plan contains exemptions for ground waters.

- “Ground water in the lower Transition Zone and Santa Margarita formation within 3,000 feet of the Kern Oil and Refining Company proposed injections wells in Section 25, T30S, R28E is not suitable for municipal or domestic supply (MUN).”
- Ground water in the basal Etchegoin formation, Chanac formation, and Santa Margarita formation within and extending one-quarter mile outside of the Fruitvale Oil Field is not suitable for municipal or domestic use. The upper groundwater to 3000 feet in depth remains designated as MUN.
- Groundwater and spring water with in ½ mile of the McKittrick Waste Treatment site in Section 29, T30S, R22E has no beneficial uses.
- Ground water in the San Joaquin, Etchegoin and Jacalitos Formations within ½ mile of existing surface impoundments P-1,P-2,P-3, P-4, P-4 ½ , P-5, P-6, P-7, P-8, P-9, P-10, P-11, P-12/12A, P-13, P-14, P-15, P-16, P-17, P-18, P-19, and P-20 and proposed surface impoundments P-21, P-24, P-25, P-27, P-28, and P-29 at the Kettleman Hills Facility are not municipal or domestic supply.

The exceptions to the assigned beneficial uses for groundwater are below:

- TDS in excess of 3,000 mg/L for groundwater is not a public water supply.
- Contamination that can not be reasonably treated by Best Management Practices is not a public water supply, agricultural supply, or industrial supply.
- Source produces insufficient supply as defined as average sustained yield of 200 gallons per day is not a public water supply, agricultural supply, or industrial supply.
- Groundwater that is maintained as a geothermal source is not a public water supply or agricultural supply.

## Section 3: Permits

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Permits were used in the Phase 1 Beneficial Use and Objectives study to represent WRCB interpretation of the Basin Plans. The permits described serve as examples of implementation of a particular water quality objective. There is no other reason for their inclusion except to serve as an example of interpretation by the Regional Board. A list of representative permits was proposed by staff from the Central Valley Regional Water Quality Board (Region 5). The subcommittee providing oversight to this work reviewed the list and comments and modifications were made based on the discussion of the subcommittee. All agreed on the final list of permits (Table 1).

Three types of discharge limits have been established in these permits: effluent limits which discharge into a surface water body, groundwater limits where ground water may potentially be impacted, and application limits which refer to land applications that potentially could impact groundwater. The permits represent a wide range of approaches used by the Regional Water Board for the implementation of the Basin Plan. Constituents not found in the basin plans include the use of Fixed Dissolved Solids (FDS) and agronomic rates for land applications. Other limits have been referred to by the Basin Plan. When possible the groundwater basin affected by the groundwater limits was noted in the table. Only Tulare Lake Basin permits contained information regarding the specific basin and none of the Sacramento-San Joaquin River Basin Permits described a specific basin impacted by the permit.

Table 1: Representative permits for basin plan interpretation

Discharger	Order Number	Date	Type	Basin Plan/ Subbasin <sup>1</sup>	Receiving Water <sup>2</sup>	Discharge Type	Limits
Sutter Home Winery	R5-2009-0073	13-Aug-09	Non-15	SRSJR	Mokelumne River (surface water drainage)	Effluent limits	FDS 1,500 mg/L (daily and monthly average); FDS 1,100 mg/L annual average; Total Nitrogen 300 lbs/ac/yr (annual average)
					LAA	Application limits	Crops to take up nitrogen applied
					Groundwater	Groundwater water quality objectives	Boron 0.7 mg/L; Chloride 106 mg/L; Sodium 69 mg/L; TDS 450 mg/L; Total Nitrogen 10 mg/L; Nitrate (as N) 10 mg/L
Barrel Ten Quarter Circle Land, Co.	R5-2009-0038	24-Apr-09	Non 15 Reclamation	SRSJR	Stormwater discharge	Stormwater Basin	EC ≤500 µmhos/cm (stormwater)
					LAA	Effluent limits	FDS 2,000 mg/L (23 Apr 09); 1,500 mg/L (1 Feb 11); 1,200 mg/L (1 Feb 12); 750 mg/L (1 Feb 13)
					LAA	Groundwater limits	Waste constituents not statistically greater than background water quality
City of Loyalton	R5-2009-0108	8-Oct-09	Non 15 Reclamation	SRSJR	Middle Fork Feather River	Effluent limits	Total Nitrogen ≤ 10 mg/L; FDS 350 mg/L; Recycled water application prohibited 1 Nov - 28 Feb
					Groundwater	Groundwater limits	Chloride 106 mg/L; FDS 450 mg/L; Nitrate (as N) 10 mg/L
City of Lathrop	R5-2006-0094	22-Sep-06	Non 15 Reclamation	SRSJR	Storage pond and LAA	Effluent limits	TSS 10 mg/L; Total N 10 mg/L (< 20 mg/L daily); TDS 600 mg/L; LAA discharge to occur in areas where shallow groundwater is 1000 mg/L TDS
					Storage pond and LAA	Groundwater limits	Boron 0.7 mg/L; Chloride 106 mg/L; Sodium 69 mg/L; TDS 450 mg/L; Total Nitrogen 10 mg/L; Nitrite (as N) 1 mg/L; Nitrate (as N) 10 mg/L;
City of Lodi	WQ 2009-0005	7-Jul-09	Land Disposal	SRSJR	LAA and Storage Ponds	Groundwater limits	No exemption to Title 27; Comply with Basin Plan limits for EC and nitrate in Groundwater
Musco Family Olive Co. and the Studley Co.	R5-2010-0025	18-Mar-10	Land Disposal	SRSJR	Storage reservoir	Effluent limits	FDS 2,000 mg/L; FDS 1,055 tons/yr; agronomic rate for nitrogen or not cause groundwater to exceed 45 mg/L nitrate (as NO <sup>3</sup> ) or 10 mg/L for nitrate+nitrite (as N)
					LAA	Application limits	51% crop coverage; uptake of all nitrogen applied to crops
					Groundwater	Groundwater limits	No statistically significant increase in TDS, ammonia nitrogen, nitrate nitrogen, iron, manganese, sodium, chloride, sulfate, total alkalinity, and total hardness
City of Tracy	WQ-2009-0003	19-May-09	Delta Discharger	SRSJR	Old River	Effluent limits	Amend permit for specific EC discharge and the permit limit of water supply level +500 µmhos/cm; initiate a water planning process
City of Lodi	WQ-2009-0005	7-Jul-09	Delta Discharger	SRSJR	LAA and Storage ponds	Groundwater limits	No exemption from Title 27; Discharges contribute to elevated EC and Nitrate levels in groundwater must comply with limits set in Basin Plan
City of Manteca	R5-2009-0095	8-Oct-09	Delta Discharger	SRSJR	San Joaquin River	Effluent limits (9.87 and 17.5 mgd)	10 mg/L Nitrate+Nitrite (as N); EC 700 µmhos/cm (1 April to 31 August); EC 1000 µmhos/cm (1 Sept to 31 March) (Monthly average)



Discharger	Order Number	Date	Type	Basin Plan/ Subbasin <sup>1</sup>	Receiving Water <sup>2</sup>	Discharge Type	Limits
					Groundwater	Groundwater limits	EC 1,000 umhos/cm (interim); TDS 500 mg/L (interim); Total Nitrite Nitrogen (as N) 1 mg/L; Nitrate Nitrogen (as N) 10 mg/L: limits or natural background which ever is greater
					LAA	Application limits	Agronomic rate
City of Manteca	TSO R5-2009-0096	8-Oct-09	Delta Discharger	SRSJR	San Joaquin River	Effluent limits (9.87 and 17.5 mgd)	EC 1000 µmhos/cm (1 April to 31 August)
					Western Pacific Interceptor Drainage Canal	Effluent limits	Nitrate (as N) 10,000 µg/L and 150 lbs/day; Nitrite (as N) 1,000 µg/L and 15 lbs/day
Olivehurst PUD	R5-2004-0094	9-Jul-04	Feather River/Yuba River Dischargers	SRSJR	Western Pacific Interceptor Drainage Canal	Effluent limits	Sulfate 250,000 µg/L; 3,755 lbs/day (treatment capacity 1.8 mgd); 6,259 lbs/day (treatment capacity 3.0 mgd); 10,640 lbs/day (treatment capacity 5.1 mgd)
					Western Pacific Interceptor Drainage Canal	Groundwater	Not to degrade underlying groundwater
					Wetlands	----	Toxic pollutants shall not be present in water column, sediment, or biota that produce a detrimental response
					Feather River	Effluent limits (EFF-001)	Nitrite (as N) 1 mg/L and 40 lbs/day (monthly average); Nitrite + Nitrate (as N) 10 mg/L and 400 lbs/day (monthly average); <780 µmhos/cm (30 day 90th percentile)
Linda County Water District	R5-2006-0096	22-Sep-06	Feather River/Yuba River Dischargers	SRSJR	Feather River via Evaporation/Percolation Ponds	Effluent limits (EFF-002)	Nitrite (as N) 60 mg/L and 900 lbs/day; Nitrite + Nitrate (as N) 60 mg/L and 900 lbs/day; <780 µmhos/cm (30 day 90th percentile) (Interim)
					Feather River via Evaporation/Percolation Ponds	Groundwater limits	EC 700 umhos/cm; TDS 450 mg/L; Nitrate+Nitrite (as N) 10 mg/L; should not exceed limit or natural background which ever is greater
					Feather River	Effluent limits (EFF-001)	EC 1000 µmhos/cm (monthly average); Nitrite (as N) 221 mg/L (monthly average); Ammonia Nitrogen (as N) 31 mg/L (monthly average) and 60 mg/L (daily average)
City of Yuba City	R-5-2007-0134-01	25-Oct-09	Feather River Discharger	SRSJR	Disposal Ponds	Effluent limits (EFF-002)	Discharge to groundwater shall not exceed water quality objectives
					South Fork Putah Creek	Effluent limits (EFF-001)	Nitrate + Nitrite (as N) 10 mg/L; 300 lbs/day (dry weather flow); EC (interim) 1400 µmhos/cm (monthly average); TDS (interim) 536,100 lbs/month loading
UC Davis	R5-2008-0183	5-Dec-08	Yolo County Dischargers	SRSJR	North Fork Putah Creek	Effluent limits (EFF-002)	Nitrate + Nitrite (as N) 10 mg/L; 300 lbs/day (dry weather flow); EC (interim) 1400 µmhos/cm (monthly average); TDS (interim) 536,100 lbs/month loading
					Groundwater	----	Not to exceed background levels
					Tule Canal	Effluent limits	Ammonia Nitrogen, Total (as N) 0.8 mg/L (average monthly); 2.2 mg/L (daily maximum)
City of Woodland	R5-2009-0010	5-Feb-09	Yolo County Dischargers	SRSJR	Tule Canal	Effluent limits (Interim)	Ammonia 3.7 mg/L (maximum daily); EC 1832 µmhos/cm (annual average); Boron 3.1 mg/L (annual average)
					Tule Canal	Groundwater	Not to exceed background levels
					Groundwater (Shallow aquifer)	----	Discharge of waste prohibited in area and individual systems prohibited after 1 July 1995; < 334 gallons/day/acre is prohibited
Chico Urban Area	90-126	27-Apr-90	Septic Tanks	SRSJR	Big Chico and Little Chico Creeks and Lindo Channel	----	Discharge of waste prohibited in area and individual systems prohibited after 1 July 1995; < 334 gallons/day/acre is prohibited
City of Bakersfield Wastewater Treatment	R5-2009-0122	10-Dec-09	Tulare Lake Basin	Tulare Lake/DAU 254 Kern	Storage ponds	Effluent limits	Total Nitrogen ≤10 mg/L (monthly average); EC source + 500 µmhos/cm (rolling average)

Discharger	Order Number	Date	Type	Basin Plan/ Subbasin <sup>1</sup>	Receiving Water <sup>2</sup>	Discharge Type	Limits
Plant No. 2				County Basin	Groundwater	Groundwater limits	Nitrate (as N) ≤10 mg/L; EC 1,600 µmhos/cm; primary and secondary MCLs
J.G. Boswell, Corcoran Tomato Processing Facility	R5-2008-15	25-Jan-08	Tulare Lake Basin	Tulare Lake/ DAU 241	LAA	Groundwater limits	Nitrate (as N) 10 mg/L
Veldhuis North Dairy	R5-2009-0084	13-Aug-09	CAFO (dairies)	SRSJR	Mustang Creek	Run-off	No surface water discharge
					Shallowest Groundwater	Groundwater limits	Nitrate (as N) 10 mg/L; Chloride 250 mg/L; TDS 500 mg/L; EC 900 µmhos/cm (all interim)
Hilmar Cheese	R5-2010-0008	29-Jan-10	CAFO (dairies)	SRSJR	Drains to San Joaquin River	Effluent limits	EC 1,000 µmhos/cm; TDS 600 mg/L; Chloride 85 mg/L; Total Nitrogen 20 mg/L (monthly averages)
					Reuse area	Effluent limits	EC 900 µmhos/cm ; TDS 500 mg/L (12 month rolling average)
					Reuse area	Groundwater limits	Nitrate (as N) 10 mg/L; TDS 700 mg/L; Title 22 or the natural background which ever is greater
Stockton MS4 Stormwater Permit	R5-2009-0105	8-Oct-09	Misc	SRSJR	Major waterways, tributaries and regional groundwater	----	Approval of Stormwater Management Plan; Reduce discharge of pollutants in storm water to the maximum extent practicable
					Salt Slough and Wetlands Supply Channels	Water quality limits	Selenium 2 µg/L (monthly mean)
					San Joaquin River Below Merced River	Water quality limits	Selenium 5 µg/L (4 day average)
Grassland Bypass Project	5-01-234	7-Sep-01	Misc (agricultural drainage)	SRSJR	San Joaquin River Below the Merced River	Water quality limits	Selenium 5 µg/L (4 day average)
					Mud Slough (north) and the San Joaquin River from Sack Dam to the Merced River	Water quality limits	Selenium 5 µg/L (4 day average)
					San Joaquin River	Total loading	Not to exceed 8,000 lbs/yr
City of Fresno	R5-2009-0121	10-Dec-09	Misc	Tulare Lake/ DAU 233 Kings Basin	Groundwater	----	EC 900 µmhos/cm; Title 22 MCLs
Westlake Farms	97-263	6-Aug-93	Evaporation Pond	Tulare Lake/ North Basin and South Basin	Evaporation pond to wetland habitat	Effluent limit	Basin shall be maintained to prevent seepage, washout, or lack of containment; hazing of birds should occur when Selenium concentrations ≥2.0 µg/L; water discharged to ponds not exceed geometric mean of 2.0 µg/L selenium [?] for any 6 consecutive months and 2.7 µg/L for a single month
					Evaporation pond	Water quality limits	Hazing of birds should occur when Selenium geometric mean concentrations ≥4.0 mg/kg invertebrate; water stored in ponds for habitat shall not exceed geometric mean of 2.3 µg/L for any 6 consecutive samples and 3.5 µg/L for a single sample
Tulare Lake Drainage District	82-025	29-Mar-91	Evaporation Pond	Tulare Lake/ North, South, and Hacienda Basins	Evaporation pond	Water quality limits	Hazing of birds should occur when Selenium geometric mean concentrations ≥4.0 mg/kg invertebrate; water stored in ponds for habitat shall not exceed geometric mean of 2.3 µg/L for any 6 consecutive samples and 3.5 µg/L for a single sample
					Evaporation pond	Water quality limits	Hazing of birds should occur when Selenium geometric mean concentrations ≥4.0 mg/kg invertebrate; water stored in ponds for habitat shall not exceed geometric mean of 2.3 µg/L for any 6 consecutive samples and 3.5 µg/L for a single sample

1. SRSJR- Sacramento River and San Joaquin River Basin Plan

2. LAA= Land Application Area

## Section 4: Data Gaps

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Nearly half of the Sacramento River and San Joaquin River Basin plan and portion of the Tulare Lake Basin Plan have beneficial uses assigned to the water bodies but no numeric or narrative water quality objectives were associated with those beneficial uses. Below are tables that represent the water bodies that do not have objectives associated with them (Table 2 and 3). Water bodies designated as a municipal beneficial use were included in the list if they did not have a specific water quality objective. It was not assumed that the MCL or SMCL would be the objective for the water body.

Table 2 represents the surface water bodies with beneficial uses assigned but no numerical or narrative objectives were assigned to the water body. The Sacramento-San Joaquin River Basin had a significant number of water bodies that are not assigned numerical values. This compilation of water bodies only represents assignments that are not in the Basin Plan. Beneficial uses and the associated water quality objectives assigned by the tributary rule were not considered in the data gaps. The assignments of the beneficial uses based on the tributary rule would reduce the number of water bodies without an assigned beneficial use and associated water quality objective in the table below.

Table 2: Assignment of beneficial uses without water quality objective for surface waters

Name	Water Body	Basin Plan	MUN	AGR_Irrig	AGR_Stock	PRO	IND	POW	REC_1_C	REC_1_CR	REC_2_NC	WARM	COLD	MIGR_Warm	MIGR_Cold	SPWN_Warm	SPWN_Cold	WILD	NAV	COMM	SHELL	BIOL	GWR	FRSH	RARE
McCloud River	McCloud River	SRSJR	E					E	E	P	E		E				E	E							
Pit River	Pit River North Fork, South Fork, Pit River	SRSJR	E	E	E				E	P	E	E	E			E	E	E							
Pit River	Confluence of forks to Hat Creek	SRSJR	E	E	E			E	E	E	E	E	E			E		E							
Pit River	Fall River	SRSJR	E	E	E			E	E	E	E	E	E					E							
Pit River	Mouth of Hat Creek to Shasta Lake	SRSJR	E	E	E			E	E	E	E	P	E			E	E	E							
Sacramento River	Shasta Lake	SRSJR	E	E																					
Sacramento River	Whiskey Town Reservoir	SRSJR	E	E	E			E	E		E	E	E	E		E	E	E							
Sacramento River	Clear Creek Below Whiskey Town Reservoir	SRSJR	E	E	E				E	E	E	E	E		E	E	E	E							
Sacramento River	Cottonwood Creek	SRSJR	E	E	E	P	P	P	E	E	E	E	E		E	E	E	E							
Sacramento River	Antelope Creek	SRSJR	E	E	E				E		E	E	E		E	E	E	E							
Sacramento River	Mill Creek	SRSJR	E	E	E				E		E	E	E		E	E	E	E							
Sacramento River	Deer Creek	SRSJR	E	E	E				E	E	E	E	E		E	E	E	E							
Sacramento River	Butte Creek, Sources to Chico	SRSJR	E	E	E			E	E			E	E		E	E	E	E							
Sacramento River	Lake Almanor	SRSJR	E					E	E			E	E			E		E							
Sacramento River	Lake Oroville	SRSJR	E	E				E	E		E	E	E			E	E	E							
Sacramento River	Sources to Englebright Reservoir (Yuba River)	SRSJR	E	E	E			E	E	E	E		E				E								
Sacramento River	Bear River	SRSJR	E	E	E			E	E	E	E	E	E	P	P	P	P	E							
Cache Creek	Clear Lake	SRSJR	E	E	E				E		E	E	P			E		E		E					
Cache Creek	Clear Lake to Yolo Bypass	SRSJR	E	E	E	E	E		E	E	E	E	P			E	E	E		E					
Sacramento River	Lake Berryessa	SRSJR	E	E	E			P	E		E	E	E			E		E							
Sacramento River	Lake Berryessa to Yolo Bypass	SRSJR	E	E					E		E	E				E		E							
Cosumnes River	Sources to Nashville Reservoir (proposed)	SRSJR	E	E					E		E		E				E								
Cosumnes River	Source to Delta	SRSJR	E	E	E				E	E	E	E	E	E	E	E	E	E							
Mokelumne River	Sources to Pardee Reservoir	SRSJR	E					E	E	E	E	E	E	E		E	E	E							
Mokelumne River	Pardee Reservoir	SRSJR	E					E	E (Sport fishing only)		E	E	E			E	E	E							
Mokelumne River	Camanche Reservoir	SRSJR	E	E	E				E		E	E	E	E		E	E	E							
Calaveras River	New Hogan Reservoir to Delta	SRSJR	E	E	E	P	P		E	E	E	E	E	E	E	E	E	E							
San Joaquin River	Sources to Millerton Lake	SRSJR	E	E	E	E		E	E	E	E	E	E					E							
San Joaquin River	Source to Hidden Reservoir A (Fresno River)	SRSJR	E	E	E				E		E	E	E					E							
San Joaquin River	Hidden Reservoir A	SRSJR	E		E				E		E	E						E							
San Joaquin River	Buchanan Reservoir B	SRSJR	E	E	E				E		E	E						E							
San Joaquin River	McSwain Reservoir to San Joaquin River	SRSJR	E		E	E	E	E	E	E	E	E	E	E	E	E	E	E							
San Joaquin River	Source to (new) Don	SRSJR	E	E	E			E	E	E	E	E	E					E							

Name	Water Body	Basin Plan	MUN	AGR_Irrig	AGR_Stock	PRO	IND	POW	REC_1_C	REC_1_CR	REC_2_NC	WARM	COLD	MIGR_Warm	MIGR_Cold	SPWN_Warm	SPWN_Cold	WILD	NAV	COMM	SHELL	BIOL	GWR	FRSH	RARE
River	Pedro Reservoir (Tuolumne River)																								
San Joaquin River	Sources to new Melones Reservoir (proposed) (Stanislaus River)	SRSJR	E	E	E			E	E	E	E	E	E												
San Joaquin River	New Melones Reservoir	SRSJR	E	E	E			E	E		E		E												
San Joaquin River	San Luis Reservoir	SRSJR	E	E	E		E	E	E		E	E												E	
San Joaquin River	O'Neill Reservoir	SRSJR	E	E	E				E		E	E												E	
San Joaquin River	Other lakes and reservoirs in San Joaquin R. Basin(Excludes 531-533,543,544)	SRSJR	E					E	E		E	E	E				E								
San Joaquin River	California Aqueduct	SRSJR	E	E	E	E	E	E	E		E	E												E	
San Joaquin River	Delta-Mendota Canal	SRSJR	E	E	E				E		E	E												E	
San Joaquin River	Sacramento San Joaquin Delta	SRSJR	E	E	E	E	E	E	E		E	E	E	E	E	E	E							E	E
Surface Water	Mill, Source to Kings River	SRSJR	E						E		E	E												E	E
Surface Water	Other East Side Streams	Tulare Basin Plan	E	E	E				E		E	E	E											E	
Sacramento River	Cow Creek	SRSJR	P	E	E			E	E	P	E		E		E	E	E							E	
Cosumnes River	Nashville reservoir (proposed)	SRSJR	P					P	P		P	P	P	P		P	P							P	
San Joaquin River	Millerton Lake	SRSJR	P	E	E				E		E	E	P											E	
San Joaquin River	Mendota Dam to Sack Dam	SRSJR	P	E	E	E	E	E	E	E	E	E		E	E	E	P							E	
San Joaquin River	Hidden Reservoir to San Joaquin River	SRSJR	P	E	E				E	P	E	E												E	
San Joaquin River	Buchanan Dam to San Joaquin River	SRSJR	P	E		E			E	P	E	E												E	
San Joaquin River	Source to McClure Lake (Merced River)	SRSJR	P	E				E	E	E	E	E	E											E	
San Joaquin River	McClure Lake	SRSJR	P	E				E	E		E	E	E											E	
San Joaquin River	McSwain Reservoir	SRSJR	P	E				E	E		E	E	E											E	
San Joaquin River	New Don Pedro Reservoir	SRSJR	P						E		E	E	E											E	
San Joaquin River	New Don Pedro Dam to San Joaquin River	SRSJR	P	E	E				E	E	E	E	E		E	E	E							E	
San Joaquin River	Tulloch Reservoir	SRSJR	P	E	E			E	E		E	E												E	
San Joaquin River	Goodwin Dam to San Joaquin River	SRSJR	P	E	E	E	E	E	E	E	E	E	E		E	E	E							E	
Pit River	Hat Creek	SRSJR		E				E	E		E	E	E				E							E	
Pit River	Baum Lake	SRSJR						E	E		E		E				P							E	
Sacramento River	Source to Box Canyon Reservoir	SRSJR		E	E				E		E		E											E	
Sacramento River	Lake Siskiyou	SRSJR							E		E	E	E				P							E	
Sacramento River	Box Banyon Dam to Shasta Lake	SRSJR		E	E				E	E	E		E				E							E	
Sacramento River	Battle Creek	SRSJR		E	E			E	E	E	E	E	E		E	E	E							E	
Sacramento River	Thomes Creek	SRSJR		E	E			P	E		E	E	E		E	E	E							E	
Sacramento River	Big Chico Creek	SRSJR		E	E				E	E	E	E	E		E	E	E							E	

Name	Water Body	Basin Plan	MUN	AGR_Irrig	AGR_Stock	PRO	IND	POW	REC_1_C	REC_1_CR	REC_2_NC	WARM	COLD	MIGR_Warm	MIGR_Cold	SPWN_Warm	SPWN_Cold	WILD	NAV	COMM	SHELL	BIOL	GWR	FRSH	RARE
Sacramento River	Stoney Creek	SRSJR		E	E				E	E	E	E	P		E	E	E								
Sacramento River	East Park Reservoir	SRSJR							E		E	E	P			E									E
Sacramento River	Black Butte Reservoir	SRSJR		E	E				E		E	E				E									E
Sacramento River	Butte Creek,Below Chico, including Butte Slough	SRSJR		E	E				E	E		E	E		E	E									E
Sacramento River	Colusa Basin Drain	SRSJR		E	E				E	E		E	P	E		E									E
Sacramento River	Sutter Bypass	SRSJR		E					E			E			E		E								E
Sacramento River	Source to Little Last Chance Creek	SRSJR		E	E				E	E	E	E	E				E								E
Sacramento River	Frenchman Reservoir	SRSJR							E	E	E	P	E				E								E
Sacramento River	Lake Davis	SRSJR							E		E	P	E				E								E
Sacramento River	Lases Basin Lakes	SRSJR							E		E		E				E								E
Sacramento River	Englebright Dam to Feather River	SRSJR		E	E			E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Sacramento River	Desolation Valley Lakes	SRSJR							E		E		E				E								E
Sacramento River	Yolo Bypass	SRSJR		E	E				E		E	E	P	E	E	E									E
Mokelumne River	Camanche Reservoir to Delta	SRSJR		E	E				E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Calaveras River	Source to New Hogan Reservoir	SRSJR							E	E	E	E	E	E		E	E	E	E	E	E	E	E	E	E
Calaveras River	New Hogan Reservoir	SRSJR							E		E	E	E	E		E	E	E	E	E	E	E	E	E	E
San Joaquin River	Source to Buchanan Reservoir B (Chowchilla River)	SRSJR							E		E	E	E												E
San Joaquin River	Yosemite Lake	SRSJR							E		E	E	E												E
San Joaquin River	Salt Slough	SRSJR		E	E				E		E	E				E				E	E	E	E	E	
San Joaquin River	Wetland Water Supply Channels	SRSJR		L	E							L								E					E
	Marsh Creek	SRSJR							E		E														
	Marsh Creek Reservoir	SRSJR							E		E														
Kings River	North Fork, Upper	Tulare Basin Plan						E	E		E	E	E				E								E
Surface Water	Poso Creek	Tulare Basin Plan		E	E				E		E	E	E											E	E
Surface Water	West Side Streams	Tulare Basin Plan		E	E	E	E		E		E	E												E	E
Surface Water	Valley Floor Waters	Tulare Basin Plan		E	E	E	E		E		E	E												E	E
Kings River	Peoples Weir to Stinson Weir on North Fork and to Empire Weir No. 2 on South Fork	Tulare Basin Plan		E	E				E		E	E												E	
Contra Costa Canal at Pumping Plant #1 or San Joaquin River at Antioch Water Works Intake	C-5	Delta		E		E		E	E		E													E	
San Joaquin River at Antioch Water Works Intake	D-12*	Delta		E		E		E	E		E													E	

The ground waters in Table 3 were identified as having beneficial uses in the individual basin plans but no narrative or numerical objectives were assigned to the water body. Within the Tulare Lake Basin the individual groundwater basins have been delineated however this is not the case for the groundwater basins in the Sacramento-San Joaquin River Basin. Assignment of the beneficial uses was assigned to the entire basin. Although stratification in ground waters does occur, the assumption made to map the ground waters for this Phase of the Beneficial Use Objective work was to consider that the entire groundwater basin was not different regardless of depth, soil type, expanse, or any other defining features.

Table 3: Assignment of beneficial uses without water quality objective for groundwaters

Name	DAU_Num	Basin_Plan	MUN	AGR_Irrig	AGR_Stock	PRO	IND	REC_1	REC_2	WILD
Groundwater		Sacramento-San Joaquin River Basin Plan	E	E	E	E	E			
Delta-Mendota Basin	216	Tulare Basin Plan	E	E	E		E			
Delta-Mendota Basin	235	Tulare Basin Plan	E	E	E	E	E		E	E
Delta-Mendota Basin	237	Tulare Basin Plan	E	E	E	E	E			
Kings Basin	233	Tulare Basin Plan	E	E	E		E	E	E	
Kings Basin	234	Tulare Basin Plan	E	E	E		E			
Kings Basin	235	Tulare Basin Plan	E	E	E	E	E			
Kings Basin	236	Tulare Basin Plan	E	E	E	E	E			
Kings Basin	237	Tulare Basin Plan	E	E	E		E			
Kings Basin	239	Tulare Basin Plan	E	E	E	E	E			
Kings Basin	240	Tulare Basin Plan	E	E	E					
Pleasant Valley Basin	245	Tulare Basin Plan	E	E	E		E			
Westside Basin	244	Tulare Basin Plan	E	E	E		E			
Kern County Basin	245	Tulare Basin Plan	E	E	E		E			
Kern County Basin	254	Tulare Basin Plan	E	E	E	E	E	E	E	E
Kern County Basin	255	Tulare Basin Plan	E	E	E		E			
Kern County Basin	256	Tulare Basin Plan	E	E	E	E	E			
Kern County Basin	257	Tulare Basin Plan	E	E	E		E	E		
Kern County Basin	258	Tulare Basin Plan	E	E	E	E	E			
Kern County Basin	259	Tulare Basin Plan	E	E	E		E			
Kern County Basin	260	Tulare Basin Plan	E				E			
Kern County Basin	261	Tulare Basin Plan	E	E	E		E			
Panoche Valley	Satellite basin	Tulare Basin Plan	E							
Squaw Valley	Satellite basin	Tulare Basin Plan	E	E	E		E			
Kern River Valley	Satellite basin	Tulare Basin Plan	E	E	E		E			
Walker Basin Creek Valley	Satellite basin	Tulare Basin Plan	E	E	E		E			
Cummings Valley	Satellite basin	Tulare Basin Plan	E	E	E		E	E	E	
Tehachapi Valley West	Satellite basin	Tulare Basin Plan	E	E	E		E	E	E	E
Castaic Lake Valley	Satellite basin	Tulare Basin Plan	E	E	E		E			
Vallecitos Creek Valley	Satellite basin	Tulare Basin Plan	E							
Cedar Grove Area	Satellite basin	Tulare Basin Plan	E							
Three Rivers Area	Satellite basin	Tulare Basin Plan	E							
Springville Area	Satellite basin	Tulare Basin Plan	E				E			
Templeton Mountain Area	Satellite basin	Tulare Basin Plan	E							
Monache Meadows Area	Satellite basin	Tulare Basin Plan	E	E	E				E	
Secator Canyon Valley	Satellite basin	Tulare Basin Plan	E							
Rockhouse meadow Valley	Satellite basin	Tulare Basin Plan	E					E		

Name	DAU_Num	Basin_Plan	MUN	AGR_Irrig	AGR_Stock	PRO	IND	REC_1	REC_2	WILD
Linns Valley	Satellite basin	Tulare Basin Plan	E				E			
Brite Valley	Satellite basin	Tulare Basin Plan	E	E	E		E	E	E	E
Bear Valley	Satellite basin	Tulare Basin Plan	E	E	E		E	E	E	E
Cuddy Canyon Valley	Satellite basin	Tulare Basin Plan	E				E		E	
Cuddy Ranch Area	Satellite basin	Tulare Basin Plan	E	E	E					
Cuddy Valley	Satellite basin	Tulare Basin Plan	E	E	E		E			
Mill Potrero Area	Satellite basin	Tulare Basin Plan	E				E		E	
All Other Groundwaters		Tulare Basin Plan	E							



## References

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Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins with a publication date of 15 September 1998.

Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for The Control of Salt and Boron discharges into the Lower San Joaquin River with a publication date of 10 September 2004.

Water Quality Control Plan for the Tulare Lake Basin Second Edition with a publication date of January 2004.

Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary with a publication date of 13 December 2006