

FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN FOREBAY
2016

Goal: Protect water quality at public drinking water wells (nitrate and TDS) and irrigation suitability (TDS). (Note TDS = total dissolved solids)

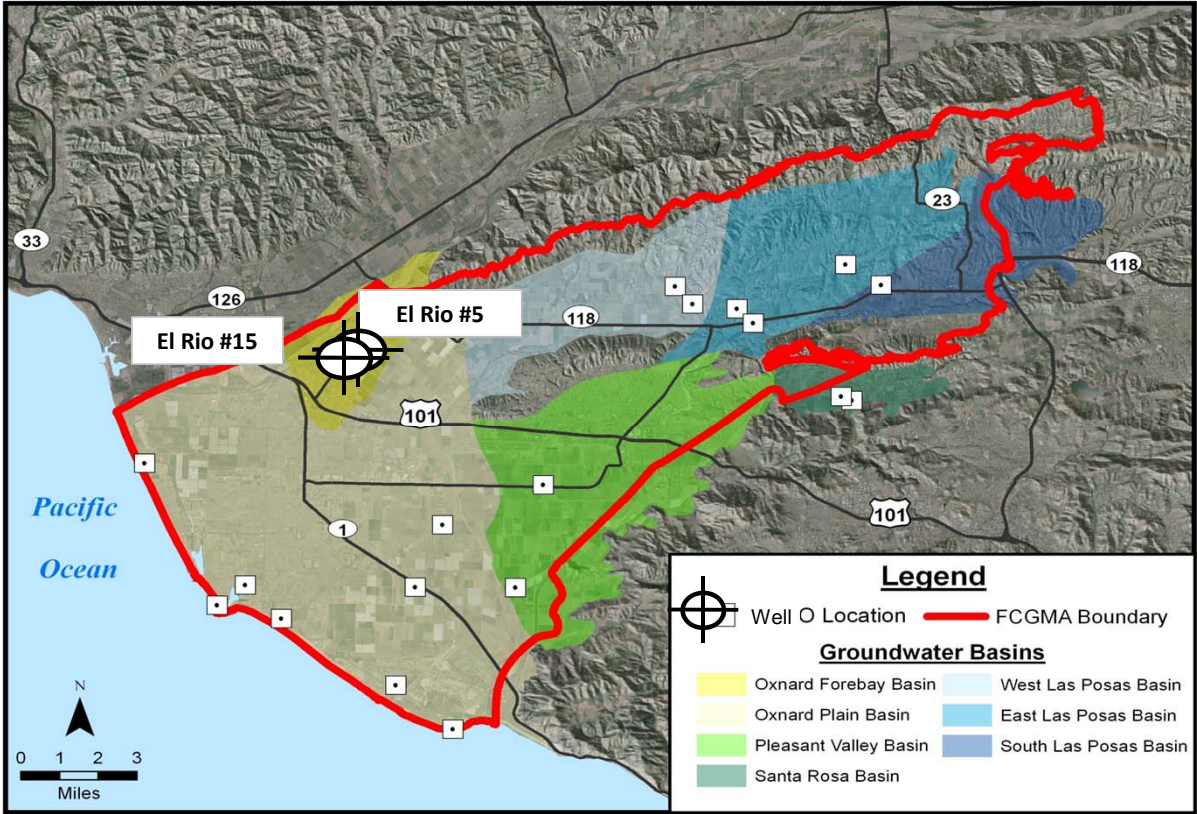
BMOs: Nitrate Concentration: <22.5 mg/L-NO₃ (50% of State of California MCL)

TDS Concentration: <1,200 mg/L (LARWQCB Basin Plan Objective)

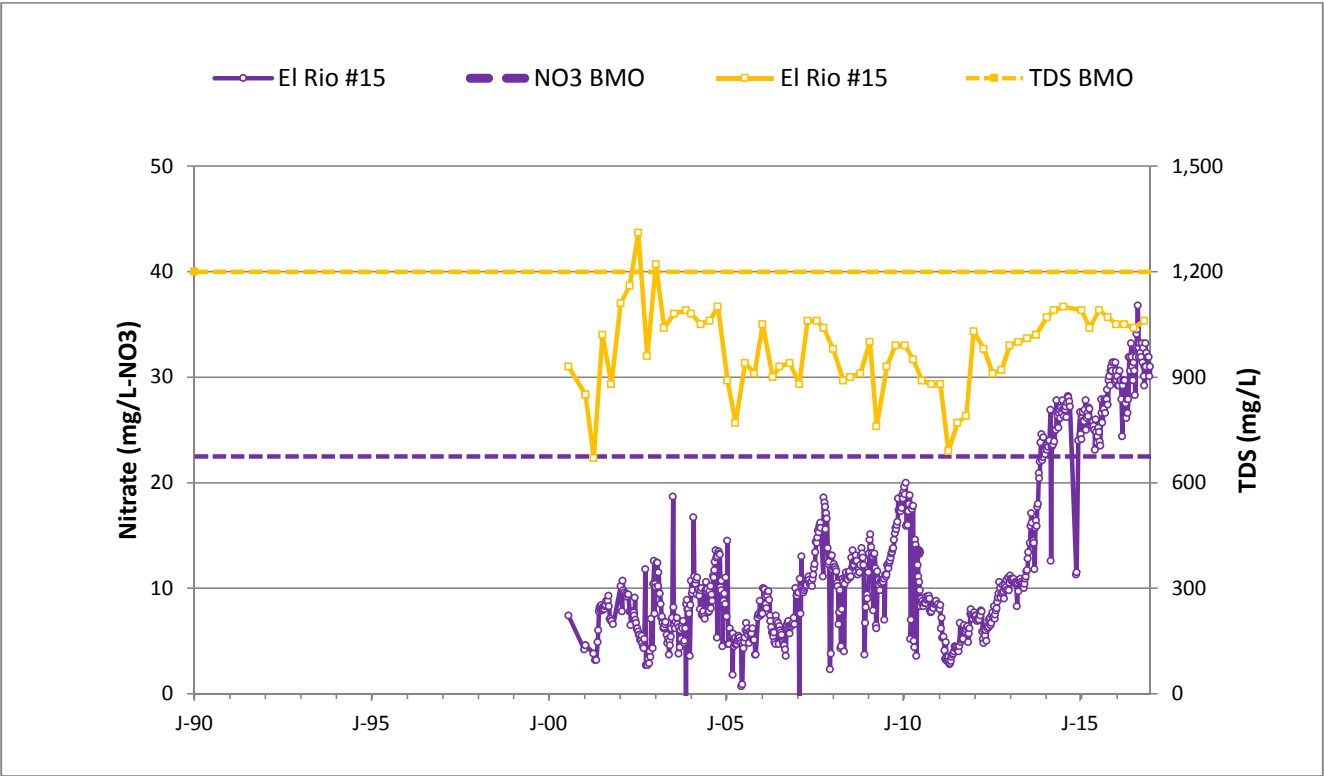
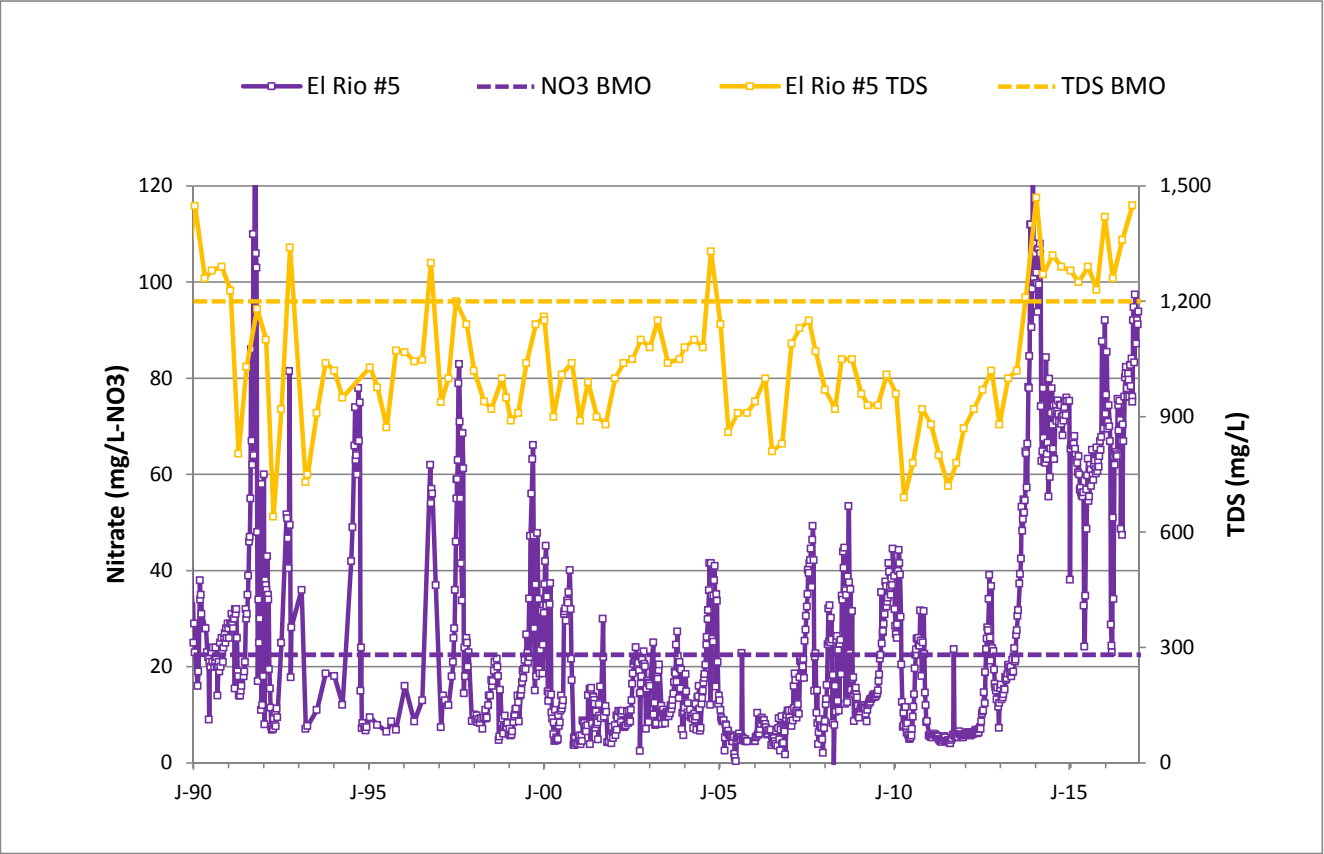
Status Summary: In 2016, average nitrate concentrations were above the BMO of 22.5 mg/L in both wells, with El Rio #5 at 72 mg/L and El Rio #15 at 31 mg/L. Average TDS concentrations were above the BMO at well El Rio #5 at 1,373 mg/L, yet below at well El Rio #15 at 1,050 mg/L. The general five-year trends, nitrate concentrations increased at both locations. TDS concentrations generally increased at well El Rio #5, while remaining within a range of fluctuation at well El Rio #15.

Status Summary Table

State Well Number (name)	Depth (ft)	Nitrate (mg/L)		TDS (mg/L)		5-yr Trend	
		BMO	2016 Avg	BMO	2016 Avg	Nitrate	TDS
02N22W23B02S (El Rio #5)	135-277	22.5	72	<1200	1,373	↑	↑
02N22W23C05S (El Rio #15)	140-310	22.5	31	<1200	1,050	↑	↑



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN FOREBAY
2016



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - UPPER AQUIFER SYSTEM
2016

Goal: Prevent saline intrusion in the Oxnard and Mugu Aquifers. Primary source is seawater inflow via aquifer outcrops in submarine canyons near Port Hueneme and Pt. Mugu.

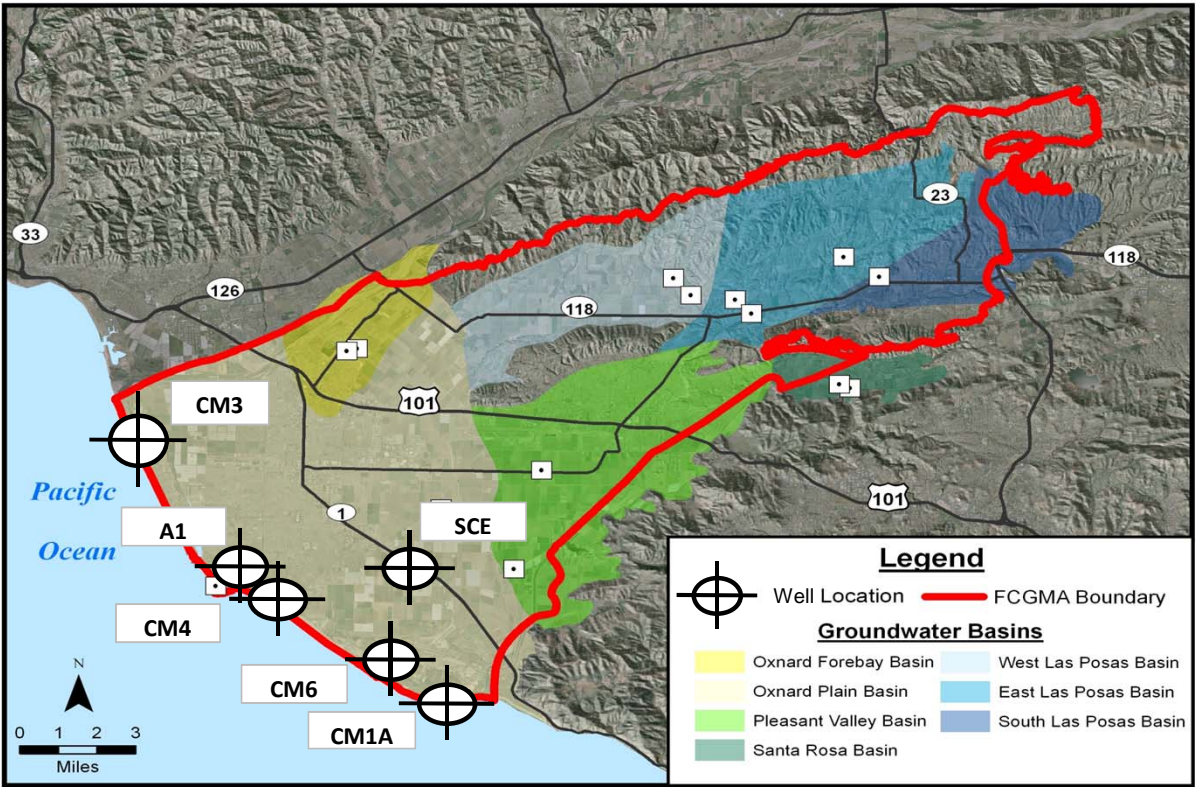
BMOs: Water Levels: Average groundwater elevations sufficient to maintain slight seaward groundwater gradient. Elevation varies with location.

Chloride Concentration: <150 mg/L Chloride (LARWQCB Basin Plan Objective).

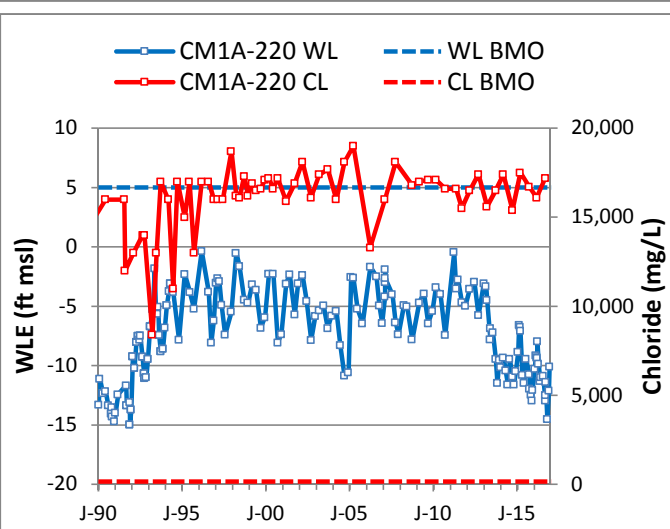
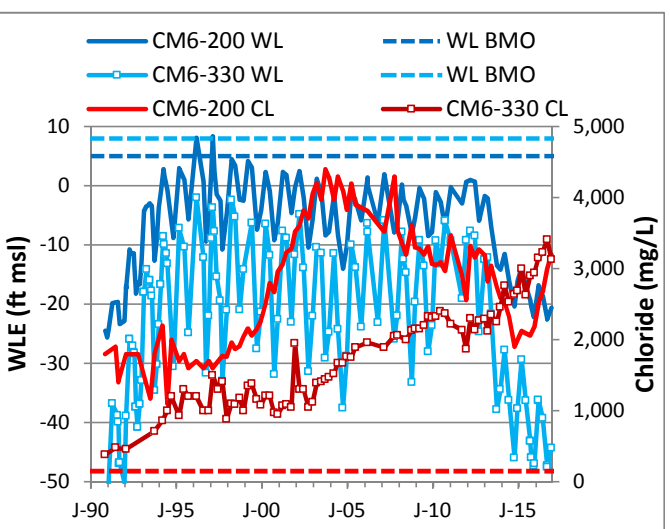
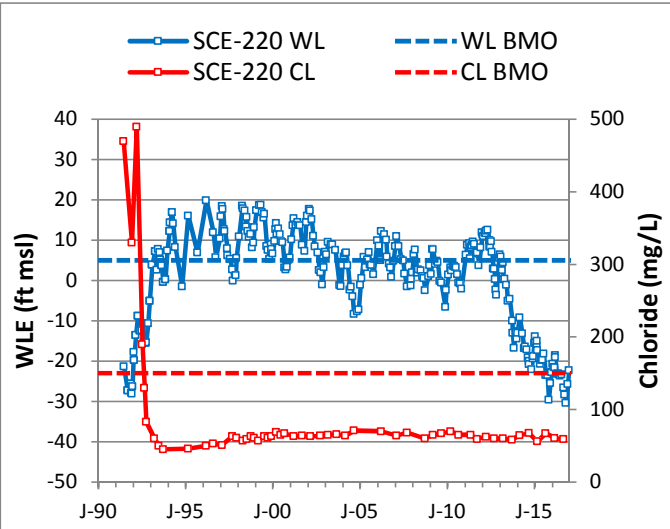
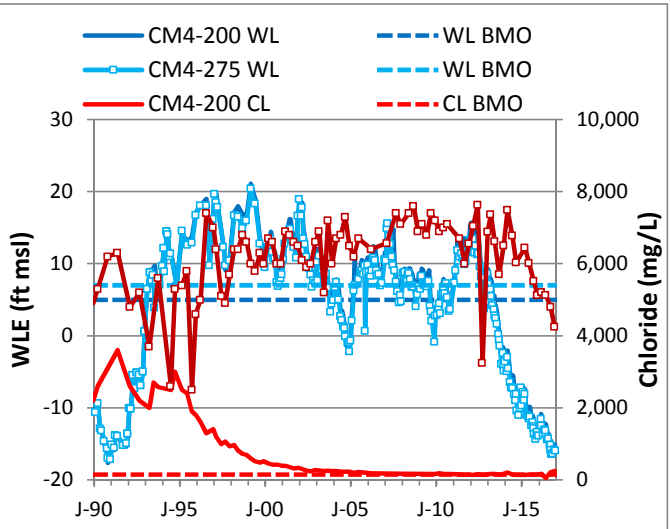
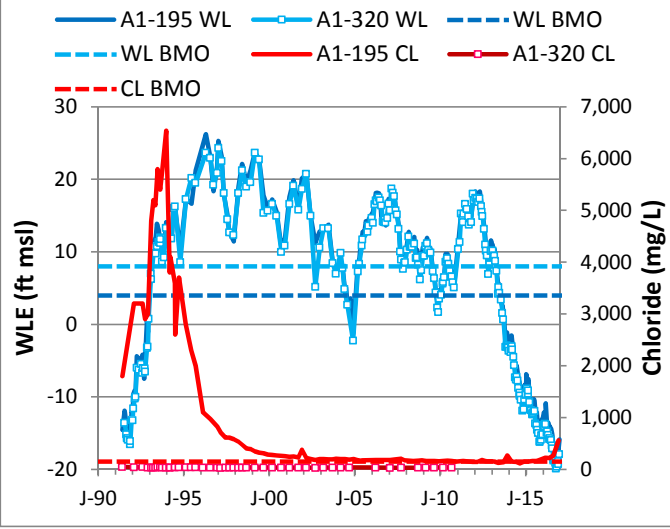
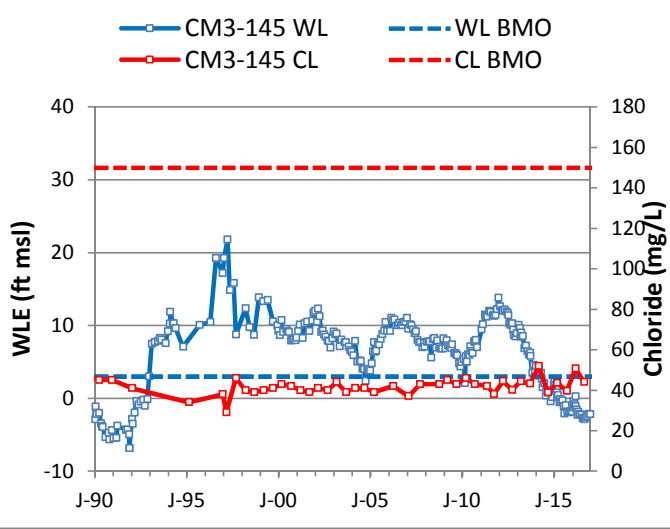
Status Summary: Water level BMOs were not met in 2016. A comparison of water levels indicates that water levels have declined at all nine monitoring locations over the past four years. Chloride BMOs were met at approximately 33% of the monitoring locations. Consistent with past results, chloride BMOs were not met near Port Hueneme (A1-195 and CM4) and Pt. Mugu (CM6 and CM1A).

Status Summary Table

State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2016 Avg	BMO	2016 Avg	Water Level	Chloride
01N23W01C05S (CM3-145)	120-145	3	-2	<150	47		
01N22W20J08S (A1-195)	155-195	4	-15	<150	317		
01N22W20J07S (A1-320)	280-320	8	-17	<150	40		
01N22W28G05S (CM4-200)	180-200	5	-14	<150	172		
01N22W28G04S (CM4-275)	255-275	8	-14	<150	4,848		
01N21W19L12S (SCE-220)	200-220	5	-23	<150	60		
01S22W01H04S (CM6-200)	180-200	5	-20	<150	2,845		
01S22W01H03S (CM6-330)	310-330	8	-42	<150	3,230		
01S21W08L04S (CM1A-220)	200-220	5	-11	<150	16,650		



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - UPPER AQUIFER SYSTEM
2016



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - LOWER AQUIFER SYSTEM
2016

Goal: Prevent saline intrusion in the LAS. Sources are seawater inflow via aquifer outcrops in submarine canyons near Port Hueneme and Pt. Mugu and marine sediments.

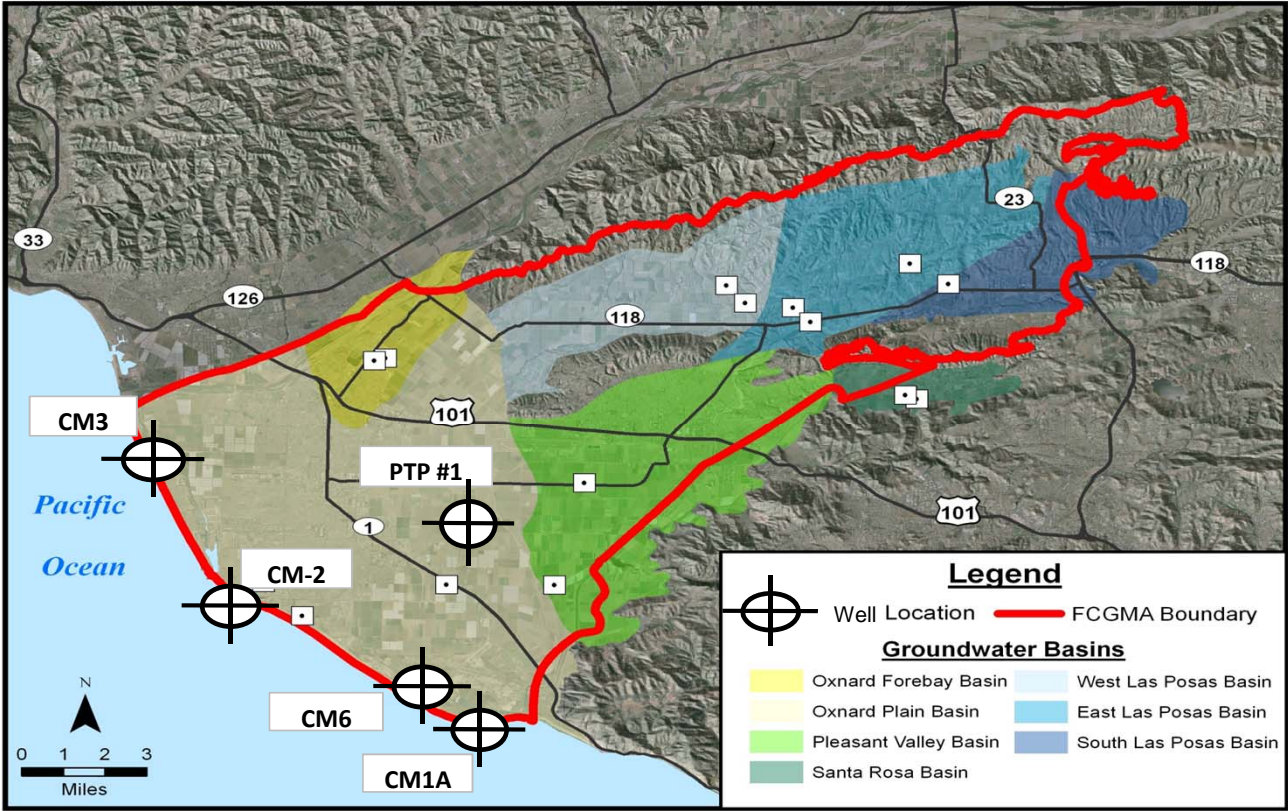
BMOs: Water Levels: Average groundwater elevations sufficient to maintain slight seaward groundwater gradient. Elevation varies with location.

Chloride Concentration: <150 mg/L Chloride (LARWQCB Basin Plan Objective).

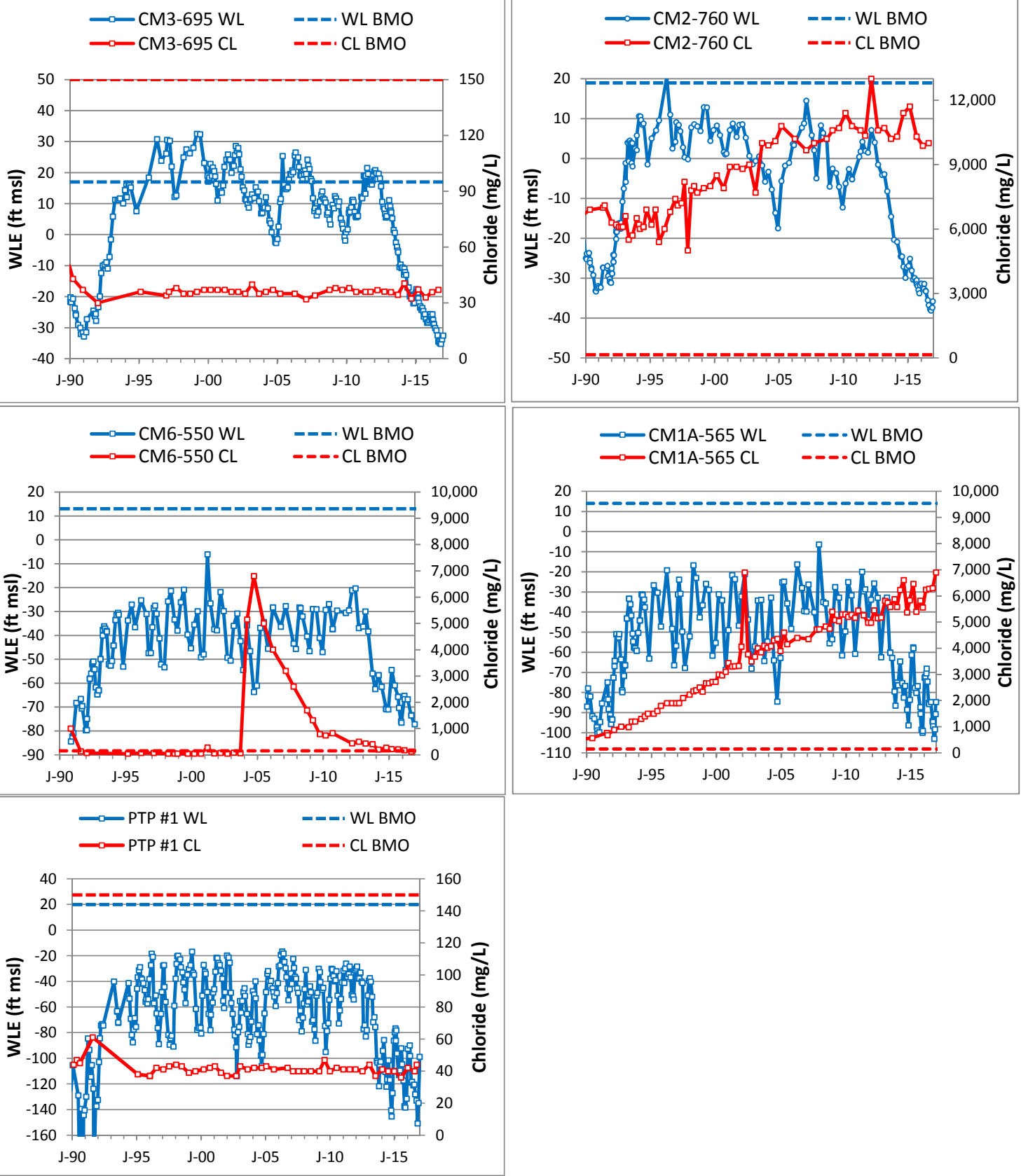
Status Summary: In 2016, water level BMOs were not met. Average water level at inland PTP #1 location was below its respective BMO by 136 feet. As long as water levels remain depressed, the potential for saline intrusion remains. Consistent with the past, chloride BMOs were not met near Port Hueneme (CM2) and Pt. Mugu (CM1A) (areas of documented seawater intrusion).

Status Summary Table

State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2016 Avg	BMO	2016 Avg	Water Level	Chloride
01N23W01C04S (CM3-695)	630-695	17	-30	<150	36	↓	→
01N22W29D02S (CM2-760)	720-760	19	-35	<150	9,940	↓	→
01S22W01H01S (CM6-550)	490-550	13	-71	<150	145	↓	→
01S21W08L03S (CM1A-565)	525-565	14	-85	<150	6,428	↓	↑
01N21W07J02S (PTP #1)	590-1280	20	-116	<150	42	↓	→



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
OXNARD PLAIN - LOWER AQUIFER SYSTEM
2016



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
PLEASANT VALLEY BASIN
2016

Goal: Prevent inland migration of saline groundwater from coastal areas, underlying sources, and fine-grained interbeds.

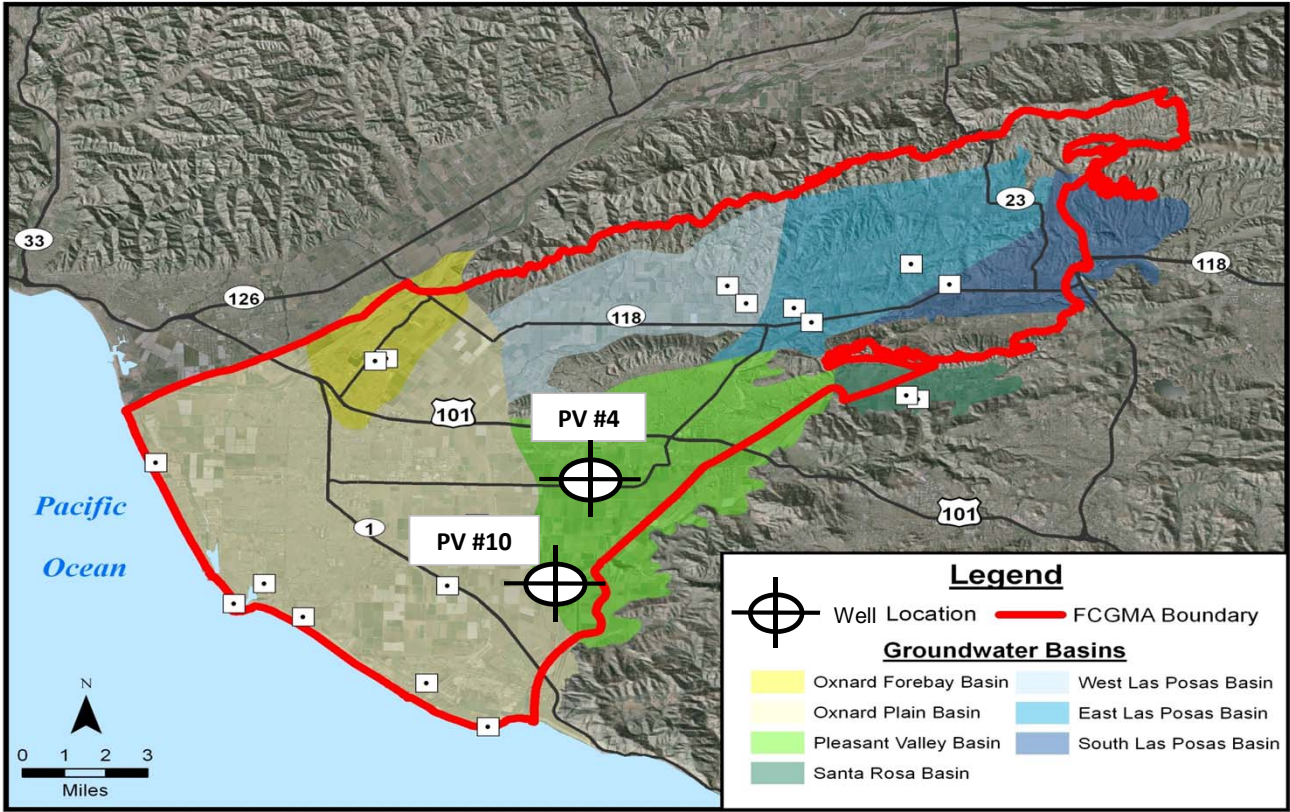
BMOs: Water Levels: Average groundwater elevations sufficient to prevent landward migration from coastal areas and minimize vertical gradients.

Chloride Concentration: <150 mg/L Chloride (LARWQCB Basin Plan Objective).

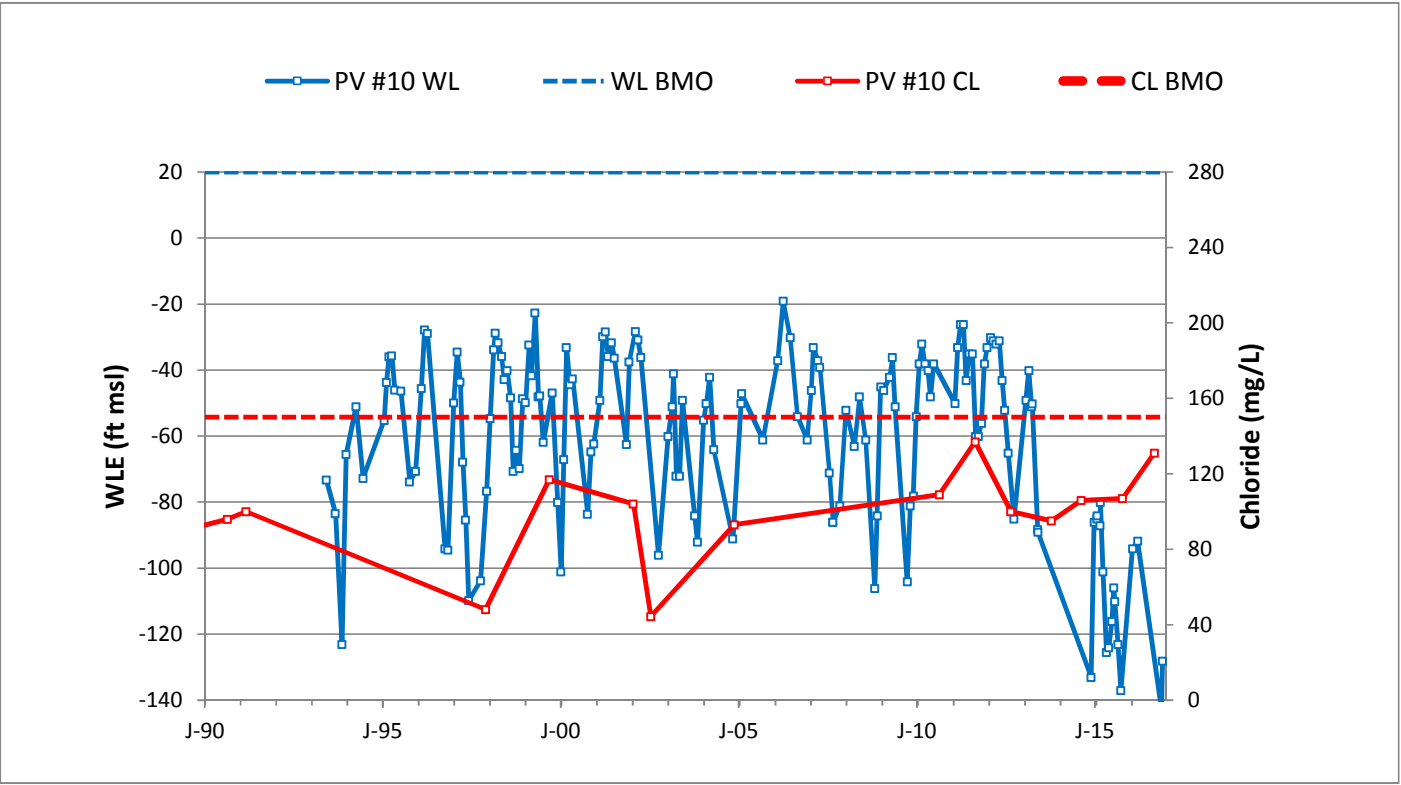
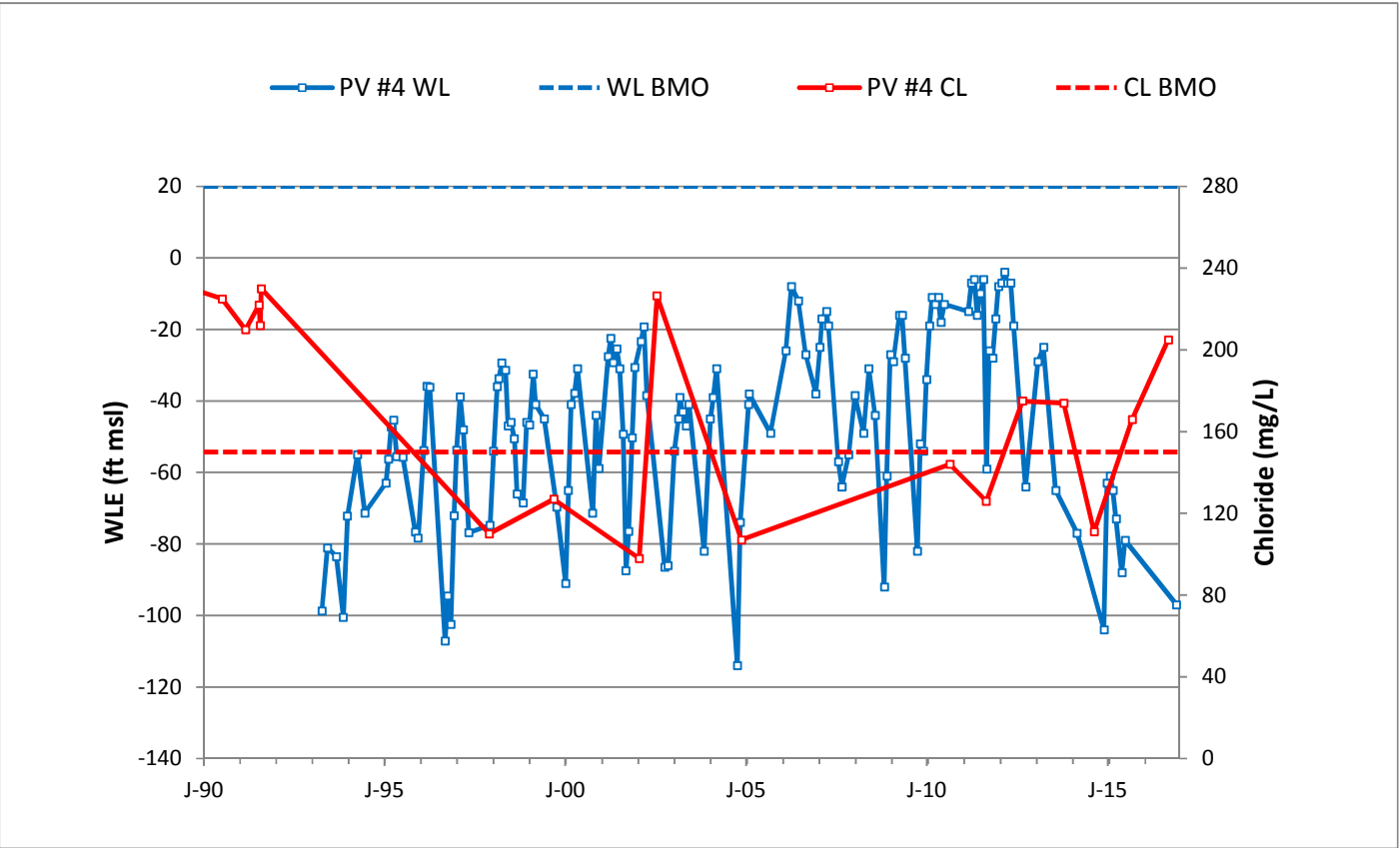
Status Summary: In 2016, water level BMOs were not met at either location. Water levels have fluctuated annually yet the overall waterlevels have declined during the last 4 of the last 5 years, remaining significantly below the BMOs. The chloride BMO was met at monitoring location PV#10, but not met at PV#4. Over the past 5-years, the chloride concentrations at both monitoring locations have increased.

Status Summary Table

State Well Number (name)	Depth (ft)	Water Level (ft msl)		Chloride (mg/L)		5-yr Trend	
		BMO	2016 Avg	BMO	2016 Avg	Water Level	Chloride
01N21W03K01S (PV #4)	403-1433	20	● -97	<150	● 205	↓	↑
01N21W21H02S (PV #10)	503-863	20	● -114	<150	● 131	↓	↑



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
PLEASANT VALLEY BASIN
2016



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
ARROYO SANTA ROSA BASIN
2016

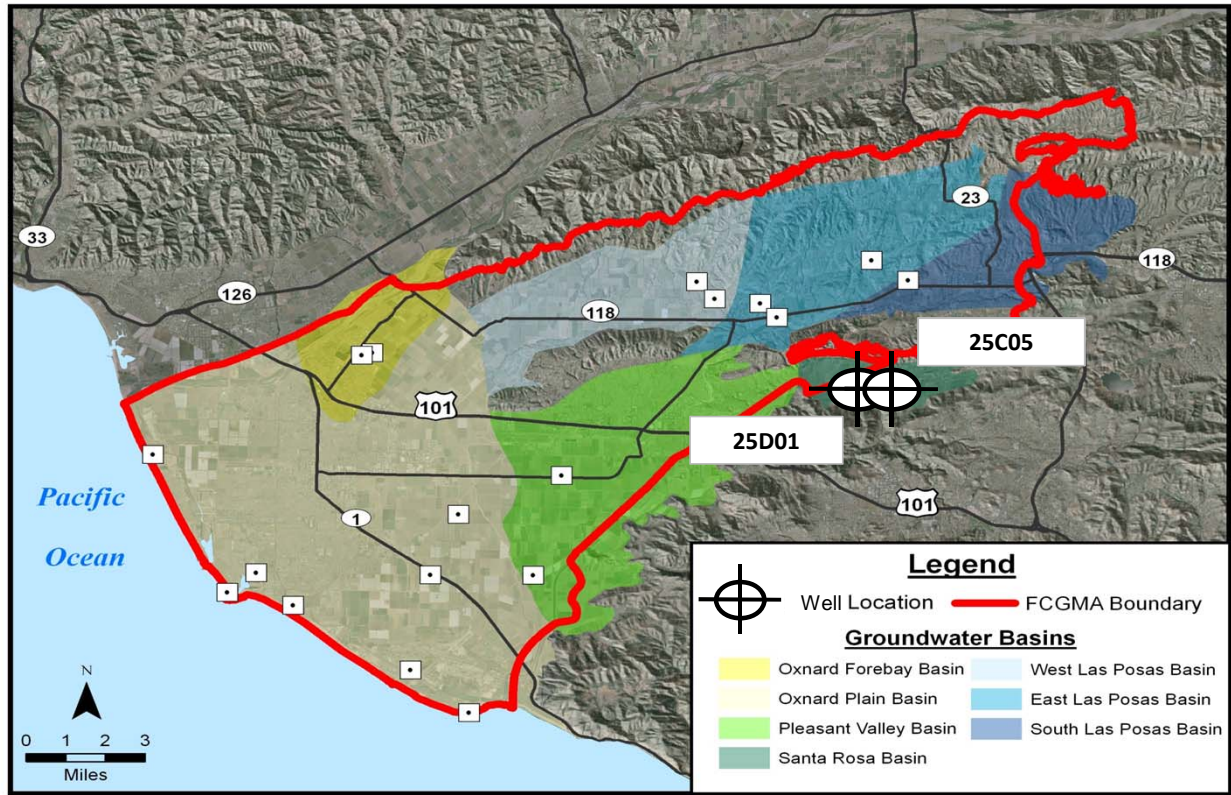
Goal: Meet LARWQCB Basin Plan Objectives for nitrate and chloride.

BMOs: Nitrate Concentration: <45 mg/L-NO₃ (LARWQCB Basin Plan Objective & State of CA MCL)
Chloride Concentration: <150 mg/L (LARWQCB Basin Plan Objective)

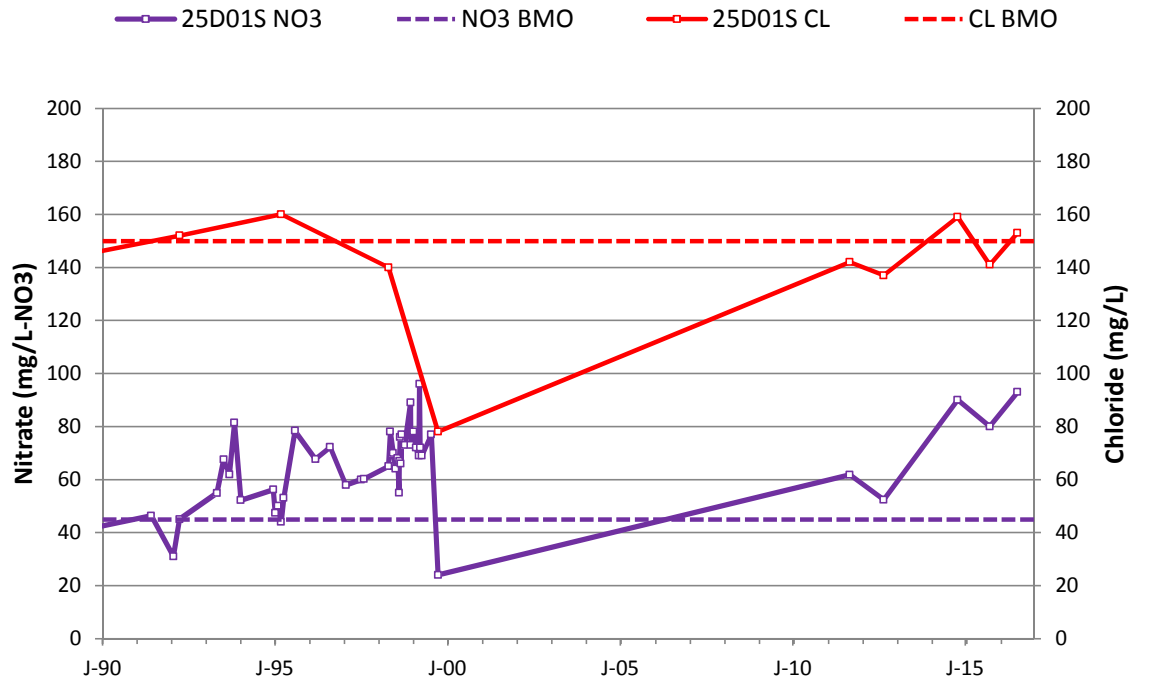
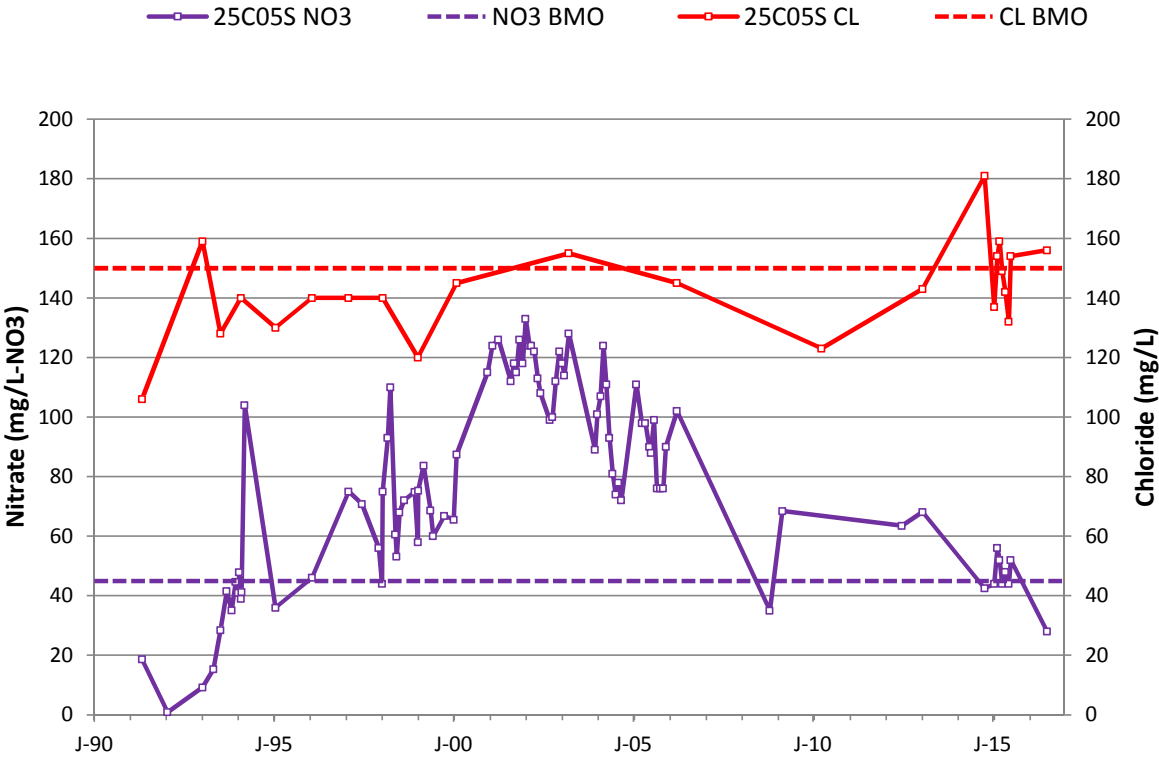
Status Summary: Analytical results indicate that the nitrate concentrations were below the BMO of 45 mg/L by 17 mg/L in the eastern well, 25C05, yet exceeded the BMO by 48 mg/L in the western well, 25D01. The chloride concentrations exceeded the BMO at both locations (156 mg/L and 153 mg/L vs. 150 mg/L). Over the past 5 years: nitrate concentrations have decreased at 25C05 and increased at 25D01; and chloride concentrations have increased at both BMO monitoring locations.

Status Summary Table

State Well Number (name)	Depth (ft)	Nitrate (mg/L)		Chloride (mg/L)		5-yr Trend *	
		BMO	2016 Avg	BMO	2016 Avg	Nitrate	Chloride
02N20W25C05S	160-260	45	<div><div></div>28</div>	<150	<div><div></div>156</div>	<div><div></div></div>	<div><div></div></div>
02N20W25D01S	Unknown	45	<div><div></div>93</div>	<150	<div><div></div>153</div>	<div><div></div></div>	<div><div></div></div>



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
ARROYO SANTA ROSA BASIN
2016



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
LAS POSAS BASINS
2016

Goal: Maintain chloride and TDS concentrations suitable for irrigation of salt-sensitive crops, particularly avocados and berries. BMOs for SLP are equal to the concentrations observed in surface water in Arroyo Las Posas.

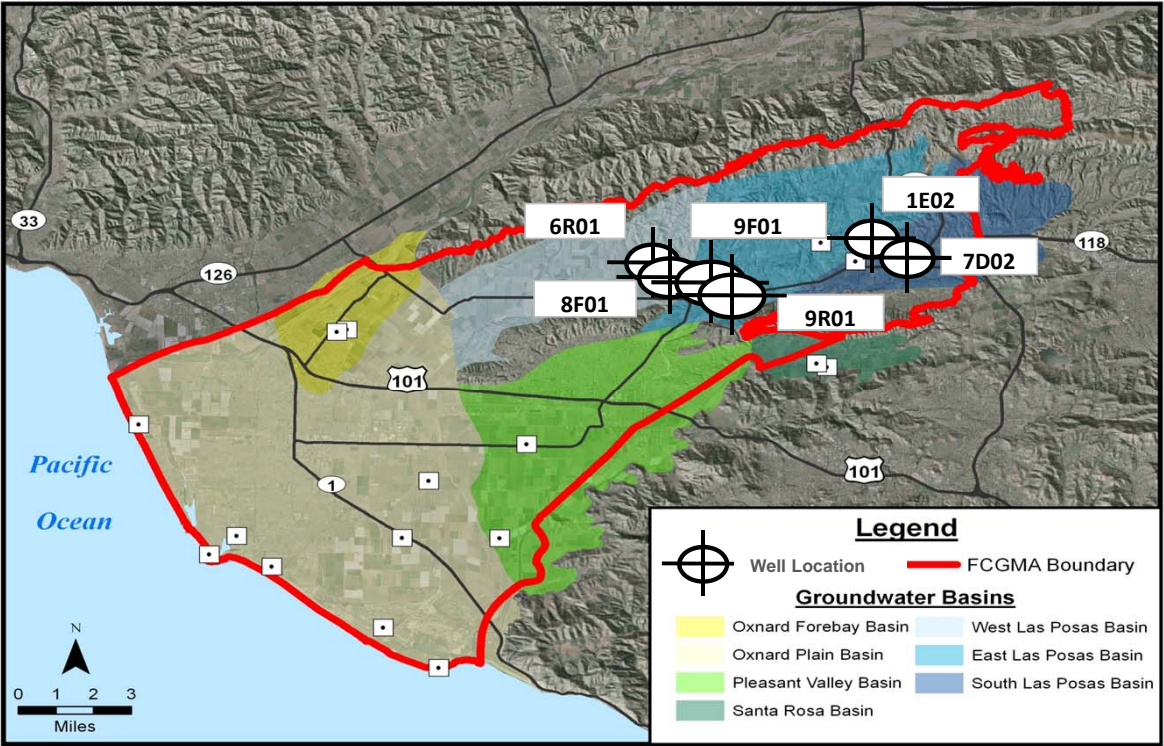
BMOs: Chloride Concentration: WLP & ELP: <100 mg/L; SLP: <160 mg/L.

TDS Concentration: ELP: <500 mg/L; WLP: <600 mg/L; and SLP: <1,500 mg/L.

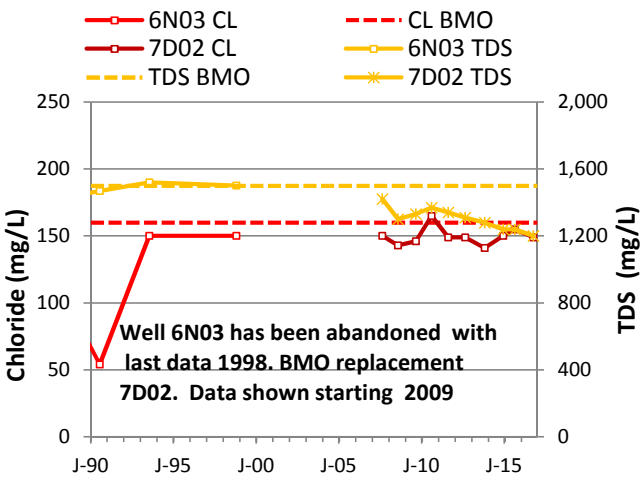
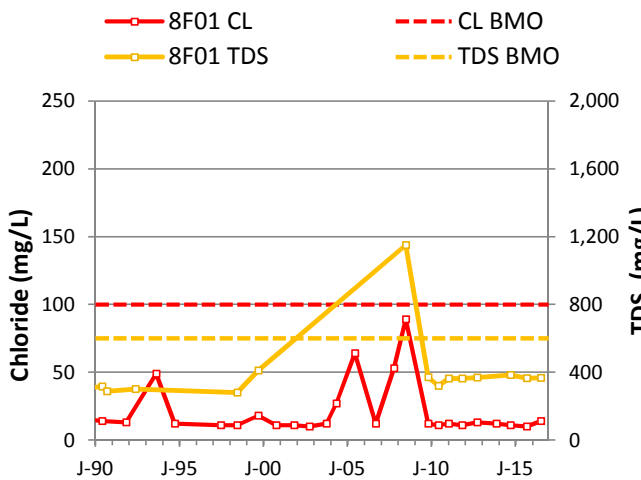
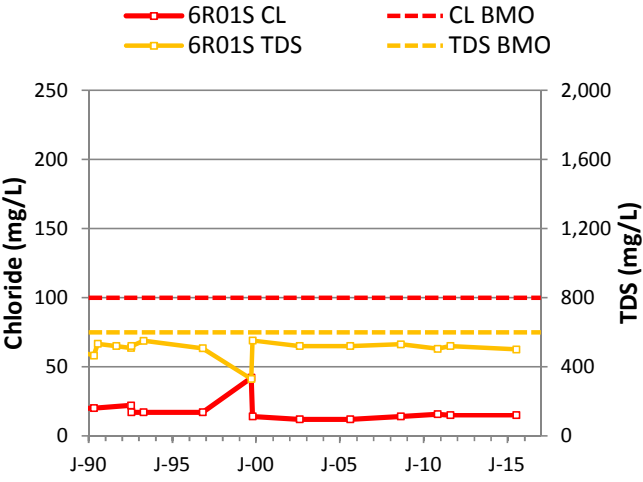
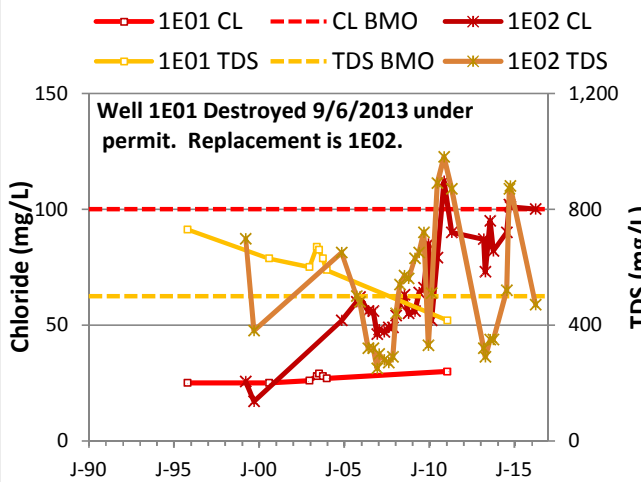
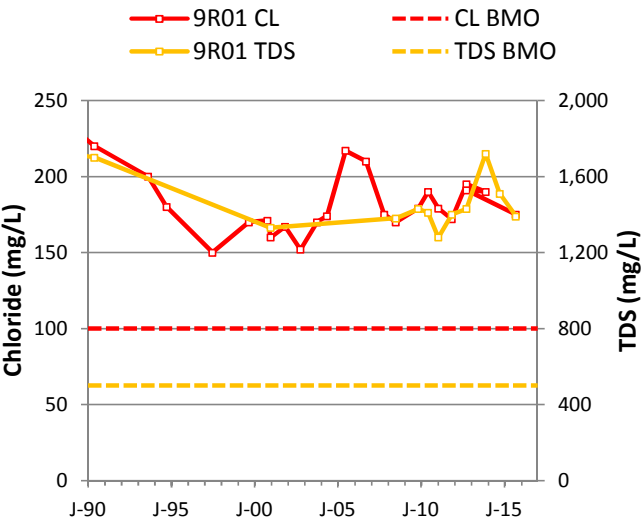
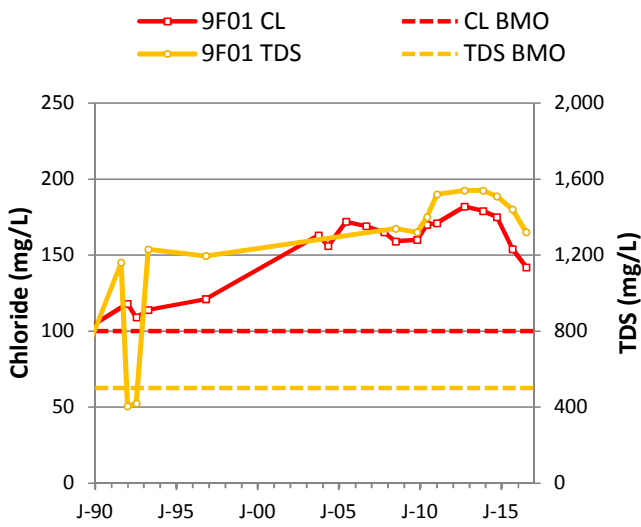
Status Summary: BMO monitoring locations 1E01 and 6N03 were replaced with 1E02 and 7D02 respectively. No data were available for 2016 at BMO monitoring locations 9R01 (ELP), and 6R01 (WLP). In the ELP, the chloride BMO was not met. The TDS BMO was met at one location but not met at the other. In the WLP, the chloride and TDS BMOs were met at the location for which data were available. In the SLP, the chloride BMO was not met while the TDS BMO was met. Generally, the five-year trends in the Las Posas basins for chloride and TDS concentrations were generally remaining within a range of fluctuation or decreasing.

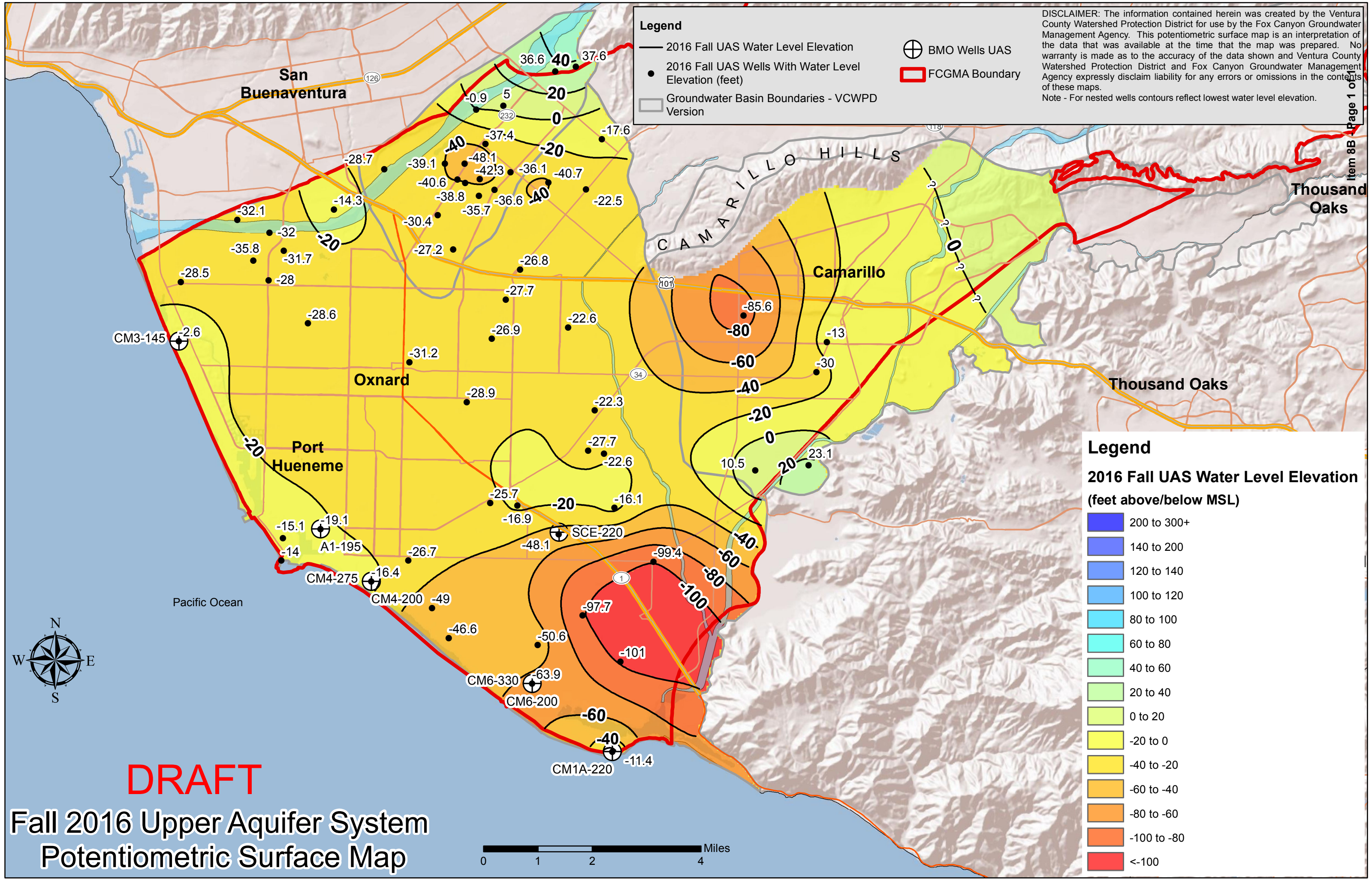
Status Summary Table

State Well Number (name)	Depth (ft)	Chloride (mg/L)		TDS (mg/L)		5-yr Trend	
		BMO	2016 Avg	BMO	2016 Avg	Chloride	TDS
02N20W09F01S (ELP)	906-1,290	100	142	<500	1,320	↓	↓
02N20W09R01S (ELP)	456-724	<100	No Data	<500	No Data	↓	↓
02N20W01E02S (ELP) Replacement	680-1,000	100	100	<500	470	↓	↓
02N20W06R01S (WLP)	1,090-1,512	<100	No Data	<600	No Data	↓	↓
02N20W08F01S (WLP)	752-1,406	100	14	<600	366	↓	↓
02N19W07D02S (SLP) Replacement	98-170	<100	149	<1500	1,200	↓	↓



FOX CANYON GMA BASIN MANAGEMENT OBJECTIVES REPORT CARD
LAS POSAS BASINS
2016





Legend

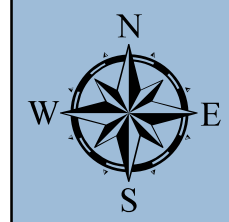
- 2016 Fall UAS Water Level Elevation
- 2016 Fall UAS Wells With Water Level Elevation (feet)
- Groundwater Basin Boundaries - VCWPD Version
- ⊕ BMO Wells UAS
- ▭ FCGMA Boundary

DISCLAIMER: The information contained herein was created by the Ventura County Watershed Protection District for use by the Fox Canyon Groundwater Management Agency. This potentiometric surface map is an interpretation of the data that was available at the time that the map was prepared. No warranty is made as to the accuracy of the data shown and Ventura County Watershed Protection District and Fox Canyon Groundwater Management Agency expressly disclaim liability for any errors or omissions in the contents of these maps.
Note - For nested wells contours reflect lowest water level elevation.

Legend

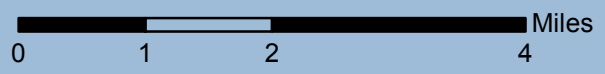
2016 Fall UAS Water Level Elevation (feet above/below MSL)

Blue	200 to 300+
Dark Blue	140 to 200
Medium Blue	120 to 140
Light Blue	100 to 120
Cyan	80 to 100
Light Cyan	60 to 80
Green	40 to 60
Light Green	20 to 40
Yellow-Green	0 to 20
Yellow	-20 to 0
Orange-Yellow	-40 to -20
Orange	-60 to -40
Dark Orange	-80 to -60
Red-Orange	-100 to -80
Red	<-100



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Fall 2016 Upper Aquifer System Potentiometric Surface Map



Item 8B Page 1 of 1

Fall 2016 Lower Aquifer System Potentiometric Surface Map

