

California Hatchery Review Report - Trinity River Hatchery

by
California Hatchery Scientific Review Group
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California Hatchery Review – Statewide Report

www.CAHATCHERYREVIEW.COM

- Review was initiated in 2010, report completed April 2012.
- Goal of this hatchery program review initiative is to ensure that hatchery programs are managed and operated to meet on or both of the primary purposes for hatcheries:
 - Helping recover and conserve naturally spawning salmon and steelhead populations, and
 - Supporting sustainable fisheries with little or no deleterious consequences to natural populations.

General Recommendations for Trinity River Hatchery

- Natural-origin fish should be incorporated into broodstock
- Upgrade adult holding facilities
- Upgrade adult spawning facilities
- Investigate feasibility to collect natural-origin fish at alternative locations
- Performance standards at each life stage need to be developed and tracked
- Develop a Monitoring and Evaluation Program and establish a Hatchery Coordination Team
- Develop a formal fish health policy for the hatchery.
- Develop an updated hatchery procedures manual reflecting current research and advancements in fish culture.

TRH Spring-run and Fall-run Chinook salmon

(not an exhaustive list)

- Adult collection facilities should be operated throughout the run.
 - Currently the ladder is closed for 2 weeks to minimize hybridization of spring and fall-run Chinook salmon in the hatchery. Fish captured during this period should be euthanized.
- Tag analyses should be conducted to track potential hybridization of spring-run and fall-run Chinook salmon, with egg lots tracked.
 - Hybridized egg lots should be eliminated from production.
- All fish should receive a coded wire tag and 25% adipose fin clipped.
 - Yearling releases should get an additional external mark (i.e.: ventral clip)
- Adults from yearling releases should not be used as broodstock.
- CWT releases and recoveries should be reported to regional database in a timely manner.
- Jacks should be incorporated into broodstock
- Fish growth trajectories need to be monitored to achieve release target size.

TRH Coho salmon

(not an exhaustive list)

- Co-managers should identify the purposes and goals of the coho program and determine the appropriate size given mitigation goals, ESA status, and tribal trust issues
 - Spawning escapement has generally averaged over 3-times the spawning escapement goal for the hatchery.
- Jacks should be incorporated into the broodstock.

TRH Steelhead

(not an exhaustive list)

- Program goals should be measured as number of hatchery origin adult and half-pounders returning to freshwater each year.
- Disposition of hatchery-origin adult steelhead returns
 - Unspawned males removed from system or reconditioned and released
 - Unspawned females removed from system or reconditioned and released
 - Spawned males removed from system
 - Spawned females removed from system
- Natural-origin adults that return to hatchery, whether spawned or unspawned should be released

Implementation Recommendations

- Regular programmatic performance reviews
- Development of Hatchery and Genetic Management Plans, including monitoring and evaluation efforts for hatchery evaluation.
- Funding agencies adopt HSRG standards and guidelines as the basis for future funding and accountability.
- Develop detailed and standardized protocols for monitoring.

Areas of needed research

- Identify and delineate population boundaries
- Determine relative reproductive success of hatchery and natural-origin fish spawning in natural areas.
- Assess ecological effects of hatchery origin fish and naturally spawning populations
- Investigate the potential uses and limitation of parentage based tagging.
- Assess long-term changes in productivity of natural spawning populations under continuing hatchery supplementation.
- Investigate causes of decline in returns of steelhead programs (IGH and Mokelumne)
- Investigate hatchery domestication selection and develop mitigation strategies
- Develop adaptive framework for habitat carrying capacity and production goals
- Determine effects of hatchery spawning and mating protocols on age distribution.

Trinity River Hatchery MOA for Governance Board

- Purpose of the agreement is to establish the governance structure among the parties and collaborators regarding the hatchery programs at TRH.
 - Authorities: PL-84-386 (TRD), PL98-541&PL104-143 (TR Restoration Program), PL 102-575 (CVPIA), Hoopa Valley Tribe constitution (June 1972) and Yurok Constitution (November 1993), ESA (16-USC 1531 *et seq.*), Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 *et seq.*), Fish and Wildlife Coordination Act (16 USC 661 *et seq.*)
 - Unique need for governance structure for TRH because it is a federal facility that helps meet the Federal Government's trust responsibilities to the Hoopa Valley Tribe and Yurok Tribe and meet the mandate of Congress to restore fish populations of the Trinity River.
 - MOA is undergoing final edits.

TRH Hatchery Coordination Team (HCT)

- Evaluate recommendations in report
- Conduct additional analyses
- Make recommendations to the governance board to consider

Trinity River Hatchery Lawsuit – update

- On May 20, 2013, the Environmental Protection Information Center (EPIC) filed suit against the California Department of Fish and Wildlife (CDFW), alleging violations of section 9 of the ESA, and the Bureau of Reclamation for allegedly violating sections 7 and 9 of the ESA.
- Among the allegations was that because the hatchery is not operating consistent with a Hatchery and Genetics Management Plan (HGMP) for coho salmon that has been approved by the National Marine Fisheries Service (NMFS), the funding agency and operation and maintenance agency are in violation of the ESA.

Trinity River Hatchery Lawsuit – update

A subsequent amended complaint listed some things EPIC wanted as relief, including:

- Use of 50% natural origin broodstock for any hatchery coho production prior to NMFS approving a HGMP;
- Limit production of coho to 200,000 annually (down from the current 500,000) prior to NMFS approving a HGMP;
- Limit production of hatchery steelhead to 200,000 (down from the current 800,000) prior to NMFS approving a HGMP or providing other authorizations;
- That Reclamation be enjoined from funding the hatchery operations until ESA authorizations are obtained;
- Attorneys' fees and other legal expenses.

Trinity River Hatchery Lawsuit – update

- On December 10, 2013, a lawsuit settlement conference between the Plaintiff, Defendants, Defendant-Interveners, and a Magistrate Judge was held. A settlement-in-principle was negotiated between the parties. Subsequently, a draft Proposed Consent Decree has been agreed to by the parties, and should imminently be approved by the Department of Justice (necessary for the federal defendant).
- The draft consent decree includes several actions. While it is not appropriate to list specific provisions until the Proposed Consent Decree is final, it is clear from the original complaint that the Plaintiff is interested in expediting a NMFS-approved HGMP

2013 Fisheries and Spawning Escapement Update

Preseason and Post-Season Fall-run Chinook Salmon Inriver Run -2013

Klamth Basin Adult Fall-Run Chinook Salmon - 2013

	Preseason	Post-Season	Pre/Post
Inriver Run	272,400	165,140	0.61
Natural Spawning Escapement	73,800	59,627	0.81
Tribal Harvest	114,800	62,774	0.55
Inriver Sport Harvest	40,000	19,728	0.49
Ocean Harvest Rate (age 4)	0.16	0.20	1.25

**Ocean Abundance Projections and Prospective Harvest Levels for
Klamath River Fall Chinook, 2014 Season**

Klamath River Technical Team
5 March 2014

Predictor performance for 2013 and forecasts for 2014 are:

	<i>Age</i>	<u>2013</u>			<i>2014 Forecast</i>
		<i>Preseason</i>	<i>Postseason</i>	<i>Pre/Post</i>	
Ocean Abundance	3	390,700	286,400	1.36	219,800
	4	331,200	203,500	1.63	67,400
	5	5,700	4,900	1.16	12,100
Proportion Natural	3	0.66	0.71	0.93	0.65
	4	0.71	0.81	0.88	0.74
	5	0.79	0.96	0.82	0.80
Ocean Harvest Rate	4	0.16	0.20	0.82	-
Ocean Fall Harvest	3	-	0	-	-
	4	-	1,834	-	-
	5	-	628	-	-

**Ocean Abundance Projections and Prospective Harvest Levels for
Klamath River Fall Chinook, 2014 Season**

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<i>Sector</i>	<i>KOHM Forecasts</i>	
	<i>(A) No-fishing in 2014</i>	<i>(B) 2013 Regulations</i>
Adult Spawners		
Natural Areas	75,300	19,200
Hatcheries	32,000	9,200
Adult Harvest		
Ocean Commercial	2,300	24,000
Ocean Recreational	200	3,500
River Recreational	0	14,800
Tribal	0	42,300
Age-4 Ocean Harvest Rate	0.027	0.194
Spawner Reduction Rate	0.022	0.750

QUESTIONS?



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