



# The Effects of Unprecedented Drought on a Statewide System of Coldwater Fish Hatcheries



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# 2012-2016 Driest in CA in Recorded History (1895)

## Effects on Coldwater Hatcheries

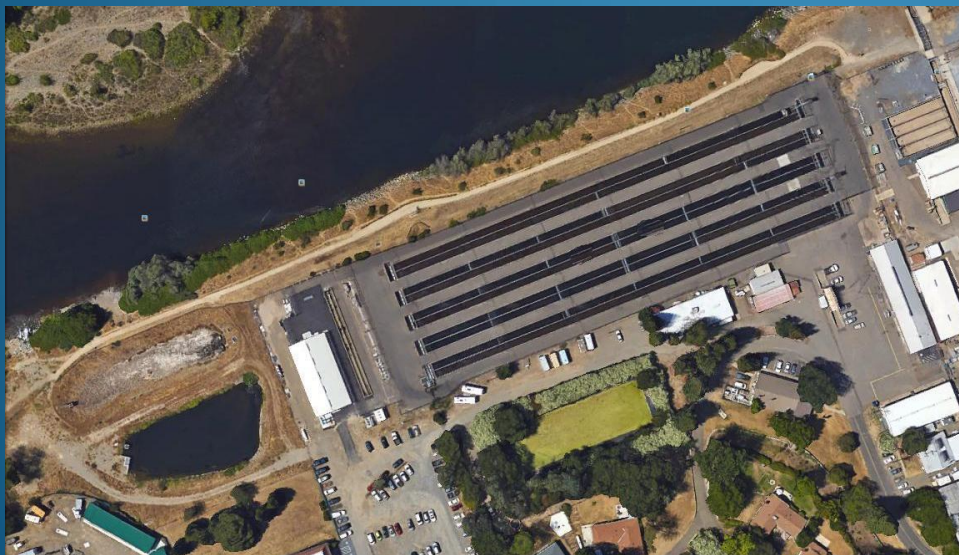
- Depopulate
- Failed broodstock
- Infrastructure
- Rescue Wild Fish





# Depopulation of Production Hatcheries

- Major trout production facilities
  - 50 to 60 years of reliability
  - Move fish to avoid mortality
  - Disrupted production cycles
    - Effects ripple statewide for years

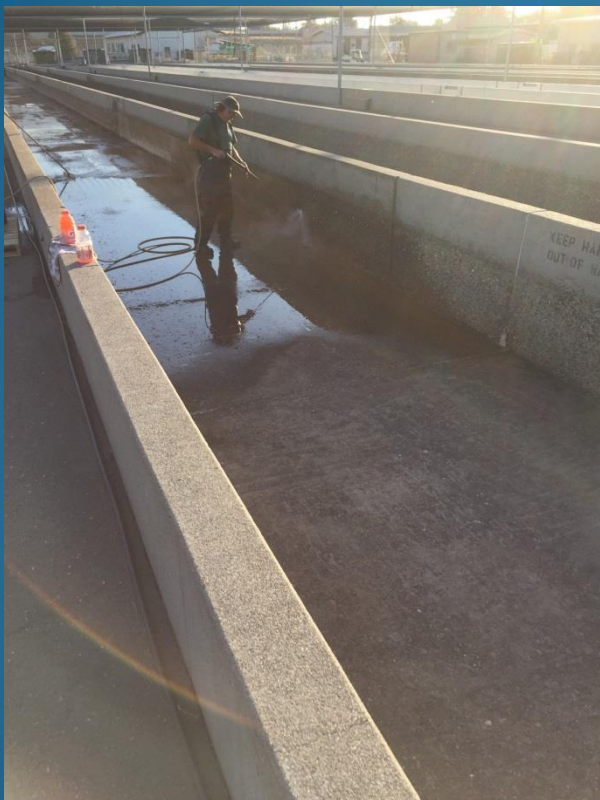






## Side Benefit of Evacuating Production Hatcheries:

- Pressure wash and epoxy coating





# Failure of broodstock waters due to drought:

- Pine Creek (Eagle Lake)







# Failure of broodstock waters due to drought:

- Low flow, no migration





# Failure of broodstock waters due to drought:

- Heenan Lake (7,000')
- Lahontan Cutthroat Trout







# Failure of broodstock waters due to drought:

- Low water, ladder inaccessible







# Infrastructure as a Result of Drought

- Emergency Drought Funding
- Filtration, UV, Chilling, PRAS





# Rescuing wild fish in peril from drought

- California Golden Trout
- <https://youtu.be/esuwMiunwHE>





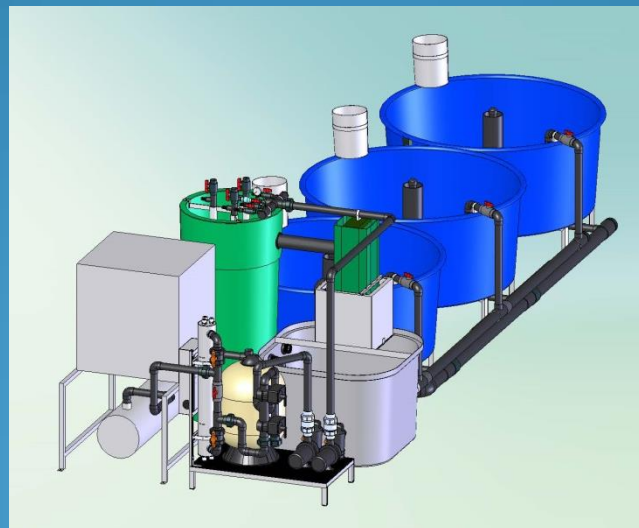
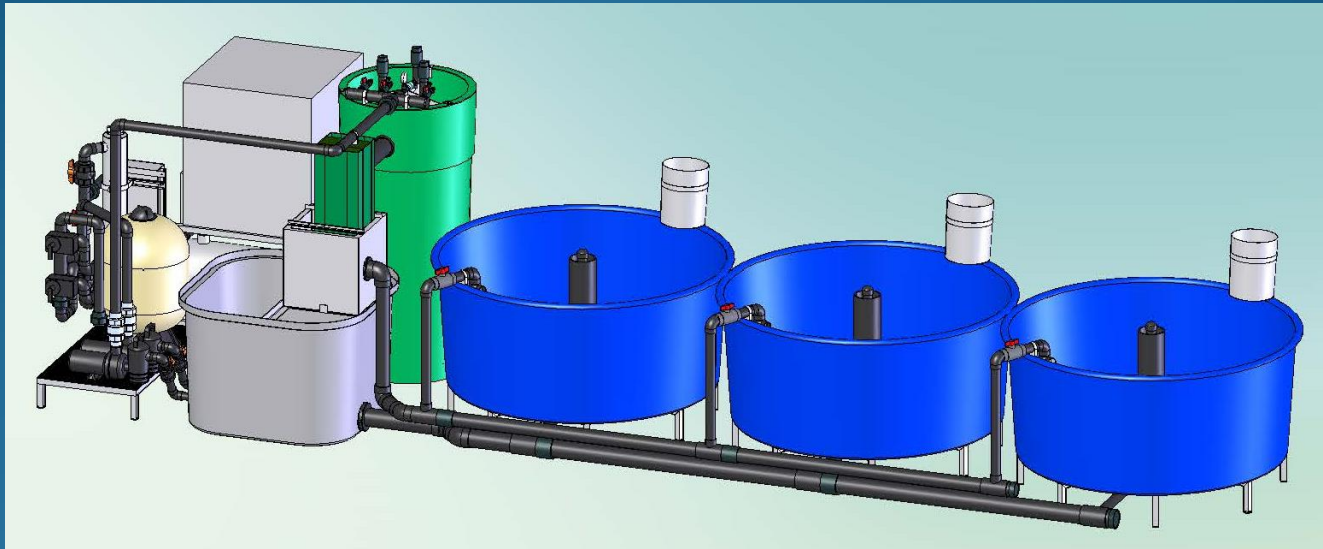


# Rescuing wild fish in peril from drought

- Dept. Fish Rescue Policy
- Director's Internal Policy
- Federal-Dept. Agreement
- Fish Rescue Matrix
  - Monitoring
  - Translocation
  - Rescue



# Self-contained RAS (drought safe haven)







# Rescuing wild fish in peril from drought

- McCloud River Redband Trout
  - <https://vimeo.com/188421508>





# Summary

The Effects of Drought on a Statewide System of Coldwater Fish Hatcheries are challenging

- Questions?

