IRON GATE HATCHERY
PRODUCTION GOALS AND CONSTRAINTS[1]
California Department of Fish and Game
Northern Region
601 Locust Street
Redding, CA 96001

Hatchery Source

Only adult salmon and steelhead that volitionally enter Iron Gate Hatchery will be spawned as broodstock. Anadromous fish stocks from tributary or sub-basins within the Klamath River will not be spawned for production at Iron Gate Hatchery unless specified in a Hatchery Genetics Management Plan.

Distribution of Egg Allotment

The annual egg allotment for steelhead, Chinook, and coho salmon shall be procured in representative proportion of their natural run timing. Maintaining production by the proportion distribution of the eggs (genetic diversity) throughout the spawning run will take precedence over meeting egg allotments or numeric production goals.
Eggs or fry on hand and in excess of the aforementioned goals shall be destroyed unless their use is approved for inland fisheries programs. Excess eggs and fry will not be stocked in anadromous waters without consulting with the National Marine Fisheries Service by the California Department of Fish and Game (Northern Region).

Disposition of Returning Adults

Returning adult fish shall be allowed free access to the hatchery, consistent with allotted staffing, water quality and flow. In the event in-hatchery adverse conditions occur and the potential for fish loss is great, the fish ladder will be temporarily closed. Adult salmon entering Iron Gate Hatchery will be processed in the following manner:

Chinook Salmon

1. All adult Chinook salmon entering Iron Gate Hatchery will be dispatched.
2. Carcasses will be donated to nonprofit organizations at the discretion of the hatchery manager.
3. Unclaimed carcasses will be disposed of at a refuse disposal site or returned to the river as directed by agreement between National Marine Fisheries Service and California Department of Fish and Game (Northern Region).
4. The head of each adipose fin-clipped Chinook salmon will be removed from the carcass and stored for coded-wire tag processing.

[1] These goals and constraints met California Fish and Game Commission policies to conserve natural stock diversity and abundance, as well as meet legally mandated production requirements of the hatchery.

Coho Salmon

For any year in which a real time genetic broodstock management program is in place at Iron Gate Hatchery, coho salmon mating will follow the recommended mating matrix provided by the National Marine Fisheries Service to minimize inbreeding effects. The breeding protocol will specify which male and female crosses will result in the least likelihood of inbreeding. The breeding matrix will minimize inbreeding and allow for spawning crosses to occur regardless of origin or age.

In the absence of a real time genetic broodstock management program (in consultation with NOAA) Iron Gate Hatchery spawning will attempt to minimize genetic divergence and inbreeding through various measures. To maximize gene flow between hatchery-origin (HO) and natural-origin (NO) fish, and to minimize inbreeding, unmarked fish as available in compliance of HGMP will be used as broodstock. To maximize gene flow between brood years, approximately 20% of males will be jacks as availability dictates. To the extent possible age 3 HO crosses will be reduced or eliminated due to the risks of inbreeding in these crosses.

All excess unspawned broodstock will be released into the Klamath River at Iron Gate Hatchery. To the extent possible all coho salmon mating will occur at a rate specified by the HGMP. This will increase the effective family size at the hatchery (e.g., One NO female with two HO males). Known Trinity River Hatchery-origin fish will not be included in coho salmon broodstock at Iron Gate Hatchery unless special circumstances arise (such as low broodstock availability) after consultation with the National Marine Fisheries Service and approved by California Department of Fish and Game (Northern Region). Tissue samples will be collected from all fish entering the hatchery. If that is not possible, samples will be taken from all mated pairs and from a representative sample of unmarked fish to monitor the hatchery population and the effects of these protocols on the natural population.

Steelhead

All live adult steelhead processed in the hatchery shall be returned to the river. Any dead steelhead will be donated to nonprofit organizations, disposed of at a refuse disposal site or returned to the river at the discretion of the hatchery manager.

Rearing and Stocking

All juvenile salmon and steelhead will be released into the Klamath River at the hatchery facility. Iron Gate Hatchery stocks will not be reared or stocked in other sub-basins or tributaries to the Klamath River, without consulting with the National Marine Fisheries Service and approved by California Department of Fish and Game (Northern Region).

The goals and constraints for egg allotments, release numbers, minimum size at release and release timing for all species cultured at the hatchery are listed in Table 1.

Procedures for Change

Any exception to or modification of the Iron Gate Hatchery steelhead, Chinook and coho salmon program shall require the joint written approval of the Regional Manager for the Northern Region and Fisheries Branch Chief.

Table 1. Rearing and Stocking Goals and Constraints for IGH.

Species	Egg Allotment	Type	Number	Target Release Size[1/]	Target Release Dates[1/]
Fall Chinook	10,000,000	Smolt	4,920,000[2/]	90/lb.	May 1 - June15
		Yearling	1,080,000[3/]		October 15 - November 20
Coho	500,000[4/]	Yearling	75,000	10 - 20/lb.	March 15 - May 1
Steelhead	500,000	Yearling	200,000	6 inches	March 15 - May 1

1/ If unusual circumstances dictate, releases may deviate from the target release sizes and dates on approval from the Regional Manager. Unusual circumstances may include water supply failure, poor water quality conditions, disease issues, or anticipated elevations in water temperature equal to or greater than 65°F for prolonged periods (days) in the receiving waters of the Klamath River.

2/ In years when yearlings are not reared at the Fall Creek facility, the smolt production shall be 5,100,000.

3/ Approximately 900,000 shall be reared at Iron Gate Hatchery and 180,000 shall be reared the Fall Creek facility and released from Iron Gate Hatchery. If the Fall Creek facility is not operated, the production goal shall be 900,000 yearlings.

4/ A large number of coho eggs may be taken to insure an adequate representation of the run and promote infusion of genetic material into the hatchery population from unmarked adult and grilse coho salmon to reduce potential inbreeding.

Approved: _____ Date: 11/18/2010
Neil Manji, Regional Manager
Northern Region

Approved: _____ Date: 11/23/2010
Terry Foreman, Chief
Fisheries Branch