

Cachuma Project Water Rights Hearing

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Rebuttal Testimony

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Overview of Testimony

- Factors affecting Adult Passage
- Challenges with Juvenile Passage
- Passage Assessment



Adults - Passage Directly Over the Dam

Options

- Fishway (ladder)
- Tramway
- Lift
- Natural Channel

Design Issues/Challenges

- Reservoir Fluctuation
- Reservoir Operation Rule
- Outflow Discharge
- Entrance and Exit conditions
- Tailwater influence
- Species and timing
- Topography and Geology
- Water Quality
- Height of Dam



Adults - Trap and Haul

- Operator safety in transport
- Reliability
- Water quality
- Effect on other species
- Ability to have downstream juvenile passage
- Environmental issues with transport route
- Access to release points



Juvenile - Collection and Transport

Options

- Stationary Surface Collector
- Floating Collectors in Tributaries
- Floating Collectors in Reservoirs
- Movable Collectors
- Full Criteria Screen
- Spill



Juvenile - Collection and Transport

Design Issues/Challenges

- Reservoir fluctuation
- Operational Safety
- Debris
- Power Source
- Guide Net Reliability
- Trapping Efficiency
- Fish Health/Stress
- Fish Behavior
- Hydraulic Patterns
- Track Record



Passage Assessment

Fatal Flaw Analysis

- Structured Matrix Analysis
- Itemize Options
- Consider Design Issues/Challenges
- Discard Flawed Options
- Refine Remaining Options



Summary

- Issues could eliminate/refine list of potential passage options
- Use objective matrix analysis by experienced professionals to focus and streamline analysis
- Focus on steelhead needs/capabilities during analysis is key to success
- Maximize available funding by eliminating options that would not work



End

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main menu

