

did not meet its burden to show there was no substantial evidence whatsoever to support the Board's findings. In fact, the Court finds the opposite to be true – that there was substantial evidence to support the Board's findings of violations and its calculation of penalties as to each of the 13 violations. The Court concludes that the evidence further supports a finding that the Board utilized all relevant factors required under both the law and the Policy.” (Final Judgment, p. 8.)

2. California Regional Water Quality Control Board, San Diego Region Recycled Water Annual Summary Report 2017 (*Attachment B-2*)

Staff Contact: Alex Cali

Once a year the San Diego Water Board surveys recycled water facilities and requests information regarding the production, reuse, and quality of recycled water in the San Diego Region (Region). In 2017, thirty-one recycled water facilities in the San Diego Water Board Region reported 91,000 acre-feet of wastewater was treated, of which over 30,000 acre-feet was either discharged to ocean outfalls or disposed of by other methods, and over 51,000 acre-feet of recycled water was beneficially reused. This equates to 56 percent of treated wastewater from recycled water facilities being beneficially reused and not discharged to ocean outfalls. A complete analysis and summary of the recycled water survey information for 2017 is provided in Attachment B-2, the *Recycled Water Annual Summary Report 2017*.

3. Control of Bird Nuisances at Prima Deshecha Landfill

Staff Contact: Amy Grove

Is eco-friendly bird control the wave of the future for our Region's landfills? For the past four and a half years, Orange County Waste and Recycling (OCWR) has used falcons to control the amount of sea gulls and other birds scavenging at the Prima Deshecha Landfill (Landfill). OCWR began a bird abatement program in October 2013 using falcons as a natural means of keeping sea gulls away from the Landfill. As a bird of prey, falcons are natural predators and effectively discourage sea gulls from returning to the area. To control the scavenging bird population, falcons are flown every 10 to 15 minutes during landfill operating hours. You can watch this eco-friendly bird control method in action on YouTube.¹

Bird control is necessary because sea gulls and other birds can create conditions of nuisance and pollution in the areas surrounding the Landfill that could be harmful to human health and the environment. This occurs when birds pick up trash at the landfill and drop it into adjacent neighborhoods or into the ocean. When the bird population at the Landfill grows, the amount of trash potentially spread into nearby areas increases, which is why it's important to keep the birds away from the Landfill. In addition to the litter problem associated with birds at the Landfill, the trash they carry may contain bacteria and disease could also be spread into the adjacent residential areas through bird droppings.

¹ See the falcon in action on YouTube at: <https://www.youtube.com/watch?v=cRyN8Dikvw>

California Regional Water Quality Control Board, San Diego Region Recycled Water Annual Summary Report 2017

California must diversify its water supply sources to meet the needs of a growing population. Importing water to meet demand is not sustainable due to significant drought conditions, climate change, fluctuations in the volume and quality of source water available, increasing population of water consumers in the State, and complex legal issues. Maximizing recycled water beneficial use is an important part of a diversified and sustainable water supply for the San Diego Water Board Region (Region).

“Recycled water use” is defined as a use that replaces the use of potable water. The goals of the State’s Recycled Water Policy¹ include an increase in the total recycled water use in California by 1 million acre-feet per year by 2020 and 2 million acre-feet per year by 2030². For reference, the average family of four uses 0.45 acre-feet (ac-ft) of water each year.

The *Recycled Water Annual Summary Report* raises awareness of the production of recycled water as a resource in the Region and provides Board members, water purveyors, and the public with a region-wide summary of the volume of recycled water reused, volume of treated wastewater disposed, and quality of recycled water resources available for reuse in the Region. Information analyzed in this report comes from a regional survey of recycled water facilities.

Thirty-one recycled water facilities in the Region reported that in 2017 they treated over 91,000 acre-feet of wastewater, of which over 30,000 acre-feet was either discharged to ocean outfalls or disposed of by other methods (Table 1). Recycled water use site information for 2017 indicates over 51,000 acre-feet of recycled water was beneficially reused in the Region. This volume of recycled water equates to approximately 56 percent of the total treated wastewater produced by recycled water facilities. The total volume of recycled water that was beneficially reused in 2017 decreased by 6,600 acre-feet compared to 2016, a decrease of 12 percent. This decrease is likely attributed to the large rain events that occurred in early 2017, which lead to the discharges of treated waste water to ocean outfalls to ensure adequate capacity in the recycled water storage ponds.

Year	# of Facilities Reporting	Total Vol. Treated (ac-ft)	Volume Disposed (ac-ft)	Volume Reused (ac-ft)	Percent Reused (ac-ft)
2009	29	104,777	49,376	54,928	52%
2010	27	74,043	32,449	41,594	56%
2011	30	109,764	62,913	48,955	45%
2012	29	104,791	38,480	57,397	55%
2013	29	91,704	33,301	58,454	64%
2014	30	106,013	27,951	61,161	58%
2015	30	96,483	32,605	55,408	57%
2016	30	102,606	28,418	57,780	56%
2017	31	91,384	30,261	51,205	56%

¹ http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2013/rs2013_0003_a.pdf

² The goals in the Recycled Water Policy are based on 2002 recycled water reuse volumes.

Additional recycled water use site information regarding the number of use sites, number of inspections, and compliance with applicable permits is summarized in Table 2 below.

Table 2	2016	2017	Difference
Recycled water use sites	6,168	6,042	-126
Number of inspections	5,262	5,088	-174
Number of sites with violations	689 violations at 201 sites	371 violations at 238 sites	318 fewer overall violations at 37 more sites

The number of inspected recycled water use sites with violations increased by 18 percent in 2017 (Table 3). Typical violations included broken sprinkler heads, broken pipes, over-spray of application areas, ponding, unapproved modifications, and runoff of recycled water at reuse sites.

Table 3. Recycled Water Use Site Survey								
Reported User Data								
Year	# of Sites	Total Reuse (ac-ft)	Average Reuse (ac-ft)	Median Reuse (ac-ft)	# Inspections	# Sites Inspected	# Violations	# Sites with Violations
2009	3,981	40,764	10.2	3.8	4,403	2,303	405	72
2010	4,095	42,142	10.3	3.2	3,380	2,430	66	33
2011	4,360	42,415	9.7	2.9	4,105	2,995	341	53
2012	4,376	55,069	12.6	3.2*	4,282	2,693	605	142
2013	5,358	57,223	10.7	3.6*	4,740	3,179	721	150
2014	5,659	62,925	11.1	3.88	5,154	4,076	520	169
2015	5,956	52,525	8.8	2.9	4,889	3,172	620	158
2016	6,168	48,286	7.9	2.8	5,262	3,322	689	201
2017	6,042	51,205	8.5	3.0	5,088	2,885	371	238

* median calculation does not include data from Moulton Niguel Water District

Recycled water quality showed some minor fluctuations in 2017, but remained within the historical averages. The average concentration of chloride, sulfate, and total dissolved solids (TDS) in the potable water sources decreased in 2017 (Table 4). Decreases were also observed in the average concentrations of TDS and chloride in recycled water in 2017. Increased concentrations of manganese, nitrate, total nitrogen, iron, and sulfate in recycled water were reported in 2017 (Table 5). Selected water quality data from 2014 to 2017 for 16 wastewater treatment facilities are shown in Figures 2, 4, 5, 7, and 9, at the end of this report. Overall, recycled water quality met discharge specifications across the Region.

Table 4.			
Average Source Water Quality			
Year	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)
2011	578	120	150
2012	440	83	135
2013	586	105	164
2014	613	110	178
2015	608	100	205
2016	625	117	212
2017	499	92	170

Table 5. Average Recycled Water Quality												
Year	TDS (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Percent Sodium (%)	Nitrate (mg/L)	Total Nitrogen (mg/L)	Iron (mg/L)	Manganese (mg/L)	MBAS (mg/L)	Boron (mg/L)	Turbidity Daily Avg (NTU)	Fluoride (mg/L)
2011	796	208	186	48.3	16.6	11.5	0.12	0.05	0.14	0.37	0.9	0.62
2012	775	209	188	51.0	11.0	10.3	0.83	0.04	0.13	0.41	1.0	0.68
2013	794	201	194	55.4	15.0	9.0	0.09	0.04	0.12	0.37	1.0	0.67
2014	859	210	218	51.4	17.1	10.4	0.08	0.05	0.13	0.37	1.0	0.69
2015	922	244	240	60.9	15.7	15.3	0.10	0.04	0.11	0.37	0.9	0.66
2016	890	222	231	55.0	18.3	14.6	0.33	0.04	0.14	0.39	1.0	0.69
2017	770	224	187	59.9	25.0	23.1	0.42	0.06	0.22	0.37	0.9	0.68
TDS= Total dissolved solids; MBAS= Methylene blue-activated substances												

The San Diego Water Board regulates the production and discharge of recycled water through waste discharge requirements, master reclamation permits, water reclamation requirements, and statewide General Orders ³ (collectively referred to as “permits”), and conditional waivers of waste discharge requirements. Master reclamation permits are useful tools for promoting recycled water use by allowing the producer to regulate its users, rather than requiring each user to obtain separate requirements from the San Diego Water Board or the State Water Board.

Many areas of the Region are precluded from receiving a regular supply of recycled water for landscape irrigation because of the lack of conveyance systems which is highlighted in Table 6. Recycled water produced in the Region is largely conveyed to use areas through pipelines exclusively used for recycled water, commonly referred to as “purple pipes.” Many potential users are unable to receive recycled water because use areas are located too far from a recycled water pipeline. The cost of adding pipeline often prevents users from switching to recycled water from potable water. For example, the City of San Diego has stated that the cost of building conveyance facilities to bring recycled water to Balboa Park and the San Diego Zoo for landscape irrigation is cost prohibitive. However, low-interest loans and grants for planning, design, and construction of water recycling projects may be available from the California Water Recycling Funding Program (CWRFP).⁴ A small percentage of those remote recycled water use

³ General Order [WQ 2014-0068-DDW](#) for Recycled Water Discharges.

⁴ California Water Recycling Funding Program:

https://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/proposition1_funding.shtml

sites may be served by recycled water filling stations where recycled water can be collected and trucked to the site.

Table 6. Volume of Recycled Water by Hydrologic Area (Ac-ft)											
Year	901 San Juan	902 Santa Margarita	903 San Luis Rey	904 Carlsbad	905 San Dieguito	906 Penasquitos	907 San Diego	908 Pueblo	909 Sweet- water	910 Otay	911 Tijuana
2009	14,539	2,917	313	4,827	2,839	7,413	1,346	0	1,661	2,815	1,477
2010	13,919	2,968	1,074	5,895	3,085	6,473	678	0	1,237	2,372	NR
2011	12,425	5,676	1,101	3,600	2,693	7,677	687	0	1,269	2,396	4,582
2012	10,235	6,421	1,351	8,311	3,299	12,744	1,296	0	2,308	4,458	4,644
2013	16,553	6,227	1,365	9,251	2,849	8,749	782	0	1,517	2,738	4,328
2014	17,520	6,996	1,072	9,627	3,296	9,211	1436	0	1,690	2,866	4,719
2015	15,559	4,823	1,323	11,321	2,681	7,533	1,067	0	1,307	2,321	3,774
2016	16,272	5,231	1,337	7,958	1,659	7,245	829	0	706	2,138	4,287
2017	14,926	6,765	1,394	8,930	2,439	7,562	1,331	0	919	1,678	4,308

The last major challenge remaining to enhance regional uses of recycled water is developing, constructing, permitting, and implementing potable reuse projects. Publicly Owned Treatment Works experience time periods when there is a low demand for recycled water, and with limited storage capacity, treated wastewater must be discharged to ocean outfalls. Regulations for surface water augmentation (SWA) were recently adopted by the State Water Board in March 2018. With the adoption of the SWA regulations, viable projects planned in the Region have the potential to decrease disposal of excess treated wastewater to the ocean and increase the amount of treated wastewater that is beneficial reused.

The San Diego Water Board continues to work with the recycled water agencies to ensure consistent and efficient gathering and reporting of the data included in the annual survey. All comparisons are approximations due to variations in measuring, gathering, and reporting the volume of recycled water and uncertainties regarding the purveyance of recycled water across jurisdictional areas of the San Diego and Santa Ana Water Boards.





