

# Yolo Bypass Salmonid Habitat Restoration & Fish Passage

## Environmental Impact Statement Environmental Impact Report

Yolo Bypass Biological Opinion Working Group  
May 17, 2016



State of California  
Department of Water Resources



U.S. Department of the Interior  
Bureau of Reclamation

## Range of Alternatives

Feature	Alternative 1 (No Project)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Notch Location	--	Central Fremont	Eastern Fremont	TBD	TBD
Notch Flow	--	6,000 cfs	6,000 cfs	< 6,000 cfs (TBD)	TBD
North Bypass Water Control Structures?	--	No	No	Yes	TBD
South Bypass Berms?	--	No	No	No	No

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## Alternative 5 Suggestions

- Notch flow less than 6,000 cfs without water control structures
- Larger notch to pass 6,000 cfs at lower Sacramento River elevations
  - Same as Large Notch, removed from further consideration because of fish passage concerns
- Larger notch with flows up to 10,000 cfs
- Multiple gates at Fremont Weir with notch flow less than 6,000 cfs

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## Evaluation Criteria

- Represent federal planning criteria
  - **Effectiveness:** how well an alternative plan would alleviate problems and achieve opportunities
  - **Completeness:** whether the alternative plan would account for all investments or other actions necessary to realize the planned effects
  - **Acceptability:** the viability of a comprehensive plan with respect to acceptance by other Federal, State, and local entities and compatibility with existing laws
  - **Efficiency:** how well an alternative plan would deliver economic benefits relative to project costs
- Evaluation factors measure how well each alternative meets each criterion

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## Evaluation Factors: **Effectiveness**

- **Flow <6,000 cfs, no water control structures**
  - Rearing habitat: moderate performance
  - Passage: moderate performance
  - Food production: moderate performance
- **Large notch up to 10,000 cfs**
  - Rearing habitat: very good performance
  - Passage: good performance
  - Food production: good performance
- **Multiple gates with flow <6,000 cfs**
  - Rearing habitat: good performance
  - Passage: good performance
  - Food production: good performance

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## Evaluation Factors: **Completeness**

- **All alternatives provide improvements for four focus fish**

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## Evaluation Factors: **Acceptability**

- **Flow <6,000 cfs, no water control structures**
  - Ag/recreation/waterfowl/education: good performance
  - Biological/cultural: good performance
  - Water supply/flood: very good performance
- **Large notch up to 10,000 cfs**
  - Ag/recreation/waterfowl/education: moderate performance
  - Biological/cultural: moderate performance
  - Water supply/flood: moderate performance
- **Multiple gates with flow <6,000 cfs**
  - Ag/recreation/waterfowl/education: very good performance
  - Biological/cultural: moderate performance
  - Water supply/flood: very good performance

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## Evaluation Factors: **Efficiency**

- **Flow <6,000 cfs, no water control structures**
  - Low costs, moderate benefits
- **Large notch up to 10,000 cfs**
  - High costs, high benefits
- **Multiple gates with flow <6,000 cfs**
  - High costs, good benefits

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## Analysis Conclusions

- **Alternative with notch flow <6,000 cfs and no water control structures does not perform as well as the other alternatives for effectiveness criterion**
  - Do not recommend carrying forward
- **Both remaining alternatives offer different trade-offs for analysis**
  - Notch flow of 10,000 cfs performs better than other alternatives for effectiveness criterion
  - Multiple gates performs reasonably well for both effectiveness and acceptability
- **Analysis will include multiple gates alternative; may also consider higher notch flow alternative**

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## Next Steps

- **Reclamation and DWR will work with stakeholders and agencies to consider changes to the multiple gates alternative to improve performance while maintaining intent of alternative**
- **Next technical team meeting will provide input on Alternative 5**
- **Next full group meeting: set up when fish behavior modeling is complete**

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