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CALIFORNIA DEPARTMENT OF
WATER RESOURCES

State Water Project's August 2020 Heatwave Operations & Summer 2021 Operations Outlook for California Energy Commission's Summer 2021 Energy Reliability Workshop

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- State Water Project Overview
- SWP Operations - August 2020 Heatwave
  - Objectives
  - Actions Taken
  - Results
- 2021 SWP Operations Outlook
- Questions

SWP Overview - Purpose

- Primary Purposes
  - Water Supply
  - Flood Control
- Additional Benefits
  - Environmental Needs
  - Power Generation
  - Recreation

SWP Overview - Facilities

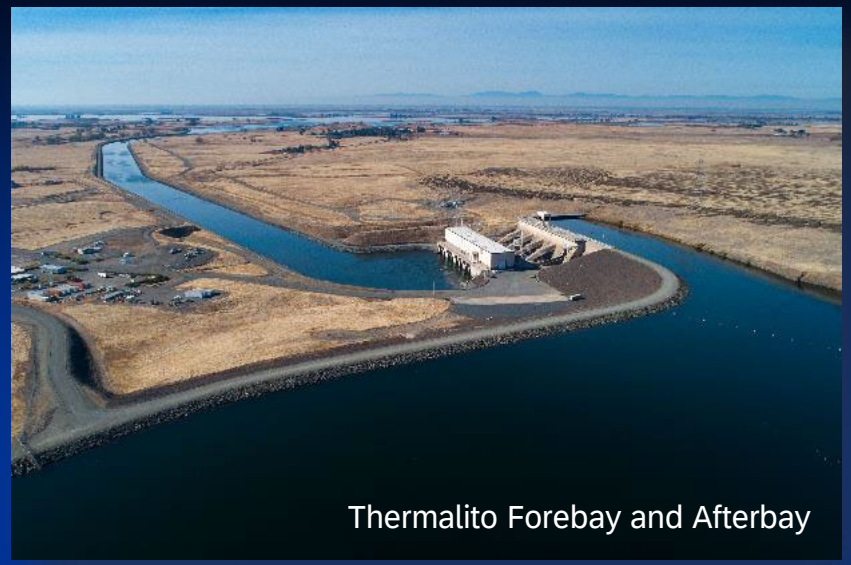
SWP Facilities

- 34 Storage Facilities
  - Oroville (3.5 MAF)
  - San Luis (2.02 MAF, SWP Share 1.06 MAF)
- 29 Pumping and Generating Plants
  - Edmonston (1926’)
- 3 Pump/Gen Plants
- 700 Miles of Canals and Pipelines

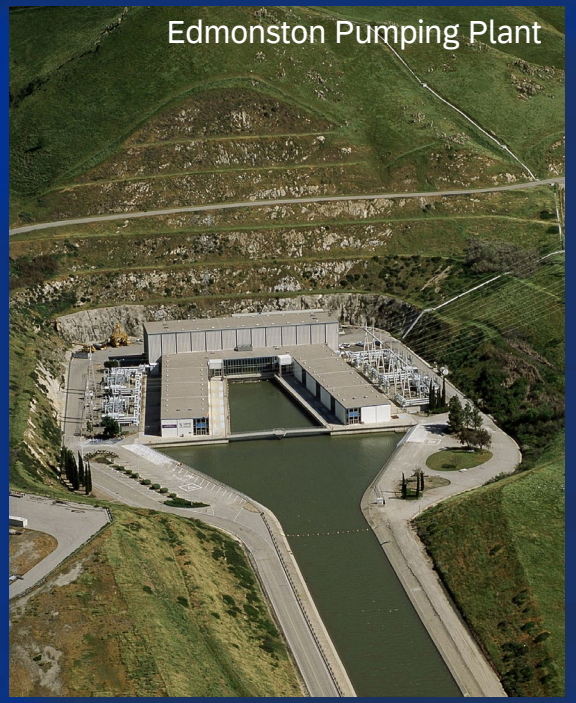
SWP Overview

Field Divisions (FD)

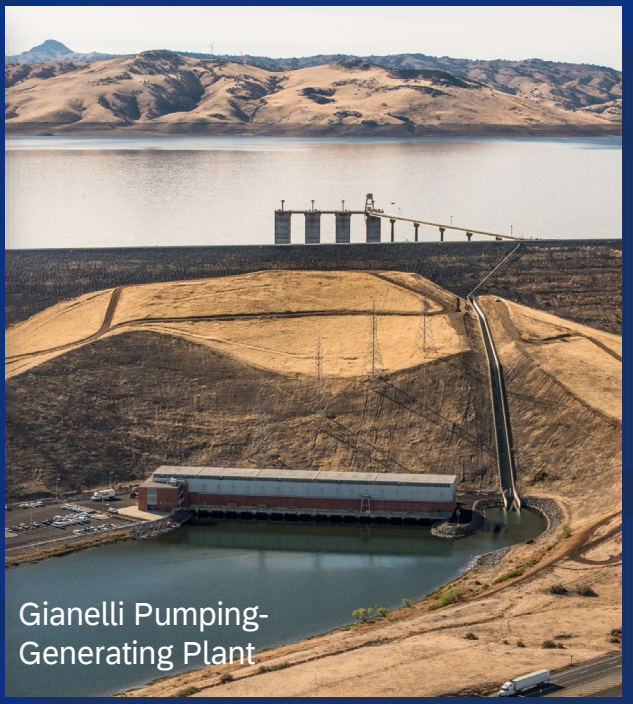
1. Oroville FD
2. Delta FD
3. San Luis FD
4. San Joaquin FD
5. Southern FD


Thermalito Forebay and Afterbay


Banks Pumping Plant


Edmonston Pumping Plant


Devil Canyon 2nd Afterbay


Gianelli Pumping-Generating Plant

SWP Objectives During August 2020 Heatwave

- Maintain water delivery to its Contractors
- Maintain compliance with all regulatory requirements
- Assist California Independent System Operator (CAISO) grid operations by offering additional generation and reducing consumption during peak electricity demand period

SWP Operations During August 2020 Heatwave

Actions Taken

- Responded to CAISO's exceptional dispatches
- Utilized afterbay storage to provide additional generation
- Used pumped-storage at Gianelli PGP to inject additional generation into the grid during peak hours
- Leveraged the terminal reservoir storages to reduce peak pumping
- Coordinated with State Water Contractor to increase water demand providing additional peak generation at Devil Canyon GP
- Collaborated with operating partner to shift the Federal's peak pumping from Jones PP. to non-peak pumping at Banks PP.

SWP Operations During August 2020 Heatwave - Results

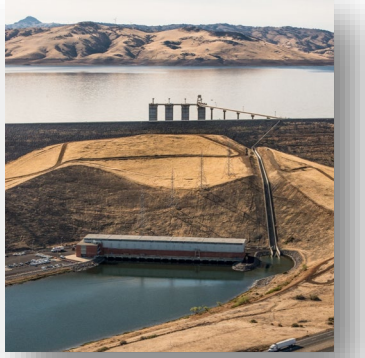
Oroville Complex

2020 additional generation:
60 MW to 260 MW

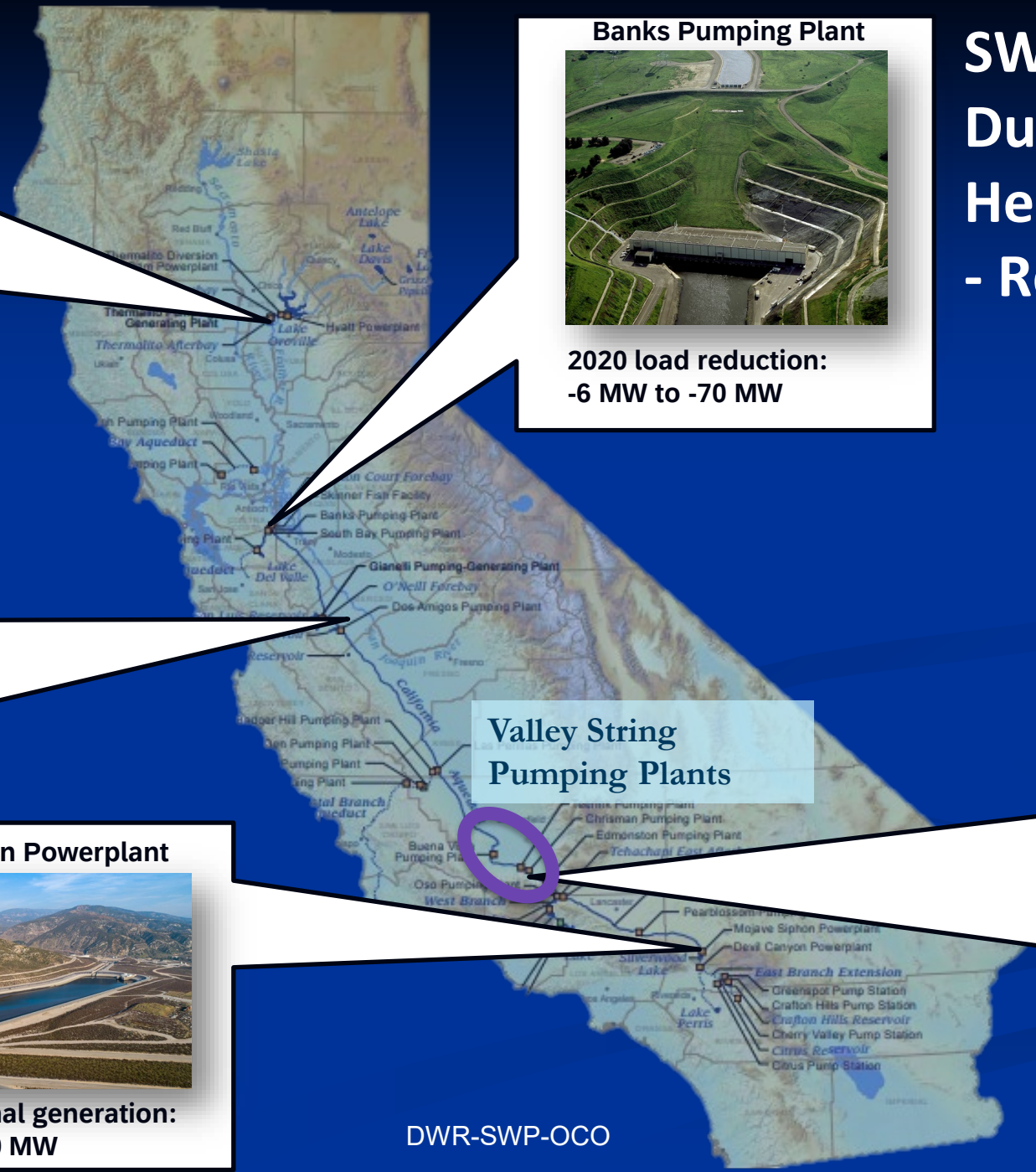
Banks Pumping Plant

2020 load reduction:
-6 MW to -70 MW

Gianelli Pumping-Generating Plant



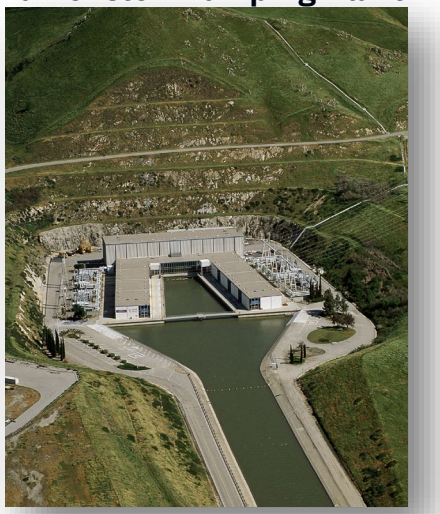
2020 additional generation:
35 MW to 90 MW



Devil Canyon Powerplant

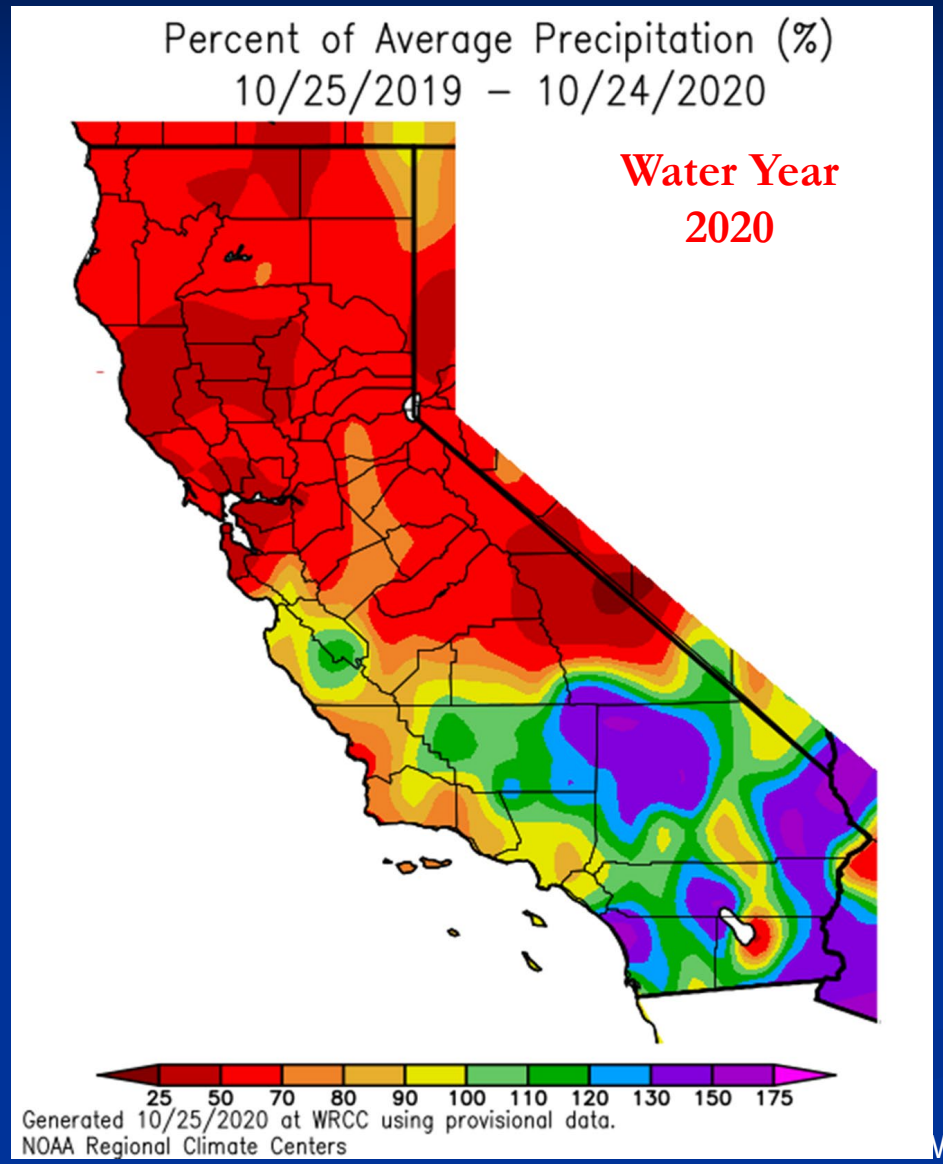
2020 additional generation:
30 MW to 160 MW

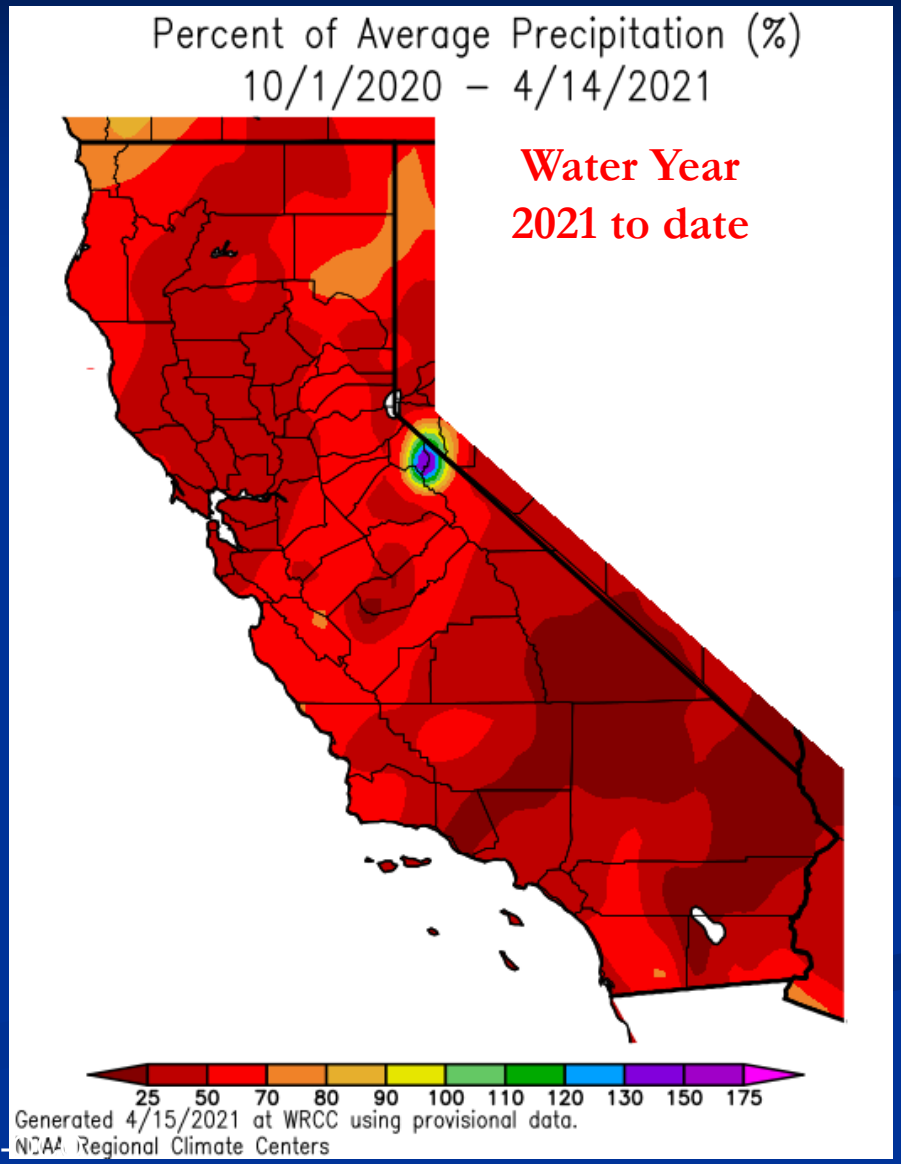
Edmonston Pumping Plant



2020 load reduction:
-90 MW to -210 MW

SWP Operations – 2021 Outlook





SWP Operations – 2021 Outlook & Preparation

- Outlook
  - Hydrologic dry year reduces available water for generation
  - 5% allocation results in less water release for generation
  - 2021 SWP generation is estimated to be only 35% of 2020 level
  - 2021 SWP Banks and Valley String pump loads available for reduction are estimated to be only 25% of 2020 level

SWP Operations – 2021 Outlook & Preparation

- Preparation
  - Insofar as possible schedule generator outages during non-summer months
  - Develop emergency communication protocol with CAISO
  - Participate in CAISO tabletop summer readiness exercise

Questions?