

INFORMATION ITEM

Update on the Department of Water Resources' 2021 Emergency Drought Salinity Barrier in the Delta

Summary: The Department of Water Resources (DWR) will provide a briefing on installation of an Emergency Drought Salinity Barrier within the Delta.

BACKGROUND

California's severe 2012-2015 drought limited water supplies statewide. Reservoirs could not supply enough fresh water to prevent saltwater from pushing into the Sacramento-San Joaquin Delta during the hot, dry summer season. In 2015, DWR took emergency actions necessary to keep the Delta's water fresh by limiting reservoir releases and constructing a 750-foot rock barrier across the False River in the Central Delta, just west of Frank's Tract. This Emergency Drought Barrier (Barrier) blocked tidal flows, which successfully prevented saltwater from intruding into Frank's Tract and consequently onward to the pumps for the Central Valley Project and State Water Project, where it could have contaminated both drinking water and agricultural water supplies. The Barrier was removed in the fall of 2015 to allow for salmon migration.

As part of the 2015 emergency action, DWR installed ten new water quality monitoring stations and commissioned a detailed study to confirm the Barrier's effects on hydrodynamics and water quality, but did not have the capacity or a mandate to study the ecological impact of the project. The Delta Stewardship Council, through its Delta Science Program, stepped in to fund and coordinate a collaboration with scientists from state and federal agencies and universities to fill this monitoring gap and better understand the ecological impacts of the Barrier.

Monitoring data showed the Barrier to have the desired water quality effects, allowing DWR to meet compliance standards. Researchers examined the ecological consequences of the Barrier, including impacts on water conditions, aquatic vegetation, and invertebrates. Scientists found that the Barrier: (a) allowed submerged aquatic vegetation to spread, (b) influenced the distribution of invasive clams, and (c) had local impacts on copepod transport. Studies did not show that the Barrier caused formation of harmful algae blooms (*Microcystis*), nor cut off Delta Smelt from their upstream food supply, as researchers had hypothesized. Most of the ecological changes that were observed returned to baseline conditions

soon after the Barrier was removed. Cutting off the intense jet of water that enters Frank's Tract from False River, however, allowed invasive aquatic vegetation to colonize the area, and the invasive plants persisted after the Barrier was removed. For future barriers, it is important that managers anticipate, proactively manage, and mitigate for the increased spread of aquatic vegetation.

Construction and removal of the Barrier was funded by DWR (roughly \$37 million). Ecological studies and synthesis efforts were funded by the Council (about \$910,000). Both agencies used a mix of Proposition 50 water bond and general fund dollars.

In 2021, California is again faced with intense drought conditions, which has led DWR to begin the process to reinstall a drought barrier in the Delta. The project began in early June 2021 and is anticipated to be completed in early July 2021. The \$30 million rock wall is planned for the same site as the 2015 Barrier, on the West False River near its confluence with the San Joaquin River in eastern Contra Costa County. The Governor's May 10, 2021, Emergency Proclamation suspends the Council's regulatory authority related to drought-related salinity measures as covered actions. The Governor's Emergency Proclamation is available at: <https://www.gov.ca.gov/wp-content/uploads/2021/05/5.10.2021-Drought-Proclamation.pdf>.

TODAY'S MEETING

At today's meeting, representatives from the DWR will present the Council with an update on the upcoming 2021 plans for Emergency Drought Salinity Barriers within the Delta.

FISCAL INFORMATION

None.

LIST OF ATTACHMENTS

None.

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