Yolo Bypass Salmonid Habitat Restoration & Fish Passage
Environmental Impact Statement
Environmental Impact Report

October 23, 2017

Schedule

• Public Draft EIS/EIR release: November 9, 2017
• Review period for Public Draft EIS/EIR: November 9, 2017 – February 6, 2018
• Public Meetings on Draft EIS/EIR
  December 6, 2017, 6-8 p.m., Woodland
  December 7, 2017, 2-4 p.m., West Sacramento
• Final EIS/EIR release: November 2018
• Notice of Determination, CEQA Findings, Record of Decision: December 2018
• Permitting: 2017  2020
• Construction start: 2020 or 2021
Evaluation Factors

• Federal Planning Criteria
  Effectiveness: how well an alternative would alleviate problems and achieve opportunities
  Completeness: whether an alternative would account for all investments or other actions necessary to realize the planned efforts
  Acceptability: the viability of an alternative with respect to acceptance by other Federal, State, and local entities and compatibility with existing laws
  Efficiency: how well an alternative would deliver economic benefits relative to project costs

• Discussion focused on factors with quantitative information
Increase Access to Floodplain Habitat, Method 1

Proportional Entrainment Across the Entire Operational Period

- Alternative 6
- Alternative 5
- Alternative 4 (Mar 7 end)
- Alternative 4 (Mar 15 end)
- Alternative 3
- Alternative 2
- Alternative 1
- Existing

Increase Access to Floodplain Habitat, Method 2

ELAM Entrainment

- Alternative 1
- Alternative 2
- Alternative 3
- Alternative 4 (Mar 15 end)
- Alternative 5
- Alternative 6
Increase Access to Floodplain Habitat, Method 3

Entrainment Conclusions

- Each method results in a similar comparison between alternatives: Alternative 6 has the most entrainment, Alternatives 4 and 5 have the least entrainment, and Alternatives 1, 2, and 3 are in the middle.
- The proportional entrainment tool considered if fry entrainment would have a different trend, but the results were similar to entrainment of all juveniles.
Fry Entrainment

Proportional Entrainment for Fry (up to 60 mm Fork Length)

Increase Seasonal Floodplain Rearing Habitat: Fall-Run Chinook Salmon

Number of Fall-run Chinook Salmon Adult Returns

without Project  with Project
Increase Seasonal Floodplain Rearing Habitat: Spring-Run Chinook Salmon

Increase Seasonal Floodplain Rearing Habitat: Winter-Run Chinook Salmon
Increase Area of Floodplain Habitat

Increase Duration of Flooded Habitat
(over 16 year modeled period)
Increase Duration of Flooded Habitat (Wet year: 1999)

Increase Duration of Flooded Habitat (Normal Year: 2005)
Increase Duration of Flooded Habitat
(Dry Year: 2008)

Improve Adult Fish Passage
Timing of Adult Sturgeon Passage

![Chart showing Sturgeon Passage for different alternatives]

- Alternative 6
- Alternative 5
- Alternative 4 (Mar 7 end)
- Alternative 4 (Mar 15 end)
- Alternative 3
- Alternative 2
- Alternative 1

Average percent of month alternative meets sturgeon passage criteria

**ACCEPTABILITY**
Agriculture Impacts

Recreation Impacts
Waterfowl Impacts

- Draft Ducks Unlimited Study submitted this morning
- Results are preliminary
- May need to follow up on questions
- Considered three representative years
  1999: wet year
  2002: dry year
  2005: above normal year

Changes in Managed Wetland Inundation
Changes in Managed Wetland Inundation

![Graph showing changes in managed wetland inundation over time.](image)

Changes in Managed Wetland Inundation

![Graph showing changes in managed wetland inundation over time.](image)
Waterfowl Food Production
Existing Conditions

Waterfowl Food Production
Alternative 1
Waterfowl Food Production
Alternative 4

Waterfowl Food Production
Alternative 5
Waterfowl Food Production
Alternative 6

Education Impacts

Inundation at Yolo Bypass Wildlife Area
Wetland Impacts

Water Supply

CVP and SWP Average Annual Changes in Deliveries (TAF)

- SWP contractors north of delta deliveries (2070 Hydrologic Condition)
- SWP contractors south of delta deliveries (2070 Hydrologic Condition)
EFFICIENCY

Efficiency

• Compares costs and benefits
• Annual costs include the construction costs (annualized over 100 years), operations and maintenance costs, and agricultural impacts
• Benefit estimates consider two approaches
  Willingness to Pay (WTP): this method monetizes the project benefits by determining the value of the project benefits/resource to the consumer.
  Most likely alternative: the cost of the most likely/least-cost action to obtain the same level of output is used as a proxy to estimate economic benefits
## Cost Benefit Comparison (in millions of dollars)

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