

A scenic photograph of the Yuba River flowing through a valley. The river is in the center, surrounded by lush green trees and vegetation on the hillsides. The sky is clear and blue. A thick blue wavy line runs horizontally across the middle of the image, separating the landscape from the text below.

# Yuba River Environmental Considerations

Forecast Informed Reservoir Operations Workshop  
August 2019

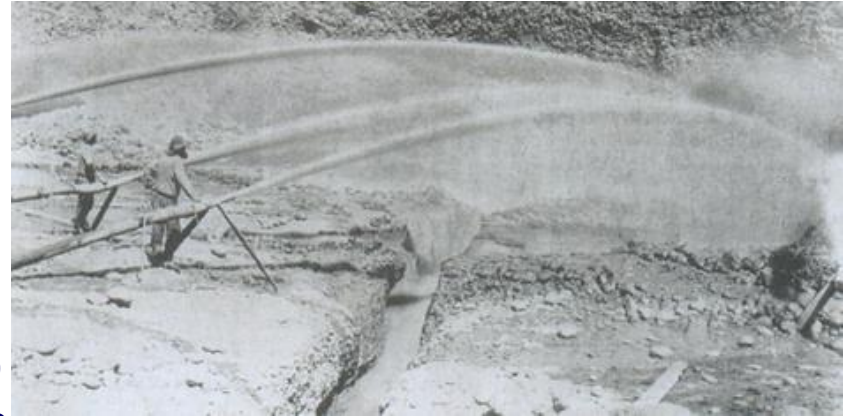
# Yuba Water Agency History

- 1959 – YCWA (YWA) established in Marysville
- 1970 - New Bullards Bar Dam and Reservoir – core of Yuba River Development Project – Large Cold Water Pool
- Directors: 5 County Supervisors + 2 Directors At Large
- Multiple benefits:
  - 170,000 AF of flood storage space
  - 400 MW of hydropower
  - water supplies to local farmers
  - groundwater aquifer restoration
  - coldwater flows for fish and wildlife
  - Project related recreation

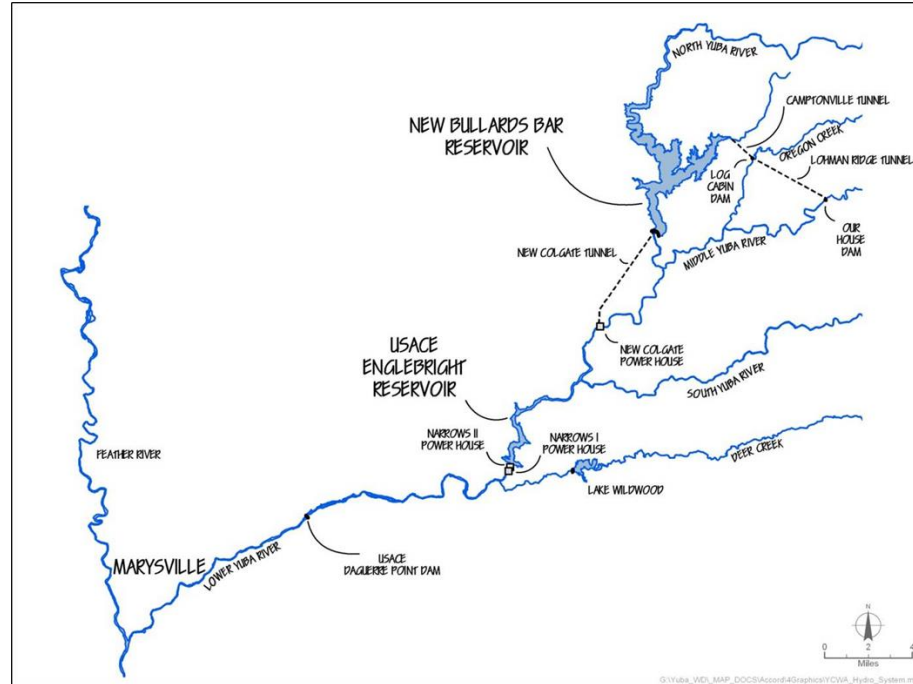


# Environmental Effects of the Gold Rush

- Late 1800's Gold Rush mining devastated the river
- Over 685 million cubic feet of debris was deposited in the river – three times the amount of earth excavated for the Panama Canal
- Mining debris raised the Yuba riverbed 30-80 ft, produced tragic floods and impaired river navigation
- 1906 – Daguerre Point Dam (25 feet tall)
- 1941 – Englebright Dam (265 ft tall; 29 million cubic yards of debris, no flood storage or fish ladders)
- 1950 and 1955 floods spur community to establish YCWA with the primary mission of flood control



# Yuba River Environmental Considerations Background

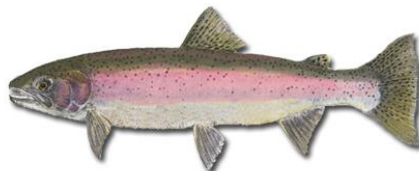


# Environmental Considerations

- Fisheries
  - Once abundant salmon and steelhead populations, now listed as threatened under ESA. ESA-listed green sturgeon occurs
  - COE's Englebright Dam restricts anadromous salmonids to lower 24 miles of river, and COE's Daguerre Point Dam restricts sturgeon to lower 12 miles
  - No hatcheries on the Yuba River, but large hatchery on Feather River upstream
  - The Lower Yuba is one of California's signature salmon streams



**CHINOOK SALMON •King•**  
Oncorhynchus Tshawytscha



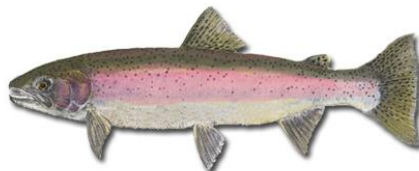
**STEELHEAD**  
Oncorhynchus Mykiss

# Environmental Considerations

- Habitat
  - SR chinook & steelhead life history was to migrate to the upper watershed with cooler temperatures and this was blocked by Englebright in 1941
  - Temperature was the limiting fishery factor on the lower Yuba until YCWA implemented the Lower Yuba River Accord to provide increased flow from the New Bullards Bar cold water pool in the summer and fall
  - Now rearing habitat is the limiting factor due to lack of diversity and complexity of habit (cover and food)
  - YCWA working on improving habitat conditions through the ongoing Bay-Delta WQCP Update VA Process – YWA’s VA based on Accord Flows



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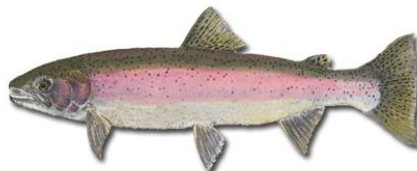


# Environmental Considerations

- Flood Flow
  - Only dedicated flood storage on Yuba River is 170 TAF in New Bullards Bar Reservoir (USACE Section 7 – Water Control Manual)
  - 50% of flood flow is uncontrolled from the Middle and South
  - The Yuba River is unique with Englebright being the rim dam with no storage (flood storage or water supply) which results in large flow fluctuations due to natural runoff from the Middle and South Yuba Rivers in large flood events



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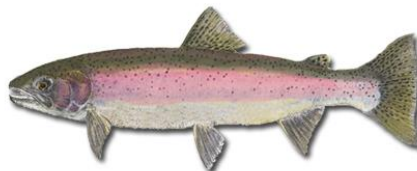
**STEELHEAD**  
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# Environmental Considerations

- **FIRO Operations**
  - FIRO operations with Secondary Spillway will be primarily for large flood events and for water supply during dry conditions
  - Under large flood conditions the Secondary Spillway and FIRO will provide for additional early release of flood flows creating additional flood space
  - In large flood events the same volume of water will be released and flow down the river over the flood event with the existing conditions and with FIRO operations
  - During dry conditions FIRO operations will be similar to those of Lake Mendocino



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# Environmental Considerations

- Environmental work
  - There is extensive environmental documentation on the lower Yuba River due to the Yuba Accord, Federal Energy Commission (FERC) relicensing work
  - The construction impacts of the Secondary Spillway have been covered in FERC's FEIS for relicensing
  - Operational impacts of the Secondary Spillway, FIRO and the Water Control Manual update will need to be addressed through NEPA and CEQA



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