

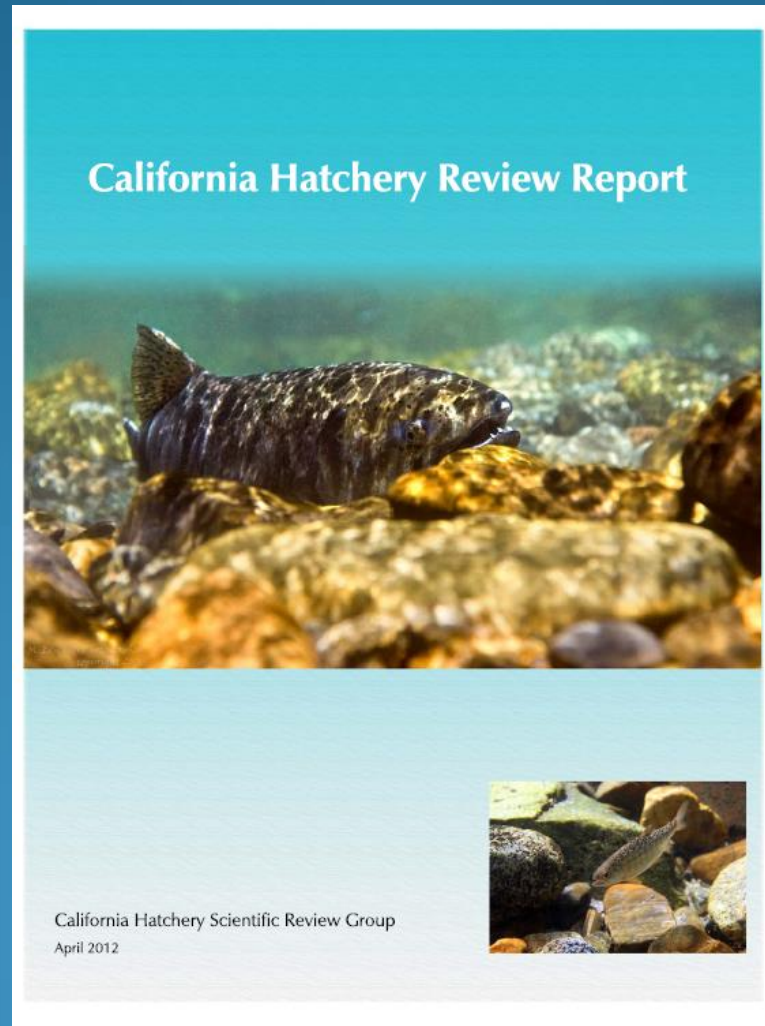


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# California Hatchery Scientific Review Group Report

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# California Hatchery Scientific Review Group Report

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# California Hatchery Scientific Review Group Report

## Team's Role

- Look at current scientific information
- Develop recommendations in hatchery operations



# California Hatchery Scientific Review Group Report

## Hatchery Coordination Teams

Mad River Fish Hatchery

Trinity River Fish Hatchery

Iron Gate Fish Hatchery

Feather River Fish Hatchery

Nimbus Fish Hatchery (American River)

Mokelumne River Fish Hatchery

Merced River Fish Hatchery

San Joaquin Salmon Conservation Fish Hatchery

Warm Springs Fish Hatchery

Coleman Fish Hatchery (federal)

Livingston Stone Fish Hatchery (federal)

# California Hatchery Scientific Review Group Report

## Hatchery Coordination Teams

Team Members include

*state agencies*

*federal agencies*

*Hoopa and Yurok tribes*

*Mitigators/funders*

*Hatchery Operators*

# California Hatchery Scientific Review Group Report

## Hatchery Coordination Teams

Membership based on role/expertise

*geneticist*

*biologists*

*local fisheries managers*

*pathologists*

*NDPES specialist*

*HGMP specialist*

*hatchery managers*

*mitigators*

# California Hatchery Scientific Review Group Report

## Hatchery Coordination Teams

Membership based on role/expertise

*HSRG authors also participate*

*Dr. Carlos Garza*

*Scott Hamelberg*

*Michael Lacy*

*Dennis Lee*

*Kevin Niemela*



# California Hatchery Scientific Review Group

## Hatchery Policy Team



Trinity River Fish Hatchery

Mad River Fish Hatchery

Iron Gate Fish Hatchery

SJ Salmon Conservation Fish Hatchery

Merced River Fish Hatchery

Mokelumne Fish Hatchery

Nimbus Fish Hatchery

Coleman Fish Hatchery

Livingston Stone Fish Hatchery

Feather River Fish Hatchery

Warm Spring Fish Hatchery

# California Hatchery Scientific Review Group

## Hatchery Policy Team

- Review HCT recommendations
- Find funding sources
- Ensure consistency/integration statewide

## Hatchery Coordination Team responsibilities

- Review and evaluate recommendations
- Identify needs
- Develop implementation plan for consideration by the Hatchery Policy Team

# California Hatchery Scientific Review Group

## Where we are now

Hatchery Coordination Teams starting to meet  
Beginning to evaluate recommendations  
Several teams developing the hatchery purpose



# California Hatchery Scientific Review Group Report

## Hatchery Coordination Teams

Mad River Fish Hatchery

Trinity River Fish Hatchery (MOA)

Iron Gate Fish Hatchery

Feather River Fish Hatchery

Nimbus Fish Hatchery (American River)

Mokelumne River Fish Hatchery

*Merced River Fish Hatchery*

San Joaquin Salmon Conservation Fish Hatchery

*Warm Springs Fish Hatchery*

Coleman Fish Hatchery (federal)

Livingston Stone Fish Hatchery (federal)





# California Hatchery Scientific Review Group Report

Statewide recommendations

Hatchery-specific recommendations

Program –specific recommendations

Chinook Salmon

Coho Salmon

Steelhead



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



# California Hatchery Scientific Review Group Report

## Statewide Recommendations (examples not inclusive)

Continue or expand efforts to protect and restore habitat quantity and quality

Express program goals in terms adult production

Create hatchery monitoring and evaluation programs and hatchery coordination teams

Program size (as measured by juvenile production) should integrate potential impacts on natural populations



# California Hatchery Scientific Review Group

## Statewide Marking & Tagging Recommendations

All hatchery Fall-run Chinook: 100% CWT and 25% adipose clipped and yearlings have an additional external mark

- Allow real-time identification of hatchery-origin fish
- To improve monitoring of hatchery and natural interactions throughout entire life cycle
- To enable culling of undesirable hatchery matings between out-of-sub basin and local stocks or between spring-run and fall-run stocks of the same basin



To monitor and potentially control spawner composition in natural spawning areas



# California Hatchery Scientific Review Group Report

## Hatchery-level Recommendations (examples)

*Mokelumne*: Broodstock should only come from native locally adapted stocks

*Nimbus*: A Monitoring and Evaluation program should be developed and implemented

*Iron Gate*: Adult holding facilities should be upgraded and expanded to provide adequate space, water flows and temperature regimes to hold adults for broodstock and increase survival





# California Hatchery Scientific Review Group Report

## Program-level Recommendations (examples)

*Trinity Fall Chinook:* CWT releases and recoveries of fall Chinook should be reported annually to RMIS in a timely manner

*Nimbus Steelhead:* Natural-origin adult steelhead returns to the hatchery, whether spawned or unspawned, should be released. Fish may be reconditioned prior to release

*Iron Gate Coho:* Water quality for egg incubation should be improved to remove organic debris and siltation that is likely affecting egg survival



# California Hatchery Scientific Review Group



Long-term process

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



# California's Drought

First time in 15 years the entire state is officially in a drought

NOAA reported that  $\frac{1}{2}$  of the Sierra Nevada snowpack liquid water melted in one week

Northern Sierra precipitation is  $\frac{1}{2}$  of average

Mountain snowpack is 20%-30% of average

2013-14 water year will likely rank 3<sup>rd</sup> to 5<sup>th</sup> for the driest year in more than 90 years of record-keeping



# California's Drought



Reservoirs are at about 50% of storage





# California's Drought

## Drought # 1 CDFW priority

Coordinating with water operators on many fronts

Emergency fishing closures

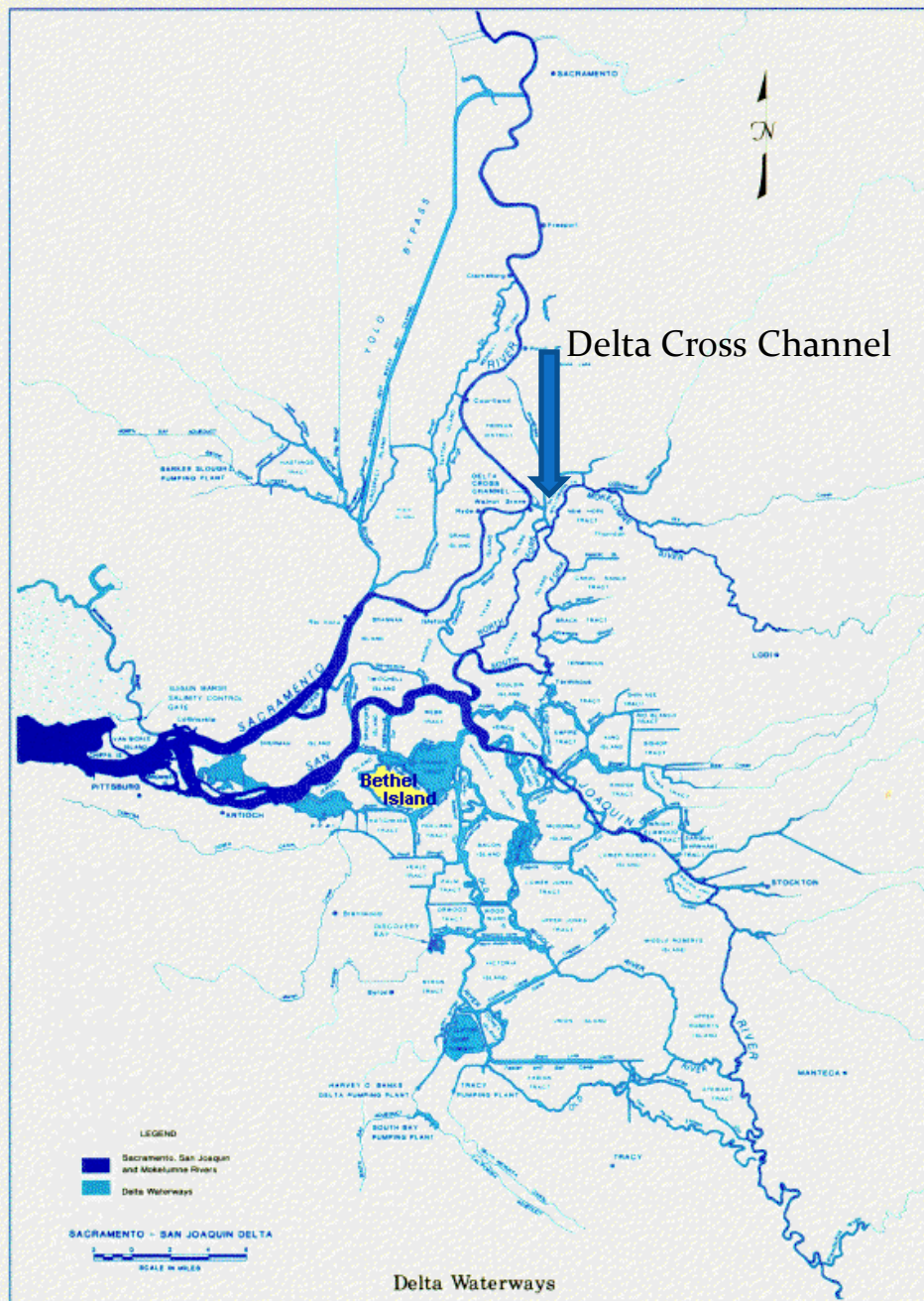
Enhanced monitoring statewide

Hatchery Actions

# California's Drought

## Hatchery Actions

Coleman Fish Hatchery  
Fall-run Chinook releases



# AB 2684

## Hatchery Practices: Salmon and Steelhead

*The people of the State of California do enact as follows:*

SECTION 1. Section 1120.5 is added to the Fish and Game Code, to read:

1120.5. The department shall implement policies and practices for hatchery ~~salmonids~~ *chinook salmon, coho salmon, and steelhead* reared or released in California waters by adopting all line 6 of the following:

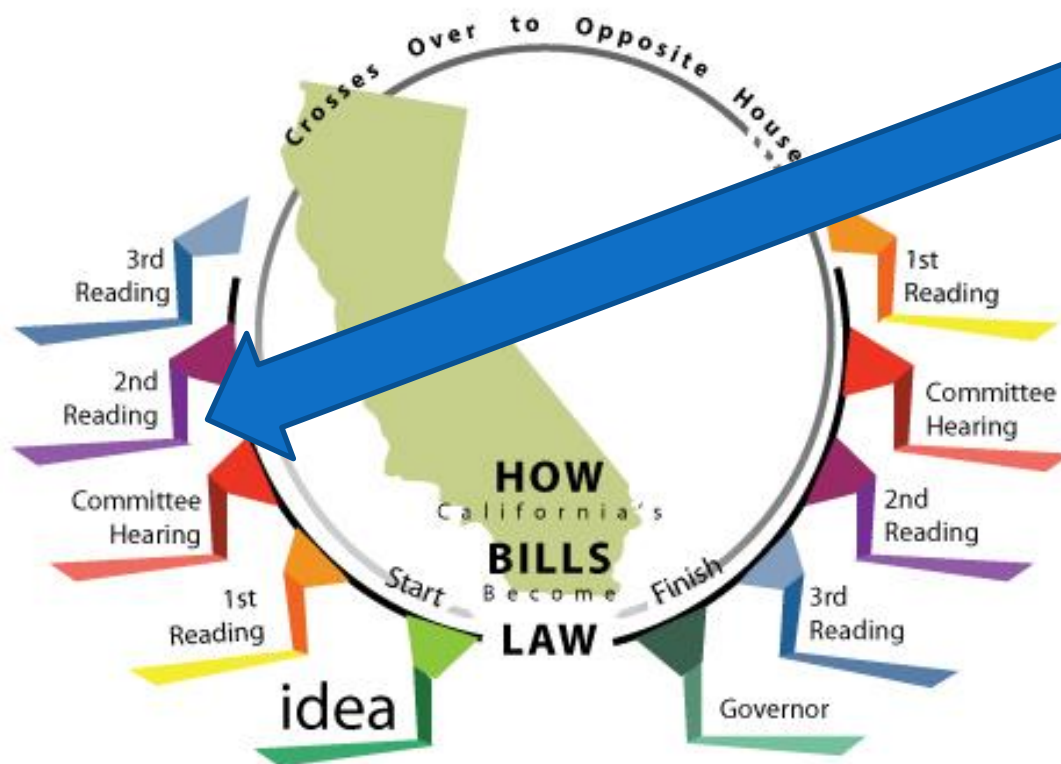
- (a) Hatchery practices that improve the survival and fitness of the hatchery population.
- (b) Hatchery practices that reduce the genetic and ecological risks posed by hatchery juveniles and adults to wild and native populations.
- (c) A requirement that hatchery ~~salmon~~ *chinook salmon, coho salmon, and steelhead* released in California waters be externally marked on the top fin at a level to be determined by the department and that all hatchery ~~salmonids~~ *chinook salmon, coho salmon, and steelhead* be coded-wire tagged prior to their release.

# AB 2684

## Hatchery Practices: Salmon and Steelhead

We are here...

2<sup>nd</sup> pass from  
Committee Water,  
Parks & Wildlife to  
Appropriations





# Questions?

