SAN FERNANDO VALLEY GROUNDWATER BASIN

Stakeholder Meeting #1
for
Salt & Nutrient Management Plan

September 16, 2010, 9:00am to 12:00pm
LADWP Valley Center
14401 Saticoy Street – Bldg 7, 2nd Floor, Van Nuys, 91405

Meeting Notes

1. **Welcome Remarks**
   - LADWP - Jim Yannotta
   - LARWQCB, Chief Deputy Executive Officer, Deborah Smith
     - Groundwater is a valuable resource and the issue of the impact of salt & nutrients is very important. The plan allows one to look at the issue on a regional scale, linking recharge, movement of water and use.
   - State WQCB Vice-President, Fran Spivy-Weber
     - It is important to get water supply and water quality together. The plan is more than just salt & nutrients; it's about getting region on the same page as public, stakeholders, regulators and permittees and determining what do we have and what can we do with it in the future.

2. **Stakeholder Introductions**
   - Total Attendees (Including Presenters) – 43
     - LADWP – 10
     - LABOS – 5
     - RWQCB – 8
     - Other Govt – 12
     - Public – 7
     - NGO - 1

3. **Salt/Nutrient Management Plans and Basin Plan Amendments** (Rebecca Christmann – LARWQCB)
4. **Roadmap for Salt & Nutrient Management Plan Development** (Todd Rother – LADWP)
5. **Questions & Comments**
   - Provide well information and maps for the area West of the 405 Freeway.
   - Why not looking at bioremediation as a management approach to remove salts & nutrients?
   - If groundwater recharge takes place and raises the groundwater level from where it is at present, will contamination in the soil above leach out into the groundwater?
   - Conduct more comprehensive outreach to the Neighborhood Councils.
   - What are the objectives and overall goal of the plan?
   - When will Committee be established? How many people?
   - Will this be plan fall under CEQA/ NEPA?

- Will the data gathered be available to the public?
    - LARWQCB has GEOTRACKER which is already available to the public and currently tracks only monitoring wells. Production well information is maintained by Department of Public Health.
- Are all constituents a priority? Which will be included?
    - The plan is to be inclusive of all contaminants adversely or of impact to the basin per the Recycled Water policy.

6. Next Steps

- Form Oversight Committee (OC)
- OC create Task Groups
    i. Salt Management Work Plan Committee
    ii. Groundwater Monitoring Committee
- Develop Master Work Plan
    i. Guiding document
    ii. Identifies deliverables for each Task Group
    iii. Sets specific timeframe and budget for each deliverable
- Start Data Collection
    i. Past monitoring data
    ii. Relevant water/basin studies
    iii. Production/Monitoring well locations

SAN FERNANDO VALLEY GROUNDWATER BASIN - SALT NUTRIENT MANAGEMENT PLAN

Fname	Lname	Agency	8/16/2010 Meeting
Carlos	Aguilar RWAG	Society of Hispanic Professional Engineers	RSVP No
Ginachi	Amah	CA Regional Water Quality Control Board - LA	Attended
Geremew	Amenu	LA County Dept Public Works	Attended
Shelly	Backlar	Friends of LA River	No Response
Mark	Bassett	LA DWP	Attended
David	Beckman	National Resources Defense Council	No Response
Edward	Belden	LA & San Gabriel Rivers Watershed Council	No Show
Greg	Bishop	CA Regional Water Quality Control Board - LA	Attended
Rebecca	Christmann	CA Regional Water Quality Control Board - LA	Attended
Paul	Cobian	LA Bureau of Sanitation	Attended
Evelyn	Cortez-Davis	LA DWP	Attended
Alvin	Cruz	City of Burbank - Public Works	Attended
Patricia	Cruz	LA Bureau of Sanitation	Attended
Timeyin	Dafeta	LA Bureau of Sanitation	No Show
Chi	Diep	Department of Public Health	No Response
Rebecca	Drayse	Sun Valley Watershed Group	No Response
Matt	Elsner	Burbank Water & Power	Attended
Tom	Erb	LA DWP	RSVP No
Peter	Finie RWAG	Vulcan Materials	Attended
Leighton	Fong	Glendale Water & Power	RSVP No
Sharon	Ford RWAG	Sierra Club - San Fernando Valley Group	Attended
Monica	Gasca	LA County Sanitation District	Attended
Tatiana	Gaur	Santa Monica Baykeeper	No Response
Mark	Gold	Heal the Bay	No Response
David	Gould	Crescenta Valley Water District	RSVP No
Clint	Granath RWAG	Forest Lawn	Attended
Shilpa	Gupta	LA DWP	Attended
Mike	Hanson	LA DWP	Attended
Lisa	Hanusiak	US EPA, Region 9	No Response
Tony	Hicke	ULARA Watermaster	Attended
David	Hung	CA Regional Water Quality Control Board - LA	Attended
Kirsten	James	Heal the Bay	Attended

SAN FERNANDO VALLEY GROUNDWATER BASIN - SALT NUTRIENT MANAGEMENT PLAN

Fname	Lname	Agency	8/16/2010 Meeting
Greg	Jaquez	LA County Flood Control District	Attended
Larry	Johnson RWAG	Loyala Marymount University	Attended
Hadi	Jonny	LA DWP	Attended
Rita	Kamat	Department of Toxic Substances Control	RSVP No
Jennifer	Kong	LA Bureau of Sanitation	Attended
Kathy	Kunysz	Metropolitan Water District	Attended
Allison	Linehan	LA DWP	Attended
Miguel	Luna RWAG	Urban Semilas	RSVP No
Bill	Mace	City of Burbank	RSVP No
Kelly	Manheimer	US EPA, Region 9	RSVP No
Nancy	Matsumoto	Water Replenshment District of SoCal	Attended
Raul	Medina	CA Regional Water Quality Control Board - LA	Attended
Omar	Moghaddam	LA Bureau of Sanitation	No Response
Maurice	Oillataguerre	City of Glendale - Public Works	Attended
Jeff	O'Keefe	Department of Public Health	RSVP No
Christina	Olmedo	Crescenta Valley Water District	Attended
Mark	Osokow RWAG	San Fernando Valley - Audobon Society	Attended
Brandi	Outwin	CA Regional Water Quality Control Board - LA	Attended
Hassan	Rad	LA Bureau of Sanitation	Attended
Abraham	Razon	LA Bureau of Sanitation	Attended
Lisa	Reveen RWAG	Lake Balboa Neighborhood Council	Attended
Todd	Rother	LA DWP	Attended
Chris	Rowe RWAG	West Hills Neighborhood Council	Attended
Katherine	Rubin	LA DWP	Attended
Ron	Ruiz	City of San Fernando	No Response
Daniel	Rynn	City of Burbank	RSVP No
Fred	Schauffler	US EPA, Region 9	RSVP No
Zizi	Searles	US EPA, Region 9	No Response
Richard	Slade	ULARA Watermaster	RSVP No
Deborah	Smith	CA Regional Water Quality Control Board - LA	Attended
Fran	Spivy-Weber	CA State Water Quality Control Board	Attended
Milad	Taghavi	LA DWP	Attended

SAN FERNANDO VALLEY GROUNDWATER BASIN - SALT NUTRIENT MANAGEMENT PLAN

Fname	Lname	Agency	8/16/2010 Meeting
Wing	Tam	LA Bureau of Sanitation	No Show
Tony	Umphenour	Burbank Water & Power	Attended
Loudmilla	Vertanessian	LA Bureau of Sanitation	No Show
Doug	Walters	LA Bureau of Sanitation	RSVP No
Scott	Warren	Department of Toxic Substances Control	Attended
Jim	Yannotta	LA DWP	Attended
		Nature Conservancy	No Response
		Sierra Club, Angeles Chapter	No Response
		The River Project	No Response
		Tree People	No Response

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

August 24, 2010

Los Angeles Department of Water and Power
433 East Temple Street
Building 5, Room 103
Los Angeles, CA 90012

REGIONAL WATER QUALITY CONTROL BOARD AND CITY OF LOS ANGELES KICKOFF MEETING FOR DEVELOPMENT OF A SAN FERNANDO VALLEY GROUNDWATER BASIN SALT AND NUTRIENT MANAGEMENT PLAN

The purpose of this letter is to inform you of a new requirement for local stakeholders, such as local water and wastewater entities, and members of the public to develop salt and nutrient management plans for groundwater basins within our region. The intent of salt and nutrient management plan is to protect groundwater from accumulating concentrations of salts and nutrients that would degrade the quality of groundwater and limit its beneficial uses. This notice also informs you of a Regional Water Quality Control Board (Regional Water Board) workshop to initiate the development process for these plans in the San Fernando Valley Groundwater Basin. Your participation in the workshop is an opportunity to join this important effort and to provide input on the process and organization for the development of the salt and nutrient management plans.

The San Fernando Valley Groundwater Basin (Basin) is bounded on the northwest by the Santa Susana Mountains, on northeast by the San Gabriel Mountains, on the east by the San Raphael Hills, on the south by the Santa Monica Mountains, and on the west by the Simi Hills (see map). The Basin underlies the upper Los Angeles River Watershed and is an important source of drinking water for the cities of Los Angeles, Glendale, Burbank, San Fernando, La Canada - Flintridge, and the unincorporated area of La Crescenta.

The requirement for preparing salt and nutrient management plans is in the State Water Resources Control Board's (State Water Board) Recycled Water Policy, which was adopted by the State Water Board through Resolution No. 2009-0011 on February 3, 2009, and became effective on May 14, 2009. The Resolution and Recycled Water Policy can be found at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2009/rs2009_0011.pdf

The Recycled Water Policy states that the development of the salt and nutrient management plans is to be driven, controlled, and funded by local stakeholders, such as local water and wastewater entities, with participation by Regional Water Board staff. The applicable language from the policy is provided below:

> *"The State Water Board recognizes that, pursuant to the letter dated December 19, 2008 and attached to the Resolution adopting this Policy, the 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."*

The Recycled Water Policy mandates completion of the salt and nutrient management plans within five years from the effective date of the Recycled Water Policy. Therefore, the salt and nutrient management plans must be submitted to the Regional Water Board by May 14, 2014. The Policy allows the Regional Water Boards to provide a two-year extension (until May 14, 2016) if the stakeholders demonstrate substantial progress toward completion of the plan. Once the Regional Water Board receives a salt and nutrient management plan, it has one year to consider it for adoption as a basin plan amendment.

The Regional Water Board and the City of Los Angeles will host a kick-off meeting to convene the San Fernando Valley stakeholders and to discuss the requirements for salt and nutrient management planning on Thursday, **September 16, 2010**, at the City of Los Angeles Valley Center located at 14401 Saticoy Street, Building 7, 2nd Floor, Van Nuys, 91405. Due to the security measures at the facility, please RSVP to Allison Linehan at allison.linehan@ladwp.com by Friday, **September 10, 2010**.

If you have question, please contact Ms. Rebecca Christmann at rchristmann@waterboards.ca.gov or (213) 576-6756 or Dr. Ginachi Amah at gamah@waterboards.ca.gov or (213) 576-6685.

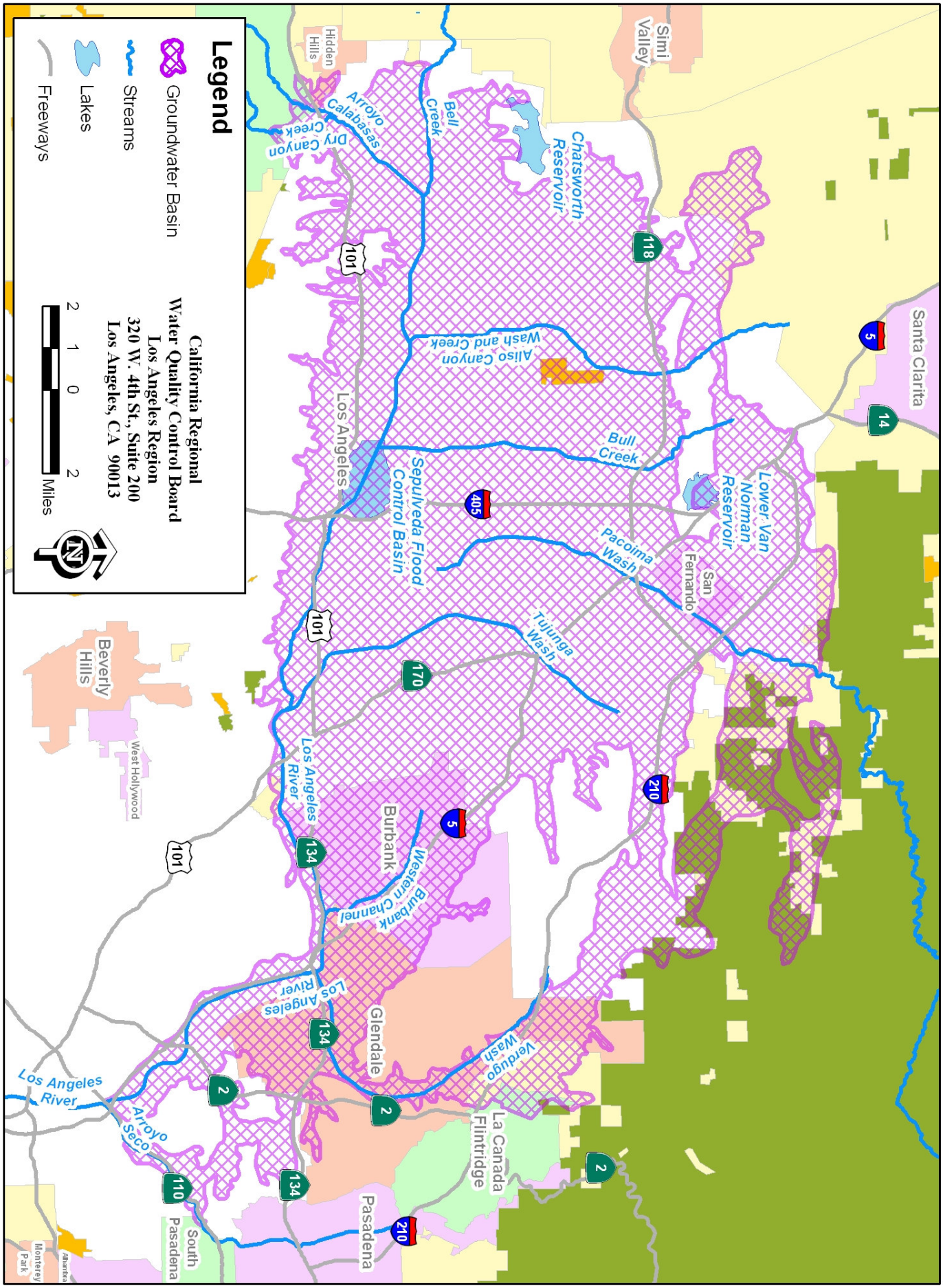
Sincerely,

Samuel Unger

Samuel Unger
Interim Executive Officer

Attachment: San Fernando Valley Groundwater Basin Map

San Fernando Valley Groundwater Basin



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Salt & Nutrient Management Plans
and
Basin Plan Amendments
for
San Fernando Valley Groundwater Basin

Rebecca Christmann
Water Resources Control Engineer
Regional Water Quality Control Board
Los Angeles Region

September 16, 2010

1

Introduction

- Need for Salt and Nutrient Management
  - To optimize recycled water use
  - To protect groundwater supply and beneficial uses
  - To protect agricultural beneficial use and
  - To protect human health

2

Introduction

- Salt & Nutrient Management Plans required by the Recycled Water Policy
  - Basin-wide approach to groundwater management
  - Stakeholders to develop implementation plans for meeting objectives for salts and nutrients.
  - Implementation plans to be adopted by Regional Water Boards as Basin Plan Amendments.
  - Completion by 2014 - 2016

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Introduction

- What if basin-wide Salt & Nutrient Management Plans are not completed?
  - Individual monitoring programs for each recycled water project
  - Sole mitigation requirements
  - Lose opportunity for regional salinity management
  - Stakeholders loss opportunity to control regional salinity management

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Overview of Presentation

- Elements of Salt & Nutrient Management Plans
- Groundwater Basin Data
- Basin Planning Process
- Funding

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Salt & Nutrient Management Plan: Required Elements

- Basin-wide Monitoring Plan
  - Assess basin groundwater quality
  - Constituents and frequency
  - Monitor groundwater and surface water connectivity
  - Identify responsible stakeholders
- Provision for monitoring constituents of emerging concern (CECs) in recycled water

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Salt & Nutrient Management Plan: Required Elements

- Water Recycling and Stormwater Recharge/Use Goals and Objectives
- Salt/Nutrient Source Identification, Basin/Sub-Basin Assimilative Capacity, Loading Rates, Fate and Transport of Salt and Nutrients
- Implementation Measures to Manage Salt and Nutrient Loading
- Antidegradation Analysis

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Salt & Nutrient Management Plan: Suggested Elements

- Groundwater Basin Overview
  - Physiographic description
  - Groundwater basin identification and boundaries
  - Watershed boundaries Question 5
  - Geology
  - Hydrogeology/Hydrology
  - Recharge areas
  - Climate
  - Landcover and landuse
  - Water sources

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Salt & Nutrient Management Plan: Suggested Elements

- Basin Water Quality
  - Groundwater quality: Past and present
  - Beneficial uses
  - Surface water quality: Effect on groundwater
  - Delivered water, imported water, and recycled water
- Basin Water Balance
  - Conceptual model
  - Basin inflow and outflow

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Salt & Nutrient Management Plan: Suggested Elements

- Salt and Nutrient Balance
  - Conceptual model
  - Source identification
  - Loading estimates
  - Basin assimilative capacity
  - Fate and transport of salt and nutrients

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Salt & Nutrient Management Plan: Suggested Elements

- Salt and Nutrient Management Strategies
  - Load reduction goals
  - Changes in land development and use
  - Salt and Nutrient management options
    - Feasibility analysis
    - Cost analysis

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Salt & Nutrient Management Plan: Additional Elements

- The need for additional studies will be dictated by the complexity of the basin
  - Type and number of sources of salts and nutrients
  - Quantity (load) of salts and nutrients discharged
  - Impairments and/or threats to groundwater quality and beneficial uses
  - Data gaps

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Next Up...

- Groundwater Basins

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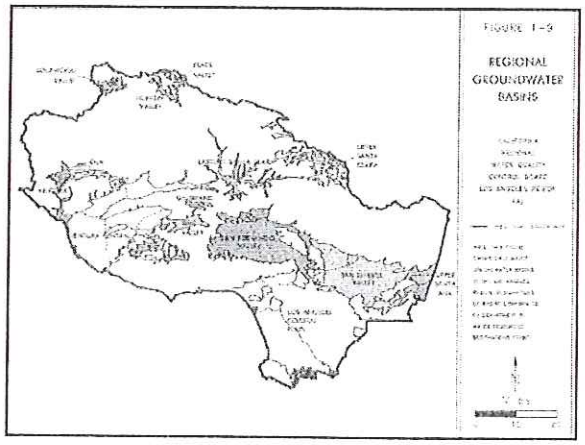
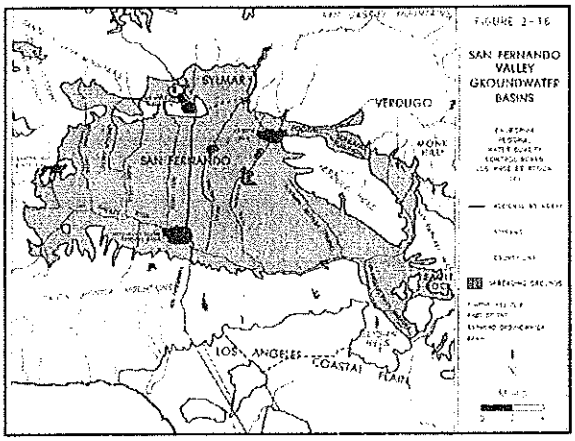
Los Angeles Region Groundwater Basins

- Eleven major basins identified by hydrographic area (Central, West, San Gabriel, San Fernando, Las Posas, Santa Monica, Raymond, Pleasant Valley, Hollywood, Ventura, Santa Clara)
- Thirty three basins and sub-basins within the Los Angeles Region (DWR Bull. 118)



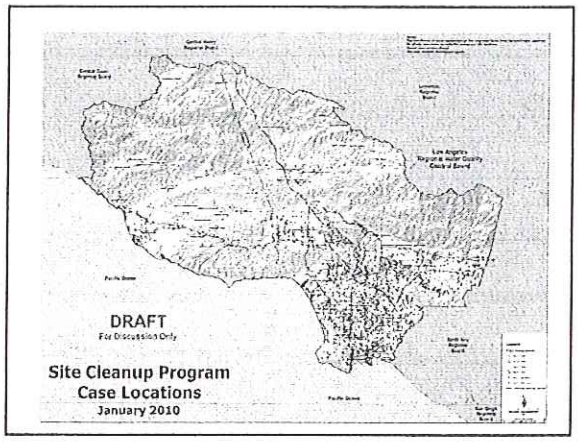


Groundwater Beneficial Uses

- Las Posas Valley: MUN, IND, PROC, AGR
- Pleasant Valley: MUN, IND, PROC, AGR
- Raymond: MUN, IND, PROC, AGR
- San Fernando: MUN, IND, PROC, AGR
- San Gabriel: MUN, IND, PROC, AGR
- Santa Clara: MUN, AGR
- Ventura: MUN, IND, PROC, AGR
- West/Central/Hollywood/Santa Monica: MUN, IND, PROC, AGR

Limitations on Quality

- Central and West: Seawater Intrusion
- San Gabriel: Nitrate, VOC, Superfund Site
- San Fernando: Nitrate, VOC, PCE, Sulfate, Metals, Superfund Site
- Raymond: Nitrate, VOC, Superfund Site
- Santa Clara: Salts, Nutrients



Next Up...

- Basin Plan Amendments

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Basin Plans – Brief Overview

- Regional Water Quality Control Plan = Basin Plan
- 10 Regional Water Quality Control Plans
  - 9 Regions in California
  - Central Valley Water Board has 2 Plans
    - Central Valley and Tulare Lake
- Salt and Nutrient Management Plans will be incorporated into the Basin Plan

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Basin Plans – Brief Overview

- Basin Plans are adopted as regulations
  - They have the force and effect of law.
- Basin Plans must be reviewed "from time to time"
- Basin Plans may be revised
- Basin Plan Revisions must be done in accordance with State and Federal Laws
- Basin Plans apply to both surface and ground water in California

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Basin Plans – Brief Overview

- Basin Plans consist of a designation or establishment for the waters within a specified area of the following:

  (1) Beneficial uses to be protected.

  (2) Water quality objectives.

  (3) A program of implementation needed for achieving water quality objectives – including monitoring and surveillance

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Statewide Consistency for Basin Plan Amendments

- Documents designed to accommodate range of Basin and Salt & Nutrient plan complexity
  - Can accommodate additional water quality issues
- Documents include:
  - Standardized basin plan list of ground water basins and associated beneficial uses
  - Basin plan amendment in table format
  - Environment analysis check list
  - Regional Water Board Staff Report format
  - Suggested Salt & Nutrient Plan table of contents

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Basin Plan Amendments for Salt and Nutrients

- Envision three types of Basin Plan Amendments, characteristics include:
  - Big Plan-basin large in size, complex land-use, heavily used, water quality threatened
  - Limited Plan-basins with less extensive water quality limitations not currently used as a source of water
  - No Threat Plan-basins with minimal or no known current threat to water quality-address all within a Region with single basin plan amendment

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Next Up...

- Funding

Funding

- State Water Board working with DWR on Integrate Regional Water Management Grant-Prop 84 guidelines language
- $870 million implementation, $30 million in planning funds to update 46 IRWM Plans
- State Water Board will send letter to IRWM Regions asking them to support S/N Planning
- S/N Stakeholders need to work with IRWM Regions to update Plans to incorporate S/N Planning Language

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Prop 84 Requirements

- Eligible projects must:
  - Implement an IRWM Plan
  - Be consistent with an adopted IRWM Plan or its functional equivalent
  - Provide multiple benefits
- Draft guidelines can be found at:
- http://www.water.ca.gov/irwm/integregio_new10.cfm

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Prop 84 Requirements Related to S/N Plans

- Eligible projects must include one or more of the following project elements:
  - Storm water capture, storage, clean-up, treatment, and management
  - Groundwater recharge and management projects
  - Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users

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Prop 84 Requirements Related to S/N Plans

- Eligible projects must include one or more of the following project elements (cont.):
  - Water banking, exchange, reclamation and improvement of water quality
  - Planning and implementation of multipurpose flood management programs

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Questions

- Rebecca Christmann
  - rchristmann@waterboards.ca.gov
  - (213) 576-6756
- DWR Bulletin 118

http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm

Roadmap for Salt and Nutrient Management Plan Development

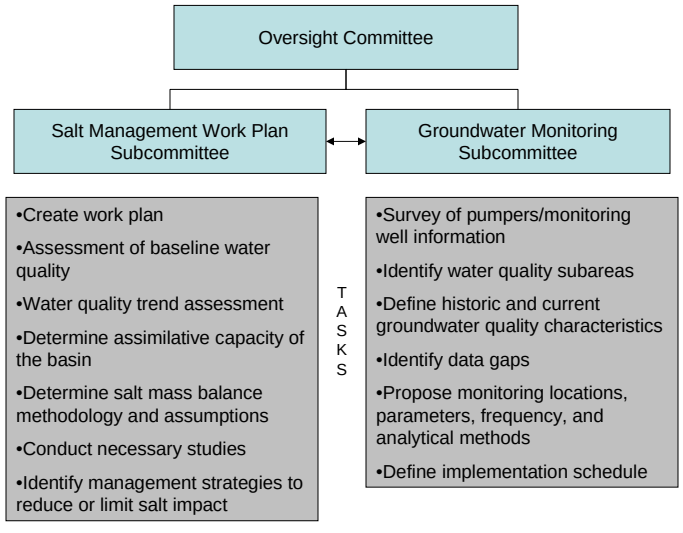
Objectives

1. Understanding the requirements of the State Policy
2. Present a proposed "Roadmap" and receive initial input from stakeholders
3. Establish a consensus to return and provide feedback to the group
4. Understand the timeframe

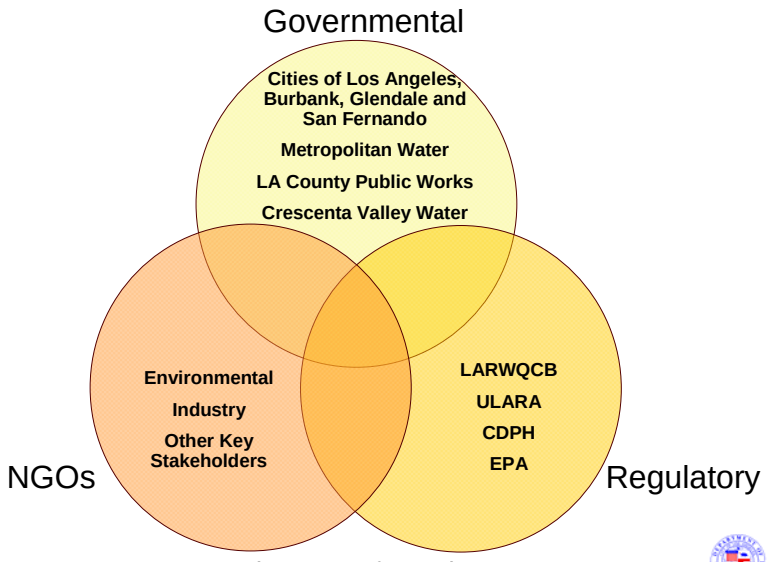
The "Roadmap"

- **Starts the discussion**
- **Initial starting point**
- **Elements are not "set in stone"**

"Roadmap" Overview



Proposed Oversight Committee



Salt Management Work Plan Subcommittee

- Develop work plan
  - Identify specific tasks, deliverables, and costs
  - Propose cost sharing agreement
  - Outline roles and responsibilities of stakeholders
- Assessment of baseline water quality
  - Identify current water uses within the basin
  - Source water quantity and quality
    - Import water, recycled water, stormwater, nuisance water, etc.

Salt Management Work Plan Subcommittee

- Water quality trend assessment
  - Identify the extent and magnitude of potential salt impacts
- Determine assimilative capacity of the basin
  - Calculate the current assimilative capacity for selected constituents
- Determine salt mass balance methodology and assumptions
  - Type of modeling to be utilized
  - Percolation and evapotranspiration rates

Salt Management Work Plan Subcommittee

- Conduct necessary studies
  - Fate and transport study
  - Antidegradation policy (Resolution 68-16)
- Identify management strategies to reduce or limit salt impact
  - Determine if it is advisable to break the basin into "management zones" or subareas offers a strategic advantage
  - Advanced wastewater treatment
  - Source control

Groundwater Monitoring Subcommittee

- Survey of pumper/monitoring well information
  - A survey will be created and distributed to pumpers and monitoring well owners to collect information on well locations and sampled constituents
- Identify water quality subareas
  - Delineation of management zones

Groundwater Monitoring Subcommittee

- Define historic and current groundwater quality characteristics
  - Define legacy salt and constituent sources within the basin
  - Establish current background condition for identified constituents
- Identify data gaps
  - *What is the appropriate amount of monitoring and groundwater data needed to support the Salt Management Work Plan?*

Groundwater Monitoring Subcommittee

- Propose monitoring locations, parameters, frequency, and analytical methods
  - Network of monitoring wells that is representative of the basin
  - Identify constituents to be sampled
  - Establish a testing frequency that is reasonable, cost-effective and meets regulatory requirements
- Define implementation schedule

Consensus to Return

- Collaboration and participation leads to…
  - Opportunities to **work out stakeholder differences**
  - **Informed** and **valid regulatory decision-making**
  - **Regulatory consistency**
  - **Fewer objections** and **reduced litigation** in past planning efforts

Timeframe/Next Steps

- Goal: Completion by May 14, 2014

- Suggested Next Step
  - Form Oversight Committee (OC)
  - OC create Task Groups
    - Salt Management Work Plan Committee
    - Groundwater Monitoring Committee

Timeframe/Next Steps

- Suggested Next Steps (cont.)
  - Develop Master Work Plan
    - Guiding document
    - Identifies deliverables for each Task Group
    - Sets specific timeframe and budget for each deliverable
  - Start Data Collection
    - Past monitoring data
    - Relevant water/basin studies
    - Production/Monitoring well locations
  - Next Meeting
    - To be scheduled at a later date

The City of Los Angeles seeks to build on existing relationships to develop a proactive, comprehensive, stakeholder-driven Salt and Nutrient Management Plan that maintains the quality of the San Fernando Valley Groundwater Basin

Todd Rother, P.E.
Water Resources Division - Water Recycling
Los Angeles Department of Water and Power
Todd.Rother@LADWP.com

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Recycled Water Policy

1. *Preamble*

California is facing an unprecedented water crisis.

The collapse of the Bay-Delta ecosystem, climate change, and continuing population growth have combined with a severe drought on the Colorado River and failing levees in the Delta to create a new reality that challenges California's ability to provide the clean water needed for a healthy environment, a healthy population and a healthy economy, both now and in the future.

These challenges also present an unparalleled opportunity for California to move aggressively towards a sustainable water future. The State Water Resources Control Board (State Water Board) declares that we will achieve our mission to "preserve, enhance and restore the quality of California's water resources to the benefit of present and future generations." To achieve that mission, we support and encourage every region in California to develop a salt/nutrient management plan by 2014 that is sustainable on a long-term basis and that provides California with clean, abundant water. These plans shall be consistent with the Department of Water Resources' Bulletin 160, as appropriate, and shall be locally developed, locally controlled and recognize the variability of California's water supplies and the diversity of its waterways. We strongly encourage local and regional water agencies to move toward clean, abundant, local water for California by emphasizing appropriate water recycling, water conservation, and maintenance of supply infrastructure and the use of stormwater (including dry-weather urban runoff) in these plans; these sources of supply are drought-proof, reliable, and minimize our carbon footprint and can be sustained over the long-term.

We declare our independence from relying on the vagaries of annual precipitation and move towards sustainable management of surface waters and groundwater, together with enhanced water conservation, water reuse and the use of stormwater. To this end, we adopt the following goals for California:

- Increase the use of recycled water over 2002 levels by at least one million acre-feet per year (afy) by 2020 and by at least two million afy by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 afy by 2020 and by at least one million afy by 2030.
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The purpose of this Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code section 13050(n), in a manner that implements state and federal water quality laws. 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.

When used in compliance with this Policy, Title 22 and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for approved uses, and strongly supports recycled water as a safe alternative to potable water for such approved uses.

2. *Purpose of the Policy*

a. The purpose of this Policy is to provide 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.

b. It is the intent of the State Water Board that all elements of this Policy are to be interpreted in a manner that fully implements state and federal water quality laws and regulations in order to enhance the environment and put the waters of the state to the fullest use of which they are capable.

c. This Policy describes permitting criteria that are intended to streamline the permitting of the vast majority of recycled water projects. The intent of this streamlined permit process is to expedite the implementation of recycled water projects in a manner that implements state and federal water quality laws while allowing the Regional Water Boards to focus their limited resources on projects that require substantial regulatory review due to unique site-specific conditions.

d. By prescribing permitting criteria that apply to the vast majority of recycled water projects, it is the State Water Board's intent to maximize consistency in the permitting of recycled water projects in California while also reserving to the Regional Water Boards sufficient authority and flexibility to address site-specific conditions.

e. The State Water Board will establish additional policies that are intended to assist the State of California in meeting the goals established in the preamble to this Policy for water conservation and the use of stormwater.

f. For purposes of this Policy, the term "permit" means an order adopted by a Regional Water Board or the State Water Board prescribing requirements for a recycled water project, including but not limited to water recycling requirements, master reclamation permits, and waste discharge requirements.

3. *Benefits of Recycled Water*

The State Water Board finds that the use of recycled water in accordance with this Policy, that is, which supports the sustainable use of groundwater and/or surface water, which 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 California Environmental Quality Act (CEQA).

4. *Mandate for the Use of Recycled Water*

a. The State Water Board and Regional Water Boards will exercise the authority granted to them by the Legislature to the fullest extent possible to encourage the use of recycled water, consistent with state and federal water quality laws.

(1) The State Water Board hereby establishes a mandate to increase the use of recycled water in California by 200,000 afy by 2020 and by an additional 300,000 afy by 2030. These mandates shall be achieved through the cooperation and collaboration of the State Water Board, the Regional Water Boards, the environmental community, water purveyors and the operators of publicly owned treatment works. The State Water Board will evaluate progress toward these mandates biennially and review and revise as necessary the implementation provisions of this Policy in 2012 and 2016.

(2) Agencies producing recycled water that is available for reuse and not being put to beneficial use shall make that recycled water available to water purveyors for reuse on reasonable terms and conditions. Such terms and conditions may include payment by the water purveyor of a fair and reasonable share of the cost of the recycled water supply and facilities.

(3) The State Water Board hereby declares that, pursuant to Water Code sections 13550 *et seq*., it is a waste and unreasonable use of water for water agencies not to use recycled water when recycled water of adequate quality is available and is not being put to beneficial use, subject to the conditions established in sections 13550 *et seq*. The State Water Board shall exercise its authority pursuant to Water Code section 275 to the fullest extent possible to enforce the mandates of this subparagraph.

b. These mandates are contingent on the availability of sufficient capital funding for the construction of recycled water projects from private, local, state, and federal sources and assume that the Regional Water Boards will effectively implement regulatory streamlining in accordance with this Policy.

c. The water industry and the environmental community have agreed jointly to advocate for $1 billion in state and federal funds over the next five years to fund projects needed to meet the goals and mandates for the use of recycled water established in this Policy.

d. The State Water Board requests the California Department of Public Health (CDPH), the California Public Utilities Commission (CPUC), and the California Department of Water Resources (CDWR) to use their respective authorities to the fullest extent practicable to assist the State Water Board and the Regional Water Boards in increasing the use of recycled water in California.

5. *Roles of the State Water Board, Regional Water Boards, CDPH and CDWR*

The State Water Board recognizes that it shares jurisdiction over the use of recycled water with the Regional Water Boards and with CDPH. In addition, the State Water Board recognizes that CDWR and the CPUC have important roles to play in encouraging the use of recycled water. The State Water Board believes that it is important to clarify the respective roles of each of these agencies in connection with recycled water projects, as follows:

a. The State Water Board establishes general policies governing the permitting of recycled water projects consistent with its role of protecting water quality and sustaining water supplies. The State Water Board exercises general oversight over recycled water projects, including review of Regional Water Board permitting practices, and shall lead the effort to meet the recycled water use goals set forth in the Preamble to this Policy. The State Water Board is also charged by statute with developing a general permit for irrigation uses of recycled water.

b. The CDPH is charged with protection of public health and drinking water supplies and with the development of uniform water recycling criteria appropriate to particular uses of water. Regional Water Boards shall appropriately rely on the expertise of CDPH for the establishment of permit conditions needed to protect human health.

c. The Regional Water Boards are charged with protection of surface and groundwater resources and with the issuance of permits that implement CDPH recommendations, this Policy, and applicable law and will, pursuant to paragraph 4 of this Policy, use their authority to the fullest extent possible to encourage the use of recycled water.

d. CDWR is charged with reviewing and, every five years, updating the California Water Plan, including evaluating the quantity of recycled water presently being used and planning for the potential for future uses of recycled water. In undertaking these tasks, CDWR may appropriately rely on urban water management plans and may share the data from those plans with the State Water Board and the Regional Water Boards. CDWR also shares with the State Water Board the authority to allocate and distribute bond funding, which can provide incentives for the use of recycled water.

e. The CPUC is charged with approving rates and terms of service for the use of recycled water by investor-owned utilities.

6. *Salt/Nutrient Management Plans*

a. *Introduction.*

(1) Some groundwater basins in the state contain salts and nutrients that exceed or threaten to exceed water quality objectives established in the applicable Water Quality Control Plans (Basin Plans), and not all Basin Plans include adequate implementation procedures for achieving or ensuring compliance with the water quality objectives for salt or nutrients. These conditions can be caused by natural soils/conditions, discharges of waste, irrigation using surface water, groundwater or recycled water and water supply augmentation using surface or recycled water. Regulation of recycled water alone will not address these conditions.

(2) It is the intent of this 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 State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.

b. *Adoption of Salt/ Nutrient Management Plans.*

(1) The State Water Board recognizes that, pursuant to the letter dated December 19, 2008 and attached to the Resolution adopting this Policy, the 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.

(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. It is also the intent of the State Water Board that because stormwater is typically lower in nutrients and salts and can augment local water supplies, inclusion of a significant stormwater use and recharge component within the salt/nutrient management plans is critical to the long-term sustainable use of water in California. Inclusion of stormwater recharge is consistent with State Water Board Resolution No. 2005-06, which establishes sustainability as a core value for State Water Board programs and

also assists in implementing Resolution No. 2008-30, which requires sustainable water resources management and is consistent with Objective 3.2 of the State Water Board Strategic Plan Update dated September 2, 2008.

(b) Salt and nutrient plans shall be tailored to address the water quality concerns in each basin/sub-basin and may include constituents other than salt and nutrients that impact water quality in the basin/sub-basin. Such plans shall 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.

(c) Such plans may be developed or funded pursuant to the provisions of Water Code sections 10750 *et seq.* or other appropriate authority.

(d) 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.

(e) The requirements of this paragraph shall not apply to areas that have already completed a Regional Water Board approved salt and nutrient plan for a basin, sub-basin, or other regional planning area that is functionally equivalent to paragraph 6(b)3.

(f) The plans may, depending upon the local situation, address constituents other than salt and nutrients that adversely affect groundwater quality.

(2) 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.

(3) Each 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. 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.

(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.

(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 Resolution No. 68-16.

(4) Nothing in this Policy shall prevent stakeholders from developing a plan that is more protective of water quality than applicable standards in the Basin Plan. No Regional Water Board, however, shall seek to modify Basin Plan objectives without full compliance with the process for such modification as established by existing law.

7. *Landscape Irrigation Projects*

a. *Control of incidental runoff.* Incidental runoff is defined as unintended small amounts (volume) of runoff from recycled water use areas, such as unintended, minimal over-spray from sprinklers that escapes the recycled water use area. Water leaving a recycled water use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence. Incidental runoff may be regulated by waste discharge requirements or, where necessary, waste discharge requirements that serve as a National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm water system permits, but regardless of the regulatory instrument, the project shall include, but is not limited to, the following practices:

(1) Implementation of an operations and management plan that may apply to multiple sites and provides for detection of leaks, (for example, from broken sprinkler heads), and correction either within 72 hours of learning of the runoff, or prior to the release of 1,000 gallons, whichever occurs first,

(2) Proper design and aim of sprinkler heads,

(3) Refraining from application during precipitation events, and

(4) Management of any ponds containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater, and there is notification of the appropriate Regional Water Board Executive Officer of the discharge.

b. *Streamlined Permitting*

(1) The Regional Water Boards shall, absent unusual circumstances (i.e., unique, site-specific conditions such as where recycled water is proposed to be used for irrigation over high transmissivity soils over a shallow (5' or less) high quality groundwater aquifer), permit recycled water projects that meet the criteria set forth in this Policy, consistent with the provisions of this paragraph.

(2) If the Regional Water Board determines that unusual circumstances apply, the Regional Water Board shall make a finding of unusual circumstances based on substantial evidence in the record, after public notice and hearing.

(3) Projects meeting the criteria set forth below and eligible for enrollment under requirements established in a general order shall be enrolled by the State or Regional Water Board within 60 days from the date on which an application is deemed complete by the State or Regional Water Board. For projects that are not enrolled in a general order, the Regional Water Board shall consider permit adoption within 120 days from the date on which the application is deemed complete by the Regional Water Board.

(4) Landscape irrigation projects that qualify for streamlined permitting shall not be required to include a project specific receiving water and groundwater monitoring component unless such project specific monitoring is required under the adopted salt/nutrient management plan. During the interim while the salt management plan is under development, a landscape irrigation project proponent can either perform project specific monitoring, or actively participate in the development and implementation of a salt/nutrient management plan, including basin/sub-basin monitoring. Permits or requirements for landscape irrigation projects shall include, in addition to any other appropriate recycled water monitoring requirements, recycled water monitoring for CECs on an annual basis and priority pollutants on a twice annual basis. Except as requested by CDPH, State and Regional Water Board monitoring requirements for CECs shall not take effect until 18 months after the effective date of this Policy. In addition, any permits shall include a permit reopener to allow incorporation of appropriate monitoring requirements for CECs after State Water Board action under paragraph 10(b)(2).

(5) It is the intent of the State Water Board that the general permit for landscape irrigation projects be consistent with the terms of this Policy.

c. *Criteria for streamlined permitting.* Irrigation projects using recycled water that meet the following criteria are eligible for streamlined permitting, and, if otherwise in compliance with applicable laws, shall be approved absent unusual circumstances:

(1) Compliance with the requirements for recycled water established in Title 22 of the California Code of Regulations, including the requirements for treatment and use area restrictions, together with any other recommendations by CDPH pursuant to Water Code section 13523.

(2) Application in amounts and at rates as needed for the landscape (i.e., at agronomic rates and not when the soil is saturated). Each irrigation project shall be subject to an operations and management plan, that may apply to multiple sites, provided to the Regional Water Board that specifies the agronomic rate(s) and describes a set of reasonably practicable measures to ensure compliance with this requirement, which may include the development of water budgets for use areas, site

supervisor training, periodic inspections, tiered rate structures, the use of smart controllers, or other appropriate measures.

(3) Compliance with any applicable salt and nutrient management plan.

(4) Appropriate use of fertilizers that takes into account the nutrient levels in the recycled water. Recycled water producers shall monitor and communicate to the users the nutrient levels in their recycled water.

8. *Recycled Water Groundwater Recharge Projects*

a. The State Water Board acknowledges that all recycled water groundwater recharge projects must be reviewed and permitted on a site-specific basis, and so such projects will require project-by-project review.

b. Approved groundwater recharge projects will meet the following criteria:

(1) Compliance with regulations adopted by CDPH for groundwater recharge projects or, in the interim until such regulations are approved, CDPH's recommendations pursuant to Water Code section 13523 for the project (e.g., level of treatment, retention time, setback distance, source control, monitoring program, etc.).

(2) Implementation of a monitoring program for constituents of concern and a monitoring program for CECs that is consistent with any actions by the State Water Board taken pursuant to paragraph 10(b) of this Policy and that takes into account site-specific conditions. Groundwater recharge projects shall include monitoring of recycled water for CECs on an annual basis and priority pollutants on a twice annual basis.

c. Nothing in this paragraph shall be construed to limit the authority of a Regional Water Board to protect designated beneficial uses, *provided* that any proposed limitations for the protection of public health may only be imposed following regular consultation by the Regional Water Board with CDPH, consistent with State Water Board Orders WQ 2005-0007 and 2006-0001.

d. Nothing in this Policy shall be construed to prevent a Regional Water Board from imposing additional requirements for a proposed recharge project that has a substantial adverse effect on the fate and transport of a contaminant plume or changes the geochemistry of an aquifer thereby causing the dissolution of constituents, such as arsenic, from the geologic formation into groundwater.

e. Projects that utilize surface spreading to recharge groundwater with recycled water treated by reverse osmosis shall be permitted by a Regional Water Board within one year of receipt of recommendations from CDPH. Furthermore, the Regional Water Board shall give a high priority to review and approval of such projects.

9. *Antidegradation*

a. The State Water Board adopted Resolution No. 68-16 as a policy statement to implement the Legislature's intent that waters of the state shall be regulated to achieve the highest water quality consistent with the maximum benefit to the people of the state.

b. Activities involving the disposal of waste that could impact high quality waters are required to implement best practicable treatment or control of the discharge necessary to ensure that pollution or nuisance will not occur, and the highest water quality consistent with the maximum benefit to the people of the state will be maintained.

c. Groundwater recharge with recycled water for later extraction and use in accordance with this Policy and state and federal water quality law is to the benefit of the people of the state of California. Nonetheless, the State Water Board finds that groundwater recharge projects using recycled water have the potential to lower water quality within a basin. The proponent of a groundwater recharge project must demonstrate compliance with Resolution No. 68-16. Until such time as a salt/nutrient management plan is in effect, such compliance may be demonstrated as follows:

(1) 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 antidegradation 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, until such time as the salt/nutrient plan is approved by the Regional Water Board and is in effect. For compliance with this subparagraph, the available assimilative capacity shall be calculated by comparing the mineral water quality objective with the average concentration of the basin/sub-basin, either over the most recent five years of data available or using a data set approved by the Regional Water Board Executive Officer. In determining whether the available assimilative capacity will be exceeded by the project or projects, the Regional Water Board shall calculate the impacts of the project or projects over at least a ten year time frame.

(2) In the event a project or multiple projects utilize more than the fraction of the assimilative capacity designated in subparagraph (1), then a Regional Water Board-deemed acceptable antidegradation 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. An example of an approved method is the method 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. An integrated approach (using surface water, groundwater, recycled water, stormwater, pollution prevention, water conservation, etc.) to the implementation of Resolution No. 68-16 is encouraged.

d. Landscape irrigation with recycled water in accordance with this Policy is to the benefit of the people of the State of California. Nonetheless, the State Water Board finds that the use of water for irrigation may, regardless of its source, collectively affect groundwater quality over time. The State Water Board intends to address these impacts in part through the development of salt/nutrient management plans described in paragraph 6.

(1) A project that meets the criteria for a streamlined irrigation permit and is within a basin where a salt/nutrient management plan satisfying the provisions of paragraph 6(b) is in place may be approved without further antidegradation analysis, provided that the project is consistent with that plan.

(2) A project that meets the criteria for a streamlined irrigation permit and is within a basin where a salt/nutrient management plan satisfying the provisions of paragraph 6(b) is being prepared may be approved by the Regional Water Board by demonstrating through a salt/nutrient mass balance or similar analysis that the project uses less than 10 percent of the available assimilative capacity as estimated by the project proponent in a basin/sub-basin (or multiple projects using less than 20 percent of the available assimilative capacity as estimated by the project proponent in a groundwater basin).

10. *Emerging Constituents/Chemicals of Emerging Concern*

a. *General Provisions*

(1) Regulatory requirements for recycled water shall be based on the best available peer-reviewed science. In addition, all uses of recycled water must meet conditions set by CDPH.

(2) Knowledge of risks will change over time and recycled water projects must meet legally applicable criteria. However, when standards change, projects should be allowed time to comply through a compliance schedule.

(3) The state of knowledge regarding CECs is incomplete. There needs to be additional research and development of analytical methods and surrogates to determine potential environmental and public health impacts. Agencies should minimize the likelihood of CECs impacting human health and the environment by means of source control and/or pollution prevention programs.

(4) Regulating most CECs will require significant work to develop test methods and more specific determinations as to how and at what level CECs impact public health or our environment.

b. *Research Program.* The State Water Board, in consultation with CDPH and within 90 days of the adoption of this Policy, shall convene a "blue-ribbon" advisory panel to guide future actions relating to constituents of emerging concern.

(1) The panel shall be actively managed by the State Water Board and shall be composed of at least the following: one human health toxicologist, one environmental toxicologist, one epidemiologist, one biochemist, one civil engineer familiar with the design and construction of recycled water treatment facilities, and one chemist familiar with the design and operation of advanced laboratory methods for the detection of emerging constituents. Each of these panelists shall have extensive experience as a principal investigator in their respective areas of expertise.

(2) The panel shall review the scientific literature and, within one year from its appointment, shall submit a report to the State Water Board and CDPH describing the current state of scientific knowledge regarding the risks of emerging constituents to public health and the environment. Within six months of receipt of the panel's report the State Water Board, in coordination with CDPH, shall hold a public hearing to consider recommendations from staff and shall endorse the recommendations, as appropriate, after making any necessary modifications. The panel or a similarly constituted panel shall update this report every five years.

(3) Each report shall recommend actions that the State of California should take to improve our understanding of emerging constituents and, as may be appropriate, to protect public health and the environment.

(4) The panel report shall answer the following questions: What are the appropriate constituents to be monitored in recycled water, including analytical methods and method detection limits? What is the known toxicological information for the above constituents? Would the above lists change based on level of treatment and use? If so, how? What are possible indicators that represent a suite of CECs? What levels of CECs should trigger enhanced monitoring of CECs in recycled water, groundwater and/or surface waters?

c. *Permit Provisions.* Permits for recycled water projects shall be consistent both with any CDPH recommendations to protect public health and with any actions by the State Water Board taken pursuant to paragraph 10(b)(2).

11. *Incentives for the Use of Recycled Water*

a. *Funding*

The State Water Board will request CDWR to provide funding ($20M) for the development of salt and nutrient management plans during the next three years (i.e., before FY 2010/2011). The State Water Board will also request CDWR to provide priority funding for projects that have major recycling components; particularly those that decrease demand on potable water supplies. The State Water Board will also request priority funding for stormwater recharge projects that augment local water supplies. The State Water Board shall promote the use of the State Revolving Fund (SRF) for water purveyor, stormwater agencies, and water recyclers to use for water reuse and stormwater use and recharge projects.

b. *Stormwater*

The State Water Board strongly encourages all water purveyors to provide financial incentives for water recycling and stormwater recharge and reuse projects. The State Water Board also encourages the Regional Water Boards to require less stringent monitoring and regulatory requirements for stormwater treatment and use projects than for projects involving untreated stormwater discharges.

c. TMDLs

Water recycling reduces mass loadings from municipal wastewater sources to impaired waters. As such, waste load allocations shall be assigned as appropriate by the Regional Water Boards in a manner that provides an incentive for greater water recycling.