

Delta Flow Objectives May Impact Central Valley Project and Central Valley Project Improvement Act

*Workshop 3 Analytical Tools for
Evaluating Water Supply, Hydrodynamic
and Hydropower Effects
State Water Resources Control Board*

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Jerry Toenyes
NCPA Consultant

NCPA Overview

Who We Are



- California Joint Powers Agency
- 16 members serving 700,000 residents in communities throughout Northern California (city-owned and special districts)
- Builds and operates jointly owned power plants and manages resources to meet our members' power needs
 - Geothermal, hydropower, natural gas

The Problem: Change in Delta Flow Objectives Could Have Unintended Consequences for the CVP

- ✓ Undermine ongoing environmental restoration programs
- ✓ Reduce generation value
- ✓ Increase cost per megawatt-hour

Central Valley Project (CVP) Background

- 400-mile network of multi-purpose dams, reservoirs, canals, hydroelectric power plants
 - 14 dams (13 million acre-feet capacity)
 - 10 power plants (2133 MW capacity)
 - Average year generation of 4.6 million MWH
 - 850 miles of high voltage transmission lines
 - 90+ customers (including state and federal agencies)
- Serves agriculture, municipal, industrial, recreation, fish and wildlife, and flood control interests
- NCPA members collectively purchase 40% of CVP power marketed by Western Area Power Administration



CVP Improvement Act (CVPIA) Background

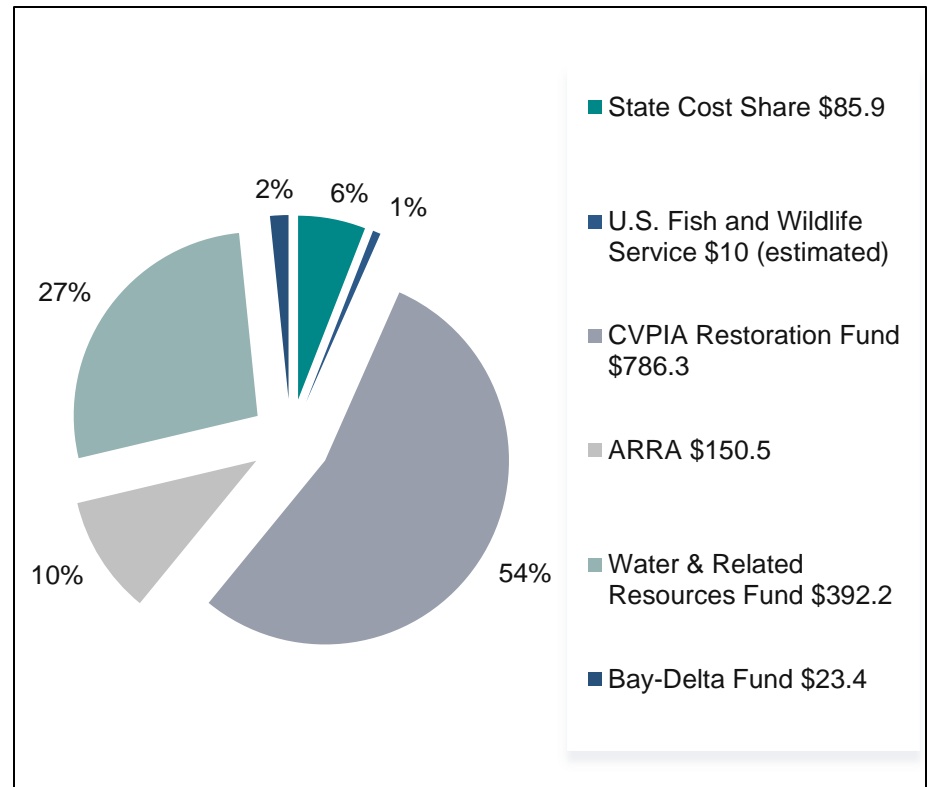
- Enacted October 30, 1992
- Protect, restore, and enhance fish, wildlife, and the associated habitats in the CVP and Trinity River basins
- Established 34 activities for fish and wildlife improvement
- Created Restoration Fund whereby CVP water and power customers would finance the activities:
 - Approximately \$50 million per year collected in today's dollars from CVP water and power users

Restoration Activities Include:

- Shasta Temperature Control Device
- Fish Screens
- Water Acquisition
- Modeling
- Gravel Placement
- Tracy Pumping Plant
- Red Bluff Dam Fish Passage
- Refuge Water Program
- Trinity River Flows

CVPIA - Cumulative Contributions to Restoration Fund

- Total obligated funding since program enactment exceeds \$1.5 billion
- Act anticipated funding levels from the Restoration Fund, federal appropriations and state funding



CVP water and power customers provide approximately 54% of total.

Power's Contribution to CVPIA 2012

	Acre Feet	Calculated Payment
2012 Total Restoration Payment		\$52,767,000
Less: Restoration Payment (Water)		
Irrigation	2,204,947	\$20,655,411
M&I	359,797	<u>\$ 6,737,846</u>
Total Water Payment		\$27,393,257
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Balance Needed from Power*		\$25,373,743

*Water collection is capped at a specified charge per acre foot. Power is allocated the difference between the total restoration fund assessment and the amount collected from water.

Any reduction in CVP water deliveries will increase power's contribution to Restoration Fund

Consequences to CVP Related to Change in Delta Outflow Objectives

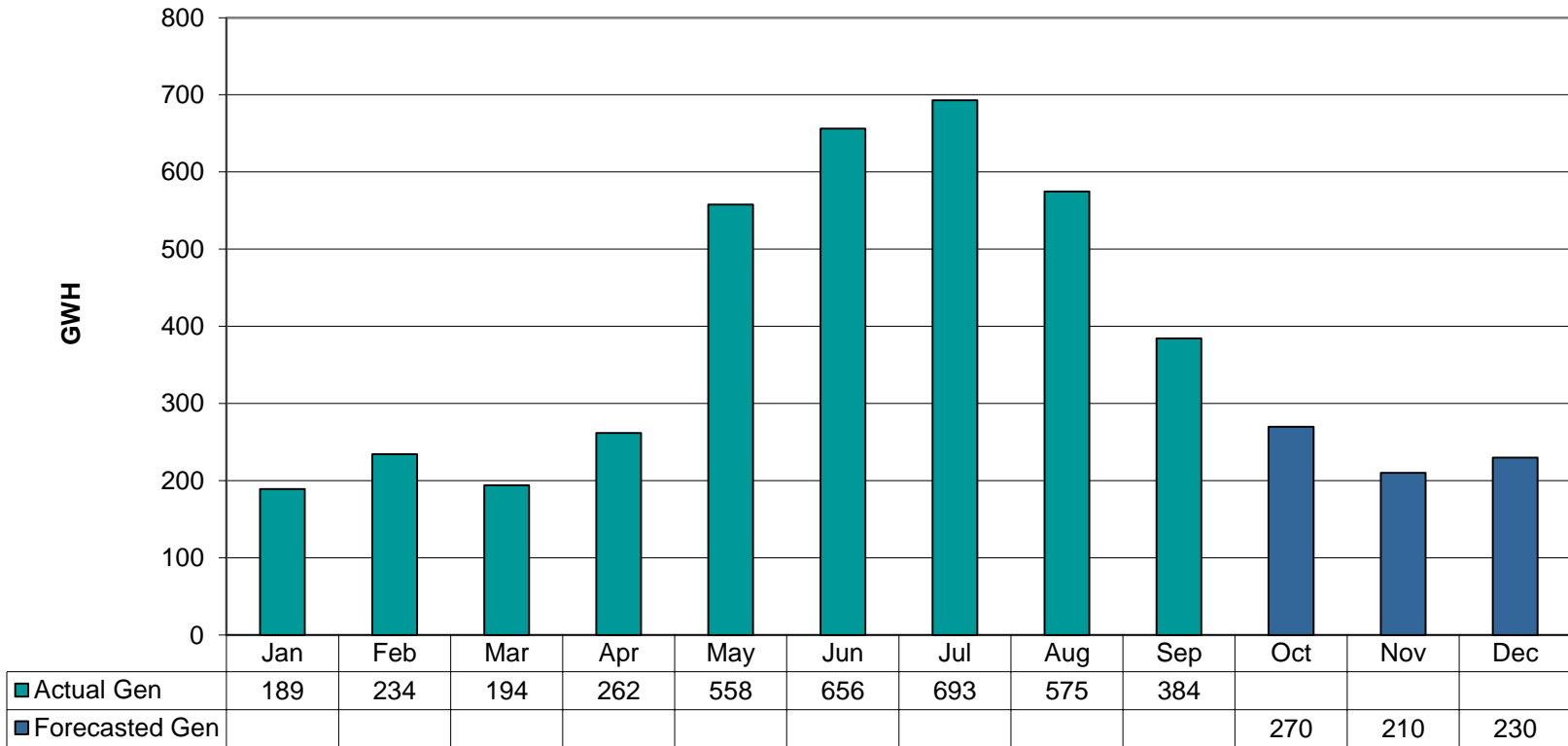
- Impacts cold water storage
- Affects Trinity River releases in August to prevent fish die off
- Increases gravel replacement
- Decreases water available for wildlife refuges



Additional Consequences

Reduces Generation Value and Increases Costs

Central Valley Project Generation
2012



2012 estimated generation energy based on average hydrologic conditions (50% exceedence).

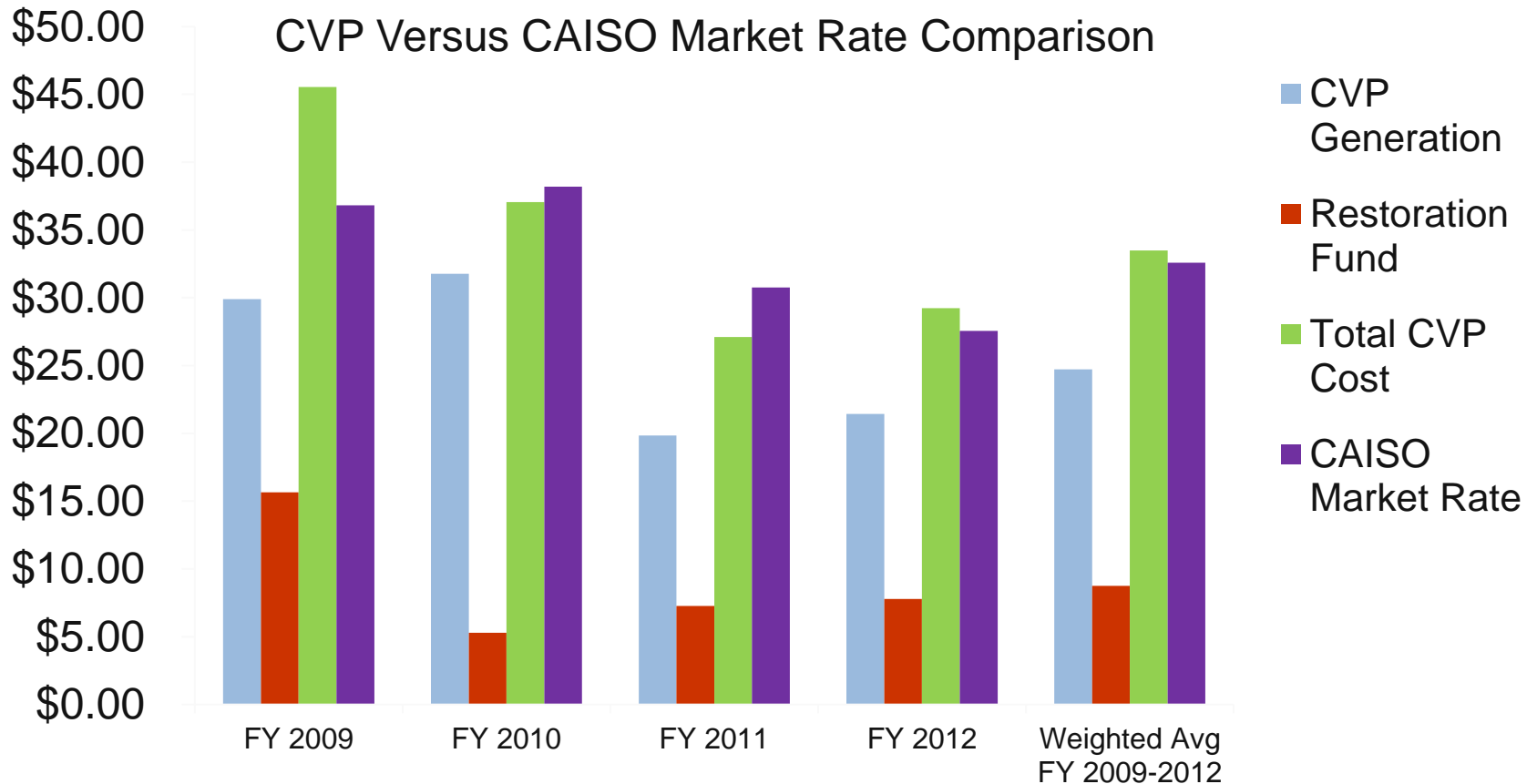
Additional Consequences

Reduce Generation Value

- Increasing water releases to spring to meet new Delta flow objectives, may
 - Reduce generation in summer and fall months and ability to meet critical peak load
 - Increase generation in spring when energy has less value
 - Lower reservoir levels in summer creating less generation capacity
 - Generation by-passes may be required in the summer and fall to meet river temperature requirements
 - Generation by-passes required if reservoir level falls below penstock intakes

Additional Consequences

Further Increases Costs to CVP Power Above Market Rates



Future funding of the Restoration Fund is potentially at risk.

Additional Consequences

Increase Costs to Power Customers

- Fewer water deliveries generates less revenue from water customers
- Shifts revenue requirements to power customers
 - CVP facilities
 - Restoration Fund
- Reduced generation further increases cost per megawatt hour

Additional Consequences

Unintended Environmental Impacts

- Source of CVPIA funding to protect endangered species and habitat may be reduced
- Can undermine two decades of CVPIA progress and negatively impact fish and wildlife
- Potential negative carbon impacts if hydropower generation is reduced in California



**For further information regarding
impacts to CVP and CVPIA,
please contact:**

Tom Boyko

Regional Manager

Western Area Power Administration

114 Park Shore Drive

Folsom, CA 95830

E-mail: Boyko@wapa.gov

Phone: (916) 353-4418

