



Main San Gabriel Basin
WATERMASTER



**RAYMOND BASIN
MANAGEMENT BOARD**

REGIONAL WATER QUALITY CONTROL BOARD WORKSHOP

PROGRESS ON SALT AND NUTRIENT MANAGEMENT PLANS

December 4, 2015

Salt and Nutrient Management Plan

➤ Topics

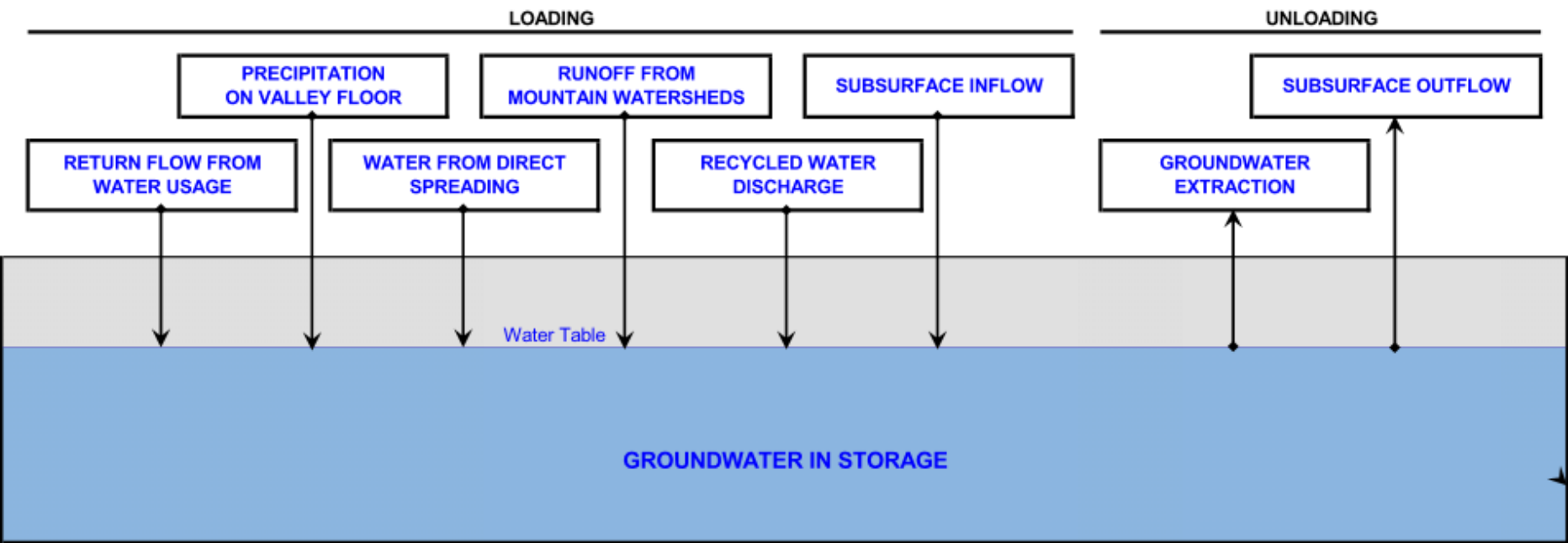
- SNMP Overview
 - Goals and Objectives
 - Computer Spreadsheet Model
 - Loading Estimations
 - Assimilative Capacity
- Main San Gabriel Basin SNMP
- Raymond Basin SNMP

SNMP Overview

➤ Goals and Objectives

- Identify and Monitor Sources of Salt/Nutrient Loading for Management Purposes
- Develop Tools to Predict Potential Basin Salt/Nutrient Impacts of Future Projects
- Identify Salt/Nutrient Assimilative Capacity of Groundwater Basins

Salt/Nutrient Loading Balance



Jobs/1205-18/13-SNMP/Plates/GroundwaterBalanceModel/ComponentsREV

Main San Gabriel Basin and Raymond Basin
Salt and Nutrient Management Plans

Computer Spreadsheet Model

- Developed as a tool to calculate salt/nutrient loading impacts from various water supply components
- Mass Balance of all salt/nutrient loading and unloading in Basin

Assimilative Capacity

- Defined as the difference between the allowable load and the current load of a constituent
- Based on RWQCB Basin Plan Objectives

➤ **Main San Gabriel Basin SNMP**

Primary Stakeholders

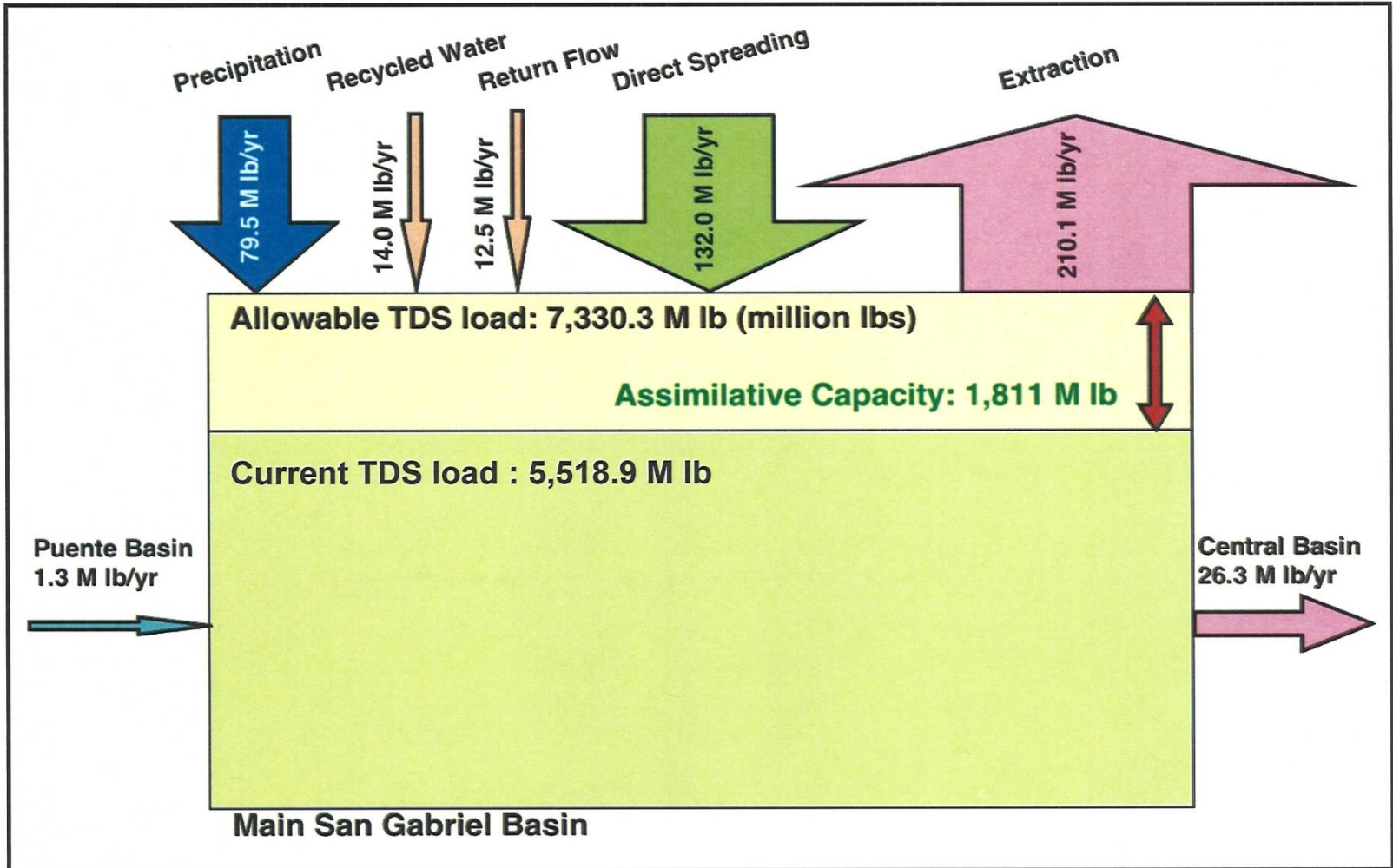
- Upper San Gabriel Valley Municipal Water District
- Three Valleys Municipal Water District
- San Gabriel Valley Municipal Water District
- Metropolitan Water District of Southern California
- Los Angeles County Sanitation Districts
- Los Angeles County Department of Public Works

Stakeholder Coordination

- Stakeholder Workshops
 - November 2012 through Present
- RWQCB Staff Coordination
 - Discussions on approach, outline, and assimilative capacity
- Received and Incorporated Comments from LACSD and MWD

RWQCB Basin Plan Objectives

<u>Constituent</u>	<u>Basin Objective</u>
Nitrate	45 mg/L
Chloride	100 mg/L
Sulfate	100 mg/L
TDS	450 mg/L (West Area) 600 mg/L (East Area)



STETSON ENGINEERS INC.
West Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

MAIN SAN GABRIEL BASIN WATERMASTER

TDS BALANCE COMPONENTS WITH ASSIMILATIVE CAPACITY,
MEAN OF 1973-74 TO 2010-2011

Upper District IRRP Project

- Only potential project evaluated in SNMP
- Recycled Water Policy Recommends less than 10% Assimilative Capacity Utilization for single project without approved SNMP

Upper District IRRP Project

➤ Assimilative Capacity Analysis

- TDS is limiting constituent
- Reaches equilibrium at about 7.4% assimilative capacity utilization after about 108 years (Less than 10%)
- 7 mg/L increase in TDS concentration at equilibrium (357 mg/L to 364 mg/L)

➤ Conclusion

- IRRP satisfies most restrictive Recycled Water Policy recommendation (Less than 10% utilization of assimilative capacity for a single project without approved SNMP)

➤ Raymond Basin SNMP

Primary Stakeholders

- Metropolitan Water District of Southern California
- Los Angeles County Department of Public Works

Stakeholder Coordination

- Stakeholder Workshops
 - March 2013 to Present
- RWQCB Staff Coordination
 - Discussion on approach, outline, assimilative capacity

Monk Hill Subarea

Salt/Nutrient	Assimilative Capacity
Nitrate	10.1 Million Pounds
Chloride	30.01 Million Pounds
Sulfate	15.8 Million Pound
TDS	28.6 Million Pounds

- Similar approach for Pasadena and Santa Anita Subareas

Thank You

**Main San Gabriel Basin and Raymond Basin
Salt and Nutrient Management Plans**