



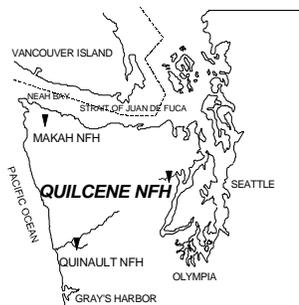
# QUILCENE NATIONAL FISH HATCHERY

## Quilcene, Washington

### INTRODUCTION

The Washington Fish and Wildlife Office (WFWO) and the Olympia Fish Health Center (OFHC) assist the three National Fish Hatcheries (NFH) on the Olympic Peninsula -- Makah, Quilcene, and Quinault (see locale map below). The WFWO, OFHC, and NFHs work together to restore salmon for domestic and international fisheries in compliance with Trust responsibilities to tribes, court orders, agreements with states, and international treaties. WFWO works with cooperators to program and evaluate hatchery production to assure obligations are met with minimal impact on wild fish. OFHC provides fish health diagnostic and treatment services to assure optimum post-release survival of hatchery fish.

This annual report provides basic information on Quilcene NFH to inform Service employees, visitors, and our cooperators of their hatchery programs.



Western Washington locale map

Quilcene NFH, located in the Hood Canal area of Puget Sound, began operating in 1911. Its general goals include rebuilding salmon runs in Puget Sound and coastal Washington, and contributing to current and future fisheries. Specific objectives to meet these goals vary by species and are described on the following pages.

### QUICK REFERENCE DATA

LEGEND: AVG = Average (mean)  
 BY = Brood Year  
 FL = Fork Length  
 COS = Coho Salmon  
 CHS = Fall Chum Salmon  
 SHS = Summer Chum Salmon  
 ♀ = Female  
 ♂ = Male

► **ADULT AGES AT RETURN**

	AGE RANGE	2007 AVG. AGE	1985-2007 AVG. AGE
COS	2-3 yrs.	3.0	2.9
CHS	3-5 yrs.	--	3.8
SHS	3-5 yrs.	--	3.6

► **ADULT FORK LENGTHS in millimeters (inches)**

	FL RANGE	FL MEAN
COS	220-767mm (8-30")	560mm (22")
CHS	509-878mm (20-34")	732mm (29")
SHS	485-781mm (19-31")	698mm (27")

► **ADULT ENTRY DATES TO HATCHERY**

	MEAN 1988-2007 RANGE	MEAN ENTRY DATE
COS	Jul - Dec	September 12
CHS	Nov - Dec	---
SHS	Aug - Oct	---

► **NUMBER AND DATES OF ADULTS SPAWNED**

	2007 Date Range	2007 # Spawned			Avg # Spawned
		♂	♀	Total	
COS	09/13-11/24	527	518	1045	1134
CHS	---	---	---	---	1424
SHS	---	---	---	---	317

Please direct questions, comments, and suggestions to:



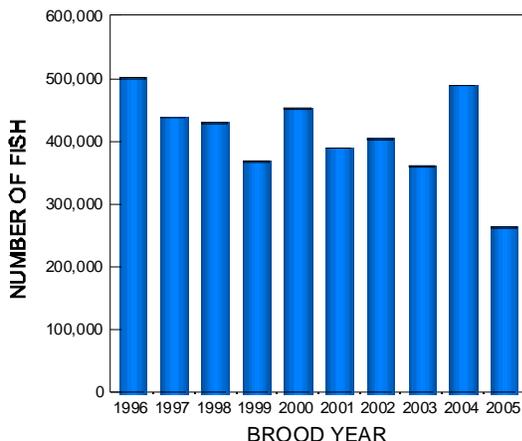
Washington Fish and Wildlife Office  
 510 Desmond Drive SE, Suite 102  
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Quilcene National Fish Hatchery  
 281 Fish Hatchery Road  
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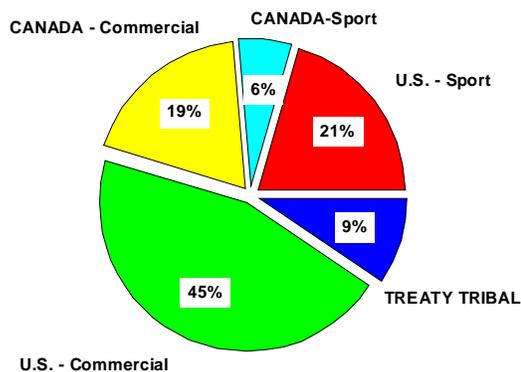


# COHO SALMON

**COHO RELEASES**  
(Brood Years 1996 - 2005)



**CATCH OF COHO**  
(Brood Years 1987 - 2004)



**GOAL:** Provide coastwide fishing opportunities for all users.

**RELEASES:** Since 1990, approximately 428,000 coho yearlings, averaging 5.5 inches, have been released each year into the Big Quilcene River around May 1. In addition, 200,000 pre-smolts have been transferred annually to Quilcene Bay net pens (Skokomish Tribe) and 500,000 eggs have been transferred to George Adams Hatchery (WA Dept. of Fish & Wildlife) to be used in Port Gamble Bay (Port Gamble Tribe) pens. When circumstances permit, an average of 505 adults are passed above the hatchery to utilize upstream spawning and rearing habitat.

**CATCH:** An average of 6.9% (29,500) of the fish released are caught in fisheries or escape to spawn. Major fisheries are located off the west coast of Vancouver Island and in the Strait of Juan de Fuca, Puget Sound, northern Hood Canal, and Quilcene Bay.

**COHO RETURNS TO HATCHERY RACK**  
**BY RETURN YEAR**

Return Year	Age at Return		Total
	2	3	
1998	887	10,497	11,384
1999	507	6,620	14,045
2000	369	15,225	15,594
2001	736	16,205	16,941
2002	494	13,551	14,045
2003	181	16,341	16,522
2004	1,497	11,712	13,209
2005	157	13,977	14,134
2006	1,355	2,685	4,040
2007	335	8,903	9,238

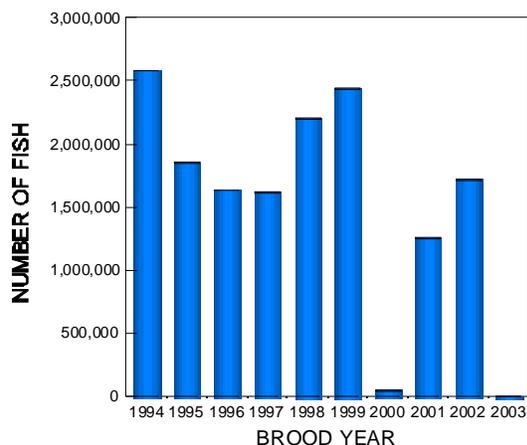
**COHO ADULTS PASSED UPSTREAM**  
**BY RETURN YEAR**

Return Year	Adults Passed Upstream
1998	0
1999	0
2000	0
2001	0
2002	561
2003	494
2004	422
2005	546
2006	0
2007	501

**Quilcene NFH's coho program continues to thrive.  
Coho are mass-marked to support selective fisheries.**

# FALL CHUM SALMON

*FALL CHUM RELEASES  
(Brood Years 1994 - 2003)*



*CATCH OF FALL CHUM  
(Brood Years 1991 - 2000)*

Brood Year	Number Caught	Number Escaped
1991	21,240	20,482
1992	7,841	9,587
1993	14,286	14,932
1994	2,064	4,256
1995	7,652	11,950
1996	391	517
1997	2,205	3,674
1998	8,968	16,168
1999	3,880	9,288
2000	864	2,609

**GOAL:** Contribute to Puget Sound fisheries. The chum program is managed as a composite hatchery/natural program, since many fish spawn in the river below the hatchery.

**RELEASES:** In the past 10 years, approximately 1.78 million hatchery fry (1.6 inches in length) have been released each year into the Big Quilcene River in early May. Natural production from the river is undetermined, but substantial.

**CATCH:** Annually, an average of 11,095 adults from hatchery-produced fry are caught in Puget Sound fisheries and over 9,400 adults return to the Quilcene River to spawn at the hatchery or in the river.

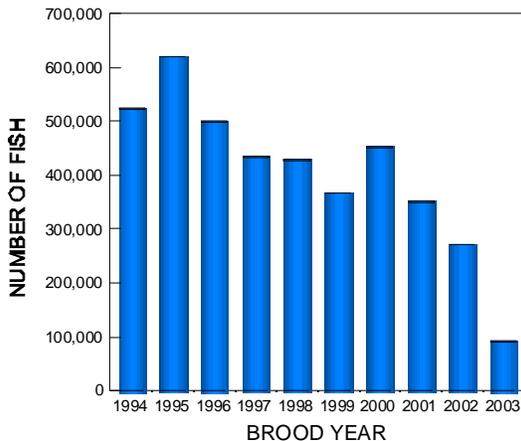
## FALL CHUM RETURNS TO HATCHERY RACK BY RETURN YEAR

Return Year	Age at Return			Total Per Year
	3	4	5	
1994	1,100	11,166	19	12,285
1995	361	3,622	591	4,574
1996	1,847	1,847	65	3,759
1997	323	3,782	52	4,157
1998	1,583	3,036	77	4,696
1999	112	5,105	28	5,245
2000	64	58	16	138
2001	406	284	0	690
2002	840	2,563	22	3,425

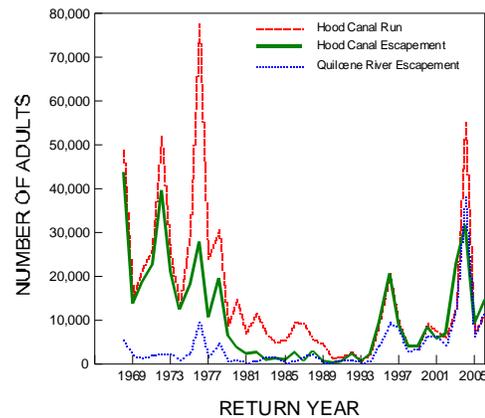
**This program was discontinued in 2003 as a result of the hatchery reform and review process. This information is presented here to reflect the program that existed prior to 2003.**

# SUMMER CHUM SALMON

**SUMMER CHUM RELEASES**  
(Brood Years 1994 – 2003)



**ESTIMATED SUMMER CHUM RUN**  
**SIZE AND ESCAPEMENT**



**GOAL:** Increase survival of Quilcene summer chum. Summer chum runs in Hood Canal streams have declined dramatically since the late 1970's. In 1999, the stock was listed as threatened under the Endangered Species Act. Possible factors contributing to this decline include loss of high quality habitat, overfishing, low water flows, and competition from hatchery releases.

In 1992, the U.S. Fish and Wildlife Service, Point No Point Treaty Council, and Washington Department of Fish and Wildlife began a restoration program using Quilcene NFH as a hatching and release location for Big Quilcene River summer chum. Broodstock are captured from Quilcene Bay and transported to the hatchery for spawning. The resulting fry are released from the hatchery in early spring.

**RELEASES:** The current goal is to release up to 400,000 fry annually into the Big Quilcene River and deliver an eyed-egg equivalent of up to 100,000 fry to Big Beef Creek Hatchery (WDFW).

**CATCH:** As a conservation measure, no directed harvest of summer chum occurs in Hood Canal. However, some chum are caught incidentally in Quilcene Bay coho fisheries and Strait of Juan de Fuca sockeye fisheries. Catch in outside fisheries occurs off Vancouver Island.

## ANNUAL SUMMER CHUM RETURNS TO QUILCENE RIVER

Return Year	Age at Return				Total Per Year
	2	3	4	5	
1995	0	4,331	189	0	4,520
1996	173	365	8,712	0	9,250
1997	34	6,995	482	362	7,873
1998	7	1,833	938	14	2,792
1999	0	1,913	1,240	0	3,153
2000	0	634	4,996	0	5,630
2001	0	1,760	4,265	149	6,174
2002	0	3,320	579	118	4,017
2003	0	8,436	3,342	65	11,843
2004	0	9,323	25,371	306	35,000

**The Quilcene NFH hatchery component of summer chum recovery was discontinued in 2004 as planned in the Co-Managers' Summer Chum Salmon Initiative.**

# **WINTER STEELHEAD**

**PROGRAM OVERVIEW:** The Hood Canal Steelhead Project is a NOAA-led multi-agency collaborative study and rebuilding effort that involves supplementing three populations (Skokomish River, Dewatto River, and Duckabush River) and monitoring them along with three control populations that receive no hatchery fish.

Hood Canal steelhead were listed as threatened under the Endangered Species Act in 2007. The current supplementation project was initiated in 2007 and Quilcene NFH's involvement is scheduled to continue until 2014.

Quilcene NFH incubates up to 18,000 embryos collected from natural redds in its quarantine facility until viral pathogen sampling is complete (30 days post-ponding). Incoming embryos represent 5 to 20 redds from each of two populations (Duckabush River and Dewatto River). The fry are then transferred to the Long Live the Kings Lilliwaup hatchery for rearing and release back to the Duckabush and Dewatto Rivers.