Folsom Reservoir
Overview

U.S. Department of the Interior
Bureau of Reclamation

Draft – Subject to Revision
Authorized Purposes

- Power Generation
- Recreation
- Flood Control
- Fish and Wildlife
- River Regulation
- Water Supply
American River Division

• Folsom Reservoir ~1M af (1.2 GCM)
• Folsom Powerplant 215,070 kW

• Water Temperatures and Flows (steelhead v. fall-run)
• SAFCA Flood Control Diagram
• High Visibility Project
Folsom Basic Information

- Average annual Inflow - 2.7 MAF
- Maximum Storage – 977 TAF
- Surcharge capacity – 110 TAF
- 3 Lower outlet tubes
- 3 Upper outlet tubes
- 8 Main spillway gates
- 6 Joint Federal Project spillway gates
Other Reservoirs on the American River

- Eighteen upstream reservoir
- Three upstream reservoirs considered in SAFCA agreement
- Upstream reservoirs provide impairment to Folsom reservoir inflow
How Does Folsom Reservoir Fit In

- Integrated CVP Operation
- Delta outflow/habitat needs
- Delta Salinity Management
- Instream needs
- Water supply needs (E.G. Delta Exports)
- American River contractors
Coordinating the Operations

- U. S. Fish and Wildlife Service
- National Marine Fisheries Service
- Western Area Power Administration
- U. S. Army Corps of Engineers
- State Water Resources Control Board
- State Department of Water Resources
- State Department of Fish and Game
- Local Stakeholders
Flood Control Operations

• Five standard ways to release flood water
  ➢ Lower Outlet tubes
  ➢ Upper outlet tubes
  ➢ Powerhouse
  ➢ New JFP facility
  ➢ Original spillway

• One emergency method of releasing flood water
  ➢ Emergency spillway
Operational Constraints

- Flood control
- Cold water pool management
- Fishery habitat
- Salmonid spawning and rearing flows
  - Need stable flows for spawning
  - Stranding issues during rearing timeframes
Cold Water Pool Management

- Use change of release volume
- Use change of release location
- Power by-pass
Temperature Shutters on Penstocks for Selective Withdrawal
Folsom Dam Shutters

3 shutters operating as one unit

2 shutters operating as one unit

4 shutters operating as one unit

ELEVATION (ft msl)

spillway crest 418 ft msl

min. 27'

TOP VIEW OF SHUTTER

FLOW

WARMER

COLDER

Penstock Centerline

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Folsom Lake End of May Storage 
Potential for Meeting Summer Temperature Targets (Jun-Sep) 
at Watt Avenue

NOTES:
1. Relationship is based on modeled mean monthly temperature, supported by historical operation.
2. The chart does not address the potential for meeting fall temperature targets. Depending on conditions, an Oct-Nov power bypass may still be necessary.

Minimum storage required for placement of the upper temperature shutters

Probability of achieving target

End of May Storage, in TAF

End of May Lake Volume $\leq 58^\circ$F, in TAF

65°F

66°F

67°F

68°F

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Questions?