



State Water Project Briefings: Climate Change and the Delta

Introduction

The second State Water Project (SWP) briefing event of 2021 will continue this year's theme of creating a resilient State Water Project by addressing climate change and aging infrastructure to provide multiple benefits for Californians and will focus on climate change and the Delta. The Commission will receive four presentations: Climate Change Adaptation Plan, Green Infrastructure and Watershed Management, Forecast-Informed Reservoir Operation, and Delta Conveyance.

Climate Change Adaptation Plan

As part of a three-phase process, the Department of Water Resources (DWR) has developed a Climate Action Plan to address climate change in the programs, projects, and activities over which it has authority. Its goal is to:

1. reduce greenhouse gas emissions;
2. conduct consistent and rigorous climate change analysis within its programs and projects; and
3. conduct a climate change vulnerability assessment and implement adaptation actions to protect staff, business operations, and assets.

An overview of the DWR Climate Change Adaptation Plan and adaptation focus areas will include staff safety, the State Water Project, the upper Feather River watershed, and landscapes (ecosystems and habitats) of DWR's owned and managed lands. The Adaptation Plan will help prioritize resiliency efforts such as infrastructure improvements, enhanced maintenance and operation procedures, revised health and safety procedures, and improved habitat management.

Green Infrastructure and Watershed Management

The SWP is an integral part of California's water system and relies on a complex network of natural and green infrastructure, much of which needs improved management or modernization to meet current and future challenges. The SWP's central role requires the State through DWR to be a key driver of system improvements to adapt to ongoing changes as well as recover threatened ecosystems. Given the integrated nature of our water resources and the imperative to maximize public investments, embracing a multi-benefit approach to developing solutions from the headwaters to the Delta can support the breadth of societal values

necessary for a thriving California. For example, in the upper Feather River watershed, meadow restoration efforts can contribute both to improved water resources and habitat for fish and wildlife. In the mid-elevations, forest management has been shown to reduce the risk of catastrophic wildfires, improve water quality and provide habitat. And in the Delta, projects such as the Lookout Slough Project in the Yolo Bypass illustrate the advantages and challenges of the multi-benefit approach.

Forecast-Informed Reservoir Operation

The goal of Forecast Informed Reservoir Operations (FIRO) is to improve weather and precipitation forecasting capability and then translate those improvements into information that can be used to improve reservoir operations. These improved operations are intended to provide both flood management and water supply benefits. DWR is currently focused on weather forecasting in Northern California and how improvements could be used to more optimally operate Yuba Waters' New Bullards Bar facility and DWR's Oroville facility to help mitigate the anticipated increases in extreme hydrologic events associated with climate change. DWR's FIRO effort is being undertaken in partnership with Yuba Water Agency, the United States Army Corps of Engineers, and the Center for Western Weather and Water Extremes at the Scripps institute for Oceanography.

Delta Conveyance

DWR is considering the proposed Delta Conveyance Project because of the need to protect the reliability of SWP deliveries into the future, in the face of many challenges (such as climate change, sea level rise, and earthquake risk). The Delta Conveyance Project would create new SWP diversion points in the north Delta, on the Sacramento River, and connect them via a tunnel to the SWP conveyance facilities in the south Delta. The new facilities would be operated jointly with the existing south Delta facilities and provide flexibility to respond to changing conditions in the Delta. DWR is currently working on an Environmental Impact Report to describe the proposed project and alternatives, assess potential environmental effects, and identify mitigation measures to avoid or reduce significant effects.

Background

The California State Water Project, consisting of 36 water storage facilities and 700 miles of rivers, pipelines, and canals, supplies water to 27 million people and irrigates 750,000 acres of farmland. The system includes 21 pumping plants, powered by a system of power-generation and power-recovery plants. DWR also operates the world's tallest water lift – the Edmonston Pumping Plant – which pumps water more than 1,900 feet up and over the Tehachapi Mountains into Southern California.

Goal Two of the Commission's Strategic Plan directs the Commission to remain apprised of the operations and construction activities of the State Water Project, focusing on how the SWP

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adapts and responds to hydrological extremes expected with climate change, restores critical ecosystems, and addresses aging infrastructure. As required by Water Code section 165, the Commission conducts an annual review on the progress of the construction and operation of the SWP and reports its findings and recommendations to the Department and the Legislature. This series of briefings will inform the Commission of SWP activities in preparation for the Commission's 2021 annual review.

Meeting Overview

At the May meeting, Senior Environmental Scientists Pete Coombe and Jennifer Morales, and Senior Engineer Romain Maendly will update the Commission on the Climate Change Adaptation Plan; Multi-Benefit Initiatives Chief Steve Rothert will provide a briefing on green infrastructure and watershed management; State Water Project Operations Executive Manager John Leahigh will provide a briefing on Forecast-Informed Reservoir Operation; and Environmental Program Manager for Delta Conveyance Carrie Buckman will brief the Commission on Delta conveyance.

The following stakeholders have been invited to comment and reflect on specific presentations:

- Amanda Hansen, Deputy Secretary for Climate Change with the California Natural Resources Agency, will comment on the update on the Climate Change Adaptation Plan;
- Jay Ziegler, Director of Policy and External Affairs for California for The Nature Conservancy, will comment on the briefing on green infrastructure and watershed management;
- John James, Water Operations Project Manager for the Yuba Water Agency, will comment on the briefing on Forecast-Informed Reservoir Operation; and
- Juliana Birkhoff, Managing Facilitator for Ag Innovations, will comment on the Delta conveyance briefing.

This is an informational item.

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