

State of California
California Regional Water Quality Control Board
Santa Ana Region

October 23, 2026

STAFF REPORT

ITEM: 11

SUBJECT: Irvine Ranch Water District, Santiago Creek Dam Improvement Project,
Orange County, Order R8-2026-0042 (Order)

DISCUSSION

Under the federal definition of waters of the United States (WOTUS), not all aquatic features are subject to federal jurisdiction. Pursuant to the Porter-Cologne Water Quality Control Act (Wat. Code, § 13000 et seq.), the Santa Ana Water Board regulates discharges of dredged or fill materials to waters of the State (WOTS) through Waste Discharge Requirements (WDRs) (Wat. Code, § 13263). WOTS include surface waters that are not federally jurisdictional WOTUS.

Project Overview:

The attached Order prescribes WDRs and serves as a Clean Water Act section 401 Water Quality Certification for the Santiago Creek Dam Improvement Project (Project). The Order regulates the discharge of fill materials to WOTS, including WOTUS.

The Project's purpose is to rehabilitate, replace, and modify the Santiago Creek Dam outlet tower, spillway facilities, and dam embankment to meet current seismic and safety standards.

The Project is located within the unincorporated community of Silverado in Orange County. The Project service area encompasses approximately 1,063.75 acres. The dam improvement activities are located at the Santiago Creek Dam at the northwest end of Irvine Lake, encompassing approximately 62 acres.

Aquatic Resources:

The Project site contains approximately 428.47 acres of WOTUS, consisting of 326.77 acres of non-wetland waters (open water, perennial, and intermittent) and 101.70 acres of wetland waters. The Project site contains approximately 241.64 acres of additional WOTS outside of federal jurisdiction. A summary of the Project's onsite aquatic resources is found in Table 1 below.

Table 1: Summary of Waters of the United States and Waters of the State

Feature	WOTUS wetland (acres)	WOTUS non-wetland (acres)	WOTS wetland (acres)	WOTS non-wetland (acres)
Irvine Lake	94.58	312.96	95.06	518.56
Santiago Creek	7.12	13.80	7.12	29.89
Drainage 1	-	0.01	-	0.03
Drainage 2	-	-	-	0.07
Drainage 3	-	-	-	0.17
Drainage 4	-	-	-	0.09
Drainage 5	-	-	-	0.36
Drainage 6	-	-	-	0.15
Drainage 7	-	-	-	0.15
Drainage 8	-	-	-	0.04
Drainage 9	-	-	-	1.24
Drainage 10	-	-	-	0.25
Drainage 11	-	-	-	0.32
Drainage 12	-	-	-	13.52
Drainage 13	-	-	-	0.11
Drainage 14	-	-	-	0.42
Drainage 15	-	-	-	2.56
Total	101.70	326.77	102.18	567.93

Impacts to Aquatic Resources:

The Project construction is anticipated to result in a maximum of 162.24 acres temporary impacts to WOTUS and WOTS. The long-term and short-term temporary impacts will result from the creation of borrow sites for the construction of a diversion berm near the downstream portion of Irvine Lake to maintain a dry construction area. Additional temporary impacts are associated with construction access, equipment staging, and impacts on vegetation from the creation of borrow sites, and dewatering. Long-term temporary impacts represent a duration greater than three years, while short-term temporary impacts represent a duration of less than three years.

Table 2: Total Temporary Impacts to Waters of the United States and Waters of the States

Feature	WOTUS Wetland (acres)	WOTUS Non-Wetland (acres)	WOTS Wetland (acres)	WOTS Non-Wetland (acres)
Irvine Lake	29.35	104.85	29.56	131.76
Santiago Creek	-	0.6	-	0.88
Drainage 2	-	-	-	0.01
Drainage 3	-	-	-	0.03
Total	29.35	105.45	29.56	132.68

The Project will result in the permanent physical loss or modification of 3.22 acres of non-wetland WOTUS and WOTS. A summary of the Project's permanent impacts is found in Table 3 below. 39. The permanent impacts will result from structural alterations and construction of the spillway structures of Santiago Dam. In addition, permanent impacts are associated with the replacement of pervious surfaces for the clearing, grading, grubbing, and construction of structural alterations to Santiago Dam.

Table 3: Permanent Impacts to Non-Wetland Waters of the United States and Waters of the State

Feature	WOTUS Permanent Impacts (acres)	WOTS Permanent Impact (acres)
Irvine Lake	0.45	1.68
Santiago Creek	0.99	1.39
Drainage 2	0	0.07
Drainage 3	0	0.08
Total	1.44	3.22

Compensatory Mitigation:

To offset 3.22 acres of permanent impacts to aquatic resources, the Discharger will provide permittee-responsible compensatory mitigation by restoring and enhancing 5.88 acres of onsite riparian vegetation communities and WOTS. The Discharger will restore all temporary impacts to WOTUS and WOTS once construction is complete to pre-existing conditions. Temporarily impacted vegetation will be restored in-kind or with higher-quality native vegetation at their original location.

California Environmental Quality Act (CEQA):

Santa Ana Water Board staff are relying on the Environmental Impact Report (EIR) certified by Irvine Ranch Water District for compliance with CEQA and staff have determined that no further environmental review is required for the Project under the CEQA Guidelines. Santa Ana Water Board staff finds that compensatory mitigation and conditions in the Order will reduce potentially adverse impacts to water quality to a less than significant level and protect beneficial uses of receiving waters.

Public Comments:

The Santa Ana Regional Water Board received approximately 80 timely public comments regarding the proposed dewatering of Irvine Lake associated with the Santiago Creek Dam Improvement Project. The comment letters received were identical or contained substantially similar comments. The comments generally express concerns regarding potential fish mortality, including concerns of the presence of white sturgeons, impacts to recreational fish populations, and the need for fish salvage, relocation, and other protective measures.

In response to these concerns, Santa Ana Water Board staff consulted with the California Department of Fish and Wildlife (CDFW) regarding potential impacts to fish populations. CDFW indicated that Irvine Lake supports a stocked lake, that no endangered fish species were identified as being affected. CDFW had not identified significant fish-mortality concerns during the CEQA review process, and Irvine Lake does not support fish spawning.

Staff will provide an overview of the public comments and agency coordination during its presentation to the Board.

RECOMMENDATION:

Adopt Order [R8-2026-0042](#) as presented.

For further information on the proposed Project, please contact Santa Ana Water Board staff Lauren Morrison at Lauren.Morrison@waterboards.ca.gov.