RAYMOND GROUNDWATER BASIN SNMP PROJECT SUMMARY

REQUIREMENT FOR A SALT & NUTRIENT MANAGEMENT PLAN

In February 2009, the State Water Resources Control Board (SWRCB) established a statewide Recycled Water Policy to encourage increased use of recycled municipal wastewater as a safe, local, drought proof, and highly reliable source of water supply. The Policy also required local water and wastewater entities (stakeholders) to develop a Salt & Nutrient Management Plan (SNMP) for each groundwater basin in California, including the Raymond Groundwater Basin.

The purpose of the SNMP is to identify all sources of salts and nutrients in the groundwater basins and manage those salts and nutrients in a manner that preserves and enhances the quality of groundwater for drinking and all other beneficial uses.

AREA COVERED BY THE SALT AND NUTRIENT MANAGEMENT PLAN

The Raymond Groundwater Basin is a groundwater basin located in Los Angeles County that covers an area of approximately 41 square miles. Groundwater in the Raymond Groundwater Basin provides approximately 50 percent of the overall water supply needs of the residents overlying the basin. The primary stakeholders include the Metropolitan Water District of Southern California, the Los Angeles County Sanitation Districts, and the Los Angeles County Department of Public Works. The regional extent of the SNMP area is shown in Figure 1.

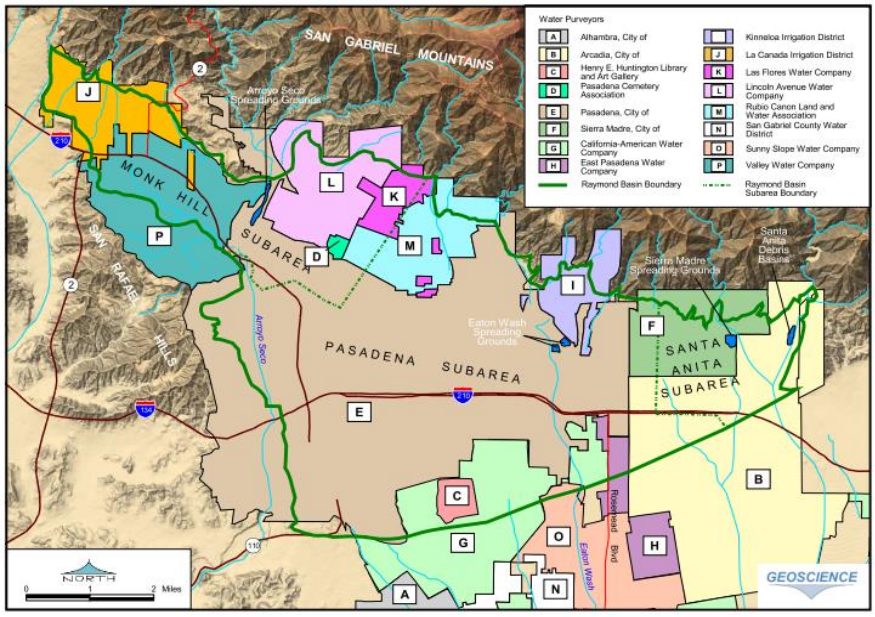

Figure 1. Regional Extent of the Raymond Groundwater Basin SNMP

SNMP ANALYSIS – SALT & NUTRIENT SOURCES AND MODELING

As part of the analysis for the SNMP, nitrate, chloride, sulfate, and total dissolved solids (TDS) were determined to be the indicator compounds for salts and nutrients.

In accordance with the Recycled Water Policy, all major sources of salts and nutrients to groundwater and their fate and transport were assessed in the SNMP. To determine the current sources and concentrations of salts and nutrients in the groundwater, all available groundwater quality data were compiled and reviewed. Groundwater data were evaluated for trends, summary statistics were prepared and wells were grouped by subarea for comparison to water quality objectives for each indicator compound.

What are Water Quality Objectives (WQOs)?

WQOs are numerical or narrative objectives established by the California Regional Water Quality Control Board, Los Angeles Region, in the Basin Plan. WQOs must be attained or maintained to protect the beneficial uses designated in the Basin Plan.

All recharge to the groundwater basin typically contributes to salt and nutrient loading including subsurface inflow and percolation from precipitation, direct spreading, and return flow. However, if the salt and nutrient concentrations in the recharge water are less than the average concentrations existing in groundwater, this recharge will reduce salt and nutrient loads and improve groundwater quality. Sources of unloading of salts and nutrients from the groundwater basin includes groundwater extraction through pumping and subsurface outflow.

SNMP RESULTS – SALT & NUTRIENT GROUNDWATER QUALITY

What is Assimilative Capacity (AC)?

A groundwater basin has AC when the existing water quality is better than that required to support the most beneficial uses of the basin. AC is calculated as the difference between the WQO of a certain constituent and its existing average concentration in the groundwater.

Nitrate concentrations in groundwater, representing nutrients, are below water quality objectives in the three defined subareas of the Raymond Groundwater Basin: Monk Hill, Pasadena, and Santa Anita. Total dissolved solids (TDS), chloride, and sulfate concentrations in groundwater, representing salts, are also below water quality objectives in each subarea.

Based on the water quality analysis, the assimilative capacity of Raymond Groundwater Basin for each subarea was calculated. The assimilative capacity analysis demonstrated that there is available

assimilative capacity for each constituent analyzed in each subarea.

RECYCLED WATER PROJECT EVALUATION

Because other future recycled water projects and groundwater replenishment projects that could be developed in the Raymond Groundwater Basin are not clearly defined at this time, hypothetical project scenarios were developed to determine the maximum annual recharge of recycled water allowed in each subarea before significant degradation would occur in the Raymond Groundwater Basin subareas. Comparison to the available assimilative capacity defines the amount of loading that could be added by future recycled water projects without degradation of groundwater quality.

Although the initial assessment provides a good indication of whether or not a proposed project would meet the SNMP requirements, individual projects will need to be evaluated to determine their feasibility under the SNMP.

IMPLEMENTATION MEASURES

Implementation measures are projects or programs that are established to control salt and nutrient loading on a sustainable basis. As more recycled water is utilized in the Raymond Groundwater Basin, implementation measures will help protect groundwater and beneficial uses.

Stakeholders in the planning area have a strong commitment to actively protecting the groundwater basins and managing salts and nutrients. A number of management measures have already been implemented in the planning area to manage salts and nutrients and significant reductions in nutrient discharges from wastewater treatment plants have been observed as result of the actions. Key existing measures to manage salts and nutrients in the SNMP, are listed below.

- Use of State Water Project for groundwater replenishment
- Implementation of Judgment provisions
- Supplemental water criteria
- Salinity control programs by Metropolitan Water District
- Water quality monitoring
- Water quality blend plans

If additional management measures are needed to offset loads from a proposed project, additional implementation measures will be developed and implemented. These implementation measures could include developing new replenishment facilities and reducing stormwater runoff in the basin.

NEXT STEPS

A California Environmental Quality Act (CEQA) Scoping Meeting will be held on Tuesday, March 8, 2016 to describe the SNMP findings and implementation measures and elicit public

comments on the environmental analysis. A Final SNMP and Substitute Environmental Document (SED) are anticipated to be submitted to Regional Water Board by May 2016.

HOW CAN I GET MORE INFORMATION REGARDING THE SNMP FOR THE RAYMOND GROUNDWATER BASIN?

Feel free to e-mail Dr. Ginachi Amah at Ginachi.Amah@waterboards.ca.gov. You may also e-mail Ms. Kelly Gardner at kelly@watermaster.org if you have any questions/comments or would like to join our mailing list. We encourage and greatly appreciate public participation in the SNMP development process.