

# California Hatchery Review Project

Recovering, Conserving & Sustaining  
California's Salmon & Steelhead Fisheries



# What is in the Final Report?

Purpose and Scope

Context

Issues of Greatest Importance

Statewide Recommendations and Standards

Program Recommendations

Implementation and Research



# What was the purpose of the California Hatchery Review?

Make Recommendations to:

- Improve hatchery efficiency
- Support commercial, tribal, and recreational fisheries
- Reduce the impact of hatchery operations on natural populations



# Context

Two large systems – KT and CV

Both have listed and non-listed stocks

Both have degraded habitat and large dams

Both have large mitigation hatcheries

Both have commercial and recreational fisheries

KT has terminal tribal fisheries, CV does not



# Context

Literal view of segregation re: programs

70 percent brood harvest rate may be too high  
for naturally spawning fish in CV

No mark-selective salmon fisheries in CA



# Issues of Greatest Importance

14 issues with the greatest for management  
Context in Chapter 2 vital to understanding

Habitat Degradation

Monitoring and  
Evaluation

Marking and Tagging

Program Goals

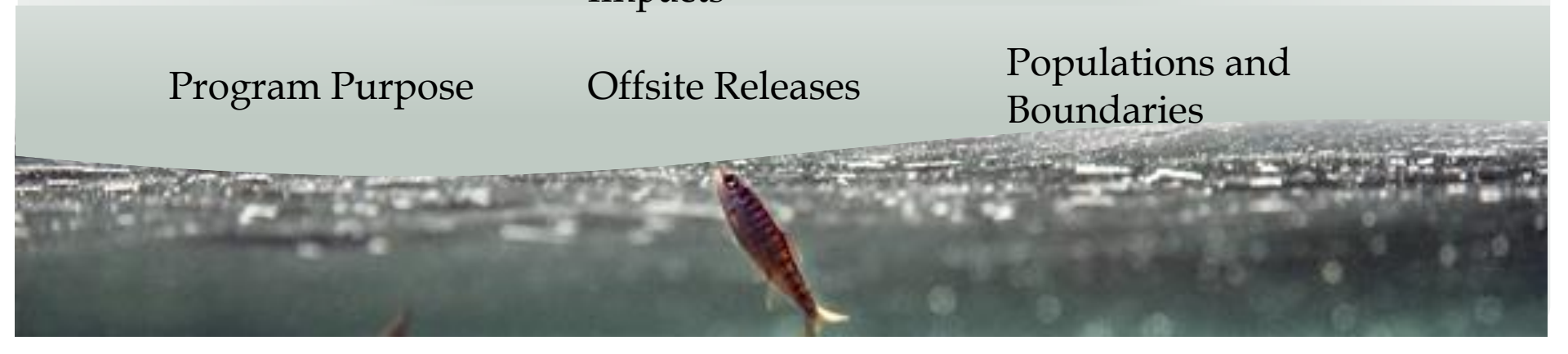
Program Size  
Independent of  
Impacts

Fish Health

Program Purpose

Offsite Releases

Populations and  
Boundaries



# Issues of Greatest Importance

14 issues with the greatest for management  
Context in Chapter 2 vital to understanding

Harvest Should  
Account for Natural  
Spawners

Exclude Yearling  
Releases from  
Broodstock

Separation of Runs of  
Hatcheries

Underperforming  
Steelhead Programs

1:1 Matings



# Statewide Recommendations

Broodstock Management

Program Size and Release

Incubation Rearing and Fish Health

Monitoring and Evaluation

Effects on Habitats and Organisms





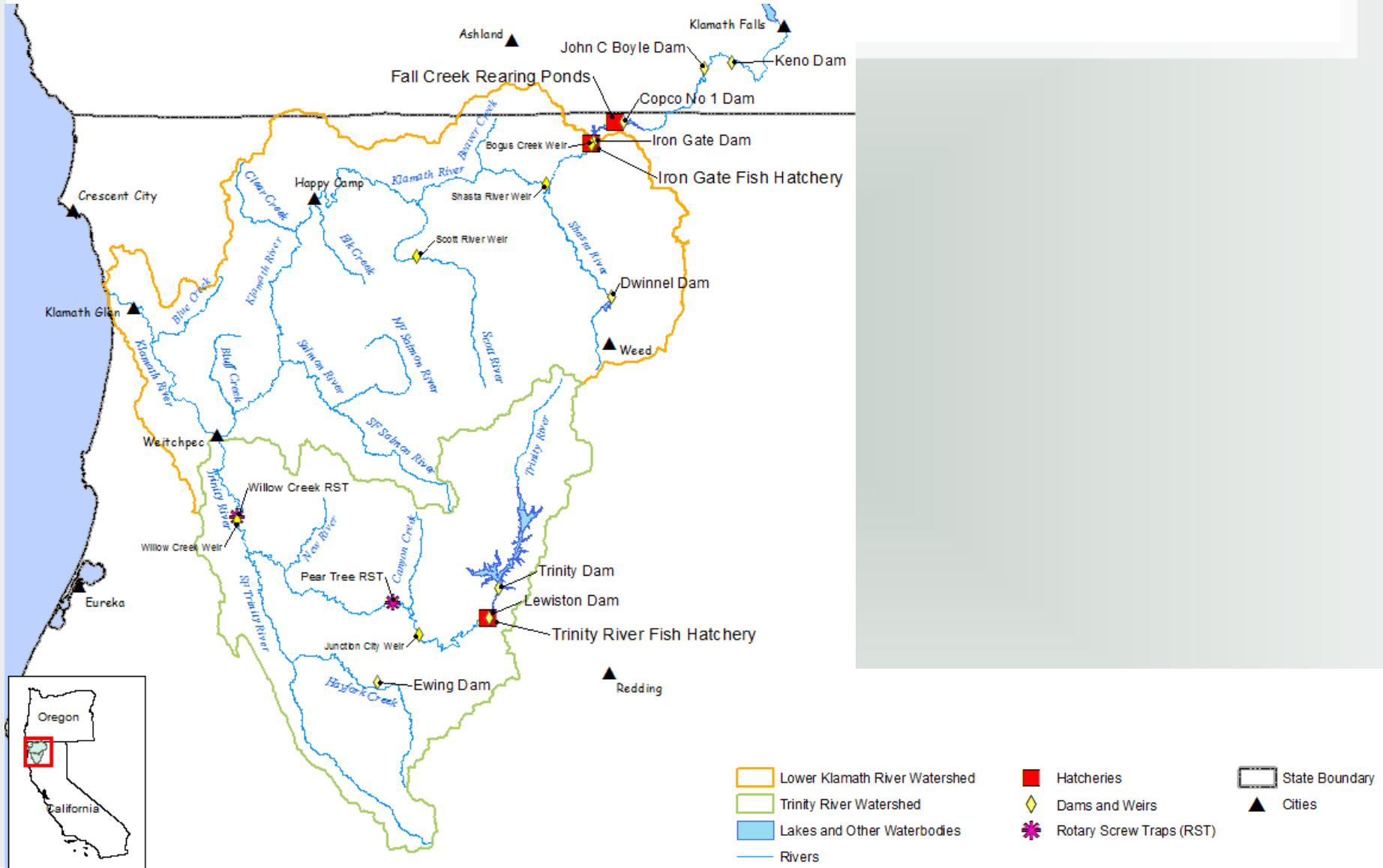
# Hatchery Program Recommendations

Information gathered through site visits and  
Hatchery Program Viewer (HPV)

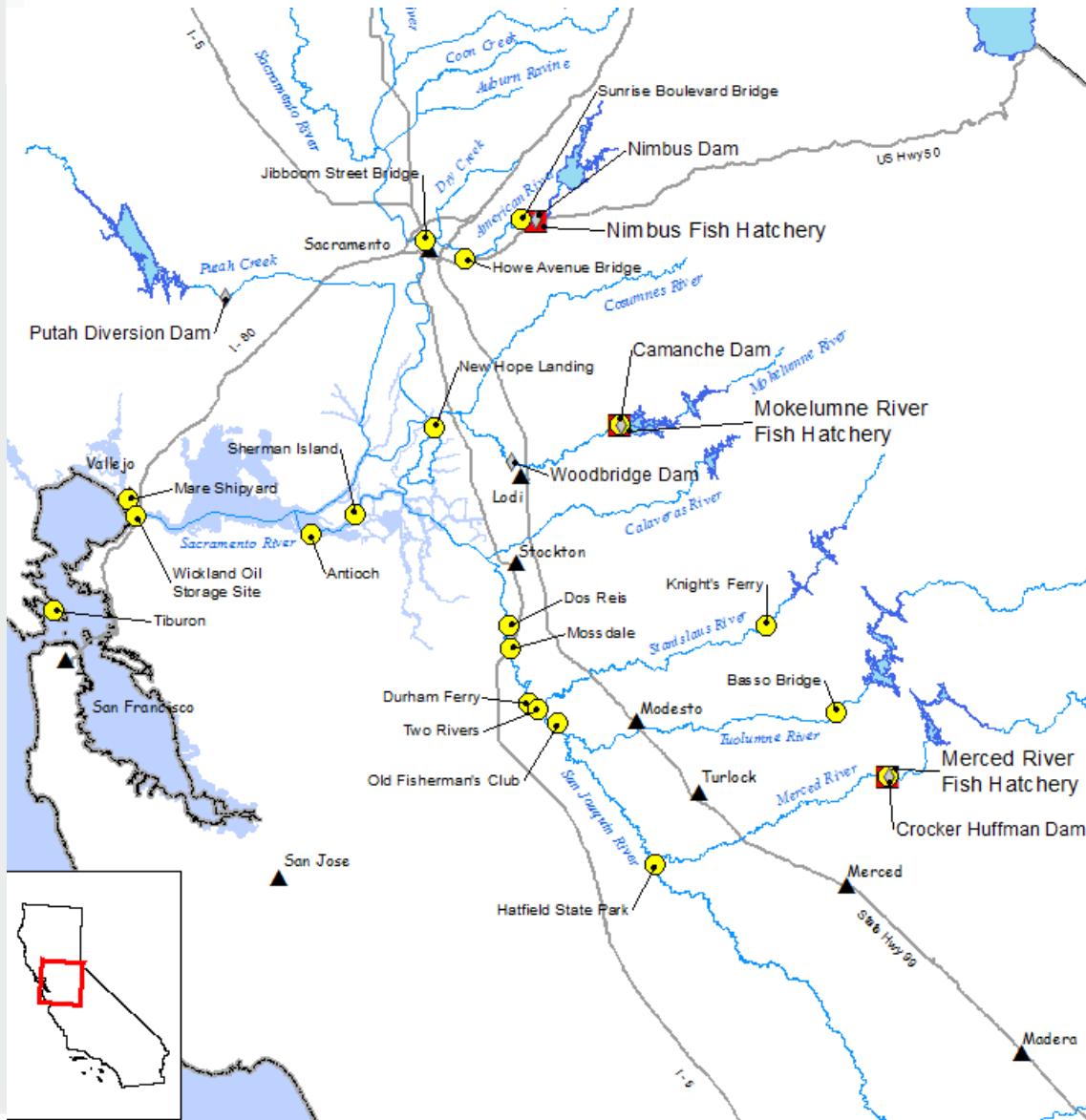
120 Recommendations for 19 Programs









# Klamath/Trinity Region



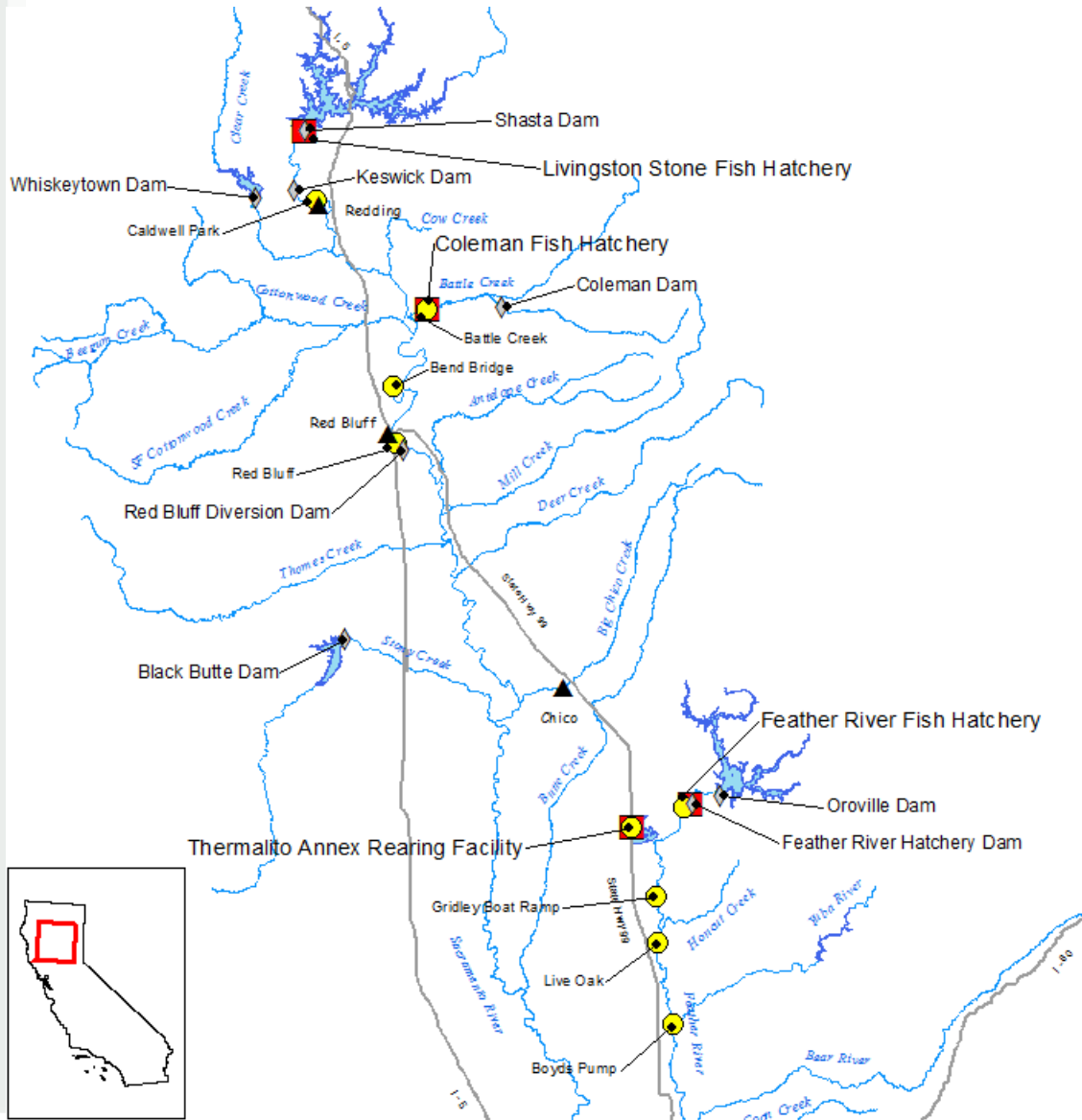
# Central Valley South Region








- |   |   |
|---|---|
|  Lakes and Other Waterbodies |  Dams          |
|  Rivers                      |  Release Sites |
|  Highways                    |  Hatcheries    |
|  Cities                      |   |



# Central Valley North Region



- |   |   |
|---|---|
|  Lakes and Other Waterbodies |  Dams          |
|  Rivers                      |  Release Sites |
|  Highways                    |  Hatcheries    |
|  Cities                      |   |

# Hatchery Program Recommendations

Information gathered through site visits and  
Hatchery Program Viewer (HPV)

120 Recommendations for 19 Programs



# Implementation

Regular Performance Reviews by HCTs – both  
Programmatic and Regional every 10 yrs

Complete HGMPs

Staff with Expertise should address Technical  
problems

Detailed Standardized Monitoring



# Implementation

Review Coastal Hatcheries

Find Permanent Host for Publicly Accessible  
Website



# Research

Population Identification and Delineation

Relative Reproductive Success

Effects of Hatchery Fish on Natural Populations

Development of Anadromy in *O. mykiss*

Parentage Based Tagging





# Research

Long-term Changes to Natural Population  
Productivity

Decline in Steelhead Program Anadromy

Domestication of Natural and Hatchery Pops

Carrying Capacity and Production Goals

Effects of Mating Protocols on Age Distribution



[www.CAhatcheryreview.com](http://www.CAhatcheryreview.com)



# Members of the California Hatchery Scientific Review Group

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