

Groundwater Quality Protection Measures for Salts and Nutrients in the Central Basin and West Coast Basin of Southern Los Angeles County

STAFF MEMORANDUM

I. Introduction

The State Water Resources Control Board (State Water Board) adopted the Recycled Water Policy (State Water Board Resolution No. 2009-0011) on February 3, 2009 and revised it on January 22, 2013 (State Water Board Resolution No. 2013-0003). The purpose of the Recycled Water Policy (hereinafter, Policy) is to protect groundwater resources and increase the beneficial use of recycled water from municipal wastewater sources in a manner consistent with state and federal water quality laws and regulations. The Policy provides 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.

The Policy recognizes the potential for increased salt and nutrient loading to groundwater basins as a result of increased recycled water use, and therefore, requires the development of regional or sub-regional salt and nutrient management plans. In requiring such plans, the Policy acknowledges that recycled water may not be the sole cause of high concentrations of salts and nutrients in groundwater basins, and therefore regulation of recycled water alone will not address such conditions. The intent of this requirement is to make certain that salts and nutrients from all sources are managed on a basin-wide or watershed-wide basis in a manner that ensures the attainment of water quality objectives and protection of beneficial use.

The Recycled Water Policy states:

- a)* Every basin/sub-basin shall have a consistent salt and nutrient management plan (hereinafter, SNMP);
- b)* SNMPs shall be tailored to address the water quality concerns in each basin;
- c)* Shall be developed or funded pursuant to the provisions of Water Code sections 10750 *et seq.* or other appropriate authority;
- d)* SNMPs shall be completed and proposed to the Regional Water Board within five years from the adoption date of the Policy;
- e)* SNMPs are not required in areas where a Regional Water Board has approved a functionally equivalent salt and nutrient plan; and
- f)* SNMPs may address constituents other than salt and nutrients that adversely affect groundwater quality.

Within one year of the receipt of a proposed SNMP, the Regional Water Board is expected to 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.¹ The implementation plans that are incorporated into the Regional Water Boards' Basin Plans are to be based on the salt and nutrient management plans required by the Policy.

The Policy is clear that the SNMP process should be stakeholder-led and conducted in a collaborative manner among interested parties, with participation by the Regional Water Board. The Policy's intended outcome is that participation in plan development will allow water purveyors and basin management agencies to take advantage of a streamlined permit process for recycled water projects that is intended to expedite the implementation of recycled water projects, since groundwater conditions relative to planned projects will have already been evaluated in a basin-wide context.

The required elements of a SNMP, as specified by the Policy include:

- a) Source identification/source loading and assimilative capacity estimates;
- b) Implementation measures;
- c) Consideration of water recycling/stormwater recharge/use;
- d) Anti-degradation analyses;
- e) Development of a basin-wide monitoring plan; and
- f) Annual monitoring of constituents of emerging concern (CECs).

This Staff Memorandum introduces the Draft Salt and Nutrient Management Plan (SNMP) for the Central Basin and West Coast Basin, which are located in Southern Los Angeles County, California. The Central Basin and West Coast Basin SNMP is developed to manage salt and nutrient loads to these basins, while increasing recycled water use in the area. The SNMP was developed through a collaborative, stakeholder-led process.

II. Background

The Central Basin and West Coast Basin are located in southern Los Angeles County and underlay an area of 420 square miles that includes 43 cities. These basins provide 40 percent of the water supply used in the area. Historical over-pumping in the area caused a significant drop

¹ Water Code section 13242 states, "[t]he program of implementation for achieving water quality objectives shall include, but not be limited to:

- (a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.
- (b) A time schedule for the actions to be taken.
- (c) A description of surveillance to be undertaken to determine compliance with objectives."

in groundwater levels causing seawater intrusion that contaminated coastal groundwater aquifers. The basins are intensively managed by the Water Replenishment District of Southern California through artificial groundwater recharge by way of spreading grounds, management of seawater intrusion barriers, and the operation of de-salters to address the saline plume caused by historical over-pumping. Recycled water is used primarily for groundwater recharge as well as for landscape irrigation and industrial and commercial process water. Sources of water and salts and nutrients to the basins include surface water/stormwater, imported water, groundwater, and recycled water. Aside from the areas impacted by seawater intrusion, salt and nutrient levels in most landward parts of the basins are not currently exceeding the groundwater quality objectives in the Basin Plan.

III. SNMP Development

The Salt and Nutrient Management Plan for the Central Basin and West Coast Basin was developed by stakeholders with the Water Replenishment District of Southern California (WRD) as the lead agency. Funding partners for this effort included Los Angeles County Department of Public Works, West Basin Municipal Water District, Los Angeles Department of Water and Power, and Sanitation Districts of Los Angeles County.

An extensive outreach and participation effort was conducted by the Central Basin and West Coast Basin (CBWCB) stakeholder group throughout the SNMP development process. This included multiple conferences, workshops and meetings with many opportunities for review, comments and input. The CBWCB group held meetings with other interested parties and also presented information about the CBWCB SNMP to other regional water planning groups. Los Angeles Water Board staff hosted four annual workshops beginning in 2010 to provide direction on SNMP development and facilitate interaction and information sharing within and among groundwater basin stakeholder groups in the Los Angeles Region. Email subscriptions and SNMP websites were used by both Regional Water Board staff and CBWCB stakeholders to disseminate information and notices.

The SNMP contains all the required elements prescribed by the Recycled Water Policy, including considerations of water recycling and stormwater recharge. The plan also presents current and proposed measures for the control of seawater intrusion, as well as those to maximize groundwater recharge and recycled water use in the area. These stakeholder-developed implementation measures for groundwater quality control are being incorporated into the Los Angeles Region's Basin Plan.

IV. CEQA Analysis

In accordance with the salt and nutrient management plan requirements of the Recycled Water Policy, CBWCB stakeholders also conducted an analysis of the foreseeable impacts of the salt and nutrient management measures and recycled water projects, which were documented in an accompanying Substitute Environmental Document (SED). The SED considers three program alternatives including a "no future projects" alternative – a situation where no additional

implementation measures or major recycled water projects would be implemented beyond those that currently exist. The other two alternatives are variations of a series of projects/measures that include increased recycled water use and increased desalination treatment volumes at existing desalination plants. Both scenarios are projected to cumulatively maintain water quality conditions below Basin Plan objectives where there is no current impairment, and are projected to improve water quality in impaired areas. The environmental effects of the preferred alternative are considered less than significant with mitigation incorporated.

V. Anti-degradation Considerations

The salt and nutrient management strategies outlined in the salt and nutrient management plan are geared toward improving groundwater quality in impaired areas and maintaining groundwater quality below water quality objectives in other areas, while providing the benefit of reduced reliance on imported water supplies. Therefore, the amendment is consistent with State Water Board's Anti-degradation Policy (Resolution No. 68-16).

VI. Relevant Documents

The Basin Plan amendment incorporating groundwater management strategies for salts and nutrients in the Central Basin and West Coast Basin is based wholly on the stakeholder-led effort, which culminated in the document titled "Salt and Nutrient Management Plan-Central Basin and West Coast Basin." This document contains all the necessary elements of a SNMP. This SNMP, its appendices and the accompanying SED are appended to this Staff Memorandum and are an integral part of the Administrative Record for this Basin Plan amendment.