

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF MAY 11-12, 2017

Prepared on April 5, 2017

ITEM NUMBER: 7

SUBJECT: Recycled Water Production and Use in the Central Coast Region

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THIS ACTION: Informational

SUMMARY

Recycled domestic wastewater is an important resource that can help Central Coast communities become more drought resilient. This staff report discusses how recycled water is regulated in California and the Central Coast Region.

DISCUSSION

Why Recycle Water?

Society is increasingly recognizing the value of recycled water, which the California Water Code defines as “water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.” (section 13050(n)). Water utilities and municipalities are seeing the importance of recycled water as they develop environmentally sustainable and reliable water infrastructure. See, for example, Water Research Foundation’s discussion of the “One Water” concept at <http://www.waterrf.org/PublicReportLibrary/4660.pdf>.

The California Legislature has long encouraged wastewater recycling. In Water Code section 13511, the Legislature finds that “a substantial portion of the future water requirements of this state may be economically met by beneficial use of recycled water. The Legislature further finds and declares that the utilization of recycled water by local communities for domestic, agricultural, industrial, recreational, and fish and wildlife purposes will contribute to the peace, health, safety and welfare of the people of the state.”

The recent drought has brought additional attention to producing recycled water, especially for potable reuse. Recent legislative actions have required the State Water Board to adopt regulations to use recycled water for groundwater replenishment, surface water augmentation, and direct potable reuse.

This staff report only discusses recycling of municipal domestic wastewater. Recycling of industrial wastewater (such as from wineries, vegetable processing, and other activities not involving human waste) also displaces a significant amount of potable irrigation water.

Laws, Regulations, and Policies

Water Code: The Water Code addresses recycled water by requiring development of uniform statewide recycling criteria. The Water Code also provides that regional water quality control boards, “after consulting with and receiving the recommendations of the State Department of Public Health and any party who has requested in writing to be consulted, and after any necessary hearing, shall, if in the judgment of the board, it is necessary to protect the public health, safety, or welfare, prescribe water reclamation requirements for water that is used or proposed to be used as recycled water.” (section 13523). The Central Coast Water Board has issued many orders prescribing water reclamation requirements, including for the recent Pure Water Monterey project. The State Water Board’s Division of Drinking Water has taken the place of the Department of Public Health mentioned in the statute.

Title 22: Uniform recycling criteria are promulgated in Title 22 of the California Code of Regulations. The criteria include definitions, treatment requirements, provisions, and prohibitions for the safe production and use of recycled water. Since 2014 the criteria have included requirements for groundwater replenishment reuse projects. Title 22 requires that anyone proposing to produce recycled water must first develop an engineering report for Division of Drinking Water approval. After it approves an engineering report, the Division of Drinking Water provides recommended requirements to be included in the regional water quality control board’s water reclamation requirements.

Recycled water policy: The State Water Board adopted its [Recycled Water Policy](#) in 2009. The purpose of the policy is to encourage increased use of recycled water from municipal wastewater sources. In the policy, the State Water Board set the following goals:

- Supercede year 2002 recycled water use volume by at least one million acre-feet per year (afy) by year 2020 and by at least two million afy by year 2030.
- Supercede year 2007 stormwater reuse volume by at least 500,000 afy by year 2020 and by at least one million afy by year 2030.
- Increase the volume of urban and industrial water conserved as established in year 2007 by at least 20 percent by year 2020.
- Maximize the substitution of recycled water use over potable water use by year 2030.

The policy also defines the roles of the State Water Board, the regional water quality control boards, the Division of Drinking Water, and the Department of Water Resources with respect to recycled water, discusses salt and nutrient management plans, requires that the State Water Board adopt statewide permits for irrigation with recycled water, sets criteria for groundwater recharge projects, and addressed chemicals of emerging concern.

Water Recycling Funding Program

The State Water Board has a Water Recycling Funding Program, which promotes “the beneficial use of treated municipal wastewater (water recycling) in order to augment fresh water supplies in California by providing technical and financial assistance to agencies and other stakeholders in support of water recycling projects and research.”

The Water Recycling Funding Program provides funding for construction loans and grants and planning grants.

- **Proposition 1** provides for \$625 million in funding for recycled water projects. Financial assistance is provided through loans and grants for planning and construction activities.
- **Proposition 13**, approved by voters in 2000, provided financial assistance through loans and grants for planning and construction activities. The funding capacity under this authority is now very limited.
- **Clean Water State Revolving Fund (CWSRF)** Program, which provides low-interest loans (1%) to public agencies for planning, design, and construction of water recycling projects. Agencies in the Central Coast Region that have used this funding source include Pacific Grove, Pajaro Valley Water Management Agency, and Monterey Regional Water Pollution Control Agency.

Types of Recycled Water

The uniform recycling criteria define the level of treatment required for various types of recycled water use. The criteria define four levels of treatment, with corresponding allowed uses, as follows:

- Undisinfected secondary recycled water
 - Irrigation of orchards, vineyards, non-food-bearing trees, fodder and fiber crops and pasture for animals not producing milk for human consumption, seed crops not eaten by humans, food crops that must undergo commercial pathogen-destroying processing before being consumed by humans, and ornamental nursery stock and sod farms
- Disinfected secondary-23 recycled water
 - Irrigation of cemeteries, freeway landscaping, restricted access golf courses, nursery stock and sod, and pasture for animals producing milk for human consumption
 - industrial or commercial cooling that does not involve a mechanism creating a mist
 - industrial boiler feed
 - nonstructural fire fighting
 - backfill consolidation around non-potable piping
 - soil compaction
 - mixing concrete
 - dust control on roads and streets
 - cleaning roads, sidewalks and outdoor work areas
 - industrial process water that will not come into contact with workers
- Disinfected secondary-2.2 recycled water
 - Irrigation of food crops (where the edible portion is produced above ground and not contacted by the recycled water)
- Disinfected tertiary recycled water
 - Irrigation of food crops (where recycled water comes into contact with the edible portion of the crop), parks and playgrounds, residential landscaping, and unrestricted access golf courses
 - nonrestricted recreational impoundments
 - industrial or commercial cooling that involves a mechanism creating a mist
 - flushing toilets and urinals
 - priming drain traps
 - industrial process water that may come into contact with workers
 - structural fire fighting

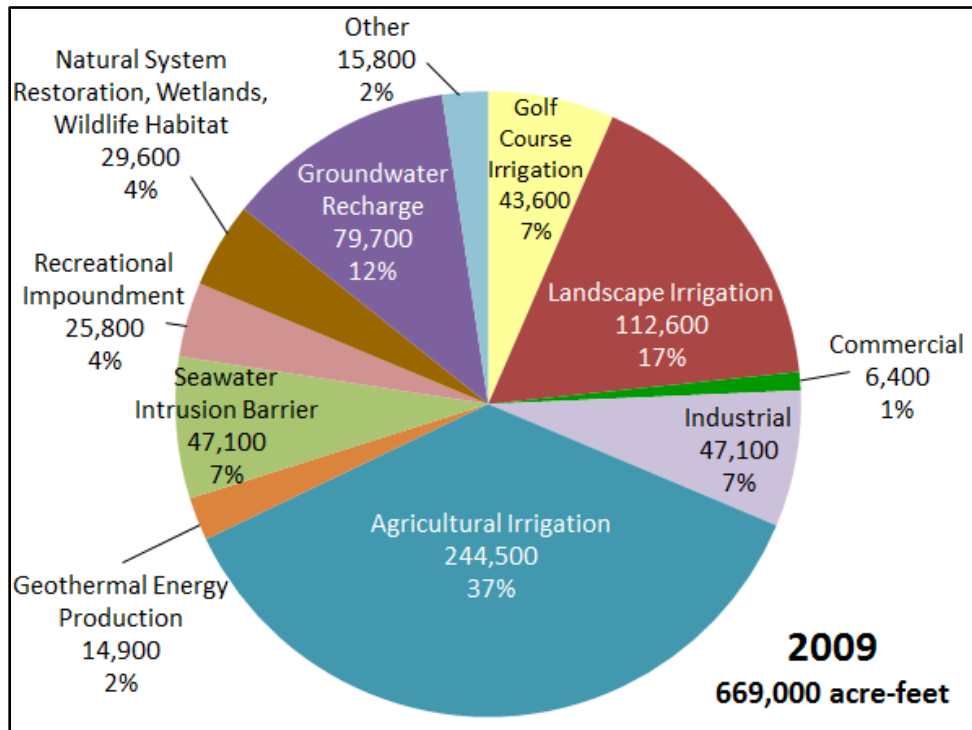
- o decorative fountains
- o commercial laundries
- o consolidation of backfill around potable water pipelines
- o artificial snow making for commercial outdoor use
- o commercial car washes, including hand washes if the recycled water is not heated, where the general public is excluded from the washing process.

Permitting Process

The Central Coast Water Board has adopted individual water reclamation requirements for producers, distributors, and users of recycled water for many years, and will continue to do so for groundwater recharge and potable reuse projects. Almost all other projects can be regulated by the State Water Board’s statewide general order for recycled water. As Central Coast Water Board staff reviews existing projects and orders, most individual orders will be rescinded in favor of the statewide general order.

Recycled Water Uses

The State Water Board conducted a survey of water recycling uses in 2009.¹ The survey identified over 669,000 acre-feet of water was recycled during that that year. The following pie chart shows percentages of various types water recycled water use.



Though the data are several years old, they provide a snapshot of how recycled water is used statewide.

¹ 2009 Municipal Wastewater Recycling Survey, http://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/munirec.shtml

Recycled Water Use in the Central Coast Region

Attachment 1 is a table showing permitted recycling operations in the Central Coast Region. The sum of design flows in Attachment 1 is about 48 MGD, or 54,000 acre feet per year. Since this is design flow, not actual flow, actual flows are likely less.

Future Trends

As municipalities plan for the future, potable reuse of recycled water is becoming more prevalent. The State Water Board has already approved regulations for groundwater recharge using recycled water. The Central Coast Water Board has approved two groundwater recharge projects: Cambria CSD's Sustainable Water Facility and Monterey Regional Water Pollution Control Agency's Pure Water Monterey. Central Coast Water Board staff is aware of additional potential groundwater recharge projects in Soquel, San Luis Obispo, Paso Robles, Morro Bay, southern San Luis Obispo County, and Carpinteria.

The Division of Drinking Water is in the process of developing regulations for surface water augmentation with recycled water. The Division of Drinking Water has also delivered a report to the Legislature regarding direct potable reuse.²

Central Coast Water Board staff considers recycling a top priority will continue to encourage its use.

CONCLUSION

Recycled water is a valuable resource that communities can use to augment potable water supplies. Potable reuse of domestic wastewater is technically feasible and will continue to be developed. The Central Coast Water Board should continue to encourage and assist local agencies as they develop water recycling projects.

ATTACHMENTS

1. Recycled Water Facilities

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² Report to Legislature on the Feasibility of Developing Uniform Water Recycling Criteria for Direct Potable Reuse, http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/rw_dpr_criteria.shtml