

# **SALT/NUTRIENT MANAGEMENT PLAN STAKEHOLDER MEETING MINUTES**

**January 12, 2011**

**Location: Rosamond Community Services District – Board Room**

**Attendees:** Jessica Bunker (LACWWD), Richard Caulkins (LACSD), Erika de Hollan (LACSD), Brian Dietrick (RMC), Amy Frost (Edwards AFB), Lauma Jurkevics (DWR), Bob Large (Lake Town Council), Vickie Nelson (Antelope Acres Town Council), Lorena Ospina (GEI), Dave Rydman (LACWWD), Stewart S. (RESO), Larry Tyler (Leona Valley Town Council), Chris Vidal (PWD), Cindy Wise (Lahontan RWQCB), Jennifer Wong (DWR), Jamshed Yazdani (City of Lancaster), Jan Zimmerman (Lahontan RWQCB)

## **RWQCB/DWR Updates**

Cindy Wise (Lahontan RWQCB) mentioned that there will be a second round of the Region Acceptance Process (RAP) in the Lahontan Region. The Lahontan Region will be adding Lassen County to the RAP group, which will now include five RAP groups competing for grant funding.

DWR mentioned that they will be reviewing comments and rescoring requests received from the public for the final Prop 84 Integrated Regional Water Management (IRWM) Planning Grant award recommendations.

## **RWQCB SMP Guideline Presentation**

Cindy Wise presented the Salt/Nutrient Management Plan (SMP) draft material/guidelines developed by the State Water Resources Control Board (SWRCB) (*see Appendix I*). She reviewed the elements required by the Recycled Water Policy so that stakeholders are on track to address Lahontan RWQCB's concerns when developing the plan. Cindy mentioned that our stakeholder group is the furthest along than others in the Lahontan region in efforts of developing a SMP. She reviewed Lahontan RWQCB-scheduled deadlines and noted that we are on an expedited schedule due to the award of the Prop 84 Planning Grant (Antelope Valley's SMP is expected to be submitted with the IRWM Plan update in early 2012), whereas the plan is not required for submission to the Lahontan RWQCB until June 2014. She suggested that we focus on the elements required by the IRWM Planning Grant for the 2012 deadline and tackle additional RWQCB-required elements (e.g., CEQA analysis for a Basin Plan Amendment) afterwards.

Some of the major components of the SMP include: background, groundwater basin characteristics, basin evaluation, salt and nutrient management strategies, basin management plan elements, CEQA analysis, antidegradation analysis, and plan implementation. The level of detail for our plan will depend on the basin (i.e. size, complexity of the basin, source water quality, storm water recharge, hydrogeology aquifer water quality). CEQA analysis is triggered because a Basin Plan Amendment will be required when Lahontan RWQCB adopts the SMP. The SWRCB is preparing a CEQA/Amendments checklist template. There was a question as to who will be the lead in the CEQA preparation.

The Lahontan RWQCB would like to approve each region's SMP scope of work/work plan prior to substantial further SMP development so that there is an agreement between the RWQCB and the stakeholders regarding the plan's contents prior to SMP completion and that the focus of discussions can be on the outcome of the SMP tasks and not the efforts themselves. Cindy mentioned that since this stakeholder group is far ahead of all the other efforts in the Lahontan region, the Lahontan RWQCB wants to make sure that all the required elements in the SMP are addressed. The Lahontan RWQCB would like to conduct a formal action and take our work plan to their Board for approval. We mentioned that the Antelope Valley stakeholders have already prepared a scope of work/work plan for the SMP and had it reviewed by the Lahontan RWQCB staff, including the Executive Officer, in early 2010. We will meet with Cindy to address any revisions, finalize the work plan, and have it adopted by the Lahontan RWQCB.

Cindy Wise will be the Antelope Valley Region's designated SMP contact.

Cindy Wise, Staff Environmental Scientist  
Lahontan Regional Water Quality Control Board  
530-542-5408  
[cwise@waterboards.ca.gov](mailto:cwise@waterboards.ca.gov)  
2501 Lake Tahoe Blvd.  
South Lake Tahoe, CA 96150

### **Projects Contributing to Salt/Nutrient Impacts**

The group reviewed the tables listing current and future projects that have the potential to contribute to salt/nutrient impacts to the basin and the 25-year projected water quantities associated with each project (*see Appendix 2*). Additional projects discussed at the meeting will be added to the list. Revisions will be incorporated based on stakeholder input.

### **Data Analysis and Map**

A table showing the potential constituents studied under the SMP and source water quality was distributed (*see Appendix 3*). This information will help in determining the basin's salt mass balance. We will eventually use these numbers in conjunction with the water quantity projections to determine the amount of water and salts/nutrients going into the basin.

A revised map identifying current and future project locations along with data points indicating 10-year averages for Total Dissolved Solids (TDS) ground water concentrations was distributed at the meeting (*see Appendix 4*). The water quality objective/limit for TDS is 1000 mg/L (500 mg/L - recommended). The additional projects suggested by the stakeholders will be added to the map. As requested, we will also add map production dates, revision dates, and dates of data sources added to the map. A suggestion was made to show the depth of the wells, if available. The wells shown on the map are all supply wells, except for the USGS monitoring wells. It was noted that there is no information for some of the sub-basins in the Antelope Valley. Palmdale Water District stated that they will provide their water quality data (which they have done since this meeting).

### **Next Meeting**

The next SMP stakeholder meeting is scheduled to be held after the Antelope Valley Integrated Regional Water Management Plan stakeholder meeting on Wednesday, March 9, 2011. The City of Lancaster will be hosting March's meeting at Lancaster City Hall – Emergency Operations Center.

***\*See Attachments Below***

Appendix 1 – Lahontan RWQCB’s SMP Guidelines PowerPoint Presentation

Recycled Water Policy

Salt and Nutrient  
Management Plan  
Elements

# Overview of Presentation

- The California Water Boards – Who we are and what we do
- Background of Salt/Nutrient Plan Requirements (SN Plan)
- Adoption Schedule
- Contents of SN Plan
- Other Requirements
- Prioritization of GW Basins
- Regional Strategy/Approach
- Work toward “Pre-adoption” understanding between Antelope Valley and Lahontan RB

# The California Water Boards – Who we are and what we do

- State government departments to protect and enhance water quality
- State Water Resources Control Board and 9 Regional Water Quality Control Boards
- SB --statewide policy and regulations for water quality control and allocates water rights
- RBs -- local implementation of policy and regulations, develop long-range plans for their areas, issue waste discharge permits and take enforcement actions
- *A Dozen Things You Never Knew About the California Water Boards*  
[http://waterboards.ca.gov/publications\\_forms/publications/factsheets/docs/dozenthings.pdf](http://waterboards.ca.gov/publications_forms/publications/factsheets/docs/dozenthings.pdf)

# Background of Salt/Nutrient Plan Requirements (SN Plan)

- State Water Board adopted the statewide Recycled Water Policy
- Goal of policy is to increase the use recycled water while protecting water quality
- Involvement by stakeholder groups to prepare SN Plans for each groundwater basin/sub-basin in the state
- collaborative processes open to all stakeholders

# Adoption Schedule for SN Plans

- June 2012 Compile existing basin data, ID salt/nutrient sources, collect additional data
- December 2013 Completed draft SN plan, CEQA, anti-degradation analysis
- June 2014 Submittal of final SN plans to the Regional Board
- June 2015 Regional Boards adopt SN plans as Basin Plan amendments
- Time extensions

# Potential Contents of SN Plan

- BACKGROUND
- GROUNDWATER BASIN CHARACTERISTICS
- BASIN EVALUATION
- SALT AND NUTRIENT MANAGEMENT STRATEGIES
- BASIN MANAGEMENT PLAN ELEMENTS
- CEQA ANALYSIS
- ANTIDEGRADATION ANALYSIS
- PLAN IMPLEMENTATION

Contents of SN Plan  
**BACKGROUND**

- Plan Purpose
- Salt/Nutrient Management Objectives
- Regulatory Framework
- Groundwater Beneficial Uses
- ***Stakeholder Roles and Responsibilities***  
Process to Develop Salt/Nutrient  
Management Plan

## Contents of SN Plan

# GROUNDWATER BASIN CHARACTERISTICS

- GROUNDWATER BASIN OVERVIEW
- GROUNDWATER INVENTORY
- *BASIN WATER QUALITY*

Contents of SN Plan

# BASIN EVALUATION

- WATER BALANCE
- ***SALT AND NUTRIENT BALANCE***
- ***CONSTITUENTS OF EMERGING CONCERNS (CECs)***

PROJECTED WATER QUALITY

## Contents of SN Plan

# SALT AND NUTRIENT MANAGEMENT STRATEGIES

Load Reduction Goals

Future Land Development and Use

Salt/Nutrient Management Options

Salt/Nutrient Management Strategies and Modeling

# BASIN MANAGEMENT PLAN ELEMENTS

- Groundwater Management Goals
- *Basin Monitoring Programs*
- Salt and Nutrient Load Allocations

Contents of SN Plan

# ***CEQA ANALYSIS***

## Contents of SN Plan

### ***ANTIDegradation ANALYSIS***

#### Antidegradation Policy

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.

## Contents of SN Plan

# PLAN IMPLEMENTATION

- *Salt and Nutrient Management Program*
- Periodic Review of SN Mgmt Plan
- Cost Analysis
- Implementation Schedule
- Public Hearing and Adoption

# Other Requirements

- Participation by Regional Water Board staff
- CEQA
- Antidegradation analysis
- Basin Plan Amendment – consider gw information already in the Basin Plan; templates for amendments

# Each Plan Dependent on Site-Specific Factors

- Size
- Complexity of basin
- Source water quality
- Storm water recharge
- Hydrogeology
- Aquifer water quality

# Prioritization of GW Basins-

- Groundwater Ambient Monitoring and Assessment (GAMA)
- 14 in Lahontan Region
- South Lahontan – Owens, Indian Wells, Tehachapi, Antelope, Lower/Middle/Upper Mojave
- North Lahontan – Tahoe North/South/West; Martis/Truckee; Honey Lake

# Regional Strategy/Approach Under Development

- Salt/nutrients might be a issue now or in future
- Areas with recycling
- DWR's Bulletin 118 gw basins
- MUN designation
- Surface water quality
- Human activity/land uses

## Work toward “Pre-adoption” understanding between Antelope Valley and RB

- Consider what elements of SN plan guidance are applicable for Antelope Valley
- How much information is needed?
- Agreement on SN plan content prior to its completion
- Approval of workplan by Regional Board
- Focus RB review on outcome & not on scope of effort

# Questions?

Cindy Wise

Lahontan Regional Water Quality  
Control Board

530/542-5408

[cwise@waterboards.ca.gov](mailto:cwise@waterboards.ca.gov)

2501 Lake Tahoe Blvd

South Lake Tahoe, CA 96150

## Appendix 2 – Current and Future Basin Use Projects

Current and Future Projects Contributing To Potential Salt/Nutrient Impacts															
Agency	Project	Source of Water (imported/ sw/ gw/ rw)	Expected Implementation Date	Water Quantity Projections (AFY)											
				2010		2015		2020		2025		2030		2035	
				Recharge	Extraction	Recharge	Extraction	Recharge	Extraction	Recharge	Extraction	Recharge	Extraction	Recharge	Extraction
<b>Groundwater Recharge/Banking</b>															
AVEK/LACWWD40	Water Supply Stabilization Project (WSSP-2 Project)	imported	2015	10,000	9,000	25,000	22,500	25,000	22,500	25,000	22,500	25,000	22,500	25,000	22,500
LACWWD40	Aquifer Storage and Recovery Project	Imported	2010	4,500	4,500	6,800	6,800	6,800	6,800	6,800	6,800	6,800	6,800	6,800	6,800
LACWWD40	In-Situ Arsenic Removal on Unsaturated Alluvium (pilot-project)	groundwater	2010-2012	1,600	1,600										
Lancaster	Amargosa Water Banking & Stormwater Retention Project	imported / sw/ rw	on hold					50,000	48,000	50,000	48,000	50,000	48,000	50,000	48,000
Palmdale	Barrel Springs Detention Basin and Wetlands	stormwater	2035											878	0
Palmdale	Hunt Canyon Groundwater Recharge & Flood Control Basin	stormwater	2035											3,000	0
Palmdale/LACWWD40	Amargosa Creek Recharge Project	imported / sw	2015			25,000	0	25,000	0	25,000	0	25,000	0	25,000	0
Palmdale Water District	Groundwater Recharge - Recycle Water Project	rw/ imported/ sw	2015			10,000	0	10,000	0	10,000	0	10,000	0	10,000	0
Rosamond	Antelope Valley Water Bank	imported	implemented	1,300	0	22,000	19,900	22,000	19,900	22,000	19,900	22,000	19,900	22,000	21,200
Agency	Project	Source of Water (imported/ sw/ gw/ rw)	Expected Implementation Date	Water Quantity Projections (AFY)											
				2010		2015		2020		2025		2030		2035	
				flow	flow	flow	flow	flow	flow	flow	flow				
<b>Irrigation/Impoundments</b>															
California City	Golf Course Irrigation Project	recycle	implemented												
Edwards Air Force Base	EAFB Irrigation Project	recycle	implemented	650	650	650	650	650	650	650	650	650	650	650	650
LACSD 14	Apollo Park	recycle	implemented	250	250	250	250	250	250	250	250	250	250	250	250
LACSD 14	Piute Ponds	recycle	implemented	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
LACSD 14	Agricultural Reuse Project	recycle	implemented	1,100	9,500*	10,500*	11,500*	11,500*	12,500*	12,500*	13,500*	13,500*	13,500*	13,500*	13,500*
LACSD 20	Agricultural Reuse Project	recycle	implemented	8,500	9,500**	10,500**	11,500**	11,500**	12,500**	12,500**	13,500**	13,500**	13,500**	13,500**	13,500**
LACWWD40/Palm./Lanc.	North LA/Kern County Regional Recycled Water Project	recycle	2011		7,121	8,673	10,225	11,777	13,330						
Agency	Project	Source of Water (imported/ sw/ gw/ rw)	Expected Implementation Date	Water Quantity Projections (AFY)											
				2010		2015		2020		2025		2030		2035	
				flow	flow	flow	flow	flow	flow	flow	flow				
<b>Treatment</b>															
LACSD 14	Lancaster WRP Stage V	recycle	2010		20,000	22,000	24,000	26,000	28,000						
LACSD 20	Palmdale WRP Stage V	recycle	2011		15,000	16,500	18,000	19,500	21,000						
Rosamond	RCSD Wastewater Treatment Plant Expansion	recycle	2015		2,240	2,240	2,240	2,240	2,240						
Agency	Project	Source of Water (imported/ sw/ gw/ rw)	Expected Implementation Date	Water Quantity Projections (AFY)											
				2010		2015		2020		2025		2030		2035	
				flow	flow	flow	flow	flow	flow	flow	flow				
<b>Evaporation/Export</b>															
Edwards Air Force Base	On-Base Evaporation Ponds	recycle	implemented	80	80	80	80	80	80	80	80	80	80	80	80
Lancaster	eSolar Power Plant	recycle	2011	80	80	80	80	80	80	80	80	80	80	80	80
Palmdale	Palmdale Hybrid Power Plant Project	recycle	2011	400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400	3,400

\* Estimated Flow = (recycled water produced at Lancaster WRP) - (M&I use) - (Apollo Park flow) - (Piute Ponds flow)

\* Estimated Flow = (recycled water produced at Palmdale WRP) - (M&I use)

**Current and Future Projects Contributing To Potential Salt/Nutrient Impacts**

<b>Agency</b>	<b>Project Name</b>	<b>Project Type</b>	<b>IRWMP Project</b>	<b>Source of Water (imported/ sw/ gw/ rw)</b>	<b>Expected Implementation Date</b>
AVEK/LACWWD40	Water Supply Stabilization Project (WSSP-2 Project)	Groundwater Banking	Y	imported	2015
California City	Golf Course Irrigation Project	Landscape Irrigation	N	recycle	implemented
Edwards Air Force Base	EAFB Irrigation Project	Landscape Irrigation	N	recycle	implemented
Edwards Air Force Base	On-Base Evaporation Ponds	Evaporation Pond	N	recycle	implemented
LACWWD40	Aquifer Storage and Recovery Project	Groundwater Banking	Y	Imported	2010
LACWWD40	In-Situ Arsenic Removal on Unsaturated Alluvium (pilot-project)	Groundwater Treatment/Recharge	N	groundwater	2010-2012
LACWWD40/Palm./Lanc.	North LA/Kern County Regional Recycled Water Project	Landscape Irrigation (may include other M&I)	Y	recycle	2011
LACSD 14	Apollo Park	Recreational Impoundments/Landscape Irrig.	N	recycle	implemented
LACSD 14	Piute Ponds	Recreational Impoundments/Landscape Irrig.	N	recycle	implemented
LACSD 14	Agricultural Reuse Project	Agricultural Irrigation	N	recycle	implemented
LACSD 14	Lancaster WRP Stage V	Wastewater Treatment Plant	Y	recycle	2010
LACSD 20	Agricultural Reuse Project	Agricultural Irrigation	N	recycle	implemented
LACSD 20	Palmdale WRP Stage V	Wastewater Treatment Plant	Y	recycle	2011
Lancaster	Amargosa Water Banking & Stormwater Retention Project	Groundwater Banking/Recharge/Rec	Y	imported / sw/ rw	on hold
Lancaster	Solar Power Plants	Evaporation Pond	N	recycle	2011
Palmdale	Barrel Springs Detention Basin and Wetlands	Groundwater Recharge	Y	stormwater	2035
Palmdale	Hunt Canyon Groundwater Recharge & Flood Control Basin	Groundwater Recharge	Y	stormwater	2035
Palmdale/LACWWD40	Amargosa Creek Recharge Project	Groundwater Recharge	Y	imported / sw	2015
Palmdale	Palmdale Hybrid Power Plant Project	Evaporation Pond	N	recycle	2011
Palmdale Water District	Groundwater Recharge - Recycle Water Project	Groundwater Recharge	Y	rw/ imported/ sw	2015
Rosamond	Antelope Valley Water Bank	Groundwater Banking	Y	imported	implemented
Rosamond	RCSD Wastewater Treatment Plant Expansion	Wastewater Treatment Plant	N	recycle	2015

## Appendix 3 – Source Water Quality Table

**Source Water Quality**

Parameter	Units	California Aqueduct <sup>(a)</sup>	Acton Plant <sup>(a)</sup>	Eastside Plant <sup>(a)</sup>	Quartz Hill Plant <sup>(a)</sup>	Rosamond Plant <sup>(b)</sup>	Recycled Water <sup>(c)</sup>
total dissolved solids	mg/L	210	250	230	220	240	550
ammonia	mg-N/L						1
nitrate	mg-N/L	0.86	0.57	0.70	0.61	0.63	< 10
nitrite	mg-N/L	ND (< 0.4)	ND (< 0.4)	ND (< 0.4)	ND (< 0.4)	ND (< 0.4)	< 1
nitrate+nitrite	mg-N/L	1.0	1.0	1.0	1.0	1.0	8
chloride	mg/L	76	88	65	76	75	140
arsenic	ug/L	4.6	4	3.3	3.1	2.6	< 10
boron	ug/L	150	240	180	170	160	500
fluoride	mg/L	0.11	0.14	0.12	0.10	0.10	< 1

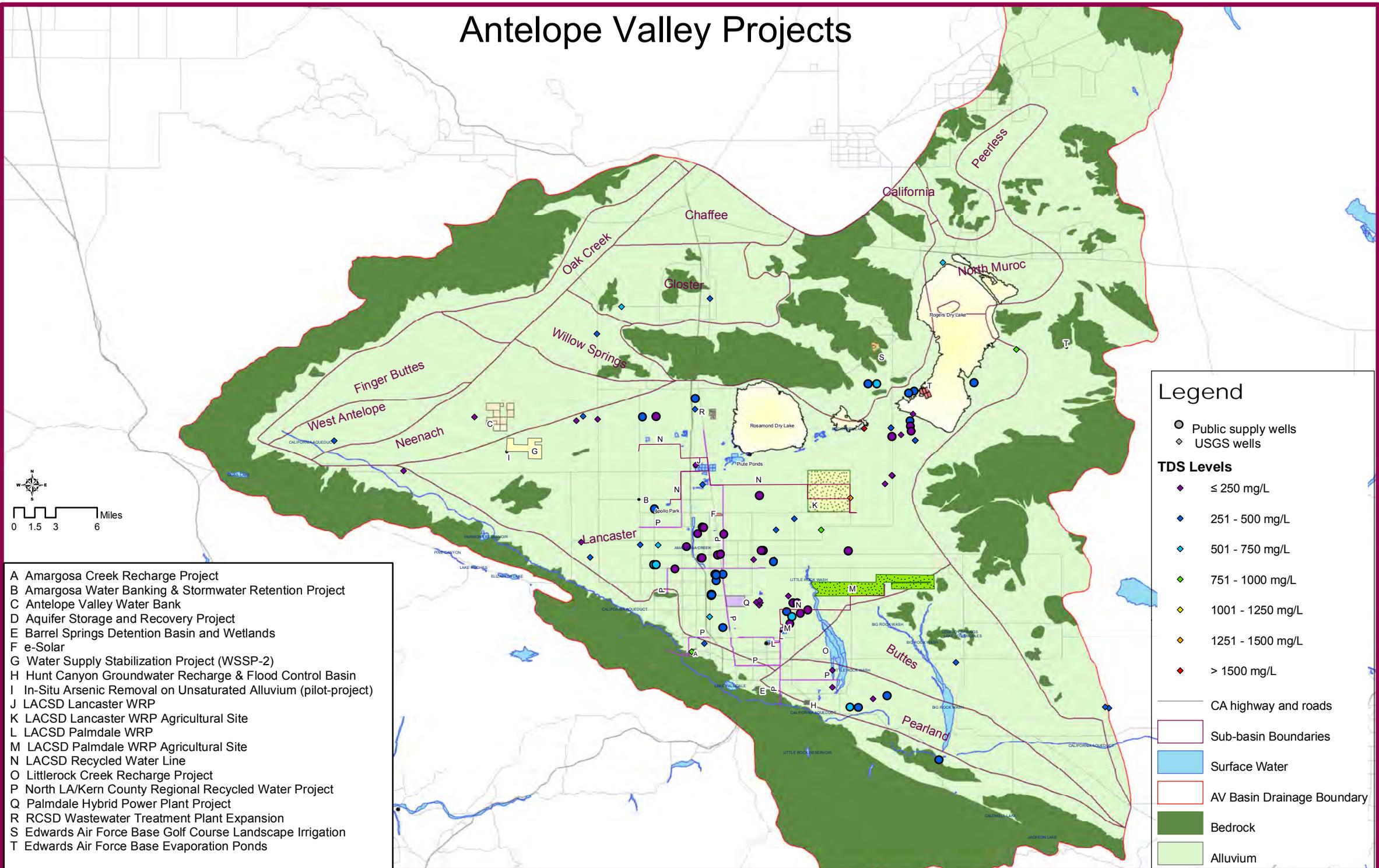
(a) Antelope Valley-East Kern Water Agency 2009 Annual Water Quality Report - Los Angeles County System

(b) Antelope Valley-East Kern Water Agency 2009 Annual Water Quality Report - Kern County System

(c) Predicted water quality for tertiary treatment at Lancaster and Plamdale WRPs (LACSD)

## Appendix 4 – Map of Project Locations and TDS Levels

# Antelope Valley Projects



- A Amargosa Creek Recharge Project
- B Amargosa Water Banking & Stormwater Retention Project
- C Antelope Valley Water Bank
- D Aquifer Storage and Recovery Project
- E Barrel Springs Detention Basin and Wetlands
- F e-Solar
- G Water Supply Stabilization Project (WSSP-2)
- H Hunt Canyon Groundwater Recharge & Flood Control Basin
- I In-Situ Arsenic Removal on Unsaturated Alluvium (pilot-project)
- J LACSD Lancaster WRP
- K LACSD Lancaster WRP Agricultural Site
- L LACSD Palmdale WRP
- M LACSD Palmdale WRP Agricultural Site
- N LACSD Recycled Water Line
- O Littlerock Creek Recharge Project
- P North LA/Kern County Regional Recycled Water Project
- Q Palmdale Hybrid Power Plant Project
- R RCSD Wastewater Treatment Plant Expansion
- S Edwards Air Force Base Golf Course Landscape Irrigation
- T Edwards Air Force Base Evaporation Ponds

### Legend

- Public supply wells
- ◇ USGS wells

#### TDS Levels

- ◆ ≤ 250 mg/L
- ◆ 251 - 500 mg/L
- ◆ 501 - 750 mg/L
- ◆ 751 - 1000 mg/L
- ◆ 1001 - 1250 mg/L
- ◆ 1251 - 1500 mg/L
- ◆ > 1500 mg/L

- CA highway and roads
- Sub-basin Boundaries
- Surface Water
- AV Basin Drainage Boundary
- Bedrock
- Alluvium