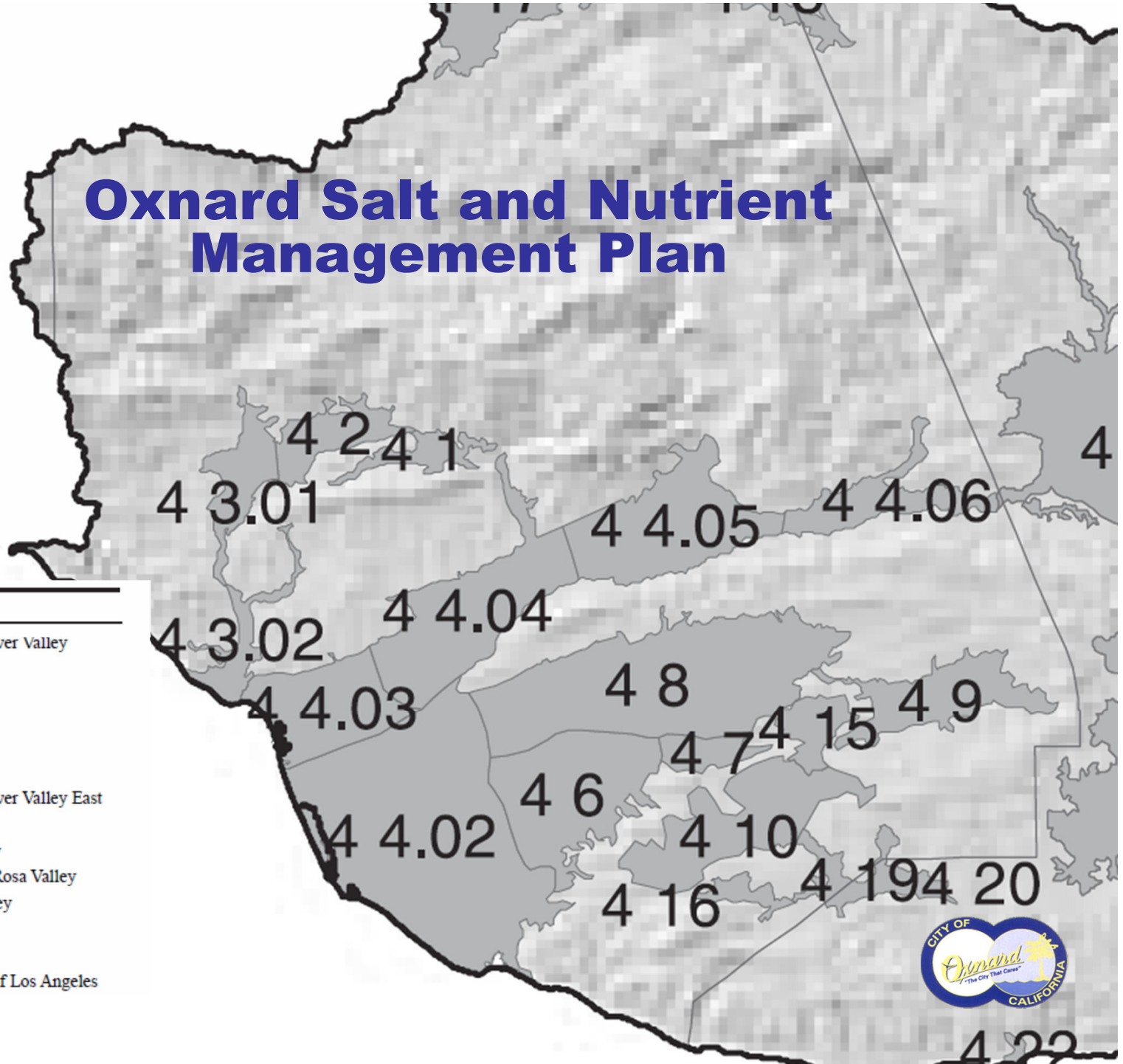


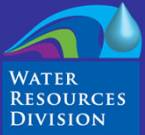


Oxnard Salt and Nutrient Management Plan



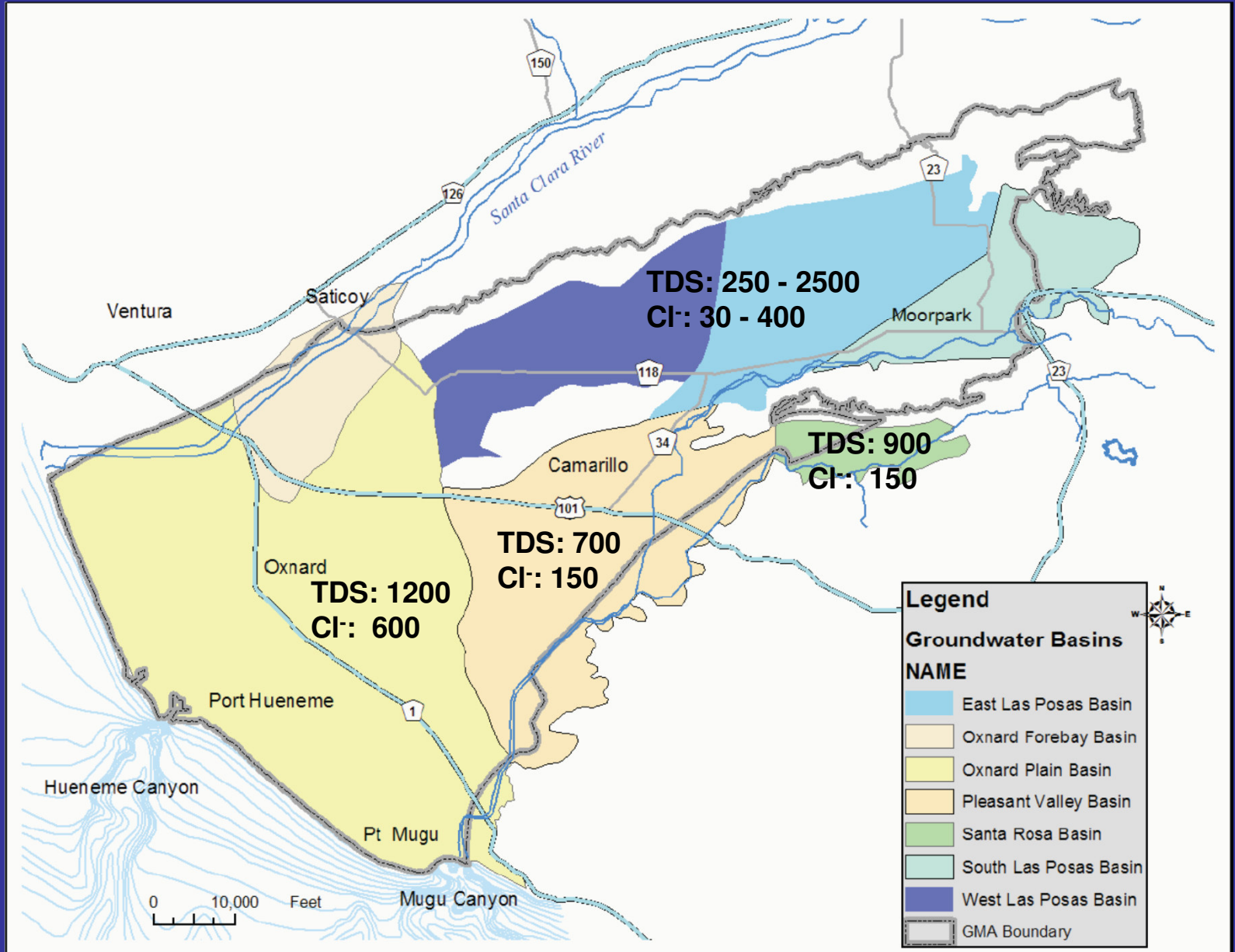
Basin/subbasin	Basin name
4-4	Santa Clara River Valley
4-4.02	Oxnard
4-4.03	Mound
4-4.04	Santa Paula
4-4.05	Fillmore
4-4.06	Piru
4-4.07	Santa Clara River Valley East
4-5	Acton Valley
4-6	Pleasant Valley
4-7	Arroyo Santa Rosa Valley
4-8	Las Posas Valley
4-9	Simi Valley
4-10	Conejo Valley
4-11	Coastal Plain of Los Angeles





Salt and Nutrient Management Plan

FCGMA
UWCD
VC GS
City





Salt and Nutrient Management Plan

“ shall include the following components:”

- (a) A basin/sub-basin wide monitoring plan that includes an appropriate network of monitoring locations.
- (b) A provision for annual monitoring of CECs
- (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
- (f) An antidegradation analysis.

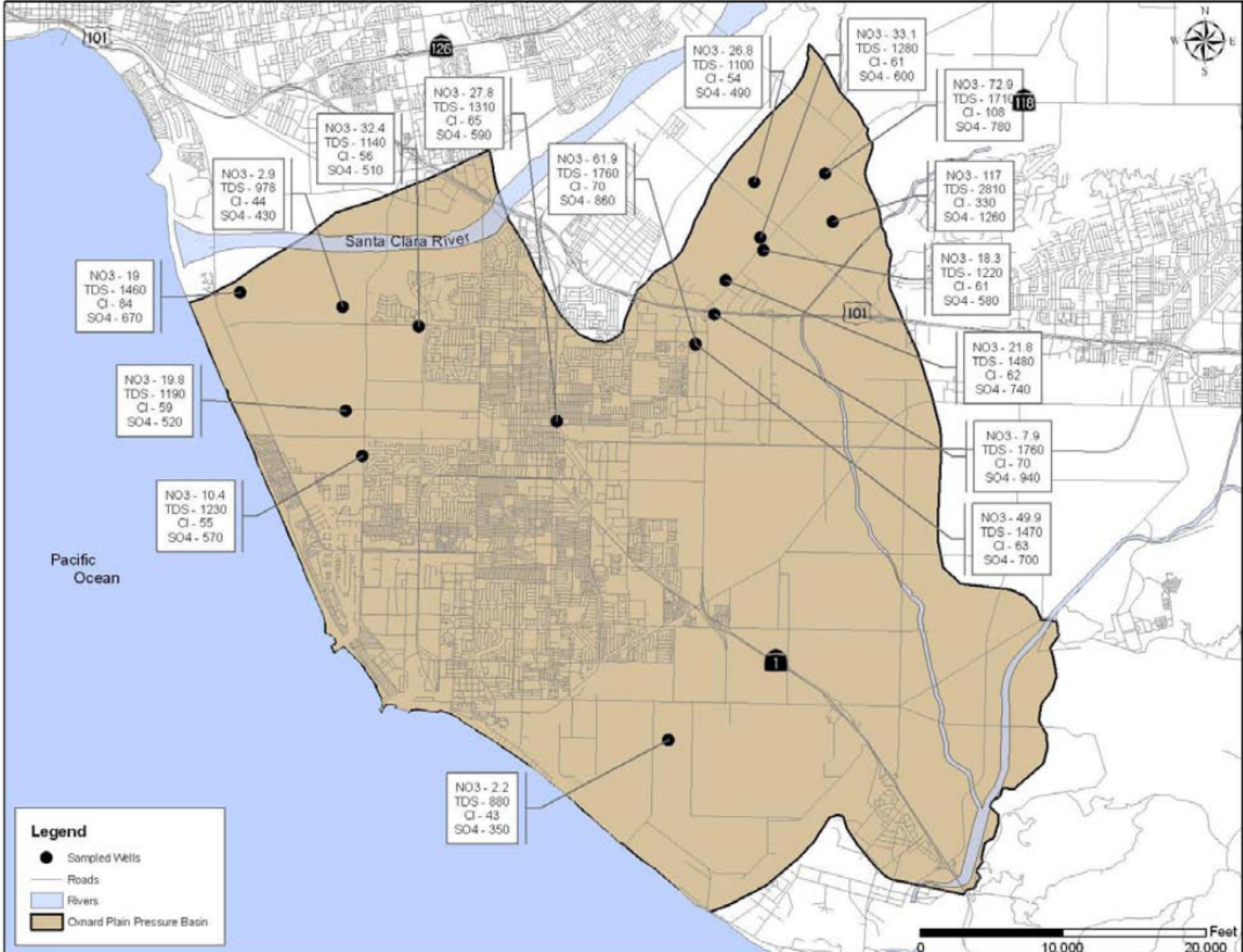


(a) Network of Monitoring Locations

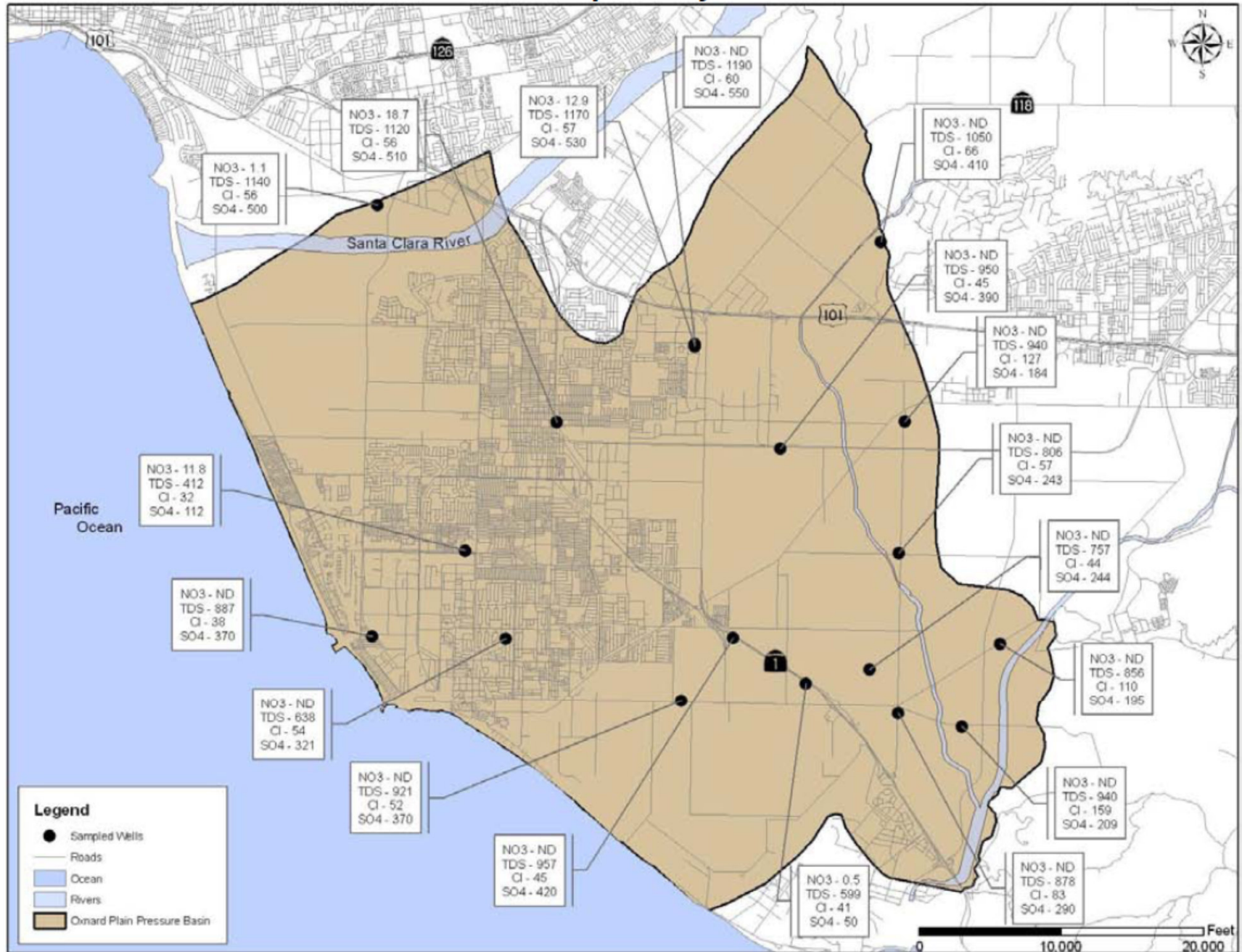
Table 24 South Coast Hydrologic Region groundwater data

Basin/Subbasin	Basin Name	Area (acres)	Groundwater Budget Type	Well Yields (gpm)		Active Monitoring			TDS (mg/L)	
				Maximum	Average	Levels	Quality	Title 22	Average	Range
4-1	UPPER OJAI VALLEY	3,800	A	200	50	4	-	1	707	438-1,249
4-2	OJAI VALLEY	6,830	A	600	383	24	-	22	640	450-1,140
4-3	VENTURA RIVER VALLEY									
4-3.01	UPPER VENTURA RIVER	7,410	C	-	600	17	-	18	706	500-1,240
4-3.02	LOWER VENTURA RIVER	5,300	A	-	20	-	-	2	-	760-3,000
4-4	SANTA CLARA RIVER VALLEY									
4-4.02	OXNARD	58,000	A	1,600	-	127	127	69	1,102	160-1,800
4-4.03	MOUND	14,800	A	-	700	11	11	4	1,644	1,498-1,908
4-4.04	SANTA PAULA	22,800	A	-	700	60	50	10	1,198	470-3,010
4-4.05	FILLMORE	20,800	A	2,100	700	23	-	10	1,100	800-2,400
4-4.06	PIRU	8,900	A	-	800	19	-	3	1,300	608-2,400
4-4.07	SANTA CLARA RIVER VALLEY EAST	66,200	C	-	-	-	-	62	-	-
4-5	ACTON VALLEY	8,270	A	1,000	140	-	-	7	-	-
4-6	PLEASANT VALLEY	21,600	A	-	1,000	9	-	12	1,110	597-3,490
4-7	ARROYO SANTA ROSA VALLEY	3,740	A	1,200	950	6	-	7	1,006	670-1,200
4-8	LAS POSAS VALLEY	42,200	A	750	-	-	-	24	742	338-1,700
4-9	SIMI VALLEY	12,100	A	-	394	13	-	1	-	1,580
4-10	CONEJO VALLEY	28,900	A	1,000	100	-	-	3	631	335-2,064
4-11	COASTAL PLAIN OF LOS ANGELES									
4-11.01	SANTA MONICA	32,100	C	4,700	-	-	-	12	916	729-1,156
4-11.02	HOLLYWOOD	10,500	A	-	-	5	5	1	-	526
4-11.03	WEST COAST	91,300	A	1,300	-	67	58	33	456	-
4-11.04	CENTRAL	177,000	A	11,000	1,730	302	64	294	453	200-2,500
4-12	SAN FERNANDO VALLEY	145,000	A	3,240	1,220	1398	2385	126	499	176-1,116
4-13	SAN GABRIEL VALLEY	154,000	A	4,850	1,000	67	296	259	367	90-4,288
4-15	TIERRA REJADA	4,390	A	1,200	172	4	1	-	-	619-930
4-16	HIDDEN VALLEY	2,210	C	-	-	-	-	1	453	289-743
4-17	LOCKWOOD VALLEY	21,800	A	350	25	-	-	1	-	-
4-18	HUNGRY VALLEY	5,310	C	-	28	-	-	-	<350	-
4-19	THOUSAND OAKS AREA	3,110	C	-	39	2	-	-	1,410	1,200-2,300
4-20	RUSSELL VALLEY	3,100	A	-	25	-	-	-	-	-
4-22	MALIBU VALLEY	613	C	1,060	1,030	-	-	-	-	-
4-23	RAYMOND	26,200	A	3,620	1,880	88	-	70	346	138-780
8-1	COASTAL PLAIN OF ORANGE COUNTY	224,000	A	4,500	2,500	521	411	240	475	232-661
8-2	UPPER SANTA ANA VALLEY									
8-2.01	CHINO	154,000	A	1,500	1,000	12	8	187	484	200-600
8-2.02	CUCAMONGA	9,530	C	4,400	2,115	1	1	21	-	-
8-2.03	RIVERSIDE-ARLINGTON	58,600	A	-	-	11	3	43	-	370-756
8-2.04	RIALTO-COLTON	30,100	A	5,000	545	50	5	41	337	-
8-2.05	CAJON	23,200	C	200	60	-	-	5	-	-
8-2.06	BUNKER HILL	89,600	A	5,000	1,245	398	169	204	-	150-550
8-2.07	YUCAIPA	25,300	A	2,800	206	19	3	45	334	-

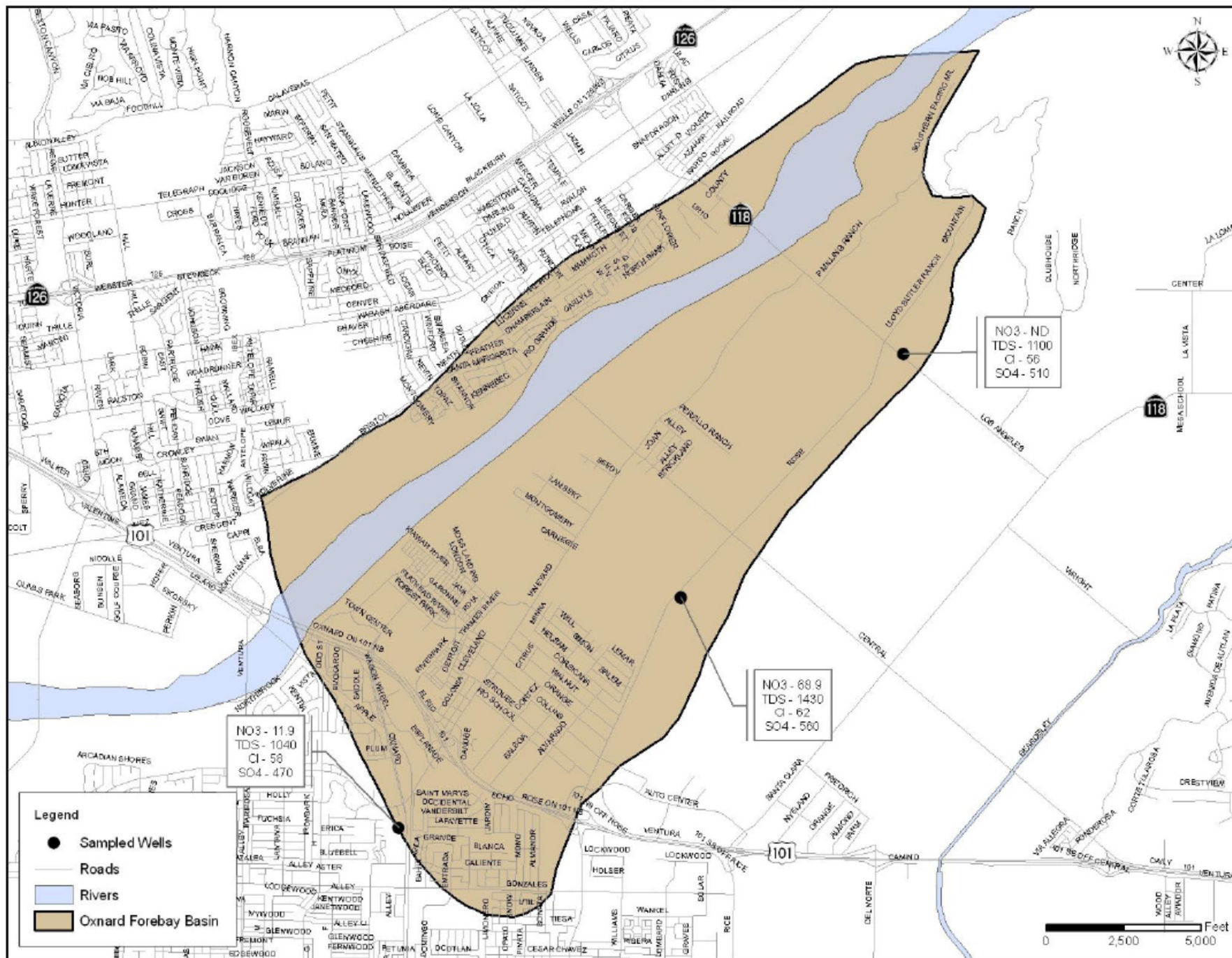
OXNARD PLAIN PRESSURE BASIN Upper Aquifer System

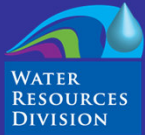


OXNARD PLAIN PRESSURE BASIN Lower Aquifer System



OXNARD FOREBAY BASIN





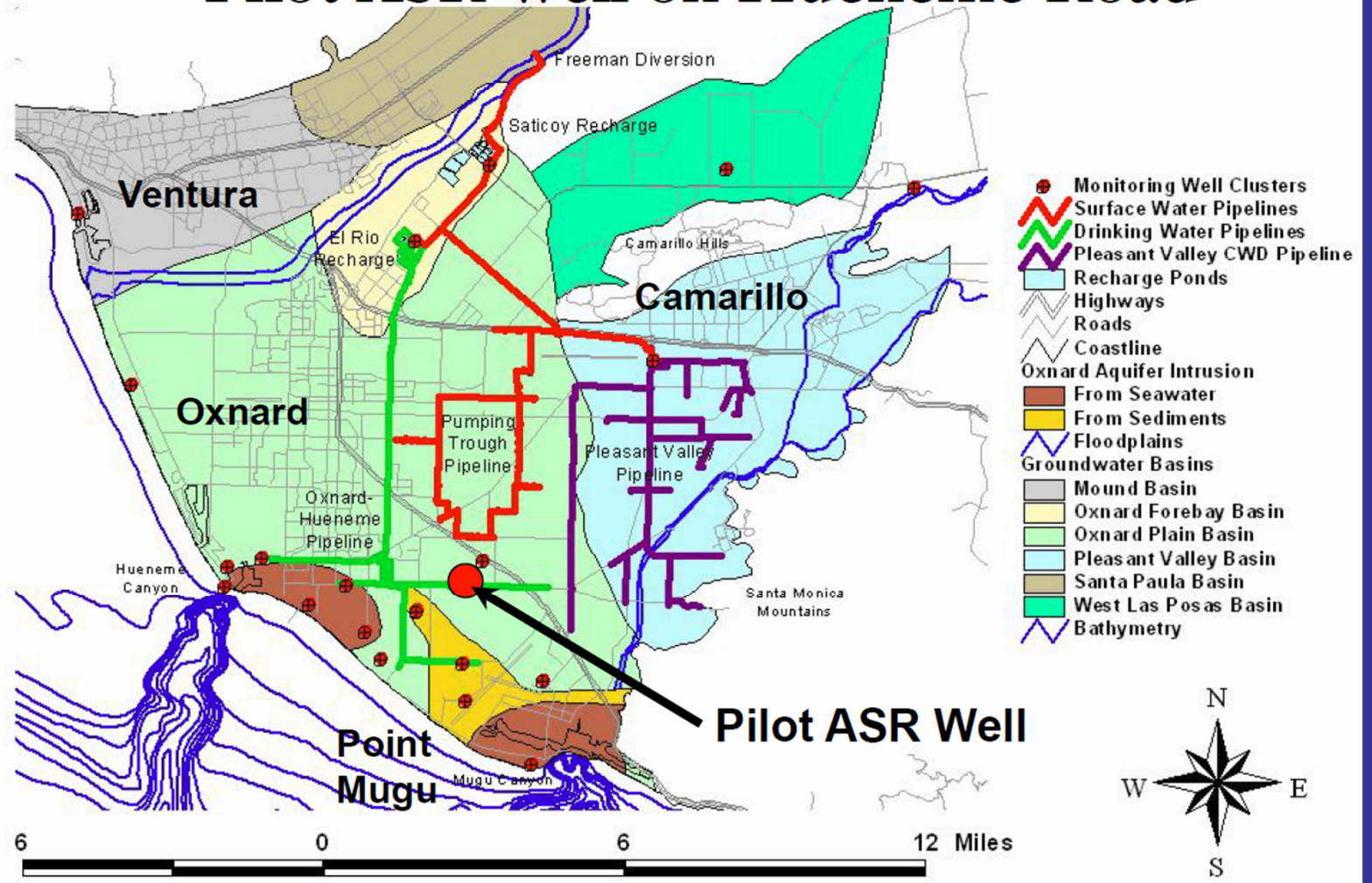
(b) Monitoring of Constituents of Emerging Concern

Description	Before RO	Before RO Dup	After RO	
Analyte	ppt	ppt	ppt	
Sulfamethoxazole	2600	2500	26	antibiotic (UTI)
Atenolol	1100	1200	12	beta blocker
Trimethoprim	790	800	7.2	antibiotic (UTI)
Meprobamate	650	660	5.8	tranquillizer
Dilantin	160	200	2.0	antiepileptic
Carbamazepine	140	130	1.5	bi-polar, ADD, ADHD
Gemfibrozil	1800	1800	8.6	lipid drug
Diclofenac	120	120	1.1	NSAID
Naproxen	630	700	7.8	NSAID
Triclosan	840	810	7.8	antibacterial, antifungal
Estrone	64	65	0.36	estrogenic hormone
DEET	280	300	3.3	insect repellent

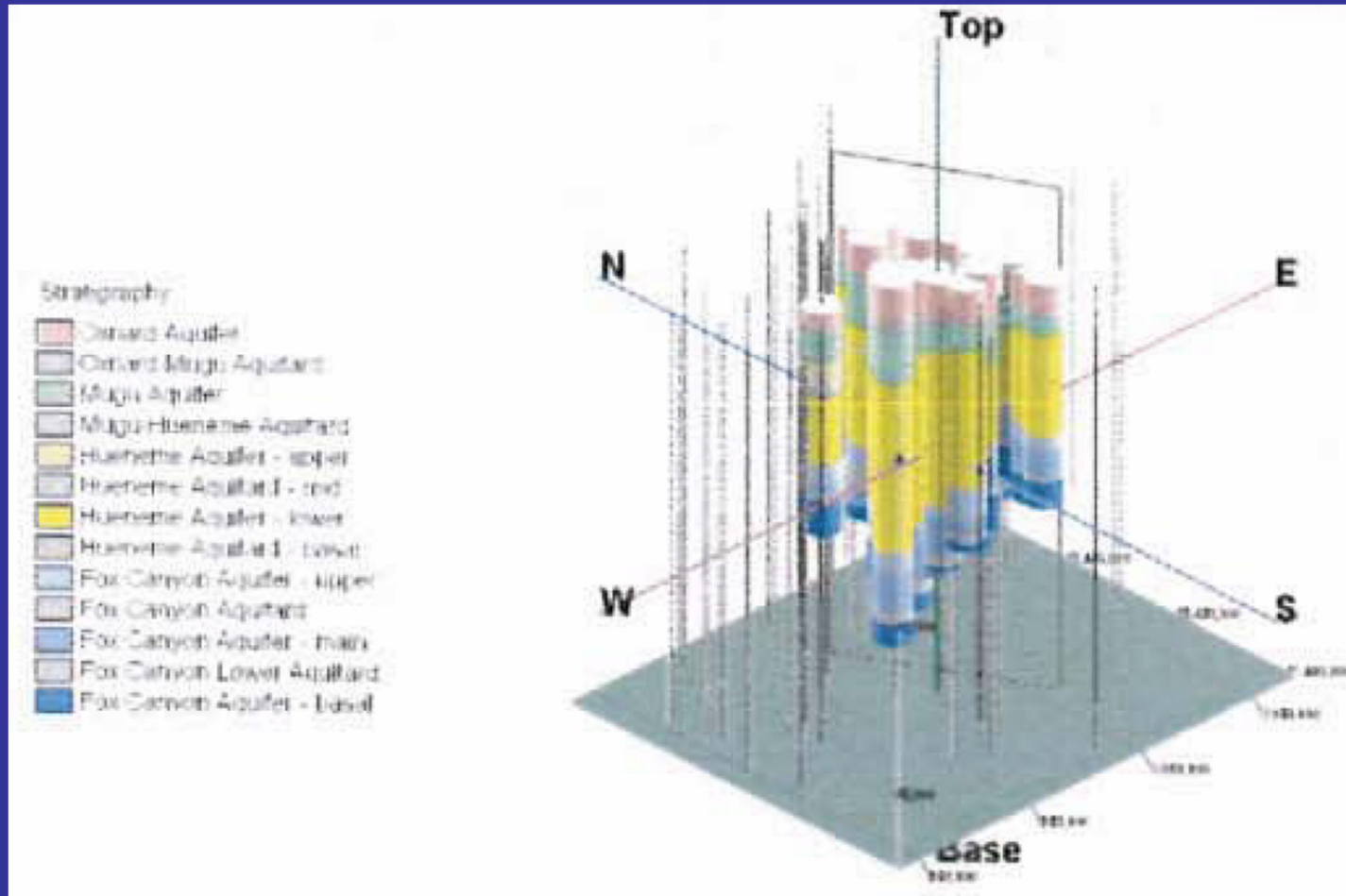


(d) Source Identification

Pilot ASR Well on Hueneme Road



(d) Source Identification





(e) Implementation Measures

Strategy	UAS ΔWL	Meet UAS BMOs	LAS ΔWL	Meet LAS BMOs
Current Strategies		51%		5%
Barrier Wells	+11'	63%	+46'	48%
GREAT Project	-1'	51%	+38'	36%
Injection River Water	+1'	53%	+7'	11%
Shift Pumping UAS	-1'	50%	+8'	9%
Increase River Diversions	+3'	54%	+3'	8%
Addtl Recharge S Oxnard	+1'	53%	+4'	7%
Continue 25% Reduction	+1'	53%	+2'	7%
Import State Water	+2'	54%	+1'	7%
RiverPark Recharge	<1'	52%	<1'	6%
Shift Pumping NW Oxnard	<1'	51%	<1'	5%
All Strategies	+15'	67%	100'	76%





(e) Basin Management Objectives

<i>Well</i>	<i>BMO Groundwater Level (msl)</i>	<i>Current Level (msl)*</i>	<i>BMO Chloride (mg/L)</i>	<i>Current Chloride (mg/L)</i>
1N/23W-1C5 (CM3-145, 120-145)	Average 3'	9.2'	<150	41
1N/22W-20J8 (A1-195, 155-195)	Average 4'	14.6'	<150	177
1N/22W-20J7 (A1-320, 280-320)	Average 8'	15.5'	<150	81
1N/22W-28G5 (CM4-200, 180-200)	Average 5'	9.0'	<150	237
1N/22W-28G4 (CM4-275, 255-275)	Average 7'	8.4'	<150	6,536
1N/21W-19L12 (SCE-220, 200-220)	Average 5'	11.3'	<150	67
1S/22W-1H4 (CM6-200, 180-200)	Average 5'	1.8'	<150	4,089
1S/22W-1H3 (CM6-330, 310-330)	Average 8'	-12.5'	<150	1,630
1S/21W-8L4 (CM1A-220, 200-220)	Average 5'	-4.9'	<150	16,917

Table 1. Basin Management Objectives for Upper Aquifer System wells in the Oxnard Plain basin. Well name and perforation depths follow State Well Number.

<i>Well</i>	<i>BMO Groundwater Level (msl)</i>	<i>Current Level (msl)*</i>	<i>BMO Chloride (mg/L)</i>	<i>Current Chloride (mg/L)</i>
1N/23W-1C4 (CM3-695, 630-695)	Average 17'	15.4'	<150	36
1N/22W-29D2 (CM2-760, 720-760)	Average 19'	0.2'	<150	9,783
1S/22W-1H1 (CM6-550, 490-550)	Average 13'	-33.3'	<150	3,512
1S/21W-8L3 (CM1A-565, 525-565)	Average 14'	-42.3'	<150	4,161
1N/21W-7J2 (PTP #1, 590-1280)	Average 20'	-52.0'	<150	42

Table 2. Basin Management Objectives for Lower Aquifer System wells in the Oxnard Plain basin. Well name and perforation depths follow State Well Number.





(e) Basin Management Objectives

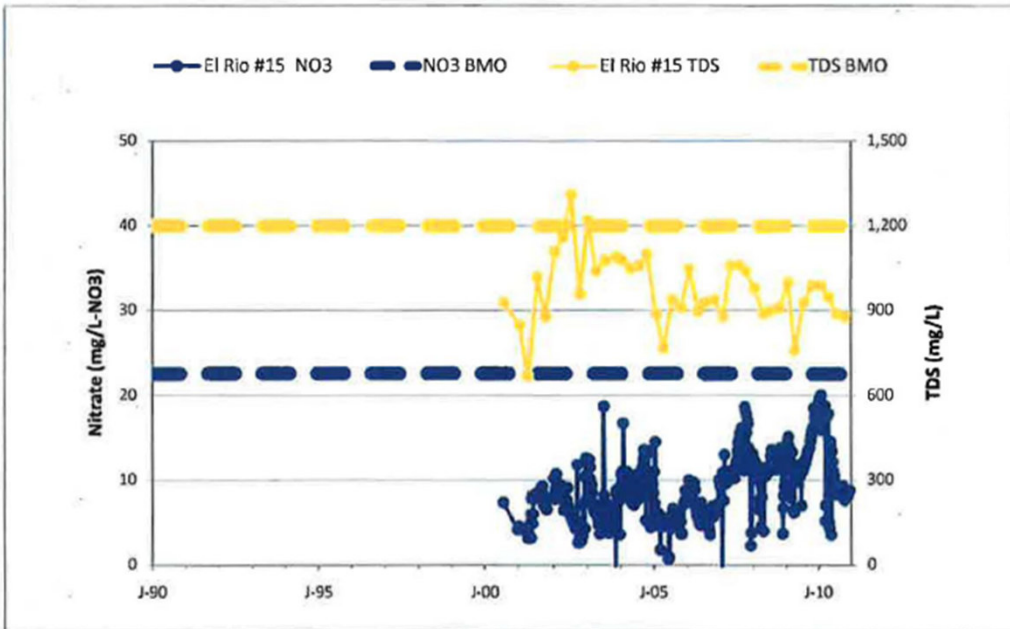
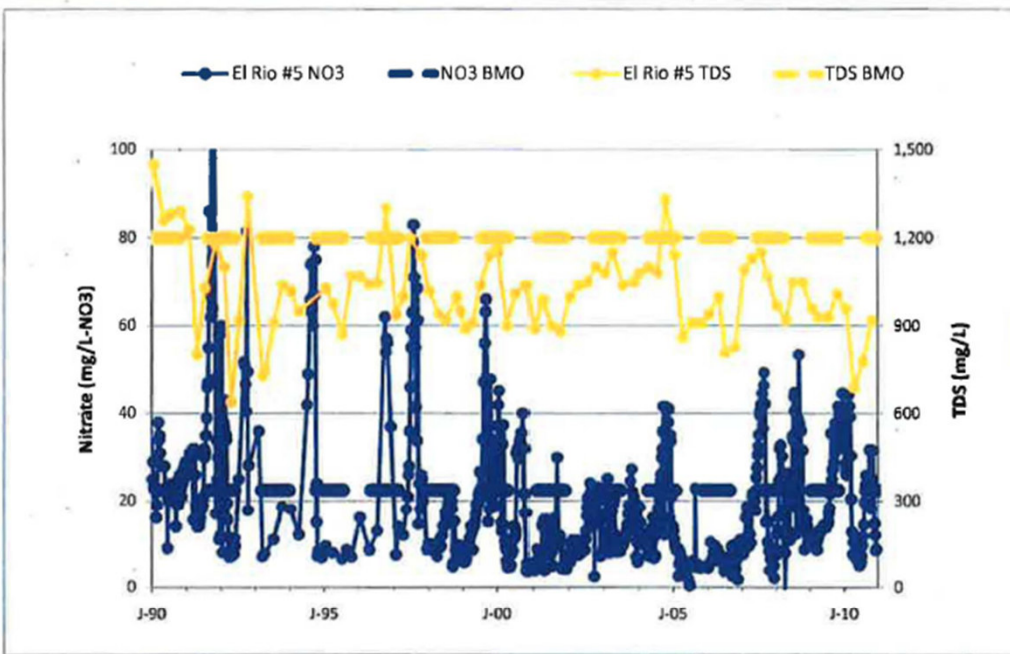
<i>Well</i>	<i>BMO Nitrate (as NO₃) (mg/L)</i>	<i>Current Nitrate (mg/L)*</i>	<i>BMO TDS (mg/L)</i>	<i>Current TDS (mg/L)</i>
<i>2N/22W-23B2 (135-277)</i>	<22.5	13	<1200	1044
<i>2N/22W-23C5 (140-310)</i>	<22.5	8	<1200	1010

Table 4. Basin Management Objectives for the Oxnard Plain Forebay basin. Perforation depths follow State Well Number.

Basin Plan Objective Nitrate (as NO₃): 45 mg/L



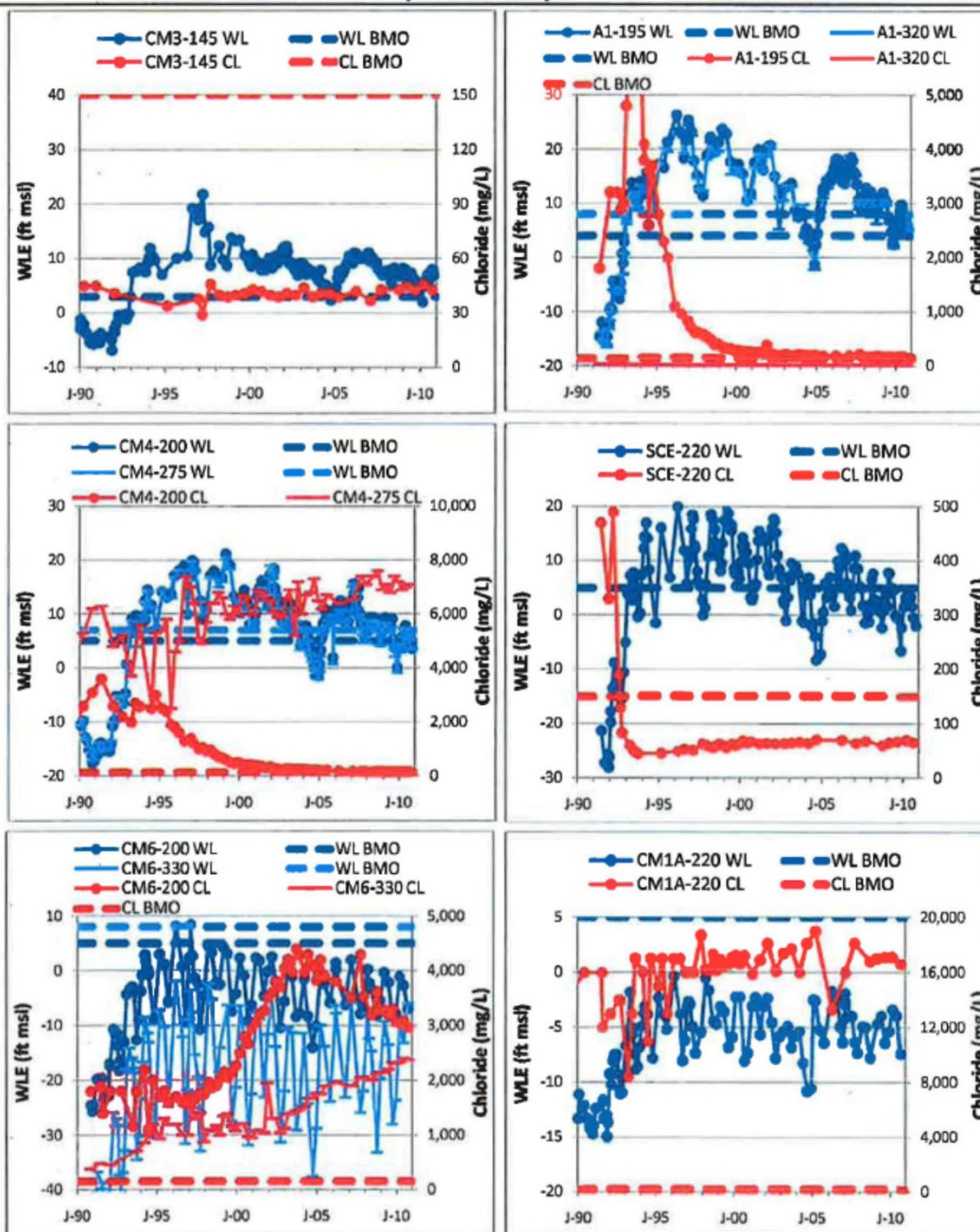
FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN FOREBAY
Updated January 2011



Analysis



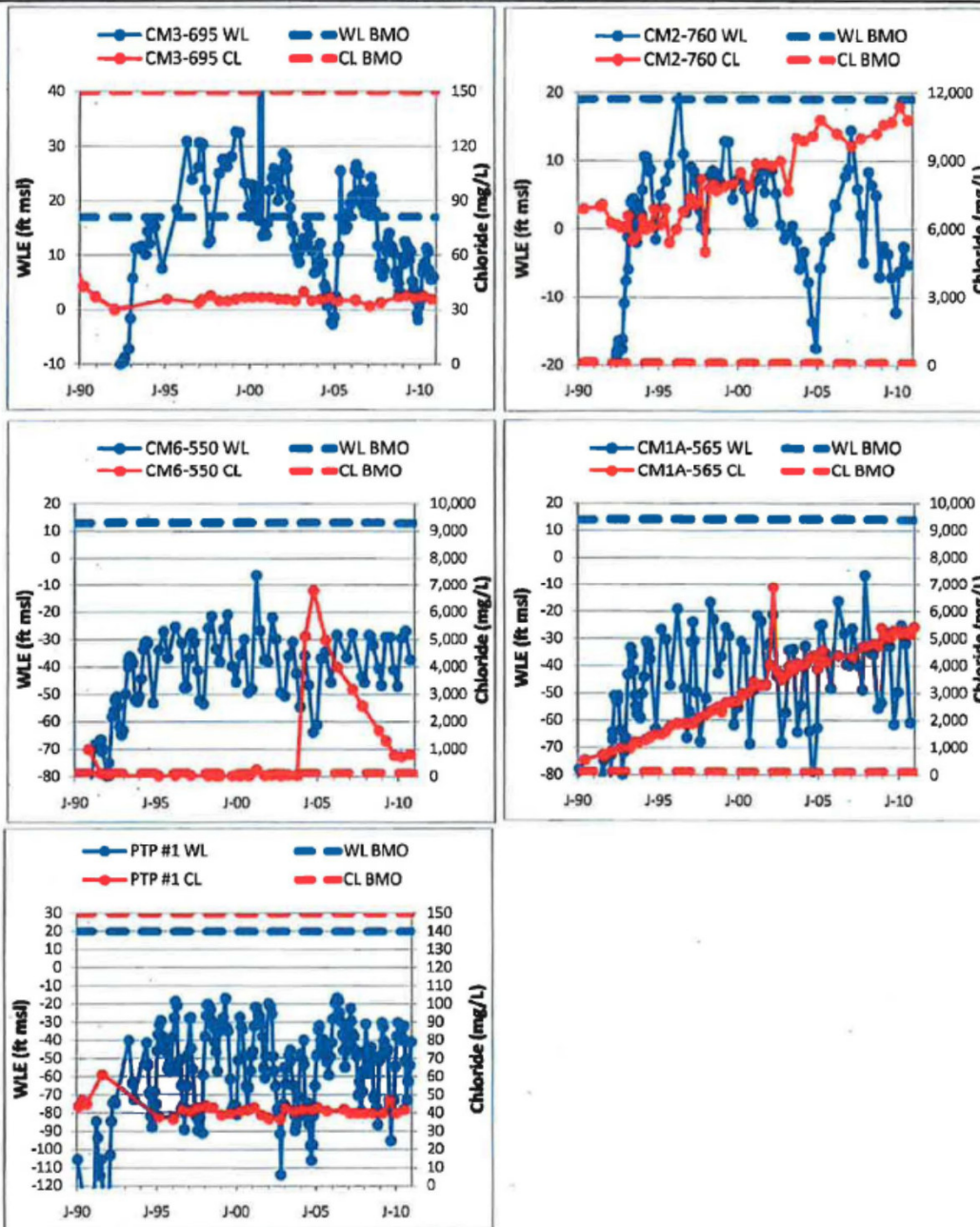
FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - UPPER AQUIFER SYSTEM
 Updated January 2011



Analysis



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - LOWER AQUIFER SYSTEM
 Updated January 2011



Analysis





(f) Anti-degradation Analysis

Potable Water Sources

	CMWD		UWCD		Oxnard Wells		Desalted	
	Range	Avg	Range	Avg	Range	Avg	Range	Avg
Nitrate (as NO3)	2.7-4.1	3.6	11.5-29.2	17.1	ND-67	24.8	5.6-15	12
Total Dissolved Solids	310-340	330	890-1030	949	642-1344	842	16-52	27.9
Chloride	77-82	79	53-53	53				

Salts Exported: 65,000 lbs/day; 50 million pounds to date





(f) Anti-degradation Analysis

Reverse Osmosis Pilot

Parameter	Unit	Criterion	Result to Date (average)	Outcome
Total Dissolved Solids (TDS)	mg/L	<500	20	Pass
Total Organic Carbon (TOC)	mg/L	<1	0.49	Pass
Total Nitrogen (TN)	mg/L	<10	1.1	Pass

