

**STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – DIVISION OF FINANCIAL ASSISTANCE
JUNE 20, 2017**

ITEM 9

SUBJECT

PRESENTATION OF 2015 CALIFORNIA RECYCLED WATER SURVEY RESULTS

DISCUSSION

The Division of Financial Assistance (DFA), with the help of the Department of Water Resources (DWR), has surveyed the quantity and beneficial uses of recycled water five times since 1970, and the State Water Resources Control Board (State Water Board) requested that DFA conduct a sixth statewide water recycling survey. The data for the survey were collected from August 1, 2016 to January 31, 2017, and represent the volumes and beneficial reuse of recycled water during calendar year 2015.

It was important that the survey be straightforward and easy to complete, yet provide sufficient information to be able to address the following questions:

- What quantity, in acre-feet per year, and quality of recycled water is produced?
- Where is the recycled water being used?
- What types of beneficial reuse employed?

A single-page, Web-based portal was developed, and deployed in August 2016 to collect the survey data. Approximately 90% of the survey respondents had completed the survey by the end of 2016. Staff provided one-on-one technical assistance to late respondents, assuring a 100% response rate.

Data quality assurance (QA) was essential for a successful survey. The majority of recycled water is produced and delivered by one municipal agency using one facility. However, in larger metropolitan areas, such as Los Angeles County and the San Francisco Bay area, a wastewater collection system may be the source of wastewater for several treatment facilities. Each treatment facility may produce one or more levels of recycled water. In turn, the recycled water produced by these facilities may be used directly for local beneficial reuse or it may be sold to other agencies, who in some cases may sell it to other agencies, before being beneficially reused. In order to correctly account for all the recycled water produced and used, a facility based approach was selected. Agencies were asked to submit individual surveys for each facility they operate. An agency operating, for example, three treatment facilities, one wholesale facility, and a distribution facility would complete five one page surveys. This approach provided a simple way to trace where recycled water was produced and used without double counting the results.

DWR staff collaborated closely with DFA staff, meeting weekly, to review the survey data and follow-up with agencies whenever there was a question regarding data accuracy. DWR's 2015 Urban Water Management Plans (UWMP) include water recycling data, and were an invaluable resource used to corroborate the water recycling survey results.

The water recycling survey data were shared with staff of all of the Regional Water Quality Control Boards and DWR's Regional Offices, providing additional confidence in the accuracy and completeness of the survey data.

The survey results are shown in Table 1 below. The beneficial reuses selected are the same as those used in the 2009 water recycling survey. Recycled water was considered survey eligible if it was used in one or more of the beneficial reuse categories and offset or augmented fresh water supplies.

Table 1: Statewide Water Recycling Survey Results for Calendar Year 2015

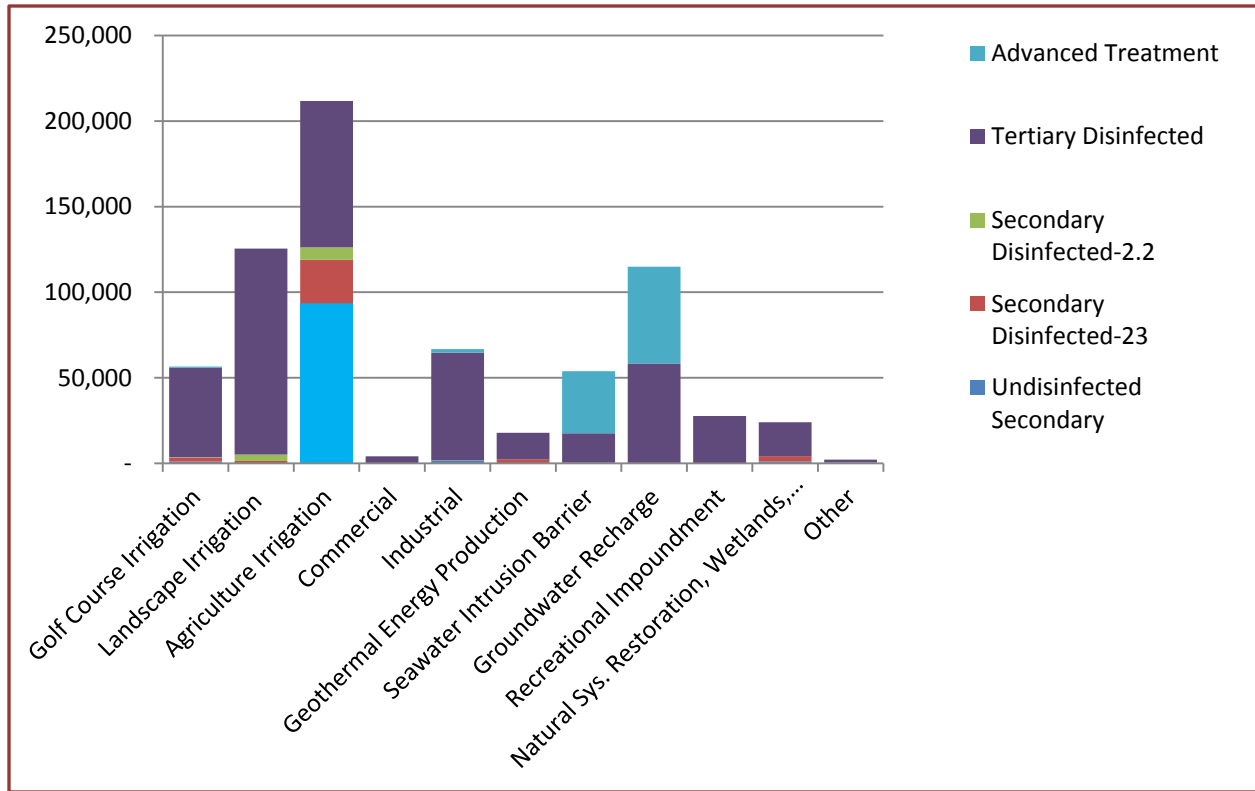
Beneficial Reuse	Acre-Feet Per Year	% of Total
Golf Course Irrigation	56,550	8.0
Landscape Irrigation	125,531	18.0
Agriculture Irrigation	211,354	30.0
Commercial	4,160	0.6
Industrial	68,069	10.0
Geothermal Energy Production	17,909	2.0
Seawater Intrusion Barrier	53,904	8.0
Groundwater Recharge	114,921	16.0
Recreational Impoundment	27,702	4.0
Natural System Restoration, Wetlands, Wildlife Habitat	23,999	3.0
Other	2,148	0.4
TOTAL	706,247	100.0

Title 22 of the California Code of Regulations (CCR) allows the following levels of treated municipal wastewater to be reused:

- Undisinfected Secondary – May be used to irrigate crops not for human consumption or where the edible portion of the crop does not come into contact with the recycled water.
- Disinfected Secondary-23 – May be used for freeway landscaping, restricted access golf courses, landscape irrigation where there is controlled access to the irrigated areas.
- Disinfected Secondary-2.2 – Certain food crops where the edible portion does not come in contact with the recycled water.
- Tertiary Disinfected - May be used for landscape irrigation where public contact may occur such as parks and playgrounds, commercial uses such as area wash-down and vehicle washing or industrial uses such as cooling towers.
- Advanced Treatment – May be used for groundwater replenishment and reuse project for use as a domestic water supply.

The survey results indicate that tertiary, disinfected recycled water is the predominant recycled water quality used; it accounted for 66%, or 465,000 acre-feet per year, of use in 2015. A total of 56% of the tertiary recycled water is used for landscape, agricultural, and golf course irrigation. Figure 1 below shows a more in-depth view of the quality of recycled water produced during 2015, and how that recycled water is used in California.

Figure 1: Recycled Water Treatment Levels by Beneficial Reuse Category for Calendar Year 2015



The final results of the 2015 recycled water survey will be posted on the State Water Board's Web site.

POLICY ISSUE

None

FISCAL IMPACT

None

REGIONAL BOARD IMPACT

None

STAFF RECOMMENDATION

None