

Regional Water Board Assistance in Guiding Salt and Nutrient Management Plan Development in the Los Angeles Region

*Further clarification and information to assist development of Salt and
Nutrient Management Plans set forth in the State Water Board's
Recycled Water Policy*

DRAFT

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,
LOS ANGELES REGION**

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1. INTRODUCTION

The State Water Resources Control Board (State Water Board) adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) on February 3, 2009. The purpose of the Recycled Water Policy (hereinafter, Policy) is to protect groundwater resources and increase the beneficial use of recycled water from municipal wastewater sources in a manner consistent with state and federal water quality laws and regulations. The Policy provides direction to the Regional Water Quality Control Boards (Regional Water Boards), proponents of recycled water projects, and the public regarding the appropriate criteria to be used by the State Water Board and the Regional Water Boards in issuing permits for recycled water projects.

The Policy recognizes the potential for increased salt and nutrient loading to groundwater basins as a result of increased recycled water use, and therefore, requires the development of regional or sub-regional salt and nutrient management plans. In requiring such plans, the Policy acknowledges that recycled water may not be the sole cause of high concentrations of salts and nutrients in groundwater basins, and therefore regulation of recycled water alone will not address such conditions. The intent of this requirement is to make certain that salts and nutrients from all sources are managed on a basin-wide or watershed-wide basis in a manner that ensures the attainment of water quality objectives and protection of beneficial use.

The Recycled Water Policy states:

- a) Every basin/sub-basin shall have a consistent salt and nutrient management plan (hereinafter, SNMP);
- b) SNMPs shall be tailored to address the water quality concerns in each basin;
- c) Shall be developed or funded pursuant to the provisions of Water Code sections 10750 *et seq.* or other appropriate authority;
- d) SNMPs shall be completed and proposed to the Regional Water Board within five years from the adoption date of the Policy;
- e) SNMPs are not required in areas where a Regional Water Board has approved a functionally equivalent salt and nutrient plan; and
- f) SNMPs may address constituents other than salt and nutrients that adversely affect groundwater quality.

Within one year of the receipt of a proposed SNMP, the Regional Water Board is expected to consider for adoption revised implementation plans, consistent with Water Code section 13242, for those groundwater basins within their regions where water quality objectives for salts or nutrients are being, or are threatening to be, exceeded. The implementation plans are to be based on the salt and nutrient plans required by the Policy.

The Policy spells out the required elements of an SNMP. In addition, the State Water Board provided additional detail on the contents of a SNMP by developing "Suggested Elements" as a means of indicating the nature and extent of information to be provided in the plans. The State Water Board has also provided a template for Regional Water Board adoption of the implementation aspects of the SNMPs into each region's Water Quality Control Plan (hereinafter, Basin Plan).

The Policy is clear that the SNMP process should be stakeholder-led and conducted in a collaborative manner among interested parties. The Regional Water Board's role is that

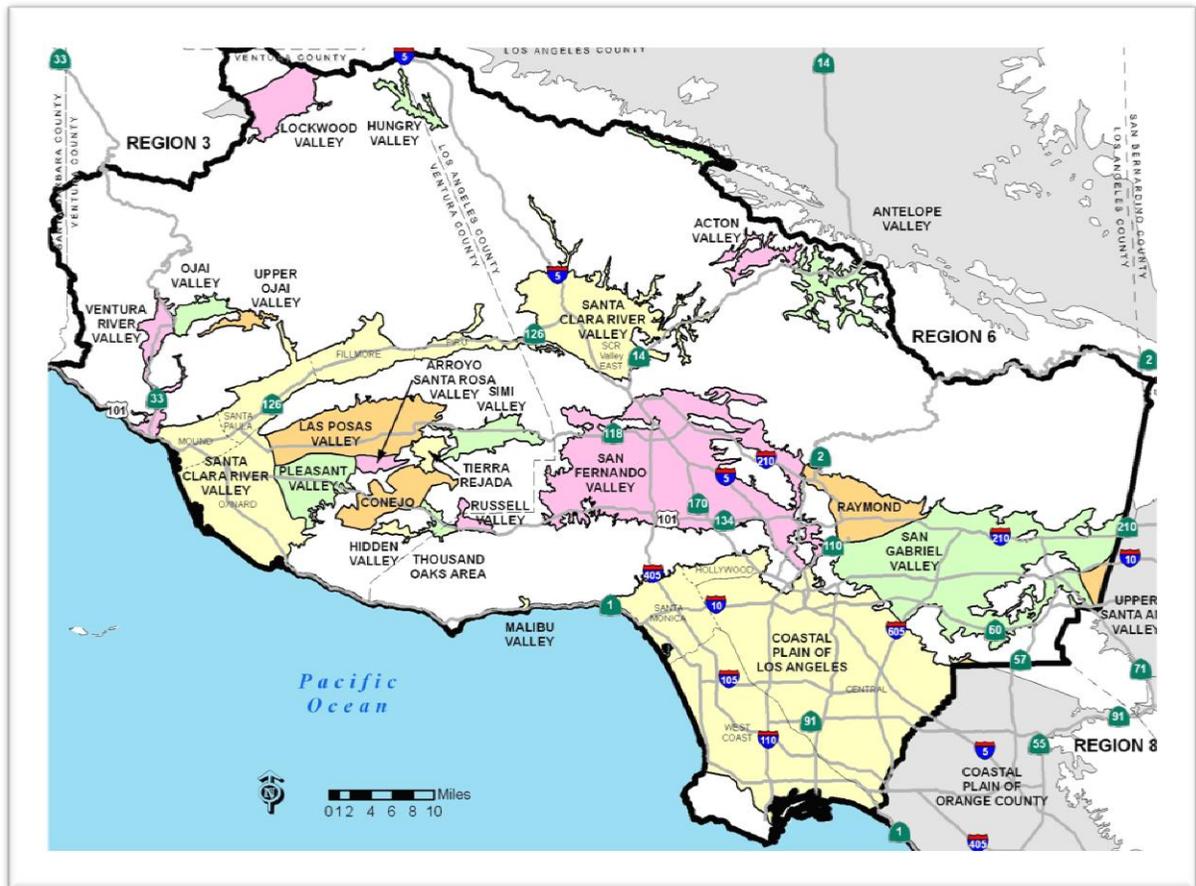
of an overseer and facilitator of the SNMP development process – providing regulatory guidance as necessary and technical and regulatory oversight of the process to ensure that the final product is compliant with the specific requirements of the Policy and state and federal water quality laws. Board staff has been attending stakeholder meetings for various groundwater basin/sub-basin groups to provide support and information as necessary.

The purpose of this document is to provide information and guidance to assist on certain aspects of the SNMP development identified by stakeholder groups. By providing such information, the Regional Water Board will increase consistency among SNMPS developed throughout the Los Angeles Region. This document is not a policy or regulation of the Regional Water Board and has no regulatory affect; it is intended to assist in the development of SNMPS.

2. GROUNDWATER BASINS IN THE LOS ANGELES REGION

The Los Angeles subregion overlies 24 groundwater basins and encompasses most of Ventura and Los Angeles counties (Figure 2-1). Within this subregion, the Ventura River Valley, Santa Clara River Valley, and Coastal Plain of Los Angeles basins are divided into sub-basins. The basins in the Los Angeles subregion underlie 1.01 million acres (1,580 square miles) or about 40 percent of the total surface area of the subregion (DWR, 2003). Groundwater is found in unconfined alluvial aquifers in most of the inland basins of the Los Angeles subregions. In some larger basins, such as those underlying the coastal plain, groundwater occurs in multiple aquifers separated by aquitards that create confined groundwater conditions (DWR, 2003). Coastal basins in this hydrologic region are prone to intrusion of seawater. Seawater intrusion barriers are maintained along the coastal plain. In Los Angeles County, imported and recycled water is injected to maintain a seawater intrusion barrier (DWR, 2003).

FIGURE 2-1: GROUNDWATER BASINS IN THE LOS ANGELES REGION



For purposes of regulation by the Regional Water Board pursuant to its authority under the California Water Code, the groundwater basins in the Los Angeles Region are identified in the Basin Plan. Basin descriptions in the Basin Plan were updated in 2011 based on the Department of Water Resources (DWR) 2003 revision of Bulletin 118 (Figure 2-1). The basins include the Central and West Basins, which underlie the Los Angeles Coastal Plain; the San Fernando and San Gabriel Basins, which lie between the Santa Monica Mountains and the San Gabriel and Santa Susanna Range; and the Santa Clara and Ventura Basins, which lie between Oak Ridge and the Transverse Ranges. General characteristics of the major basins/sub-basins are summarized in Table 2-1.

TABLE 2-1: GENERAL CHARACTERISTICS OF THE LOS ANGELES REGION GROUNDWATER BASINS

MAJOR GROUNDWATER BASIN(S) AND SUB-BASINS	STORAGE CAPACITY (AC-FT)	BASIN RECHARGE¹
COASTAL PLAINS OF LOS ANGELES		
Santa Monica	~1,100,000	Natural/Recycled
Hollywood	200,000	Natural
West Coast Basin	~6,500,000	Natural
Central	13,800,000	Natural/Recycled
SAN GABRIEL	10,740,000	Natural/Septics
RAYMOND	450,000	Natural/Septics
SAN FERNANDO	3,670,000	Natural/ Recycled
SANTA CLARA RIVER VALLEY		
Oxnard	7,140,000	Natural/ Recyled/ Septics
Mound	n.a	
Santa Paula	800,000	Recycled/Septics
Fillmore	1,100,000	Recycled/Septics
Piru	1,979,000	Recycled/Septics
Santa Clara River Valley East	n.a.	Natural/Recycled/Septics
PLEASANT VALLEY	1,886,000	Natural/Recycled/Septics
UPPER/LOWER OJAI	~84,000	Natural/Septics
VENTURA RIVER VALLEY	10,000	
SIMI VALLEY	180,000	Natural/IRecycled/Septics
TIERRA REJADA	80,000	
THOUSAND OAKS	130,000	
CONEJO VALLEY	7,106	
RUSSELL VALLEY	10,570	
HIDDEN VALLEY	n.a.	
MALIBU VALLEY	n.a.	Natural/Irrigation/Septics

n.a: not available

The Central and West Coast Basins, San Gabriel and Raymond Basins, and the Piru, Fillmore, Mound and Oxnard Forebay sub-basins beneath the Santa Clara River Valley have large storage capacities with significant existing or proposed municipal groundwater use in both urbanized and agricultural areas. The water levels are stable or declining but arrested by conjunctive use, the injection of potable water for future use. Groundwater is augmented by imported water supplies.

¹ Managed and natural stormwater recharge takes place in most of these basins.

The hydrogeology and groundwater of the basins have been extensively studied and documented, and groundwater quality and transport have been studied using computer models. Potential groundwater management alternatives for these basins have also been extensively studied. The San Gabriel Basin has no confining layers, but the Regional Water Board and USEPA's management of twelve plumes of Volatile Organic Compounds (VOCs) and five plumes of nitrates, where groundwater exceeds the Maximum Contaminant Level (MCL), has limited the impact to adjudicated drinking water resources of 15,000 acre-feet (15 billion gallons).

The San Fernando Basin and Santa Clara River also have large storage capacities, but have declining water levels, significantly less municipal groundwater use, and no existing conjunctive use. The groundwater quality is variable, but remains locally usable as a source of irrigation or municipal supply. Wastewater and recycling agencies within these basins experience periodic noncompliance with groundwater quality objectives. In general, the basins have been studied less extensively than the Central and West Coast, San Gabriel and Raymond and Lower Santa Clara River Valley basins, although the potential yields from these basins are equally large. In the San Fernando Basin, impacts from a VOC plume and four nitrate plumes along with the irregular presence of confining layers have impacted the use of the basin for drinking water uses. In the upgradient portion of Santa Clara River Valley, contamination of the groundwater and its exfiltrates by salts, nutrients and bacteria as a result of increasing urbanization has impacted the use of groundwater as a source of domestic supply..

Nine groundwaterbasins in rural areas² are the sole source of local drinking water supply. They have smaller storage capacities (less than 10,000 acre-feet) in unconsolidated sediment. Wastewater, recycling agencies and facilities with onsite wastewater treatment systems (hereinafter, OWTS) may experience periodic noncompliance with Basin Plan groundwater quality objectives in these basins. Fewer studies and resources exist to characterize basin hydrogeology, groundwater quality, and groundwater transport. The California Department of Public Health, the State Water Board's Division of Water Rights, and USEPA's drinking water protection programs identify problems with water quality upon delivery, and efforts to isolate pollutants from the underlying potable supply are implemented through waste discharge requirements from the Regional Water Board.

The Oxnard Plain, Ventura River, Sylmar, Pomona, and Thousand Oaks/Pleasant Valley/Fox Canyon basins are moderately sized agricultural and urbanized groundwater basins with higher salinity levels. Wastewater and recycled water can usually comply with Basin Plan groundwater quality objectives, but the quality is improved by potable water conjunctive use. Heavy recycled water application and agricultural commitments limit the reliable use of these basins for emergency domestic use.

The coastal areas of the Region are underlain by porous sediments or fractured bedrock, both of which may have been intruded by saltwater during historic municipal, agricultural and industrial use of the aquifers. Fresh or recycled water injection is used to limit seawater intrusion in the West Coast and Oxnard Plain basins. The tidally influenced and impacted areas may be heavily studied or un-evaluated, but wastewater and recycled water permits generally require compliance with Basin Plan or Ocean Plan objectives for salt. Public water supplies are not currently developed within these areas.

² Ojai Valley, Acton, Sierra Pelona Valley, Lake Elizabeth, Santa Rosa Valley, Hidden Valley, Santa Susana Knolls, Lockwood Valley, and Hungry Valley.

Beneficial uses of the groundwater basins in the region include Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Services Supply (IND), Industrial Process Supply (PROC), and Aquaculture (AQUA). The designated beneficial uses for these basins are shown in Table 2-2.

TABLE 2-2: BENEFICIAL USES OF GROUND WATERS IN THE LOS ANGELES REGION.¹

DWR² Basin No.	BASIN	MUN	IND	PROC	AGR	AQUA
	PITAS POINT AREA³	E	E	P	E	
4-1	UPPER OJAI VALLEY	E	E	E	E	
4-2	OJAI VALLEY	E	E	E	E	
4-3	VENTURA RIVER VALLEY					
4-3.01	Upper Ventura	E	E	E	E	
4-3.02	Lower Ventura	P	E	P	E	
4-4	SANTA CLARA RIVER VALLEY⁴					
4-4.02	Oxnard					
4-4.02	Oxnard Forebay	E	E	E	E	
4-4.02	Confined aquifers	E	E	E	E	
4-4.02	Unconfined and perched aquifers	E	P		E	
4-4.03	Mound					
4-4.03	Confined aquifers	E	E	E	E	
4-4.03	Unconfined and perched aquifers	E	P		E	
4-4.04	Santa Paula					
4-4.04	East of Peck Road	E	E	E	E	
4-4.04	West of Peck Road	E	E	E	E	
4-4.05	Fillmore					
4-4.05	Pole Creek Fan area	E	E	E	E	
4-4.05	South side of Santa Clara River	E	E	E	E	
4-4.05	Remaining Fillmore area	E	E	E	E	E
4-4.05	Topa Tapa (upper Sespe) area	P	E	P	E	
4-4.06	Piru					
4-4.06	Upper area (upper Lake Piru)	P	E	E	E	
4-4.06	Lower area east of Piru Creek	E	E	E	E	
4-4.06	Lower area west of Piru Creek	E	E	E	E	
4-4.07	Santa Clara River Valley East					
4-4.07	Mint Canyon	E	E	E	E	
4-4.07	South Fork	E	E	E	E	
4-4.07	Placerita Canyon	E	E	E	E	
4-4.07	Bouquet and San Francisquito Canyons	E	E	E	E	
4-4.07	Castaic Valley	E	E	E	E	
4-4.07	Saugus Aquifer	E				
4-5	ACTON VALLEY⁴					
4-5	Acton Valley	E	E	E	E	
4-5	Sierra Pelona Valley (Agua Dulce)	E	E		E	
4-5	Upper Mint Canyon	E	E	E	E	
4-5	Upper Bouquet Canyon	E	P	P	E	

DWR² Basin No.	BASIN	MUN	IND	PROC	AGR	AQUA
4-5	Green Valley	E	P	P	E	
4-5	Lake Elizabeth- Lake Hughes area	E	P	P	E	
4-6	PLEASANT VALLEY⁵					
4-6	Confined Aquifers	E	E	E	E	
4-6	Unconfined and perched aquifers	P	E	E	E	
4-7	ARROYO SANTA ROSA VALLEY⁵	E	E	E	E	
4-8	LAS POSAS VALLEY⁵	E	E	E	E	
4-9	SIMI VALLEY					
	Simi Valley Basin					
	Confined aquifers	E	E	E	E	
	Unconfined aquifers	E	E	E	E	
	Gillibrand Basin	E	E	P	E	
4-10	CONEJO	E	E	E	E	
4-11	COASTAL PLAIN OF LOS ANGELES					
4-11.01	Santa Monica	E	E	E	E	
4-11.02	Hollywood	E	E	E	E	
4-11.03	West Coast					
	Underlying Ports of Los Angeles & Long Beach		E	E	E	
4-11.03	Underlying El Segundo, Seaward of Barrier		E	E	E	
4-11.03	Remainder of Basin	E	E	E	E	
4-11.04	Central	E	E	E	E	
4-12	SAN FERNANDO VALLEY	E ⁶	E	E	E	
4-13	SAN GABRIEL VALLEY⁷	E	E	E	E	
4-15	TIERRA REJADA	E	P	P	E	
4-16	HIDDEN VALLEY	E	P		E	
4-17	LOCKWOOD VALLEY	E	E		E	
4-18	HUNGRY VALLEY	E	P	E	E	
4-19	THOUSAND OAKS AREA⁸	E	E	E	E	
4-19	Triunfo Canyon area	P	P		E	
4-19	Lindero Canyon area	P	P		E	
4-19	Las Virgenes Canyon area	P	P		E	
4-20	RUSSELL VALLEY	E	P		E	
4-21	CONEJO-TIERRA REJADA VOLCANIC⁹	E			E	
4-22	MALIBU VALLEY¹⁰					
4-22	Camarillo area	E	P		E	
4-22	Point Dume area	E	P		E	
4-22	Malibu Valley	P	P		E	
4-22	Topanga Canyon area	P	P		E	
4-23	RAYMOND	E	E	E	E	
	SAN PEDRO CHANNEL ISLANDS¹¹					
	Anacapa Island	P	P			
	San Nicolas Island	E	P			

DWR² Basin No.	BASIN	MUN	IND	PROC	AGR	AQUA
	Santa Catalina Island	E	P		E	
	San Clemente Island	P	P			
	Santa Barbara Island	P	P			

E: Existing beneficial use

P: Potential beneficial use

1: Beneficial uses for ground waters outside of the major basins listed on this table have not been specifically listed. However, ground waters outside of the major basins are, in many cases, significant sources of water. Furthermore, ground waters outside of the major basins are either potential or existing source of water for downgradient basins, and as such, beneficial uses in the downgradient basins shall apply to these areas.

2: Basins are numbered according to DWR Bulletin No. 118-Update 2003 (DWR, 2003).

3: Ground waters in the Pitas Point area (between the lower Ventura River and Rincon Point) are not considered to comprise a major basin and, accordingly, have not been designated a basin number by the DWR or outlined on Fig. 2-1.

4: Santa Clara River Valley Basin was formerly Ventura Central Basin and Acton Valley Basin was formerly Upper Santa Clara Basin (DWR, 1980).

5: Pleasant Valley, Arroyo Santa Rosa Valley, and Las Posas Valley Basins were formerly sub-basins of Ventura Central (DWR, 1980).

6: Nitrite pollution in the groundwater of the Sunland-Tujunga area currently precludes direct MUN use. Since the groundwater in this area can be treated or blended (or both), it retains the MUN designation.

7: Raymond Basin was formerly a sub-basin of San Gabriel Valley and Monk Hill sub-basin is now part of San Fernando Valley Basin (DWR, 2003). The Main San Gabriel Basin was formerly separated into Eastern and Western areas. Since these areas had the same beneficial uses as Puente Basin all three areas have been combined into San Gabriel Valley. Any groundwater upgradient of these areas is subject to downgradient beneficial uses and objectives, as explained in Footnote 1.

8: These areas were formerly part of the Russell Valley Basin (DWR, 1980).

9: Groundwater in the Conejo-Tierra Rejada Volcanic Area occurs primarily in fractured volcanic rocks in the western Santa Monica Mountains and Conejo Mountain areas. These areas have not been delineated on Fig. 2-1.

10: With the exception of groundwater in Malibu Valley (DWR Basin No. 4-22) ground waters along the southern slopes of the Santa Monica Mountains are not considered to comprise a major basin and accordingly have not been designated a basin number by DWR.

11: DWR has not designated basins for ground waters on the San Pedro Channel Islands.

3. REGIONAL GROUNDWATER QUALITY OBJECTIVES

As set forth in the Policy, *SNMPs shall be tailored to address water quality concerns in each basin and may include constituents other than salt and nutrients that adversely impact basin/sub-basin water quality.*

GROUND WATER QUALITY OBJECTIVES

Water quality objectives for ground waters in the Los Angeles Region are contained in the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan). The same water quality objectives for Nitrogen, Chemical Constituents and Radioactivity, Bacteria, and Taste and Odor, apply to all ground waters in the region (Table 3-1).

TABLE 3-1: WATER QUALITY OBJECTIVES FOR GROUNDWATER BASINS IN THE LOS ANGELES REGION

PARAMETER	WATER QUALITY OBJECTIVE
Nitrogen NO3-N + NO2-N NO3 NO3-N NO2-N	10 mg/L 45 mg/L 10 mg/L 1 mg/L
Chemical Constituents and Radioactivity	For ground waters designated for use as domestic or municipal supply, Maximum Contaminant Levels (MCLs) contained in Title 22 of the California Code of Regulations apply. In addition, ground waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use.
Bacteria	In ground waters used for domestic or municipal supply (MUN), the concentration of coliform organisms over any seven day period shall be less than 1.1/100 mL.
Taste and Odor	Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

The Basin Plan also contains site-specific objectives for mineral water quality for individual basins/sub-basins (Table 3-2).

TABLE 3-2: WATER QUALITY OBJECTIVES FOR SELECTED CONSTITUENTS IN REGIONAL GROUND WATERS

2011 Basin Plan Name	Bulletin 118-03 update number	1994 Basin Plan Name	Bulletin 118-80 number	TDS	Sulfate	Chloride	Boron
Upper Ojai Valley	4-1	Ojai Valley	4-1				
Upper Ojai Valley	4-1	Upper Ojai Valley	4-1				
Upper Ojai Valley	4-1	West of Sulfur Mountain Road	4-1	1000	300	200	1.0
Upper Ojai Valley	4-1	Central Area	4-1	700	50	100	1.0
Upper Ojai Valley	4-1	Sisar Area	4-1	700	250	100	0.5
Ojai Valley	4-2	Lower Ojai Valley	4-2				0.5
Ojai Valley	4-2	West of San Antonio-Senior Canyon	4-2	1000	300	200	0.5
Ojai Valley	4-2	East of San Antonio-Senior Canyon	4-2	700	200	50	
Ventura River Valley	4-3	Ventura River Valley	4-3				
Upper Ventura River	4-3.01	Upper Ventura	4-3	800	300	100	0.5
Upper Ventura River	4-3.01	San Antonio Creek Area	4-3	1000	300	100	1.0
Lower Ventura River	4-3.02	Lower Ventura	4-3	1500	500	30	1.5
Santa Clara River Valley	4-4	Ventura Central	4-4				
Piru	4-4.06	Santa Clara-Piru Creek Area	4-4				
Piru	4-4.06	Upper Area (above Lake Piru)	4-4	1100	400	200	2.0
Piru	4-4.06	Lower Area East of Piru Creek	4-4	2500	1200	200	1.5
Piru	4-4.06	Lower Area West of Piru Creek	4-4	1200	600	100	1.5
Fillmore	4-4.05	Santa Clara-Sespe Creek Area	4-4				
Fillmore	4-4.05	Topa Topa (upper Sespe) Area	4-4	900	350	30	2.0
Fillmore	4-4.05	Fillmore Area	4-4				
Fillmore	4-4.05	Pole Creek Fan Area	4-4	2000	800	100	1.0
Fillmore	4-4.05	South Side of Santa Clara River	4-4	1500	800	100	1.1
Fillmore	4-4.05	Remaining Fillmore Area	4-4	1000	400	50	0.7
Santa Paula	4-4.04	Santa Clara-Santa Paula Area	4-4				
Santa Paula	4-4.04	East of Peck Road	4-4	1200	600	100	1.0
Santa Paula	4-4.04	West of Peck Road	4-4	2000	800	110	1.0

2011 Basin Plan Name	Bulletin 118-03 update number	1994 Basin Plan Name	Bulletin 118-80 number	TDS	Sulfate	Chloride	Boron
Oxnard	4-4.02	Oxnard Plain	4-4				
Mound	4-4.03	Oxnard Plain	4-4				
Oxnard	4-4.02	Oxnard Forebay	4-4	1200	600	150	1.0
Oxnard	4-4.02	Confined Aquifers	4-4	1200	600	150	1.0
Oxnard	4-4.02	Unconfined & Perched Aquifers	4-4	3000	1000	500	
Pleasant Valley	4-6	Pleasant Valley	4-6				
Pleasant Valley	4-6	Confined Aquifers	4-6	700	300	150	1.0
Pleasant Valley	4-6	Unconfined & Perched Aquifers	4-6				
Arroyo Santa Rosa Valley	4-7	Arroyo Santa Rosa	4-7	900	300	150	1.0
Las Posas Valley	4-8	Las Posas Valley	4-8				
Las Posas Valley	4-8	South Las Posas Area	4-8				
Las Posas Valley	4-8	NW of Grimes Cyn Rd. & LA Ave. & Somis Rd.	4-8	700	300	100	0.5
Las Posas Valley	4-8	E of Grimes Cyn Rd & Hitch Blvd.	4-8	2500	1200	400	3.0
Las Posas Valley	4-8	S of LA Ave Between Somis Rd & Hitch Blvd.	4-8	1500	700	250	1.0
Las Posas Valley	4-8	Grimes Canyon Rd. & Broadway Area	4-8	250	30	30	0.2
Las Posas Valley	4-8	North Las Posas Area	4-8	500	250	150	1.0
Acton Valley	4-5	Upper Santa Clara	4-5				
Acton Valley	4-5	Acton Valley	4-5	550	150	100	1.0
Acton Valley	4-5	Sierra Pelona Valley (Agua Dulce)	4-5	600	100	100	0.5
Acton Valley	4-5	Upper Mint Canyon	4-5	700	150	100	0.5
Acton Valley	4-5	Upper Bouquet Canyon	4-5	400	50	30	0.5
Acton Valley	4-5	Green Valley	4-5	400	50	25	
Acton Valley	4-5	Lake Elizabeth-Lake Hughes Area	4-5	500	100	50	0.5
Santa Clara River Valley East	4-4.07	Eastern Santa Clara	4-4.07				
Santa Clara River Valley	4-4.07	Santa Clara-Mint Canyon	4-4.07	800	150	150	1.0

2011 Basin Plan Name	Bulletin 118-03 update number	1994 Basin Plan Name	Bulletin 118-80 number	TDS	Sulfate	Chloride	Boron
East							
Santa Clara River Valley East	4-4.07	South Fork	4-4.07	700	200	100	0.5
Santa Clara River Valley East	4-4.07	Placentia Canyon	4-4.07	700	150	100	0.5
Santa Clara River Valley East	4-4.07	Santa Clara-Bouquet & San Fransisquito Canyons	4-4.07	700	250	100	1.0
Santa Clara River Valley East	4-4.07	Castaic Valley	4-4.07	1000	350	150	1.0
Santa Clara River Valley East	4-4.07	Saugus Aquifer	4-4.07				
Simi Valley	4-9	Simi Valley	4-9				
Simi Valley	4-9	Simi Valley Basin	4-9				
Simi Valley	4-10	Confined Aquifers	4-9	1200	600	150	1.0
Simi Valley	4-11	Unconfined & Perched Aquifers	4-9				
Simi Valley	4-12	Gillibrand Basin	4-9	900	350	50	1.0
Conejo Valley	4-10	Conejo Valley	4-10	800	250	150	1.0
Coastal Plain of Los Angeles	4-11	Los Angeles Coastal Plain	4-11				
Central	4-11.04	Central Basin	4-11	700	250	150	1.0
West Coast	4-11.03	West Coast Basin	4-11	800	250	250	1.5
Hollywood	4-11.02	Hollywood Basin	4-11	750	100	100	1.0
Santa Monica	4-11.01	Santa Monica Basin	4-11	1000	250	200	0.5
San Fernando Valley	4-12	San Fernando Valley	4-12				
San Fernando Valley	4-12	Sylmar Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	Verdugo Basin	4-12	600	150	100	0.5
San Fernando Valley	4-12	San Fernando Basin	4-12				
San Fernando Valley	4-12	West of Highway 405	4-12	800	300	100	1.5
San Fernando Valley	4-12	East of Highway 405 (overall)	4-12	700	300	100	1.5
San Fernando Valley	4-12	Sunland-Tujunga Area	4-12	400	50	50	0.5
San Fernando Valley	4-12	Foothill Area	4-12	400	100	50	1.0
San Fernando Valley	4-12	Area Encompassing RT-Tujunga -Erwin-N. Hollywood-Whithall-LA/Verdugo-Crystal	4-12	600	250	100	1.5

2011 Basin Plan Name	Bulletin 118-03 update number	1994 Basin Plan Name	Bulletin 118-80 number	TDS	Sulfate	Chloride	Boron
		Springs-Headworks-Glendale/Burbank Well Fields					
San Fernando Valley	4-12	Narrows Area (below confluence of Verdugo Wash with the LA River	4-12	900	300	150	1.5
San Fernando Valley	4-12	Eagle Rock Basin	4-12	800	150	100	0.5
San Gabriel Valley/Raymond/San Fernando Valley	4-13	San Gabriel Valley	4-13				
Raymond	4-23	Raymond Basin	4-13				
San Fernando Valley	4-12	Monk Hill Sub-Basin	4-13	450	100	100	0.5
Raymond	4-23	Santa Anita Area	4-13	450	100	100	0.5
Raymond	4-23	Pasadena Area	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Main San Gabriel Basin	4-13				
San Gabriel Valley	4-13	Western Area	4-13	450	100	100	0.5
San Gabriel Valley	4-13	Eastern Area	4-13	600	100	100	0.5
San Gabriel Valley	4-13	Puente Basin	4-13	1000	300	150	1.0
Upper Santa Ana Valley/San Gabriel Valley	8-2.01	Upper Santa Ana Valley	4-14				
San Gabriel Valley	4-13	Live Oak Area	8-2	450	150	100	0.5
San Gabriel Valley	4-13	Claremont Heights Area	8-2	450	100	50	
San Gabriel Valley	4-13	Pomona Area	8-2	300	100	50	0.5
Upper Santa Ana Valley/ San Gabriel Valley	8-2.01/4-13	Chino Area	8-2	450	20	15	
San Gabriel Valley	4-13	Spadra Area	8-2	550	200	120	1.0
Tierra Rejada	4-15	Tierra Rejada	4-15	700	250	100	0.5
Hidden Valley	4-16	Hidden Valley	4-16	1000	250	250	1.0
Lockwood Valley	4-17	Lockwood Valley	4-17	1000	300	20	2.0
Hungry Valley	4-18	Hungry Valley & Peace Valley	4-18	500	150	50	1.0
Conejo Valley	4-10	Thousand Oaks Area	4-19	1400	700	150	1.0
Russell Valley	4-20	Russell Valley	4-20				
Russell Valley	4-20	Russell Valley	4-20	1500	500	250	1.0
Thousand Oaks Area	4-19	Triunfo Canyon Area	4-20	2000	500	500	2.0

2011 Basin Plan Name	Bulletin 118-03 update number	1994 Basin Plan Name	Bulletin 118-80 number	TDS	Sulfate	Chloride	Boron
Thousand Oaks Area	4-20	Lindero Canyon Area	4-20	2000	500	500	2.0
Thousand Oaks Area	4-21	Las Virgenes Canyon Area	4-20	2000	500	500	2.0
Deleted	Deleted	Conejo-Tierra Rejada Volcanic Area	4-21				
Malibu Valley	4-22	Santa Monica Mountains-Southern Slopes	4-22				
Malibu Valley	4-22	Camarillo Area	4-22	1000	250	250	1.0
Malibu Valley	4-22	Point Dume Area	4-22	1000	250	250	1.0
Malibu Valley	4-22	Malibu Valley	4-22	2000	500	500	2.0
Malibu Valley	4-22	Topanga Canyon Area	4-22	2000	500	500	2.0
San Pedro Channel Islands		San Pedro Channel Islands					
Anacapa Island	No DWR#	Anacapa Island	No DWR#				
San Nicholas Island	No DWR#	San Nicholas Island	No DWR#	1100	150	350	
Santa Catalina Island	No DWR#	Santa Catalina Island	No DWR#	1000	100	250	1.0
San Clemente Island	No DWR#	San Clemente Island	No DWR#				
Santa Barbara	No DWR#	Santa Barbara Island	No DWR#				

GROUNDWATER BASIN WATER QUALITY

According to DWR's Bulletin 118-2003, nitrate content is elevated in some parts of the subregion. Volatile organic compounds (VOCs) have caused groundwater impairments in some of the industrialized portions of the region. The San Gabriel Valley and San Fernando Valley groundwater basins both have multiple sites of contamination from VOCs. The main constituents in the contamination plumes are trichloroethylene (TCE) and tetrachloroethylene (PCE). Some of the locations have been declared federal Superfund sites. Contamination plumes containing high concentrations of TCE and PCE also occur in the Bunker Hill Sub-basin of the Upper Santa Ana Valley Groundwater Basin. Some of these plumes are also designated as Superfund sites. Also, perchlorate has been identified as a significant pollutant in some areas of the Los Angeles Region.

Basin-specific information on water quality in the region's major basins/sub-basins is provided in Table 3-3. This information is summarized from DWR's Bulletin 118-2003 and includes monitoring results from public supply wells sampled under the DHS Title 22 program from 1994 through 2000. Per this bulletin, the information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

TABLE 3-3: WATER QUALITY IN MAJOR BASINS/SUB-BASINS IN THE LOS ANGELES REGION

Basin/sub-basin	Status	TDS	Constituent Group ³	Number of wells sampled ⁴	Number of wells with a concentration above an MCL ⁵
Central Basin		Range: 200-2500 mg/l Average: 453 mg/l (293 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	316 315 315 322 344 316	15 1 2 0 43 113
West Coast Basin	Injection wells create a groundwater ridge, which inhibits the inland flow of saltwater into the sub-basin to protect and maintain groundwater elevations.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	45 45 46 46 44 45	0 1 0 0 0 30
San Fernando Valley Basin	Groundwater contamination from VOCs and hexavalent chromium (CrVI) continues to be a serious problem for water supply in the eastern portion of the San Fernando Basin.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	129 122 129 134 134 129	6 13 44 3 90 17
San Gabriel	Four areas of the San Gabriel Valley Basin are Superfund sites. Trichloroethylene, Perchloroethylene, and Carbon Tetrachloride contaminate the Whittier Narrows, Puente basin, Baldwin Park and El Monte areas.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	287 278 300 292 301 287	3 4 73 1 85 20

³ A description of each member in the constituent groups and a generalized discussion of the relevance of these groups are included in *California's Groundwater–Bulletin 118* by DWR (2003).

⁴ Represents distinct number of wells sampled as required under DHS Title 22 program from 1994 through 2000.

⁵ Each well reported with a concentration above an MCL was confirmed with a second detection above an MCL. This information is intended as an indicator of the types of activities that cause contamination in a given basin. It represents the water quality at the sample location. It does not indicate the water quality delivered to the consumer. More detailed drinking water quality information can be obtained from the local water purveyor and its annual Consumer Confidence Report.

Basin/sub-basin	Status	TDS	Constituent Group ³	Number of wells sampled ⁴	Number of wells with a concentration above an MCL ⁵
Raymond	Fluoride content occasionally exceeds recommended levels of 1.6 mg/L, near the San Gabriel Mountain front. Volatile organic compounds are detected in wells near Arroyo Seco and radiation is occasionally detected near the San Gabriel Mountains.	Range: 38-780 mg/l Average: 346 mg/l (70 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	66 55 78 57 60 66	9 8 23 0 19 9
Santa Monica		Range: 729-1,156 mg/L Average: 916 mg/L (7 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	13 12 13 12 12 13	0 1 0 0 9 8
Hollywood	Public water supply from imported surface water, groundwater quality information scarce.	Single sample 526 mg/L (Truran, 2001).			
Oxnard	Nitrate concentrations can exceed the state Maximum Contaminant Level (MCL) of 45 mg/L. Intrusion of seawater has occurred near Pt. Mugu and Port Hueneme. Elevated levels of DDT and PCB are found near Pt. Mugu.	Range: 160-1,800 mg/L Average: 1,102 mg/L (69 public supply wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	73 69 80 63 68 73	6 8 14 1 2 49
Piru	Agricultural return flows may lead to high nitrate concentrations particularly during dry periods. Urban stormwater runoff within the Santa Clara River Watershed tends to concentrate salts and other contaminants. The most prominent natural contaminants in the sub-basin are boron and sulfate.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	3 3 3 3 3 3	0 0 0 0 0 1

Basin/sub-basin	Status	TDS	Constituent Group ³	Number of wells sampled ⁴	Number of wells with a concentration above an MCL ⁵
Fillmore	Agricultural return flows may lead to high nitrate concentrations particularly during dry periods. Urban stormwater runoff within the Santa Clara River Watershed tends to concentrate salts and other contaminants. Other contaminants in the sub-basin are boron, sulfate, and nitrates.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	13 10 14 10 10 13	0 1 1 0 1 3
Santa Paula	Nitrate concentrations can fluctuate significantly.	Range: 470-1,800 mg/L Average: 1,198 mg/L (13 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	16 12 16 9 9 16	3 1 2 0 0 15
Mound		Range: 1,498-1,908 mg/L Average: 1,644 mg/L (4 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	2 2 2 2 2 2	1 0 0 0 0 2
Las Posas		Range: 338-1,700 mg/L Average: 742 mg/L (23 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	22 22 24 22 22 22	1 2 0 1 0 16
Santa Rosa			Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	1 1 1 1 1 1	0 0 0 0 0 1

Basin/sub-basin	Status	TDS	Constituent Group ³	Number of wells sampled ⁴	Number of wells with a concentration above an MCL ⁵
Pleasant Valley		Range: 597-1,420 mg/L Average: 922 mg/L (10 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	10 10 10 10 10 10	0 1 0 0 0 10
Lower Santa Clara	Drinking water standards are met at public supply wells without the use of treatment methods. Areas with somewhat elevated mineral levels have been observed in the northern basin. Some wells with elevated nitrate concentration have been identified in the southern portion of the basin.		Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	257 234 268 253 252 257	9 1 10 3 4 29
Upper Santa Clara	Nitrate content has exceeded 45 mg/L in some parts of the sub-basin with a well in the central part of the sub-basin reaching 68 mg/L. Trichloroethylene and ammonium perchlorate have been detected in four wells in the eastern part of the sub-basin.	Range: 300-1,662 mg/L Average: 695 mg/L (59 public wells)	Inorganic – Primary Radiological Nitrates Pesticides VOCs and SVOCs Inorganics- Secondary	67 56 74 66 66 67	4 2 2 4 0 7

4. CLARIFICATION OF SNMP REQUIREMENTS

The Policy states that Salt and Nutrient Management Plans (SNMPs) are to be developed for every groundwater basin in California. This will allow water purveyors and basin management agencies to take advantage of a streamlined permit process for recycled water projects that is intended to expedite the implementation of recycled water projects. The required elements of a SNMP, as specified by the Policy include:

- a) Development of a basin-wide monitoring plan;
- b) Annual monitoring of Constituents of Emerging Concern;
- c) Consideration of Water Recycling/Stormwater Recharge/Use;
- d) Source identification/Source loading and assimilative capacity estimates;
- e) Implementation measures; and
- f) Anti-degradation analyses.

Development of SNMPs will lead to a more holistic approach to basin management. Stakeholders will have the opportunity to collectively determine how each basin will be managed in order to meet their operational goals as well as comply with water quality objectives established to restore and maintain the beneficial use of the ground waters.

SNMPs are required for each groundwater basin in the state. However, there is flexibility in the level of detail required in each plan depending on the size, complexity and level of activity within the basin. That notwithstanding, an initial assessment of water quality (past and present) and use (including future use) is necessary in order to determine the level of specificity warranted in each basin. The following sections discuss the required SNMP elements in greater detail, providing clarification where communications with stakeholders have indicated it to be necessary.

STAKEHOLDER COLLABORATION

As stated in the Policy:

“...local water and wastewater entities, together with local salt/nutrient contributing stakeholders, will fund locally driven and controlled, collaborative processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California, including compliance with CEQA and participation by Regional Water Board staff.”

Development of a SNMP through a collaborative process is the most reasonable approach, since groundwater basins are a common resource shared by different entities all of whom should have a voice in determining how beneficial use of the basin can be sustained. Key stakeholders include local agencies involved in groundwater management, owners and operators of recharge facilities, water purveyors, water districts, water masters, and salt and nutrient contributing dischargers. These agencies have access to basin-specific data and information that is essential to the development of successful SNMPs. Private well owners may also have essential water quality information. Nongovernmental entities may have information about ecosystems associated with groundwater exfiltration. Other parties from regulatory agencies, environmental groups, industry, and interested persons may also provide important support. No single entity is wholly responsible for SNMP development. While a lead agency is necessary to coordinate the development effort, the point of a collaborative

process is to take advantage of the collective expertise, resources and information of the participating entities. Therefore, there should be participation to varying degrees by all stakeholders. Table 4-1 lists the agencies already engaged in salt and nutrient management for each groundwater basin or sub-basin group.

TABLE 4-1: PARTICIPATING STAKEHOLDERS FOR EACH BASIN/SUB-BASIN GROUP AS OF FEBRUARY 2012

Basin/sub-basin	Participating Stakeholders
Central and West Coast Basins	Water Replenishment District (WRD) of Southern California City of Los Angeles Department of Water & Power County Sanitation Districts of Los Angeles County Metropolitan Water District of Southern California West Basin Municipal Water District Central Basin Municipal Water District Los Angeles County Department of Public Works California Department of Public Health
San Fernando Basin	Upper Los Angeles River Area Water Master Los Angeles Department of Water and Power City of Glendale City of Burbank Metropolitan Water District US Environmental Protection Agency California Department of Public Health
San Gabriel/Raymond Basin/Three Valleys	San Gabriel Basin Water Master Raymond Basin Water Master City of Alhambra City of Arcadia City of Pasadena City of San Fernando Crescenta Valley Water District Metropolitan Water District County Sanitation Districts of Los Angeles County
Lower Santa Clara Pleasant Valley, Las Posas, Oxnard	Fox Canyon United Water Conservation District Metropolitan Water District City of Oxnard
Lower Santa Clara	Ventura County Watershed Protection District City of Fillmore County of Ventura City of Santa Paula United Water Conservation District
Eastern Santa Clara Saugus Aquifer, Santa Clara Castaic Valley, South Fork, Placerita Canyon, Santa Clara-Bouquet and San Francisquito Canyons, Santa Clara-Mint Canyon, Acton/Sierra Pelona/Upper Mint Canyon Basins	Castaic Lake Water Agency Los Angeles County Sanitation Districts City of Santa Clara
Tierra Rejada/Gillibrand/Simi/Thousand Oaks/Conejo/Hidden Valley/Russell Valley Basins	Calleguas Municipal Water District Calleguas Creek Watershed Management Plan
Hollywood and Santa Monica Basins	<i>City of Beverly Hills* City of Santa Monica*</i>
Ventura/Ojai	County of Ventura
Malibu Valley	City of Malibu*

Basin/sub-basin	Participating Stakeholders
	La Paz Treatment Facility

**Potentia Stakeholders*

Ideally, participation in the SNMP development process should not be limited to those agencies directly involved with basin management or salt and nutrient contributors. Other parties from regulatory agencies, environmental groups, industry, and interested persons should be included and/or kept informed; and their input solicited for each major task.

The Regional Water Board's role in preparing SNMPs is to:

- a) Facilitate interaction and information sharing within and among groundwater basin stakeholder groups,
- b) Provide regulatory guidance on the SNMP requirements of the Policy,
- c) Provide technical and regulatory oversight of the SNMP process to maintain consistency in scope and content of these plans and ensure compliance with the Policy's requirements, and
- d) Adopt, as appropriate, the implementation measures included in SNMPs into the Water Quality Control Plan for the Los Angeles Region.

The Regional Water Board conducted its first stakeholder workshop in November 2010 to introduce the SNMP requirement to stakeholders and initiate the development process. Since then stakeholder groups have been formed for the major groundwater basins and Regional Water Board staff have been made available to each group to provide basin-specific technical guidance and oversight of individual plans. A second stakeholder workshop was held in November 2011 to provide further clarification on certain regulatory aspects of the SNMP development process that were identified as issues of concern by stakeholders.

SPECIFIC SNMP REQUIREMENTS

It is the intent of the Policy "... *that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses.*"

The Policy also specifies that each salt and nutrient management plan shall include:

- a) *A basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations to determine whether concentrations of salt, nutrients, and other constituents of concern are consistent with applicable water quality objectives.*
- b) *A provision for annual monitoring of Constituents of Emerging Concern*
- 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 the Antidegradation Policy (Resolution No. 68-16).*

STATE WATER BOARD’S “SUGGESTED ELEMENTS”

In 2011, the State Water Board provided a list of suggested elements for SNMPs that would assure that the requirements of the Policy were met (Appendix I). These elements are not considered additions to the requirements; rather they provide specifics as to how the requirements can be met, and indicate the appropriate level of detail necessary in a SNMP. They are purely recommendations and stakeholders have the option of arriving at the required elements via alternative means. This is illustrated in Table 4-2 where the State Water Board’s suggested elements are lined up with the SNMP requirements as enumerated in the Policy. Submission of the information list does not constitute a SNMP unless the elements are linked into an integrated conceptual model and implementation plan.

TABLE 4-2: STATE WATER BOARD SUGGESTED ELEMENTS AND CORRESPONDING REQUIREMENTS FROM THE RECYCLED WATER POLICY

RECYCLED WATER POLICY SECTION	RECYCLED WATER POLICY REQUIREMENT	STATE WATER BOARD SUGGESTED ELEMENTS
6b(1)	...local water and wastewater entities, together with local salt/nutrient contributing stakeholders, will fund locally driven and controlled, collaborative processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California, including compliance with CEQA ...	CEQA ANALYSIS
6b(1)(a)	It is the intent of this Policy for every groundwater basin/sub-basin in California to have a consistent salt/nutrient management plan. The degree of specificity within these plans and the length of these plans will be dependent on a variety of site-specific factors, including but not limited to size and complexity of a basin, source water quality, stormwater recharge, hydrogeology, and aquifer water quality.	GROUNDWATER BASIN CHARACTERISTICS GROUNDWATER BASIN OVERVIEW <ul style="list-style-type: none"> ▪ Physiographic Description ▪ Groundwater Basin and/or Sub-Basin Boundaries ▪ Watershed Boundaries ▪ Geology ▪ Hydrogeology/Hydrology ▪ Aquifers ▪ Recharge Areas ▪ Hydrologic Areas Tributary to the Groundwater Basin ▪ Climate ▪ Land Cover and Land Use ▪ Water Sources GROUNDWATER INVENTORY <ul style="list-style-type: none"> ▪ Groundwater Levels ▪ Historical, Existing, Regional Changes ▪ Groundwater Storage ▪ Historical, Existing, Changes ▪ Groundwater Production ▪ Historical, Existing, Spatial and Temporal

RECYCLED WATER POLICY SECTION	RECYCLED WATER POLICY REQUIREMENT	STATE WATER BOARD SUGGESTED ELEMENTS
		<ul style="list-style-type: none"> ▪ Other Constituents of Concern ▪ Water Balance Monitoring <ul style="list-style-type: none"> ▪ Climatological Monitoring ▪ Surface Water Flow Monitoring ▪ Groundwater Production Monitoring
6b(3)(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 consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy.	<p>BASIN EVALUATION CONSTITUENTS OF EMERGING CONCERNS (CECs)</p> <ul style="list-style-type: none"> ▪ Constituents ▪ CEC Source Identification
6b(3)(c)	Water recycling and stormwater recharge/use goals and objectives.	<p>BASIN MANAGEMENT PLAN ELEMENTS GROUNDWATER MANAGEMENT GOALS</p> <ul style="list-style-type: none"> ▪ Recycled Water and Stormwater Use/Recharge Goals and Objectives
6b(3)(d)	Salt and nutrient source identification, basin/sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients.	<p>BASIN EVALUATION SALT AND NUTRIENT BALANCE</p> <ul style="list-style-type: none"> ▪ Conceptual Model ▪ Salt and Nutrient Source Identification ▪ Salt and Nutrient Loading Estimates ▪ Historical, Existing, Projected ▪ Import/Export ▪ Basin/Sub-Basin Assimilative Capacity for Salt and Nutrients ▪ Fate and Transport of Salt and Nutrients
6b(3)(e)	Implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.	<p>BASIN MANAGEMENT PLAN ELEMENTS GROUNDWATER MANAGEMENT GOALS</p> <ul style="list-style-type: none"> ▪ Groundwater Management Goals <p>SALT AND NUTRIENT LOAD ALLOCATIONS</p> <p>SALT AND NUTRIENT MANAGEMENT STRATEGIES</p> <ul style="list-style-type: none"> ▪ Load Reduction Goals ▪ Future Land Development and Use ▪ Salt/Nutrient Management Options ▪ Salt/Nutrient Management Strategies and Modeling ▪ Management Strategy Model Results ▪ Feasibility ▪ Cost <p>PLAN IMPLEMENTATION SALT AND NUTRIENT MANAGEMENT PROGRAM</p> <ul style="list-style-type: none"> ▪ Organizational Structure ▪ Stakeholder Responsibilities

RECYCLED WATER POLICY SECTION	RECYCLED WATER POLICY REQUIREMENT	STATE WATER BOARD SUGGESTED ELEMENTS
		<ul style="list-style-type: none"> ▪ Implementation Measures to Manage Salt and Nutrient Loading ▪ Salt/Nutrient Management <ul style="list-style-type: none"> ▪ Water Supply Quality ▪ Regulations of Salt/Nutrients ▪ Load Allocations ▪ Salt and Nutrient Source Control ▪ CEC Source Control ▪ Site Specific Requirements ▪ Groundwater Resource Protection ▪ Additional Studies <p>PERIODIC REVIEW OF SALT/NUTRIENT MANAGEMENT PLAN</p> <ul style="list-style-type: none"> ▪ Adaptive Management Plan ▪ Performance Measures ▪ Performance Evaluation <p>COST ANALYSIS</p> <ul style="list-style-type: none"> ▪ CWC § 13141, "...prior to implementation of any agricultural water quality control program, an estimate of the total cost of such a program, together with an identification of potential sources of funding, shall be indicated in any regional water quality control plan." <p>IMPLEMENTATION SCHEDULE</p>
6b(3)(f)	An antidegradation analysis demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.	ANTIDEGRADATION ANALYSIS
No specific reference	While the background information listed in State Water Board's "Suggested Elements" is not specifically identified by the Recycled Water Policy, it would provide the necessary information in support of the conceptual basis for the plan.	<p>BACKGROUND</p> <ul style="list-style-type: none"> ▪ Purpose <ul style="list-style-type: none"> ▪ Protection of Beneficial Use ▪ Sustainability of Water Resources ▪ Problem Statement ▪ Salt/Nutrient Management Objectives ▪ Regulatory Framework ▪ Groundwater Beneficial Uses ▪ Stakeholder Roles and Responsibilities ▪ Process to Develop Salt/Nutrient Management Plan

The Policy recognizes that:

The degree of specificity within these plans and the length of these plans will be dependent on a variety of site-specific factors, including but not limited to size and complexity of a basin, source water quality, stormwater recharge, hydrogeology, and aquifer water quality.

In response to this, the State Water Board has suggested three classes of basins in the context of SNMP development to assist in determining the extent of information required for each class: Major, Saline/Coastal, and No Threat basins. They are defined as follows:

- a) Major: Large in size, complex land use, heavily used, water quality threatened;
- b) Saline/Coastal: Basins with naturally saline groundwater not currently used as a source of water; and
- c) Low threat: Basins with minimal or no known or current threat to water quality.

The State Water Board has provided a Basin Plan Amendment template to indicate the amount of information necessary for each classification. The templates for each basin class are provided in Appendix I. Groundwater basins in the Los Angeles Region do not necessarily fit neatly into these classes but stakeholders are encouraged to use them as a guide. Regardless of how a basin may be categorized, implementation strategies should be provided to address issues such as pollution prevention, water quality restoration, water level stabilization, basin recharge, groundwater-surface water interaction, and storm- and recycled water use as they apply to each basin or sub-basin

A. BASIN/SUB-BASIN WIDE MONITORING PLAN

As set forth in the Policy Part 6(b)(3)(a), each SNMP shall include “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 the constituents identified in paragraph 6(b)(1)(f) shall be monitored. The frequency of monitoring shall be determined in the salt/nutrient management plan and approved by the Regional Water Board pursuant to paragraph 6(b)(2).

(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.

The objective of this requirement is to develop a basin wide monitoring plan that would allow for a comprehensive assessment of basin water quality in relation to beneficial uses supported by the basin and applicable water quality objectives. Several localized and project-specific monitoring programs exist throughout the basins in the region. These include monitoring of ground and surface waters by various agencies to comply

with regulatory requirements, as well as voluntary monitoring efforts by these agencies and environmental groups. It will be necessary to identify all parties engaged in water quality monitoring and data collection within each groundwater basin as a starting point in developing a basin-wide monitoring plan. Compilation and review of existing programs and groundwater quality reports will reduce the potential for redundancy, and also assist in identifying data gaps that need to be addressed.

Regulatory agencies are involved in statewide monitoring of groundwater quality for the purpose of assessing and protecting groundwater basins. These agencies include the State Water Board, the California Department of Public Health, Department of Water Resources, Department of Toxic Substances Control, Department of Pesticide Regulation, and the U.S. Geological Survey. State Water Board's online groundwater information system, GeoTracker GAMA provides access to groundwater quality monitoring data from these agencies as well as other Regional Boards and the Lawrence Livermore National Laboratory. This information is available on the Groundwater Ambient Monitoring and Assessment (GAMA) program website at: http://www.waterboards.ca.gov/water_issues/programs/gama/geotracker_gama.shtml. Results from these monitoring efforts should be used in conjunction with those generated by water purveyors, managers and private entities in determining the scope of the monitoring plan.

The monitoring plan should clearly define the areal extent of the basin or sub-basin to be monitored. The region's major basin boundaries were most recently updated by the Department of Water Resources in its 2003 update of Bulletin 118 (DWR, 2003). While this update omitted some of the sub-basins that were identified in the previous version, the Regional Water Board's Basin Plan still retains these basins/sub-basin as ground waters to be protected under the California Water Code.

In developing sampling locations within a given basin, stakeholders should take into consideration:

- a) Location of existing monitoring locations;
- b) Location of existing and potential contributing sources, including areas with significant groundwater-surface water interaction; and
- c) Existing and proposed recycled water projects/facilities and groundwater recharge areas.

Stakeholders are encouraged to use the 2003 U.S. Geological Survey report titled "Framework for a Ground Water Quality and Assessment Program for California" as a resource when developing the monitoring plan. This document is available at: http://www.waterboards.ca.gov/water_issues/programs/gama/docs/usgs_rpt_72903_wri_034166.pdf

The parameters to be monitored should be reflective of the water quality conditions and applicable water quality objectives within a given basin or sub-basin. At a minimum, salts and nutrients will be monitored in all basins. The determination of other parameters to be monitored should be made based on existing groundwater quality information, and stakeholder knowledge of localized conditions. Table 4-3 lists some of the known parameters of concern in the major basins and sub-basins in the Los Angeles Region. It is recommended that a draft monitoring plan be submitted to the Regional Water Board for review prior to finalizing the SNMP of which it would be a component.

TABLE 4-3: PARAMETERS OF CONCERN IN THE LOS ANGELES REGION'S MAJOR BASINS

Groundwater Basin		Primary Parameters of Concern*
West Coast Central		Seawater Intrusion
San Gabriel Raymond		VOCs, SVOCs
San Fernando		VOCs, Cr ^{VI}
Santa Clara Watershed	Oxnard Mound Santa Paula Fillmore Piru East Santa Clara	Nitrate, Salts, TDS, DDT, PCBs
Ojai Ventura River		Nitrates
Calleguas Watershed	Pleasant Valley Conejo Valley Russell Valley Hidden Valley Simi Valley Tierra Rejada Thousand Oaks	Nitrates, TDS, Salts
Malibu Valley		Seawater Intrusion

*This is not a complete list of parameters of concern.

B. MONITORING OF CONSTITUENTS OF EMERGING CONCERN

Constituents of emerging concerns (CECs) include several types of chemicals that may be classified as (i) persistent organic pollutants (ii) pharmaceuticals and personal care products, (iii) veterinary medicines, (iv) endocrine disruptors, and others. Such constituents present water quality concerns due to their large number and variety, their prevalence in the environment, and their potential for harmful effects on aquatic life. Much less is known about their potential effects on humans. Increasing recycled water use has the potential to increase the occurrence of CECs in ground water basins through Indirect potable reuse via surface spreading and subsurface injection into potable aquifers, as well as urban landscape irrigation. Staff are coordinating with EPA, the Southern California Coastal Water Research Project, and others in studying this issue.

The Los Angeles Regional Board has taken early actions to begin to address CECs. The Board currently includes CEC Special Study Requirements in NPDES permits for Publicly Owned Treatment Works (POTWs), during permit renewal. The parameters to be monitored as part of this requirement are provided in Table 4_4.

TABLE 4-4: REQUIRED EFFLUENT MONITORING OF CECs IN POTW NPDES PERMITS IN THE LOS ANGELES REGION

Parameter	Units	Minimum Sampling Frequency
17β-Ethinyl Estradiol	ng/L	Annually
17β-Estradiol	ng/L	Annually
17α-Estradiol	ng/L	Annually

Parameter	Units	Minimum Sampling Frequency
Bisphenol A	ng/L	Annually
Nonylphenol and nonylphenolpolyethoxylate	ng/L	Annually
Octylphenol and octylphenolpolyethoxylates	ng/L	Annually
Polybrominateddiphenyl ethers	ng/L	Annually
Acetaminophen	ng/L	Annually
Amoxicillin	ng/L	Annually
Azithromycin	ng/L	Annually
Carbamazepine	ng/L	Annually
Caffeine	ng/L	Annually
Ciprofloxacin	ng/L	Annually
DEET	ng/L	Annually
Dilantin	ng/L	Annually
Gemfibrozil	ng/L	Annually
Ibuprofen	ng/L	Annually
Lipitor (Atorvastain)	ng/L	Annually
Iodinated contrast media (i.e., iopromide)	ng/L	Annually
Sulfamethoxazole	ng/L	Annually
Trimethoprim	ng/L	Annually
Salicylic acid	ng/L	Annually
TCEP	ng/L	Annually
Triclosan	ng/L	Annually

In addition, the development of a CEC monitoring strategy for the region was identified as a priority project during the project-selection phase of the 2011-13 triennial review. The Regional Board has also directed resources toward establishing some baseline information on CEC occurrence, and fate and transport in inland surface waters throughout the region. The information gathered from on-going monitoring and other applicable studies would inform what monitoring should be conducted on a site-specific basis. Such site-specific requirements build upon and complement existing requirements.

Where site specific CEC monitoring is required for existing or proposed projects within a groundwater basin or sub-basin, CEC monitoring strategies developed in the SNMP for the basin or sub-basin should reflect these requirements along with those of the Recycled Water Policy,

Recycled Water Policy Requirements:

As stated in the Policy, “[e]ach Salt and Nutrient Management Plan shall include a provision for annual monitoring of Emerging Constituents/Constituents of Emerging Concern (CECs) consistent with recommendations by CDPH and consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy.”

Paragraph 10(b) of the Policy directs the State Water Board, in consultation with the California Department of Public Health (CDPH), to convene a “blue-ribbon” advisory panel to guide future actions relating to constituents of emerging concern.

The advisory panel completed its report on CECs in June 2010. State Water Board staff developed a staff report (SWRCB, 2010) based on recommendations from the advisory panel and those provided by the CDPH. The next four paragraphs are excerpted from the staff report and explain CEC monitoring expectations.

The Panel Report recommends monitoring of selected CECs in recycled water based on evaluation of CECs found in recycled water at concentrations with human health relevance with respect to the Panel's exposure screening approach. It also recommends monitoring of selected performance indicator CECs to evaluate the performance of treatment processes to remove CECs; and recommends monitoring of surrogate/operational parameters, such as turbidity, dissolved organic carbon, and conductivity, to verify that treatment units are working as designed.

The Panel selected health-based CECs to monitor using an exposure screening framework that compared measured environmental concentrations⁶ (MECs) of CECs in recycled water to initial monitoring trigger levels (MTL)^{7,8} established by the Panel for individual CECs. The Panel's process for selecting health-based CECs was based on evaluating the ratio of a compound's MEC to its respective initial MTL. Compounds in recycled water that were determined to have MEC/MTL ratio results greater than one were selected for monitoring as a health-based CEC. To be conservative in the selection process for health-based CECs, the Panel used data for secondary or tertiary recycled water and compared MEC 90th percentile values to the initial MTLs. The Panel selected initial MTLs using available toxicological information from various sources (i.e., CDPH derived benchmarks; U.S. Environmental Protection Agency (U.S. EPA), etc.) and prioritized the sources for selecting the benchmark to serve as an initial MTL. Based on the evaluation of MECs to initial MTLs, the health-based CECs selected for monitoring include caffeine, 17-beta-estradiol (17 β -estradiol), n-nitrosodimethylamine (NDMA), and triclosan.

The Panel also selected a set of performance-based indicator CECs. Each selected performance-based indicator CEC represents a group of CECs. The removal of the performance-based indicator CEC through a treatment process provides an indication of the removal of the other CECs in the group. The six compounds selected to serve as performance-based indicator CECs are caffeine, gemfibrozil, n,n-diethyl-meta-toluamide (DEET), iopromide, NDMA, and sucralose. Caffeine and NDMA serve as both health and performance-based indicator CECs.

⁶ For the process of selecting health relevant CECs for monitoring, the Panel compiled available monitoring data for CECs in recycled water. The Panel set the MEC for screening at the 90th percentile. In other words, for the samples analyzed for a CEC, 90 percent of the concentrations of the CEC were below the MEC value. For the purpose of evaluating a recycled water project's monitoring data for monitoring response action, MEC is the concentration of a CEC detected in a sample.

⁷ Initial monitoring trigger levels are levels for CECs that were selected by the Panel from drinking water benchmark concentrations established by various regulatory agencies (e.g., U.S. EPA, CDPH, and Australian Environmental Protection and Heritage Council), two papers published in scientific journals (Schwab *et al.* 2005, Schriks *et al.* 2009), and two peer-reviewed research reports focusing on the development of benchmarks for CECs (Snyder *et al.* 2008a, Cotruvo *et al.* 2010), to have health relevance that would warrant monitoring. The Panel cautioned that these are conservative values and the presence of a CEC above the monitoring trigger level would not verify a health risk.

⁸ Because of the Panel's resource and time constraints, it selected initial MTLs by using established drinking water benchmarks (see footnote 7). The Panel, however, recommended that future potable water use MTLs be derived incorporating allowable daily intakes (ADIs), relative source contribution (RSC), default bodyweight, and daily water consumption, as follows: $MTL = [\text{Screening Level ADI} \times 60 \text{ kg} \times \text{RSC}] / [2 \text{ L/day}]$.

Additionally, based on consultation with the CDPH, additional CECs were selected for monitoring for surface spreading groundwater recharge/reuse projects using recycled water including bisphenyl A, boron, carbamazepine, chlorate, hexavalent chromium (CrVI), diazinon, 1,4-dioxane, naphthalene, n-nitrosodiethylamine (NDEA), n-nitrosodi-n-propylamine (NDPA), n-nitrosodiphenylamine, n-nitrosopyrrolidine (NPYR), 1,2,3-trichloropropane (1,2,3-TCP), tris(2-carboxyethyl)phosphate (TCEP), and vanadium. Table 4-4 presents a list of the CECs recommended for monitoring and analytical method reporting limits, as recommended by the Panel and CDPH.

Upon reviewing the oral and written comments received on the publicly noticed staff report, the State Water Board will draft an amendment to the Policy prescribing monitoring requirements for CECs in recycled water used for groundwater recharge/reuse and irrigation. This amendment is expected to be considered for adoption sometime in 2012 after public review.

Site-specific Requirements:

CECs to be monitored should include constituents identified by the panel, and those permit-specific CECs required by both Recycled Water Permits and NPDES permits issued in the Los Angeles Region. The determination of which CECs to be monitored will be informed by results of monitoring data available from permitted projects, along with relevant monitoring data developed from related studies conducted for the purpose of identifying site- or project-specific CECs..

The California Department of Public Health has released a draft of their Groundwater Replenishment Reuse Regulations, which are used to regulate recycled water for replenishment projects. Upon adoption of the final regulation, where the CEC monitoring requirements differ from those specified by the State Water Board in the amendment to the Policy, monitoring for the additional constituents specified by California Department of Public Health regulations should be included where groundwater recharge using recycled water is a consideration.

Section 60320.120(c) of the draft regulations requires annual monitoring of indicator CECs specified by CDPH and the Regional Water Board by proponents of groundwater replenishment and reuse projects (GRRPs). Therefore these should be taken into consideration in developing CEC monitoring programs for each basin/sub-basin. In the 2010 staff report, State Water Board staff also acknowledges that monitoring of additional health-based CECs may be required by a Regional Water Board on a project specific basis. The report also identifies the Panel's exposure screening approach as the recommended method for determining health-based CECs. The health-based CECs and performance-based indicator CECs should be included in recycled water monitoring programs for groundwater recharge/reuse projects. The health- and performance-based CECs selected for monitoring, along with recommended analytical method report limits, monitoring trigger levels, and expected removal percentage are presented in Table 4-4. More details on CEC monitoring recommendations can be found in the complete staff report located at

http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/cec_111610/staffreport.pdf

TABLE 4-5: CECs FOR MONITORING IN RECYCLED WATER
GROUNDWATER RECHARGE/REUSE PROJECTS

Constituent	Source	Indicator Type	Monitoring Level (pg/L) ²	Expected Removal (%)	Recommended Reporting Limits (pg/L) ⁴	Recycled Use Practice
Bisphenyl A						SS5 & DI6
Boron	CDPH				100	SS & DI
Carbamazepine	CDPH					SS & DI
Chlorate	CDPH				20	SS & DI
Chromium, hexavalent (CrVI)	CDPH				1.0	SS & DI
Diazinon	CDPH				--	SS & DI
1,4-Dioxane	CDPH				3.0	SS & DI
Naphthalene	CDPH				0.5	SS & DI
N-Nitrosodiethylamine (NDEA)	CDPH					SS & DI
N-Nitrosodi-n-propylamine	CDPH					SS & DI
N-Nitrosodiphenylamine	CDPH					SS&DI
N-Nitrosopyrrolidine (NPYR)	CDPH					SS & DI
1,2,3-Trichloropropane (1,2,3-TCP)	CDPH				0.005	SS & DI
Tris(2-carboxyethyl)phosphate	CDPH					SS & DI
Vanadium	CDPH				3.0	SS & DI
1713-estradiol	CEC Panel	Health	0.0009		0.001	SS & DI
Caffeine	CEC Panel	Health & Performance	0.35	>90	0.05	SS & DI
N-Nitrosodimethylamine (NDMA)	CEC Panel & CDPH	Health & Performance	0.01	25 - 50	0.002 ⁵	SS & DI6
Triclosan	CEC Panel	Health	0.35		0.05	SS & DI
Gemfibrozil	CEC Panel	Performance		>90	0.01	DI
Iopromide	CEC Panel	Performance		>90	0.05	SS
N,N-Diethyl-meta-toluamide	CEC Panel	Performance		>90	0.01	SS & DI
Sucralose	CEC Panel	Performance		>25/>90 ⁹	0.1	SS & DI

¹ Monitoring trigger levels for groundwater recharge/reuse practice.

² pg/L - Micrograms per liter

³ Expected removal from waste stream by reverse osmosis/advanced oxidation units for direct injection, or by the subsurface for surface spreading with a travel time of two weeks and no dilution, see details in Drewes et al., 2008.

⁴ CDPH's Drinking Water Analysis: Chemicals and Characteristics, September 30, 2009

⁵ Groundwater recharge/reuse by surface spreading.

⁶ Groundwater recharge/reuse by direct injection.

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⁶ NDMA is a performance-based indicator CEC for direct injection practice.

⁹ Surface Spreading/Direct Injection

C. SALT AND NUTRIENT ANALYSIS

As stated in the Policy, “[e]ach SNMPs shall include salt and nutrient source identification, basin/sub-basin assimilative capacity and loading estimates, together with fate and transport of salts and nutrients...” in order to “... address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects.”

Identification of existing and potential sources of salts, nutrients, and other pollutants of concern is an essential part of a SNMP. This allows for a more accurate assessment of the pollutant loads to the basin and analysis of the final impact on basin water quality as determined through linkage analysis. A comprehensive consideration of sources will lead to a robust assessment and a more effective implementation strategy for basin management. Table 4-5 provides examples of source considerations in conducting this analysis.

TABLE 4-6: LIKELY SOURCES OF POLLUTANTS IN GROUNDWATER BASINS

Source Considerations	Examples
Land uses	Agricultural and landscape irrigation
Groundwater recharge	Recycled water, Municipal water supply, Stormwater
Point source discharges to groundwater	Municipal and Industrial facilities, Other permitted facilities (e.g. landfills)
Non-point source discharges	Agricultural and nursery facilities, on-site wastewater treatment system discharges
Specific point sources	Injection wells, percolation basins
Surface water-groundwater interaction	Percolation from stream flow, stormwater runoff infiltration
Sub-surface inflow	Seawater intrusion, upstream inflow
Discrete discharges	Chemical spills, leaking tanks, improper disposal

In order to determine the actual pollutant loads to these basins, it will be necessary to quantify the mass loadings of all sources to each basin/sub-basin, and evaluate the fate and transport of the salts, nutrients, and other pollutants of concern. Stakeholders have the flexibility to apply any scientifically defensible methodology to make these determinations.

D. WATER RECYCLING AND STORMWATER RECHARGE/USE GOALS AND OBJECTIVES

Recycled Water Use

As stated in the Policy, “[e]ach SNMP shall include water recycling and stormwater recharge goals and objectives.” With the intent of moving towards sustainable management of surface waters and groundwater, the Policy adopts the goals of increasing the use of recycled water in California over 2002 levels by at least one million acre-feet per year (afy) by 2020 and by at least two million afy by 2030.

There are a significant number of recycled water facilities in the Los Angeles Region.

The State Water Board conducted a 2009 survey of recycled water use throughout the state to determine the amount of recycled water used and the beneficial uses to which recycled water was put. Only publicly-owned wastewater and water recycling agencies were included in the survey. Due to the low response rate from agencies solicited (18%), data from a similar 2001 survey were included in the overall results. Table 4-6 shows survey results for responding agencies in the Los Angeles Region. More details on the survey are available on the State Water Board's website at http://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/munirec.shtml.

TABLE 4-7: SURVEY RESULTS OF RECYCLED WATER USE BY POTWS AND WATER RECYCLING AGENCIES IN THE LOS ANGELES REGION

Agency	Total Reuse (AFY)	Beneficial Use
Burbank Water and Power	2090	Golf Course and Landscape Irrigation, Industrial
City of Burbank	879	Landscape Irrigation, Geothermal/Energy Production
City of Los Angeles Bureau of Sanitation	40,787	Recreational Impoundment, Natural systems restoration, Wetlands, Wildlife Habitat
City of Los Angeles Department of Water and Power	32,113	Golf Course & Landscape Irrigation, Industrial, Seawater Intrusion Barrier, Recreational Impoundment, Natural systems restoration, Wetlands, Wildlife Habitat
City of Los Angeles Department of Public Works	3,683	Landscape Irrigation, Geothermal/Energy Production
Camarillo Sanitation District/City of Camarillo	1,293	Agriculture Irrigation
Camrosa Water District	779	Agriculture Irrigation
City of Fillmore	110	Landscape Irrigation
County Sanitation Districts of Los Angeles County	80,000	Unspecified (likely groundwater recharge)
Las Virgenes Municipal Water District	5,174	Landscape Irrigation
Los Angeles County Department of Public Works	148	Landscape Irrigation
Long Beach Water Department	6,380	Golf Course & Landscape Irrigation, Commercial, Seawater Barrier
Ventura County Waterworks District 1	428	Golf Course Irrigation
Ventura County Waterworks District 1	63	Commercial
West Basin Municipal Water District	26,032	Landscape Irrigation, Industrial, Seawater Intrusion Barrier

While the majority of facilities surveyed used their recycled water for irrigation, a significant portion of the recycled water is used for groundwater recharge. In the Central and West Coast Groundwater Basins, recycled water is used extensively by the Water Replenishment District for groundwater recharge and to maintain seawater intrusion barriers. An innovative form of recycling is practiced by the City of Santa Monica using

its Santa Monica Urban Runoff Recycling Facility, which collects and treats 90% of the City's urban runoff in the dry season for use in landscape irrigation.

Substituting potable water with recycled water is another means of increasing recycled water use and reducing dependence on imported water supplies. This may be achieved by developing an indirect potable use program similar to the one initiated by the Orange County Water District.

SNMPs should contain basin-wide plans for expanding recycled water use, including estimates of projected increase and applications to additional beneficial uses within the basin.

Stormwater Use

Another goal of the Policy, with the intent of increasing sustainable local water supplies, is to increase the use of stormwater over the levels in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030. The Policy recognizes that stormwater is typically lower in nutrients and salts and can augment local water supplies, and therefore deems the inclusion of a significant stormwater use and recharge component within the salt/nutrient management plans to be critical to the long-term sustainable use of water in California. In support of this, the State Water Board expects to develop additional policies to encourage the use of stormwater, encourage water conservation, encourage the conjunctive use of surface and groundwater, and improve the use of local water supplies.

The Regional Water Board also recognizes stormwater as a valuable resource and contains a requirement in its Municipal Separate Stormwater Systems (MS4) permits that new developments and significant redevelopments retain stormwater onsite using low impact development (LID) best management practices (BMPs), with an allowance for regional and other alternative compliance approaches. MS4 permits require that land development projects be designed to infiltrate, harvest and use, evapotranspire, or bio-treat a specified volume of stormwater onsite using LID BMPs, if technically feasible. The intent of this requirement is twofold – first, to achieve improvements in water quality by preventing pollutants conveyed by stormwater from being discharged to receiving waters and, second, to increase the use of stormwater for groundwater recharge.

Since new developments and redevelopments will not necessarily occur in areas where infiltration or recharge is feasible, it is important that stormwater use be considered on a regional scale to maximize the potential for stormwater infiltration and use. Basin stakeholders are encouraged to consider such an approach in developing their implementation strategies for increasing stormwater use.

D. IMPLEMENTATION MEASURES

As stated in the Policy, “[e]ach SNMP shall include implementation measures to manage salt and nutrient loading in the basin on a sustainable basis.”

Implementation strategies should integrate water quantity and quality, groundwater and surface water, and recharge area protection in order to maintain a sustainable long-term supply for multiple beneficial uses. These strategies will be dictated to a large degree by

basin-specific characteristics and conditions. These strategies should generally be geared towards:

- a) Pollution prevention to maintain and protect ground water quality at levels consistent with Basin Plan objectives and the State's anti-degradation policy;
- b) Source load reductions to groundwater basins;
- c) Treatment and management of areas of impaired water quality;
- d) Boosting or stabilizing declining water levels where water quality is not affected;
- e) Increasing groundwater recharge by stormwater; and
- f) Increasing recycled water use.

Based on water quality conditions within a basin and the results of the source loading and linkage analysis, allowable loads for salts, nutrients and other impairing pollutants (including CECs) should be allocated to all non-point and point sources in a manner that will support attainment of applicable water quality objectives. Implementation strategies that are both technologically and economically feasible should be developed to achieve these assigned loads. Measurable parameters should be identified for evaluation of the effectiveness of the strategies, and an implementation schedule and monitoring program should be developed to track progress toward the basin management goals. Implementation measures should also include strategies for local water supply development including increasing the use of recycled water, and plans for stormwater retention for use or recharge.

The consideration of implementation alternatives must take into account the interest of all parties currently involved in basin use and management in order to resolve any potential competing or conflicting interests prior to finalizing the basin management approach. Input from all stakeholders and interested parties should be solicited as part of the development process.

The Regional Water Board recognizes that a number of agencies have developed basin management plans for specific basins. Existing basin or sub-basin management plans should be assessed to determine conformance with the SNMP requirements of the Policy. The plan should be modified as necessary to include missing elements or address inconsistencies and demonstrate consistency with SNMP in adjacent basins.

E. ANTI-DEGRADATION REQUIREMENTS

As stated in the Policy, “[e]ach Salt and Nutrient Management Plan shall include an antidegradation analysis demonstrating that the projects included within the plan will, collectively, satisfy the requirements of Resolution No. 68-16.”

Resolution No. 68-16 is the State Water Board's “Statement of Policy with respect to Maintaining High Quality of Waters in California” also known as the State Anti-degradation Policy. It requires that:

Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The intent of Resolution 68-16 is to preserve the State's high quality waters. Any activity that results in the discharge of waste must be subject to treatment or controls that assure that the discharge will not cause the receiving water to exceed water quality objectives set forth in the applicable Basin Plan or cause pollution or nuisance. In addition, the discharge should be controlled to achieve the highest water quality feasible. In other words, water quality should be the best it can be, but at least not exceed water quality objectives or impact beneficial uses. The water quality objectives are set forth in the Regional Water Board Basin Plans, the State Water Board's Sources of Drinking Water Policy, and the California Ocean Plan. The baseline water quality to maintain refers to the highest existing quality since Resolution No. 68-16 was adopted in 1968, although if a lowering of water quality was formally approved in the past, this could adjust the baseline.

In some instances, degradation of existing water quality may be allowed so long as such degradation is consistent with the maximum benefit to the people of the state. In no case, however, may the water quality be allowed to be less than the water quality objectives. This may only occur where the existing water quality is better than that required to support the most sensitive beneficial use(s) of the basin (i.e. where there is assimilative capacity). Where a proposed discharge would result in violation of water quality objectives established to protect designated beneficial uses of the groundwater, no discharge will be allowed and therefore no anti-degradation analysis will be necessary.

Where project(s) within SNMPs have the potential to degrade the water quality within a basin, stakeholders are required to conduct an anti-degradation analysis. The rigor of the analysis required depends on the nature and extent of the potential degradation. The guidelines and requirements for such analysis are provided below and parallel, to a large extent, those provided in the Policy for basins where plans are yet to be completed. This analysis will be part of the supporting documentation for the Basin Plan amendment incorporating the implementation plan(s) consistent with implementation measures identified in the SNMP. Implementation projects must be demonstrated to be consistent with Resolution 68-16 as supported by the anti-degradation analysis conducted as part of SNMP development.

The Policy recognizes that groundwater recharge and landscape irrigation projects may be to the benefit of the people of the state, despite having the potential to lower water quality within the basin. As such, the Policy provides a threshold below which less rigorous analysis will be conducted for the anti-degradation analysis – during the period before SNMPs have been developed. The Regional Water Board will apply the same considerations once SNMPs are in place.

- (1) Generally, a project that utilizes less than 10 percent of the available assimilative capacity in a basin/sub-basin (or multiple projects utilizing less than 20 percent of the available assimilative capacity in a basin/sub-basin) need only conduct an anti-degradation analysis verifying the use of the assimilative capacity. For those basins /sub-basins where the Regional Water Boards have not determined the baseline assimilative capacity, the baseline assimilative capacity shall be calculated by the initial project proponent, with review and approval by the Regional Water Board. The available assimilative capacity shall be calculated by comparing the water quality objectives with the average concentration of the basin/sub-basin⁹, either over the most recent five years of data available or using a data set approved by the Regional Water Board Executive Officer. Though the Policy expresses assimilative capacity in units of concentration, the Regional Water Board recognizes that, depending on the complexity of the basin, it may be more appropriate to calculate and express assimilative capacity as a load. Historical groundwater quality data will be reviewed in order to inform decisions about assimilative capacity and conclusions drawn about anti-degradation requirements. In determining whether the available assimilative capacity will be exceeded by the project or projects, the Regional Water Board will consider the impacts of the project or projects over at least a ten-year time frame, based on an analysis of these impacts provided by the project proponent(s), and other relevant data and information.
- (2) In the event a project or multiple projects utilize more than 10 percent of the available assimilative capacity in a basin/sub-basin (or multiple projects utilizing more than 20 percent of the available assimilative capacity in a basin/sub-basin), a more rigorous anti-degradation analysis shall be performed to comply with Resolution No. 68-16. The project proponent shall provide sufficient information for the Regional Water Board to make this determination.

In addition to verification of the assimilative capacity to be used, the analysis should show:

- a) That the proposed project(s) is necessary to accommodate important economic or social development;
- b) Any reduction in water quality will be consistent with maximum benefit to people of the State;
- c) Reduction in water quality will not unreasonably affect actual or potential beneficial uses; and
- d) Water quality will not fall below water quality objectives set to protect beneficial uses as prescribed in the Basin Plan.

The severity and extent of water quality reduction will be considered when evaluating the benefits required to compensate for the degradation. The magnitude of the proposed project and potential reduction in water quality will also determine the scope of impact assessment. The Regional Water Board will ensure that a systematic impact assessment is conducted.

⁹ More than one average concentration may be necessary for a given basin/sub-basin to fully evaluate variability between sub-areas or sub-basins.

Factors that should be considered when determining whether a project is necessary to accommodate social or economic development and is consistent with maximum benefit to the people of the State, include:

1. Past, present, and probable beneficial uses of the water.
2. Economic and social costs, tangible and intangible, of the proposed project compared to benefits. The economic impacts to be considered may include the cost of alternative actions in lieu of the proposed project, as well as the cost of any mitigation necessary to address degradation resulting from the proposed project. The long-term and short-term socioeconomic impacts of maintaining existing water quality must be considered. Examples of social and economic parameters that could be affected are employment, housing, community services, income, tax revenues, and land value. To accurately assess the impact of the proposed project, the projected baseline socioeconomic profile of the affected community without the project should be compared to the projected profile with the project.
3. The environmental aspects of the proposed discharge must be evaluated. The proposed discharge, while actually causing a reduction in water quality in a given water body, may be simultaneously causing an increase in water quality in a more environmentally sensitive body of water from which the discharge in question is being diverted.
4. The implementation of feasible alternative control measures, which might reduce, eliminate, or compensate for negative impacts of the proposed action.

Participation from the public and appropriate government agencies should be solicited in the “maximum benefit” determination to ensure that the environmental, social, and economic impacts of the project are accurately assessed.

The Regional Water Board will ultimately make the decision as to whether or not it is to the maximum benefit of the people of the State to use more than 10% for single projects or 20% for multiple projects of the assimilative capacity of a basin or sub-basin. Consideration will be given to providing buffers for varying environmental conditions such as droughts, as well as the needs of future generations.

Where no assimilative capacity exists for salts and/or nutrients within a basin/sub-basin, stakeholders may explore and implement strategies for creating such assimilative capacity. The Regional Water Board is currently not considering raising water quality objectives as a means of creating assimilative capacity, therefore this would not be an option.

The Policy includes an example of an approved method for conducting an anti-degradation analysis based on a numeric groundwater model. It was used by the State Water Board in connection with Resolution No. 2004-0060 and the Regional Water Board in connection with Resolution No. R8-2004-0001. The Policy also encourages an integrated approach (using surface water, groundwater, recycled water, stormwater, pollution prevention, water conservation, etc.) to the implementation of Resolution No. 68-16.

E. DISCHARGES COVERED BY THE RECYCLED WATER POLICY

The Policy is specifically geared towards increasing the use of recycled water from municipal wastewater sources permitted through Wastewater Recycling Requirements (WRRs). Land discharges of wastewater are addressed through separate Waste Discharge Requirements (WDRs), however, this does not preclude them from the SNMP development process. Such discharges (existing and proposed) should be accounted for in determining source loading estimates, determination of assimilative capacity, and in basin management planning. In the same vein, recycled water projects already in progress should be considered during the same phases of SNMP development.

5. CEQA REQUIREMENTS

The Policy requires that salt and nutrient management plans developed for basin/sub-basins comply with the applicable California Environmental Quality Act (CEQA) requirements.

The CEQA requires state and local agencies determine the potential significant environmental impacts of proposed projects and identify measures to avoid or mitigate these impacts where feasible. The CEQA Guidelines, which provide the protocol by which state and local agencies comply with CEQA requirements, are detailed in California Code of Regulations, Title 14 § 15000 et seq.

The basic purposes of CEQA are to: 1) inform decision makers and public about the potential significant environmental effects of a proposed project, 2) identify ways that environmental damage may be mitigated, 3) prevent significant, avoidable damage to the environment by requiring changes in projects, through the selection of alternative projects or the use of mitigation measures when feasible, and 4) disclose to the public why an agency approved a project if significant effects are involved (Cal. Code Regs., tit. 14, § 15002(a)).

LEAD AND RESPONSIBLE AGENCIES UNDER CEQA

As set forth in the Policy, stakeholders will fund SNMP development including any necessary analysis and documentation to comply with CEQA. Stakeholders will develop implementation strategies, which may include projects requiring environmental analysis. Public agencies that carry out or implement projects associated with the SNMPs are considered the lead agencies under CEQA for these individual projects. However, in addition, the implementation measures identified in a SNMP may be adopted as amendments to the Basin Plan by the Regional Water Board, and CEQA analysis is a required part of the adoption process in accordance with the State Water Board's certified regulatory program. As such, for the purpose of Water Board adoption of a Basin Plan amendment, the Regional Water Board will be the lead agency for purposes of CEQA. Therefore, it will be necessary for stakeholders and Regional Water Board staff to work in collaboration.

REQUIRED ENVIRONMENTAL ANALYSIS

The California Secretary for Natural Resources has certified the State and Regional Water Boards' basin planning process as exempt from certain requirements of CEQA, including preparation of an initial study, negative declaration, and environmental impact report (California Code of Regulations, Title 14, Section 15251(g)).

The basin planning process is certified by the Secretary for Natural Resources as a regulatory program exempt from the requirements to prepare an Environmental Impact Report, Negative Declaration, and Initial Study (Title 14, California Code of Regulations (CCR), Section 15241(g)). However, a certified program is subject to other provisions in CEQA (Pub. Resources Code, Section 21000 et seq.), such as the requirement to avoid significant adverse effects to the environment where feasible. The Regional Board is

required to comply with State Water Board regulations set forth in California Code of Regulations, Title 23, sections 3775 et. seq, and Public Resources Code section 21159.

Requirements of California Code of Regulations, Title 23, Section 3777(a)

The “certified regulatory program” of the Regional Water Board is also subject to the substantive requirements of California Code of Regulations, Title 23, Section 3777(a), which requires a written report that includes a description of the proposed activity, an analysis of reasonable alternatives, and an identification of mitigation measures to minimize any significant adverse environmental impacts. Section 3777(a) also requires the Regional Water Board to complete an environmental checklist as part of its substitute environmental documents.

Any water quality control plan, state policy for water quality control, and any other components of California's water quality management plan as defined in Code of Federal Regulations, title 40, sections 130.2(k) and 130.6, proposed for board approval or adoption must include or be accompanied by Substitute Environmental Documentation (SED) and supported by substantial evidence in the administrative record. The Draft SED may be comprised of a single document or a compilation of documents. The Draft SED must be circulated prior to board action approving or adopting a project, as specified in sections 3778 and 3779. The Draft SED shall consist of:

- a) A written report prepared for the board, containing an environmental analysis of the project;
- b) A completed Environmental Checklist (a sample of which is contained in Appendix II). The sample Environmental Checklist may be modified as appropriate to meet the particular circumstances of a project. The issues identified in the Environmental Checklist must be evaluated in the checklist or elsewhere in the SED; and
- c) Other documentation as the board may include.

The Draft SED shall include, at a minimum, the following information:

- a) A brief description of the proposed project;
- b) An identification of any significant or potentially significant adverse environmental impacts of the proposed project;
- c) An analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and
- d) An environmental analysis of the reasonably foreseeable methods of compliance. The environmental analysis shall include, at a minimum, all of the following:
 - i. An identification of the reasonably foreseeable methods of compliance with the project;
 - ii. An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance;
 - iii. An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and
 - iv. An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance.

In the preparation of the environmental analysis described in d) above, the board may utilize numerical ranges or averages where specific data are not available; however, the board shall not be required to engage in speculation or conjecture. The environmental analysis shall take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites, but the board shall not be required to conduct a site-specific project level analysis of the methods of compliance, which CEQA may otherwise require of those agencies who are responsible for complying with the plan or policy when they determine the manner in which they will comply.

As to each environmental impact, the SED shall contain findings as described in State CEQA Guidelines section 15091, and if applicable, a statement described in section 15093.

If the board determines that no fair argument exists that the project could result in any reasonably foreseeable significant adverse environmental impacts, the SED shall include a finding to that effect in lieu of the analysis of project alternatives and mitigation measures.

If the board determines that no fair argument exists that the reasonably foreseeable methods of compliance with the project could result in any reasonably foreseeable significant adverse environmental impacts, the SED shall include a finding to that effect in lieu of the analysis of alternative methods of compliance and associated mitigation measures.

Requirements of Public Resources Code section 21159

Public Resources Code section 21159 has the same minimum requirements for the environmental analysis which the Regional Water Board is also required to fulfill along with the same considerations. Section 21159(c) requires that the environmental analysis take into account a reasonable range of:

- a) Environmental, economic, and technical factors,
- b) Population and geographic areas, and
- c) Specific sites.

A “reasonable range” does not require an examination of every site, but a reasonably representative sample of them. The statute specifically states that the section shall not require the agency to conduct a “project-level analysis” (Public Resources Code § 21159(d)). Rather, a project-level analysis must be performed by the local agencies that will implement the strategies and projects identified in the SNMP (Public Resources Code §21159.2). Notably, the Regional Water Board is prohibited from specifying the manner of compliance with its regulations (Cal. Water Code §13360), and accordingly, the actual environmental impacts will necessarily depend upon the compliance strategy selected by the local agencies and other permittees.

State Water Board Finding

As set forth in the Policy, the State Water Board finds that the use of recycled water which supports the sustainable use of groundwater and/or surface water that is sufficiently treated so as not to adversely impact public health or the environment and

which ideally substitutes for use of potable water is presumed to have a beneficial impact. Other public agencies are encouraged to use this presumption in evaluating the impacts of recycled water projects on the environment as required by the CEQA.

Public Participation Requirements for the CEQA Process

Pursuant to California Public Resources Code section 21083.9, a CEQA Scoping Meeting will be held to receive comments on the appropriate scope and content of substitute environmental documents supporting amendments to the Basin Plan to incorporate salt and nutrient management plans for groundwater basins in the Los Angeles Region. The purpose of this meeting is to scope the proposed projects and/or strategies for groundwater basin management and to determine, with input from interested agencies and persons, if those means would result in significant adverse impacts to the environment. Information garnered from this process will be considered during development of the draft SED and, where applicable, may be incorporated into the final document.

ROLES OF STAKEHOLDER GROUPS AND REGIONAL WATER BOARD STAFF IN THE CEQA PROCESS

Both Regional Water Board staff and stakeholder groups will be significantly involved in the environmental analysis for the SNMPs. Table 5-1 lists the different aspects of the CEQA process and identifies the roles of each party.

TABLE 5-1: ROLES OF STAKEHOLDERS AND REGIONAL WATER BOARD STAFF IN THE CEQA PROCESS FOR BASIN PLAN AMENDMENTS

TASK	REGIONAL WATER BOARD	STAKEHOLDERS
LEAD AGENCY	Lead	
CEQA SCOPING MEETING	Co-Lead	Co-Lead
ENVIRONMENTAL ANALYSIS	Oversight	Lead
SED DEVELOPMENT	Oversight	Lead
DOCUMENT REVIEW	Lead	
RESPONSE TO COMMENTS	Lead - Regulatory	Lead - Technical
REVISIONS	Oversight/Review	Lead
PUBLIC HEARING	Lead	
PROJECT LEVEL EIR		Lead

The CEQA scoping meeting will be held jointly by Regional Water Board staff and stakeholder groups, while the environmental analysis will be conducted primarily by the groundwater basin stakeholder groups with oversight and review by Regional Water Board staff. Following the release of the draft environmental document for public review, it is anticipated that there will be comments on its technical and regulatory aspects. The Regional Water Board will take the lead in responding to the regulatory comments, while stakeholders will be the lead for responding to technical comments. Any revisions necessary in response to public comments will be the purview of the stakeholder groups with oversight by Regional Water Board staff. Preparation of the environmental documentation for consideration and adoption by the Regional Water Board will be the responsibility of Regional Water Board and staff. Finally, once the SNMPs have been adopted and specific projects are to be implemented, basin stakeholders will be responsible for the development of project-specific environmental analysis and other related CEQA requirements.

TIMELINE FOR THE CEQA PROCESS IN RELATION TO SNMP DEVELOPMENT

The SED will be considered by the Regional Water Board as part of the adoption of the implementation provisions contained in the SNMPs. Approval of the SED is separate from approval of a specific project alternative or a component of an alternative. Approval of the SED refers to the process of: (1) addressing comments, (2) confirming that the Regional Water Board considered the information in the SED, and (3) affirming that the SED reflects independent judgment and analysis by the Regional Water Board - CEQA Guidelines Section 10590 and 15090 (Title 14 of CCR).

Stakeholders are encouraged to begin the CEQA process once potential basin management strategies have been identified during SNMP development. The CEQA scoping meeting should be held early enough in the process for consideration of public comments during the development of the substitute environmental document. Ideally the SED should be completed at the same time as the SNMP for timely consideration and adoption by the Regional Water Board.

6. BOARD ADOPTION OF SNMPS

As stated in the Policy: *Salt and nutrient plans shall be completed and proposed to the Regional Water Board within five years from the date of this Policy unless a Regional Water Board finds that the stakeholders are making substantial progress towards completion of a plan. In no case shall the period for the completion of a plan exceed seven years.*

Stakeholders are encouraged to complete and submit SNMPS for each basin by May 2014 as specified in the Policy. However, the Policy allows for an extension where significant progress has been made but this deadline cannot be met. For this purpose, the Regional Water Board will consider “significant progress” as follows: (i) upon completion of a collaborative stakeholder developed basin wide monitoring plan that meets the requirements set forth in the Policy, (ii) completion of the salt/nutrient source identification, loading and linkage analysis, and (iii) commencement of the development of implementation strategies for basin management. Stakeholders will also be required to make a showing that completion by the May 2014 deadline is infeasible.

Within one year of the receipt of a proposed salt and nutrient management plan, the Regional Water Boards shall consider for adoption revised implementation plans, consistent with Water Code section 13242, for those groundwater basins within their regions where water quality objectives for salts or nutrients are being, or are threatening to be, exceeded. The implementation plans shall be based on the salt and nutrient plans required by this Policy.

The Regional Water Board expects to adopt the implementation provisions of each SNMP within one year of submission by basin/sub-basin stakeholders. The State Water Board has provided templates for these Basin Plan amendments (see Appendix I) as a guide to the scope of information to be provided in the amendment language. Table 6-1 provides a tentative schedule of stakeholder tasks and submissions.

TABLE 6-1: TENTATIVE SCHEDULE OF STAKEHOLDER SUBMISSIONS

Tasks	Date
CEQA Scoping Meeting	June 2013
Initial Draft SNMP & CEQA submittal	November 2013
Final Draft SNMP & CEQA submittal	May 2014
Regional Water Board Consideration and Adoption	May 2015 and beyond

Regional and State Water Board Resources

Regional Water Board staff expects to continue working collaboratively with groundwater basin stakeholders during the SNMP development process, as well as through the Board adoption process. In addition to staff assigned for this purpose, the following resources are available to stakeholders to facilitate the process.

Regional Water Board SNMP website:

www.waterboards.ca.gov/losangeles/water_issues/programs/salt_and_nutrient_management/index.shtml

SNMP E-mail list subscription:

http://www.waterboards.ca.gov/resources/email_subscriptions/reg4_subscribe.shtml

Groundwater Ambient Monitoring and Assessment (GAMA) website:

www.waterboards.ca.gov/losangeles/water_issues/programs/sgama/geotracker_gama.html

State Water Board website:

http://www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/index.shtml

7. REFERENCES

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