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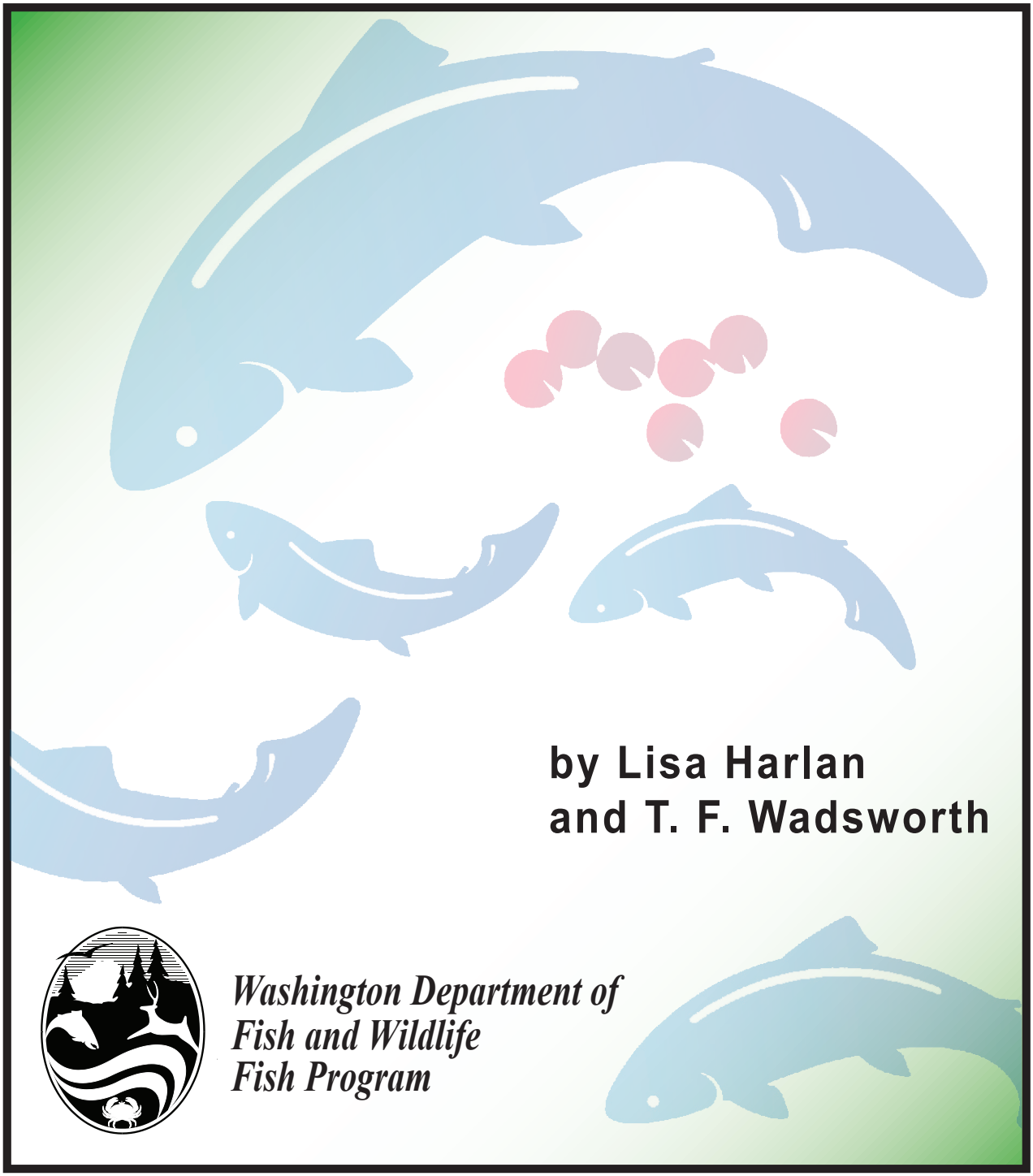
Report on the Coded-Wire Tag Program for Chinook and Coho Salmon Produced by WDFW Columbia River Basin Hatcheries



by Lisa Harlan
and T. F. Wadsworth

Washington Department of Fish and Wildlife
Fish Program

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REPORT ON THE CODED-WIRE TAG PROGRAM FOR CHINOOK AND COHO SALMON PRODUCED BY WDFW COLUMBIA RIVER BASIN HATCHERIES

Lisa Harlan and
T. F. Wadsworth

Washington Department of Fish and Wildlife
Vancouver, WA 98661

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Executive Summary

The coded-wire tag (CWT) and recovery program at Columbia River hatcheries is a critical component of the U.S. west coast salmonid CWT program. Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), the Yakama Nation and the United States Fish and Wildlife Service (USFWS) all operate salmon and steelhead rearing programs in the Columbia River basin. One portion of this report focuses on the WDFW CWT Chinook and Coho salmon releases from Columbia River basin hatcheries in 2013. The remainder of the report summarizes the recoveries of CWTs for Chinook brood years 2002 to 2007 and Coho brood years 2008-2010 (brood years expected to have completed spawning by the end of 2013).

Accurate assessments of survival for each hatchery reared salmon stock, contributions of individual stocks to fisheries, and assessing impacts to ESA listed species both in-season and post-season requires tagging of a proportion of each hatchery brood by species and run. CWTs are inserted into a proportion of production groups released from Columbia Basin hatcheries. This provides a holistic assessment of survival and catch distribution over time and addresses measures in the Northwest Power and Conservation Council's (NWPCC) Columbia River Basin Fish and Wildlife Program (2014).

The WDFW CWT Columbia River basin program has three main objectives: 1) implant CWTs in each run of Chinook and Coho at every Columbia Basin WDFW hatchery to enable evaluation of survival and catch distribution over time, 2) recover CWTs from the snouts of fish tagged under Objective 1, and report recoveries to Regional Mark Information System (RMIS) so that estimates can be made for survival and type of recovery for each species and run, and 3) analyze findings under Objective 2 in an annual report for all broods of spring, summer, and fall Chinook and early and late Coho salmon released from WDFW Columbia Basin hatcheries.

For Objective 1, CWTs were implanted in 2013 for some of the fish from each species and run released from almost every WDFW hatchery in the Columbia Basin. For Objective 2, all snouts containing CWTs recovered for spring, summer and fall Chinook salmon from brood years 2002 to 2007 and for early and late Coho salmon from brood years 2008 to 2010 were decoded and data were sent to RMIS. These brood years should have completed their spawning migration in 2013. This report fulfills Objective 3 by summarizing CWT tagging and recovery information, including detailed information on survival rates and types of recoveries.

Introduction

Beginning in 1971, with funding from the Mitchell Act, some hatcheries in the Columbia River basin began coded-wire tagging spring and fall Chinook salmon. In 1972 and 1974, coded-wire tagging of Coho and summer Chinook began at some hatcheries. In September 1989, under contract from the Bonneville Power Administration (BPA), WDFW began coded wire tagging production groups of salmon not tagged by existing programs (i.e. missing production groups). BPA funding greatly expanded the CWT program in the Columbia River basin. Beginning in FY2014, BPA no longer funded CWT tagging activities in this area. Instead, CWT tagging continues with the same objectives but with most of the funding provided through the Mitchell Act and additional funding from Tacoma Power and PacifiCorp. Some of the funding for the collection of CWTs in the Columbia River basin also transitioned to Mitchell Act in FY2016.

As salmon migrate and mature in the ocean they distribute up and down the west coast of the United States, including Canada and Alaska. During this time they are subject to harvest in ocean fisheries and, as they return to their natal streams, freshwater fisheries as well. Each fishery, hatchery and spawning area is sampled to recover CWTs. The Coded Wire Tag Recovery Program, managed by PSMFC and funded by both Mitchell Act and BPA, is responsible for recovering most of the CWTs from throughout the west coast, including the Columbia River. CWT recovery data are reported to the Pacific States Marine Fisheries Commission (PSMFC) and stored in RMIS. The Regional Mark Processing Center (www.rmpc.org) manages RMIS, which is part of the Coded Wire Tag Recovery Program. The RMIS database allows evaluation of the distribution of each brood of hatchery release by species and run.

Data generated by CWTs are used to evaluate hatchery effectiveness. Obtaining contiguous data allows for analysis of annual variation in the number of adults produced each year. These data are used to estimate smolt to adult return survival, stock contribution rates to each fishery, and distribution of populations for every hatchery or wild production group. Calculated survival and contribution rates are used as relative measures of each production group's effectiveness in meeting program goals, which directs future efforts in maintaining or enhancing fish runs in the Columbia Basin and provides valuable information to salmon harvest managers. Recovery of CWTs also results in an annual calculation of stray rates into non-natal hatcheries and spawning grounds, aiding in producing accurate estimates of wild and hatchery origin fish populations.

The CWT program contributes to determining the limiting factors or threats to desired habitat or fish performance in the estuary/ocean by providing a method to calculate smolt to adult survival and recovery distribution. Measurement of effects on populations requires methodology to accurately estimate populations and this requires estimation and removal of strays and estimation of recovery type. In addition, multiple releases of CWT fish can be made from a particular brood year by hatchery, species and run to indicate effects of differences in timing of release, size at release, and release location. These results can then be used to aid in estimating estuary/ocean survival.

WDFW uses these data to meet compliance under Section 7 and Section 10 consultation with the National Marine Fisheries Service, which regulates hatchery production under the Endangered Species Act. These include monitoring and evaluating annual Proportion Natural Influence (PNI), Natural Origin Spawners (NOS), Proportion of Hatchery-Origin Spawners (pHOS), marking rates, production information, and description of relevance to Hatchery Scientific Review Group (HSRG) recommendations or Hatchery Genetic Management Plans (HGMPs). Determination of smolt to adult survival rates and recovery dispositions are also used to estimate the extent to which hatchery programs are meeting mitigation production requirements and operational objectives as laid out in HGMPs.

Data generated by the CWT program are used to assess Columbia River basin Chinook and Coho salmon stock composition, stock specific abundance, catch, and age-distribution both in-season and post-season for river sport and commercial fisheries throughout the year. Mark selective fisheries, terminal fisheries, and alternative gear all rely on these data to determine impacts on ESA-listed populations and effectiveness of changes in season, gear type, catch area, etc. to reduce ESA-listed impacts. In addition, data generated by CWTs are used by fishery managers to assess long-term changes in stock abundance, in modeling wild stock abundance, for run reconstruction analysis and run size forecasting, and to meet obligations under *U.S. v. Oregon* (2008) and the Pacific Salmon Treaty (1985). A statistically viable CWT program addresses many of the status and trend needs for fish population monitoring in the Columbia River basin. This report presents release and recovery information by complete brood year for each species and run.

Methods

In 2013, CWTs were applied to spring, summer and fall Chinook salmon and early and late Coho released from Columbia Basin WDFW hatcheries (Figure 1). A quality control plan was provided at each CWT location. CWTs were implanted into snouts of juvenile fish and the adipose fin was removed from every tagged fish, except when CWTs are used in a double-index study group (for complete procedures see Nandor et al. 2009).

CWTs were recovered through long standing programs for sampling: commercial and sport fisheries, hatchery returns, and freshwater spawning grounds. Sampling of the catch was conducted by state and federal agencies operating in offshore ocean (i.e., federal waters), coastal ocean (i.e., state waters) and freshwater areas of Alaska, Canada, Washington, Oregon, and California. Juvenile salmon released from the Columbia River basin are recovered from fisheries throughout these areas.

In the Columbia River basin, CWTs were collected from fish sampled by WDFW personnel. CWTs were detected with a positive indication from an electronic wand passed over fish snouts. Snouts with CWTs were removed, frozen and transported to the WDFW Fish Identification lab in Olympia, WA. At the lab, tags were recovered from the snouts, read and stored. CWTs applied by WDFW but recovered by other agencies were sent to the WDFW lab for verification.

CWT release and recovery data, sampling rates, and ratios of marked to unmarked fish in the sample were reported to the PSMFC and stored in RMIS. Recoveries of CWTs were expanded by RMIS to represent the total adult population for each species and run by brood year. WDFW personnel analyzed catch information and calculated survival rates by fishery and escapement area and provided summarized data for each hatchery. Survival estimates were calculated by dividing the total estimated expanded recoveries by the total number of tagged fish released. Percent of recoveries for each disposition at recovery are calculated by dividing the total estimated recoveries in each fishery or escapement by the total number of estimated recoveries.

Locations of tag recoveries are provided in this report for spring, summer and fall Chinook salmon from brood years 2002 to 2007 and for early and late Coho salmon from brood years 2008 to 2010. These brood years should have completed their spawning migration in 2013. More recent recovery data could not be included because they were not yet complete in RMIS. For each species, the number of brood years that represents the maximum lifespan is included in the report (i.e., six years for Chinook and 3 years for Coho).

The CWT recovery data in this report should be viewed as preliminary for the most recent brood years (i.e. 2010 for Coho and 2007 for Chinook). Analysis for this report relies on the data available through RMIS at the time when the dataset was compiled (approximately six months prior to completing the report). In rare cases, CWTs may not arrive for several years after collection, which in turn causes delays in finalizing the recovery data in RMIS. WDFW relies on all west coast co-managers assistance to ensure tags are available for analysis at the appropriate time.

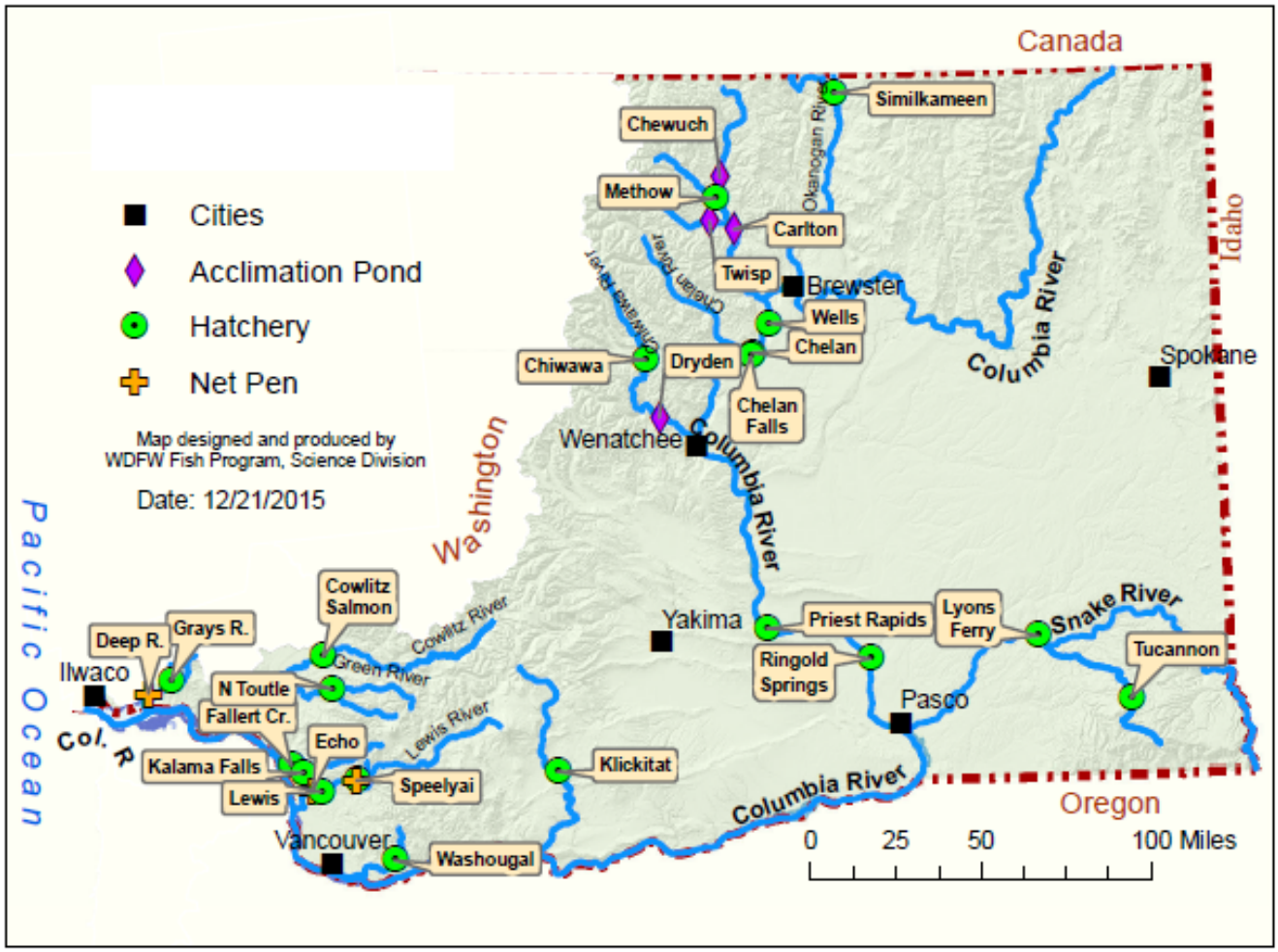

Figure 1. Fish rearing and acclimation facilities in the Columbia River basin where coded-wire tagging of Chinook and Coho was expected to occur in 2013. Only rivers and creeks where these facilities existed in 2013 are displayed on the map.

Results

2013 CWT releases from Columbia River basin hatcheries by salmon species/run

CWTs were implanted in 10,106,018 (approximately 21%) of the 48,040,313 Chinook and Coho salmon released in 2013. Tables in this section contain a detailed list of CWT and non-CWT 2013 releases for each species and run by hatchery and brood year. Fall Chinook was the species/run with the highest number of CWT and non-CWT releases in 2013 (Table 1). Fall and spring Chinook varied greatly in the percentage of releases with coded-wire tags; several hatcheries had tagged near 100% while several others tagged near 0% (Tables 1 and 2). Summer Chinook had the second highest number of CWT releases, due to the very high percentage of overall releases with CWTs; all hatcheries tagged near 100% of fish, except Chelan Hatchery which had a small number of releases (Table 3). Hatcheries also varied in the percentage of Coho releases with CWTs, but the percentage range was much smaller than for fall and spring Chinook (Tables 4 and 5). Most fall Chinook released were from the 2012 brood year, while most of the other species/runs were from the 2011 brood year; fall Chinook are typically released as fingerlings while Coho and spring and summer Chinook are typically released as yearlings. A list by tag code of all CWTs applied by WDFW in 2013 (for hatchery and wild Chinook and Coho), including the release date and location, was provided in Appendix A. Note that some hatcheries included in the release tables below were not included in the CWT recoveries section due to releases from some facilities beginning more recently.

Table 1. Juvenile fall Chinook releases in 2013 by Columbia River basin hatchery.

Hatchery or Acclimation Site	Brood Year	Released with CWTs	Total Released	Percent Tagged
Cowlitz Salmon Hatchery	12	200,131	1,519,271	13.2%
Deep River Net Pens	12	87,939	2,620,000	3.4%
Fallert Creek Hatchery	12	93,598	3,522,335	2.7%
Kalama Falls Hatchery	12	93,297	3,157,011	3.0%
Klickitat Hatchery	12	456,888	3,289,480	13.9%
Lyons Ferry Hatchery	11	485,918	489,500	99.3%
Lyons Ferry Hatchery	12	414,798	416,900	99.5%
North Toutle Hatchery	12	93,487	1,514,769	6.2%
Priest Rapids Hatchery	12	1,204,939	6,822,861	17.7%
Ringold Springs Hatchery	12	220,816	3,247,373	6.8%
Washougal Hatchery	12	91,871	3,028,134	3.0%
Total		3,443,682	29,627,634	11.6%

Table 2. Juvenile spring Chinook releases in 2013 by Columbia River basin hatchery.

Hatchery or Acclimation Site	Brood Year	Released with CWTs	Total Released	Percent Tagged
Chewuch Acclimation	11	91,701	93,372	98.2%
Chiwawa Hatchery	11	278,800	281,793	98.9%
Cowlitz Salmon Hatchery	11	100,958	974,697	10.4%
Cowlitz Salmon Hatchery	12	99,986	571,282	17.5%
Deep R Net Pens	11	48,892	320,000	15.3%
Echo Net Pens	11	0	162,421	0.0%
Fallert Creek Hatchery	11	128,155	128,155	100.0%
Kalama Falls Hatchery	11	82,074	393,307	20.9%
Klickitat Hatchery	11	140,785	630,400	22.3%
Lewis River Hatchery	11	270,050	1,123,749	24.0%
Methow Hatchery	11	372,022	388,869	95.7%
Speelyai Hatchery	11	0	82,696	0.0%
Speelyai Hatchery	12	0	16,200	0.0%
Tucannon Hatchery	11	257,091	259,964	98.9%
Twisp Acclimation Pond	11	17,832	18,190	98.0%
Total		1,888,346	5,445,095	34.7%

Table 3. Juvenile summer Chinook releases in 2013 by Columbia River basin hatchery.

Hatchery or Acclimation Site	Brood Year	Released with CWTs	Total Released	Percent Tagged
Carlton Acclimation Pond	11	424,130	436,092	97.3%
Chelan Hatchery	12	0	24,173	0.0%
Chelan Falls Hatchery	11	580,057	582,460	99.6%
Dryden Pond	11	819,724	827,709	99.0%
Similkameen Hatchery	11	625,234	627,978	99.6%
Wells Hatchery	11	289,998	289,998	100.0%
Wells Hatchery	12	487,530	499,365	97.6%
Total		3,226,673	3,287,775	80.8%

Table 4. Juvenile early Coho (Type S) releases in 2013 by Columbia River basin hatchery. Early (Type-S) Coho refer to south migrating Coho.

Hatchery or Acclimation Site	Brood Year	Released with CWTs	Total Released	Percent Tagged
Deep River Net Pens	11	29,949	600,000	5.0%
Fallert Creek Hatchery	11	31,954	121,005	26.4%
Lewis River Hatchery	11	141,114	490,551	28.8%
North Toutle Hatchery	11	28,469	163,289	17.4%
Speelyai Bay Net Pens	11	0	497,860	0.0%
Total		231,486	1,872,705	12.4%

Table 5. Juvenile late Coho (Type N) releases in 2013 by Columbia River basin hatchery. Late (Type-N) Coho refer to north migrating Coho.

Hatchery or Acclimation Site	Brood Year	Released with CWTs	Total Released	Percent Tagged
Cowlitz Salmon Hatchery	11	976,274	2,375,113	41.1%
Grays River Hatchery	11	30,500	165,000	18.5%
Kalama Falls Hatchery	11	30,892	705,552	4.4%
Klickitat Hatchery	11	47,114	1,038,075	4.5%
Lewis River Hatchery	11	140,743	875,797	16.1%
Washougal Hatchery	11	90,308	2,647,567	3.4%
Total		1,315,831	7,807,104	16.9%

Survival estimates and CWT recovery types by salmon species/run

CWT recovery information was summarized in tables below by hatchery (in alphabetical order). Plots of survival rates began with the first brood year of the species/run released with CWTs from each hatchery. Brood years without survival rates in plots indicate lack of production or no coded wire tags implanted at that location. Survival rates were also summarized in Appendix B by species/run for the CWT time-series with each hatchery included as a separate table column. Lower Columbia River fall Chinook are referred to as ‘tule’ while mid and upper Columbia River fall Chinook are referred to as ‘upriver bright’. Expanded tag recovery type tables include 2002-2007 brood years of spring, summer and fall Chinook and 2008-2010 brood years of early and late Coho. Some hatcheries included in the section below were not included in the CWT releases section because releases from some facilities did not occur in 2013. Note that CWT recovery data should be viewed as preliminary for the most recent brood years (i.e. 2010 for Coho and 2007 for Chinook). Types of CWT recoveries, as listed in report tables, are defined below:

Alaska fisheries - freshwater or ocean fisheries in Alaska waters;

Canada fisheries - freshwater or ocean fisheries in Canadian waters;

Oregon fisheries - freshwater or ocean fisheries in Oregon waters;

California fisheries - freshwater or ocean fisheries in California waters;

WA Coastal sport - sport fishery off the coast of Washington;

Columbia Estuary sport - “Buoy 10” fishery at the mouth of the Columbia River;

Lower Columbia sport - lower Columbia main-stem sport fisheries;

Terminal sport - Washington freshwater sport fishery other than Lower Columbia Sport;

WA coast commercial/treaty - commercial and treaty fisheries in state waters;

Columbia commercial/treaty - Columbia River commercial or treaty fisheries;

Hatchery escapement - all hatchery related recoveries;

Spawning escapement - all recoveries from spawning grounds;

Ocean trawl bycatch - recoveries by NMFS observers on trawlers in federal waters.

Lower Columbia Fall Chinook (Tule)

Cowlitz Salmon Hatchery typically releases tule fall Chinook as sub-yearlings in June. From 1977 (the first release group) to 2007 brood year, survival rates of fall Chinook range from less than 0.1% to 2.0% (Figure 2) and had a mean of 0.3% (Appendix B). The survival rate (0.8%) for the 2007 brood year was the third highest in the time-series. Hatchery escapement and Canadian fisheries accounted for the largest number of tag recoveries from 2002 to 2007 broods with 73.8% and 6.0%, respectively (Table 1). For the 2007 brood, hatchery escapement and WA coastal sport accounted for the largest number of tag recoveries (Table 2).

Elochoman Hatchery reared tule fall Chinook until it closed in fall of 2008. Most tag groups represent fish released as sub-yearlings in June. Brood year survival rates for fish released in 1973 to 2007 ranged from < 0.1% to 1.2% (Figure 7), with a mean of 0.3% (Appendix B). The survival rate for brood year 2007 was 0.3%, which was above average. Hatchery escapement and Canadian fisheries were the sources of the largest

number of tag recoveries from 2002 to 2007 broods with 37.4% and 26.7%, respectively (Table 1). For the 2007 brood, hatchery escapement and Canadian fisheries were also the sources of the largest number of tag recoveries (Table 2).

Fallert Creek Hatchery releases tule fall Chinook as sub-yearlings in April and June. Brood year survival rates for fish released in 1971 to 2007 ranged from 0.1% to 2.0% (Figure 8), with a mean of 0.4% (Appendix B). Survival rate for brood year 2007 was 0.19%, an increase from the previous brood year but still under the average. Spawning escapement and Canadian fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 39.4% and 20.1%, respectively (Table 6). For the 2007 brood, hatchery escapement and spawning escapement accounted for the largest number of tag recoveries (Table 7).

Kalama Falls Hatchery typically releases tule fall Chinook as sub-yearlings in June. Brood year survival rates for fish released in 1972 to 2007 ranged from < 0.1% to 5.2% (Figure 12), with a mean of 0.3% (Appendix B). Spawning escapement and hatchery escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 25.4% and 24.8%, respectively (Table 6). For the 2007 brood, hatchery escapement and Canadian fisheries were the sources of the largest number of tag recoveries (Table 7).

North Toutle Hatchery was destroyed during the eruption of Mount St. Helens in 1980. It was rebuilt and began producing fall Chinook in 1986. Stock was provided from area hatcheries including the Washougal, Grays and Cowlitz. Brood year survival rates for tule Chinook released in 1971 to 2007 ranged from < 0.1% to 4.7% (Figure 23), with a mean of 0.4% (Appendix B). The 2007 brood year survival rate of 0.3% was slightly below average but was the best return in six years (Figure 26). Hatchery and spawning escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 36.1% and 25.4%, respectively (Table 6). For the 2007 brood, hatchery and spawning escapement were also the sources of the largest number of tag recoveries (Table 7).

Washougal Hatchery typically releases tule fall Chinook as sub-yearlings in May, June or July. Brood year survival rates for fish released in 1973 to 2007 ranged from 0.1% to 4.8% (Figure 30), with a mean of 0.6% (Appendix B). The survival rate for brood year 2007 0.69% was slightly above average and an improvement from the previous year. Hatchery escapement and Canadian fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 44.2% and 17.6%, respectively (Table 6). For the 2007 brood, hatchery escapement and Canadian fisheries were also the sources of the largest number of tag recoveries (Table 7).

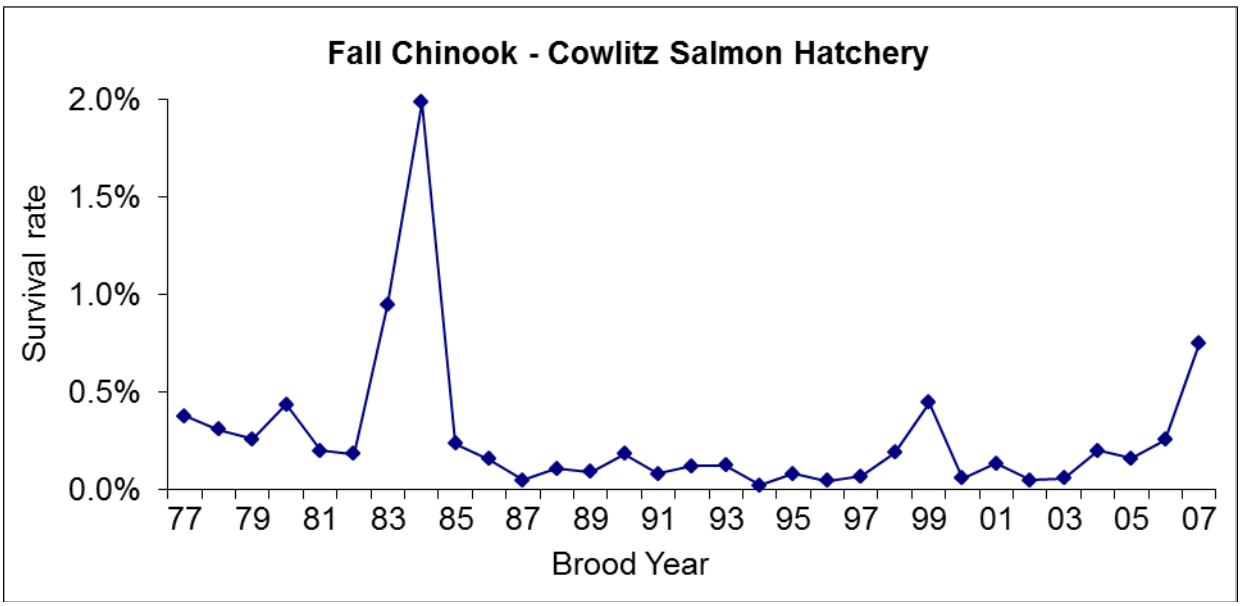

Figure 2. Survival by brood year of Fall Chinook from the Cowlitz Salmon Hatchery.

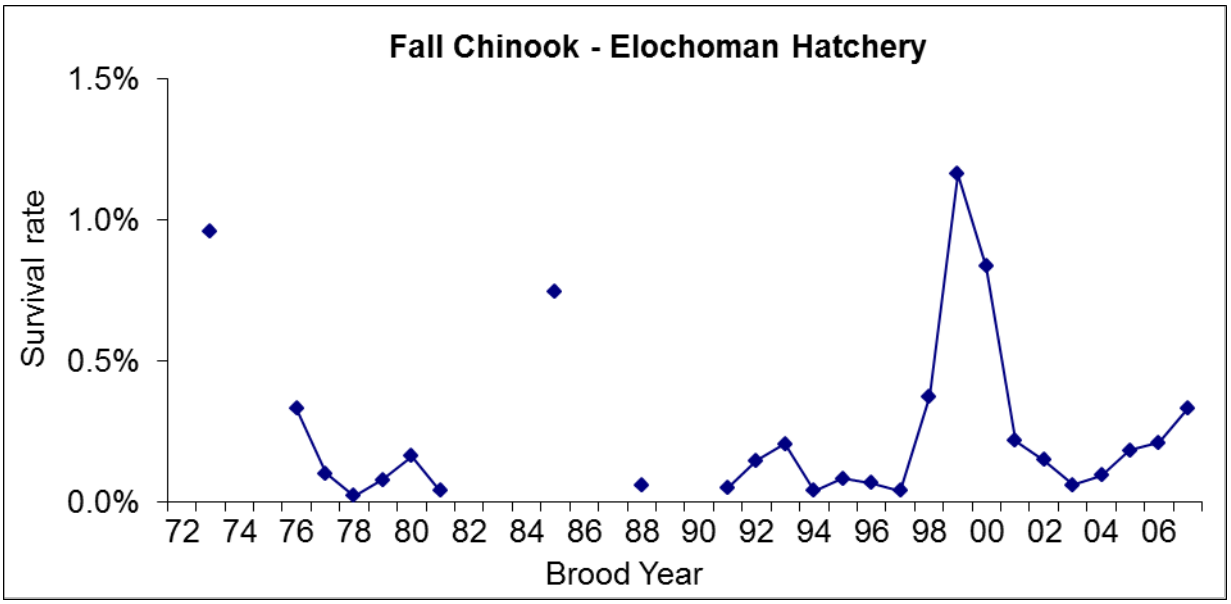

Figure 3. Survival by brood year of Elochoman fall Chinook.

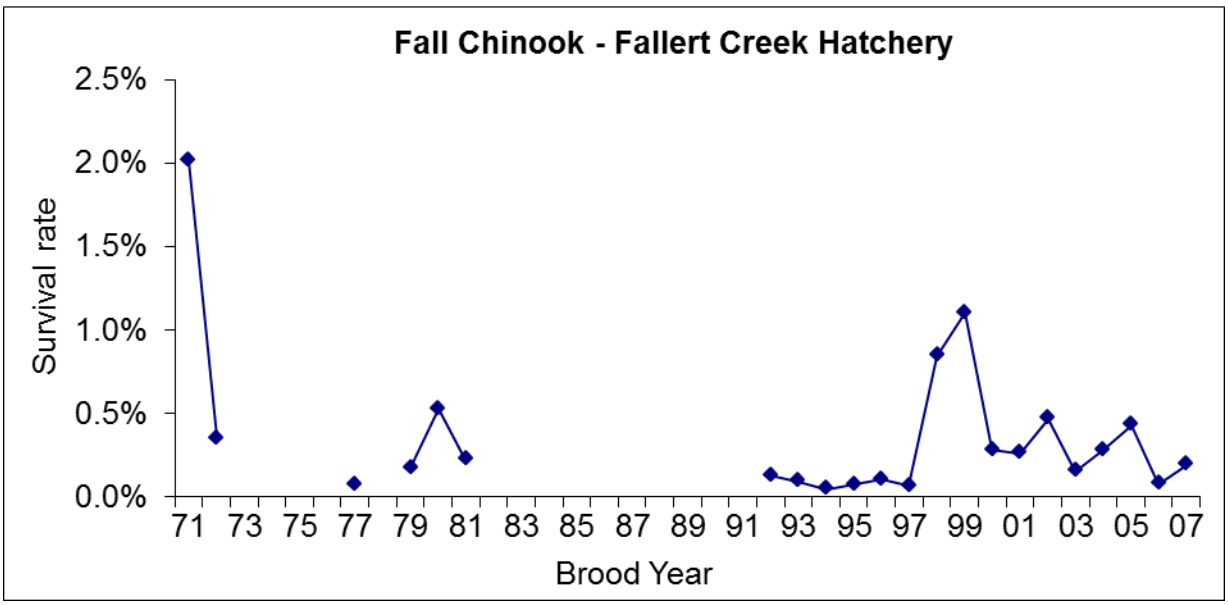

Figure 4. Survival by brood year of Fallert Creek fall Chinook.

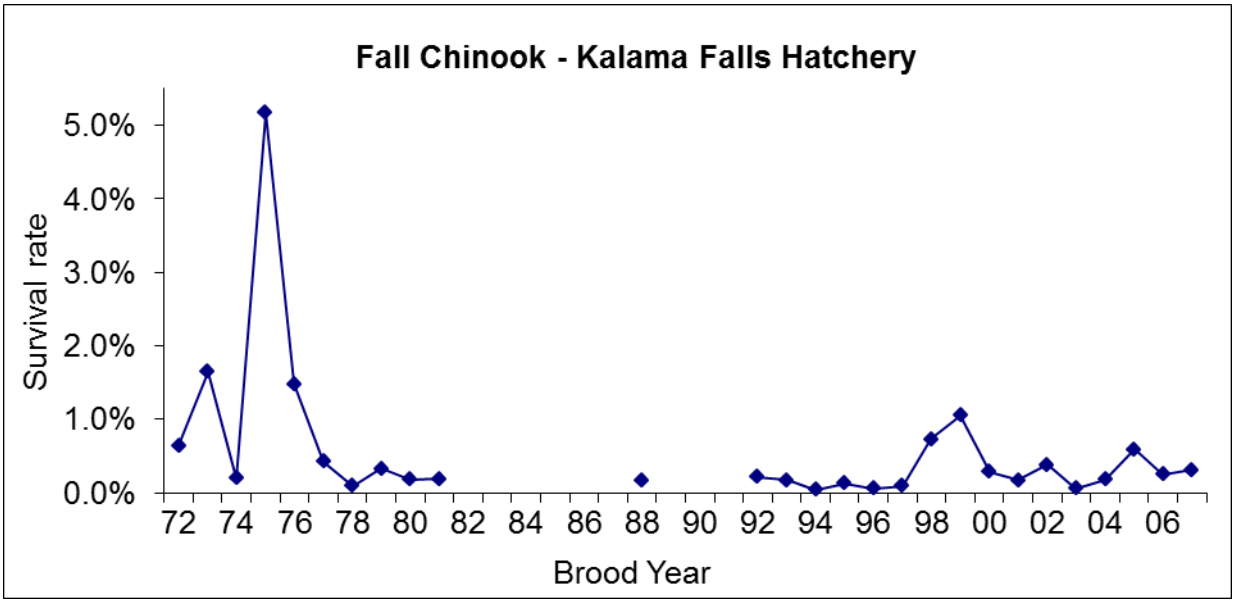

Figure 5. Survival by brood year of Kalama Falls Hatchery fall Chinook.

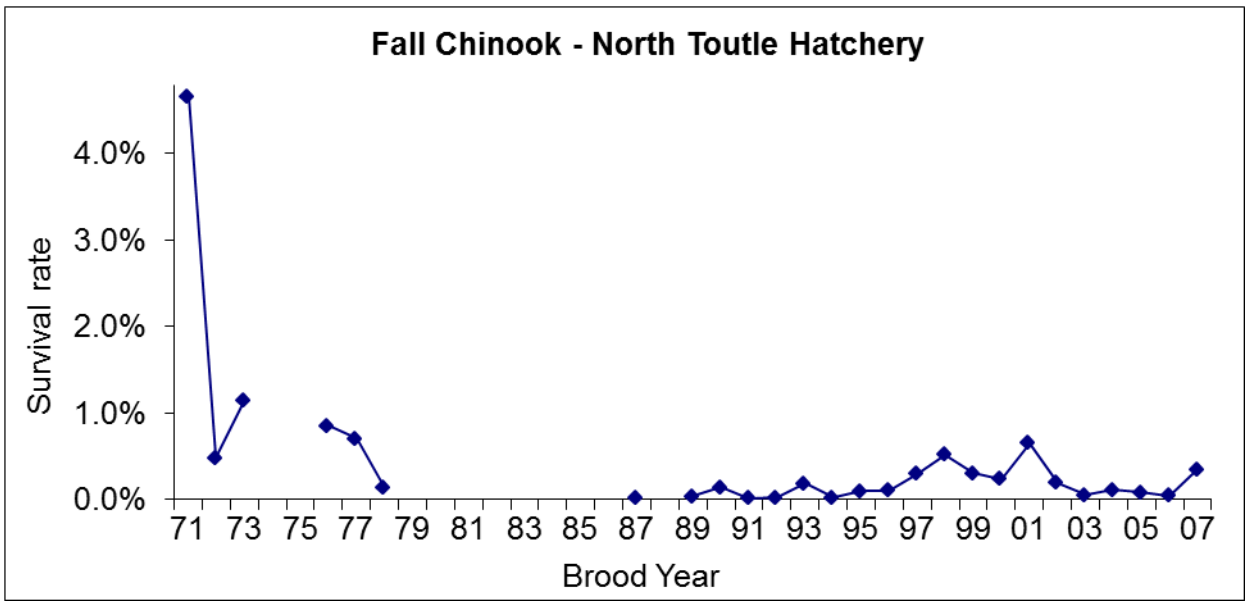

Figure 6. Survival by brood year of North Toutle Hatchery fall Chinook.

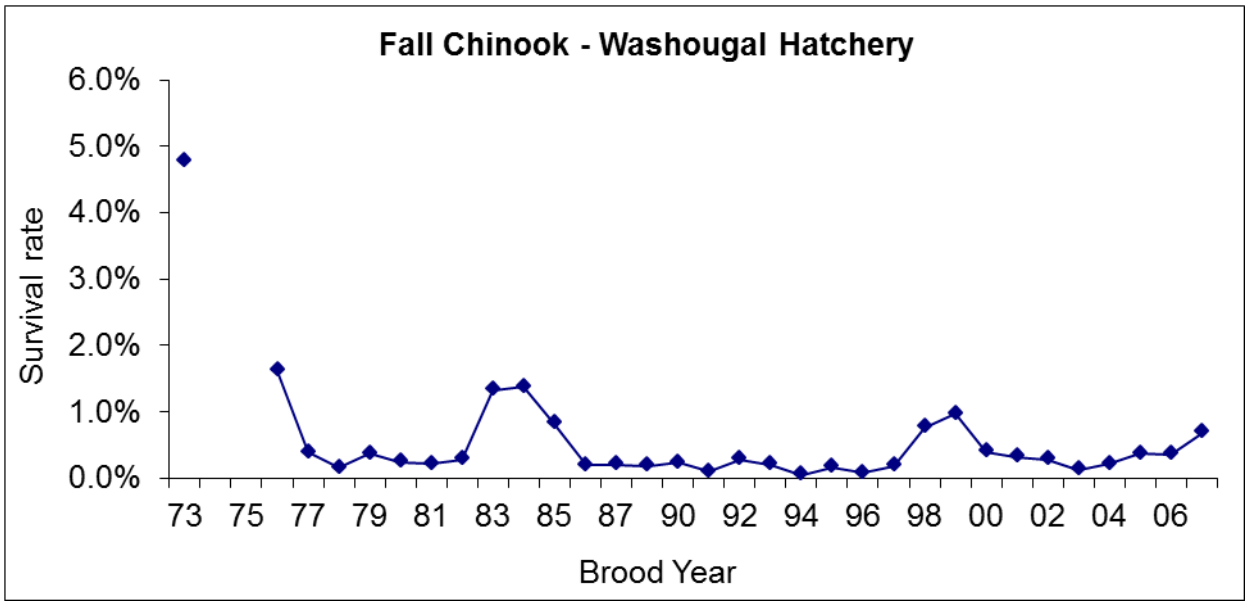

Figure 7. Survival by brood year of Washougal Hatchery fall Chinook.

Table 6. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for Lower Columbia fall Chinook released in 2002 - 2007.

Tag Recovery Type	Cowlitz	Elochoman	Fallert	Kalama	N. Toutle	Washougal	Mean
Alaska fisheries	2.5%	3.3%	8.8%	8.8%	6.4%	6.1%	6.0%
Canadian fisheries	6.0%	26.7%	20.1%	24.0%	17.9%	17.6%	18.7%
Oregon fisheries	1.6%	5.3%	1.1%	0.6%	2.2%	0.6%	1.9%
California fisheries	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	< 0.1%
Ocean trawl bycatch	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	< 0.1%
WA coastal sport	4.9%	5.3%	3.3%	2.9%	1.1%	3.4%	3.5%
Columbia Estuary sport	0.8%	1.4%	0.3%	2.0%	1.2%	1.0%	1.1%
Lower Columbia sport	1.8%	2.8%	1.8%	2.2%	2.6%	3.2%	2.4%
Terminal sport	0.5%	0.0%	0.8%	0.6%	3.9%	3.2%	1.5%
WA coast commercial/treaty	5.0%	9.2%	1.6%	3.3%	2.4%	2.0%	3.9%
Columbia commercial/treaty	0.9%	8.5%	3.8%	5.5%	0.7%	7.3%	4.5%
Hatchery escapement	73.8%	37.4%	18.4%	24.8%	36.1%	44.2%	39.1%
Spawning escapement	2.2%	0.0%	39.4%	25.4%	25.4%	11.3%	17.3%
Estimated tags recovered	2,612	808	1,436	1,573	736	1,939	1,517

Table 7. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for Lower Columbia fall Chinook released in 2007.

Tag Recovery Type	Cowlitz	Elochoman	Fallert	Kalama	N. Toutle	Washougal	Mean
Alaska fisheries	1.3%	1.3%	18.9%	7.9%	3.0%	5.2%	6.3%
Canadian fisheries	4.1%	18.2%	10.9%	22.9%	16.4%	16.1%	14.7%
Oregon fisheries	1.0%	8.4%	1.7%	0.4%	3.3%	0.7%	2.6%
California fisheries	0.1%	0.0%	1.7%	0.0%	0.0%	0.0%	0.3%
Ocean trawl bycatch	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WA coastal sport	5.6%	5.0%	8.6%	1.2%	1.6%	3.9%	4.3%
Columbia Estuary sport	0.2%	0.3%	0.0%	4.3%	1.6%	0.7%	1.2%
Lower Columbia sport	1.1%	2.9%	2.9%	2.0%	2.3%	4.8%	2.7%
Terminal sport	0.1%	0.0%	0.6%	3.2%	0.7%	4.6%	1.5%
WA coast commercial/treaty	4.4%	10.5%	1.1%	6.7%	2.3%	2.4%	4.6%
Columbia commercial/treaty	0.2%	9.2%	3.4%	7.9%	0.0%	10.9%	5.3%
Hatchery escapement	81.1%	26.6%	28.0%	30.0%	42.6%	42.0%	41.7%
Spawning escapement	0.9%	17.6%	22.3%	13.4%	26.2%	8.8%	14.9%
Estimated tags recovered	1,523	380	175	253	305	672	551

Upper Columbia Fall Chinook (Upriver Brights)

Klickitat Hatchery rears upriver bright fall Chinook and releases them as sub-yearlings in May and June. Brood year survival rates for fish released in 1975 to 2007 ranged from < 0.1% to 1.1% (Figure 8), with a mean of 0.3% (Appendix B). The 2007 brood year survival rate of 0.5% was above the average. Columbia River commercial/treaty fisheries and Alaska fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 42.1% and 22.3%, respectively (Table 8). For the 2007 brood, Columbia River commercial/treaty fisheries and Alaska fisheries were also the sources of the largest number of tag recoveries (Table 9).

Lyons Ferry Hatchery rears late upriver bright fall Chinook, typically releasing them as yearlings in April. Brood year survival rates for fish released in 1988 to 2007 ranged from 0.1% to 7.3% (Figure 9), with a mean of 1.1% (Appendix B). The survival rate of 1.04% for brood year 2007 was average. Hatchery escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 33.1% and 14.7%, respectively (Table 8). For the 2007 brood, hatchery escapement and Columbia River commercial/treaty fisheries were also the sources of the largest number of tag recoveries (Table 9).

Priest Rapids Hatchery rears upriver bright fall Chinook releasing them as sub-yearlings in May and/or June. Brood year survival rates for fish released in 1975 to 2007 ranged from < 0.1% to 2.1% (Figure 10), with a mean of 0.6% (Appendix B). The 2007 brood year survival rate of 1.2% was the best survival rate since 1984. Hatchery escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 32.2% and 22.0%, respectively (Table 8). For the 2007 brood, hatchery escapement and Columbia River commercial/treaty were also the sources of the largest number of tag recoveries (Table 9).

Ringold Springs Hatchery rears upriver bright fall Chinook, released as sub-yearlings in June. Rearing occurred sporadically in the 1970's, not at all in the 1980's, but was consistent since 1994. Brood year survival rates for fish released in 1994 to 2007 ranged from < 0.1% to 0.6% (Figure 11), with a mean of 0.6% (Appendix B). Survival rate for brood year 2007 was the highest since production resumed in 1994, with a rate of 0.64%. Columbia River commercial/treaty fisheries and hatchery escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 27.1% and 20.5%, respectively (Table 8). For the 2007 brood, Columbia River commercial/treaty fisheries and hatchery escapement were also the sources of the largest number of tag recoveries (Table 9).

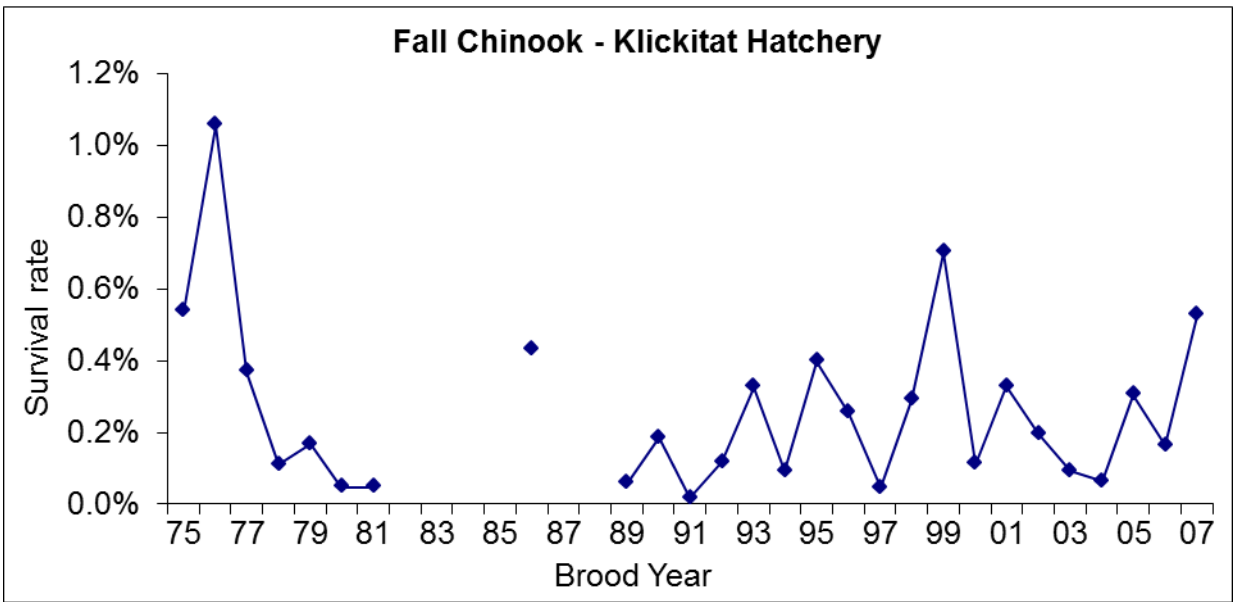

Figure 8. Survival by brood year of Klickitat Hatchery fall Chinook.

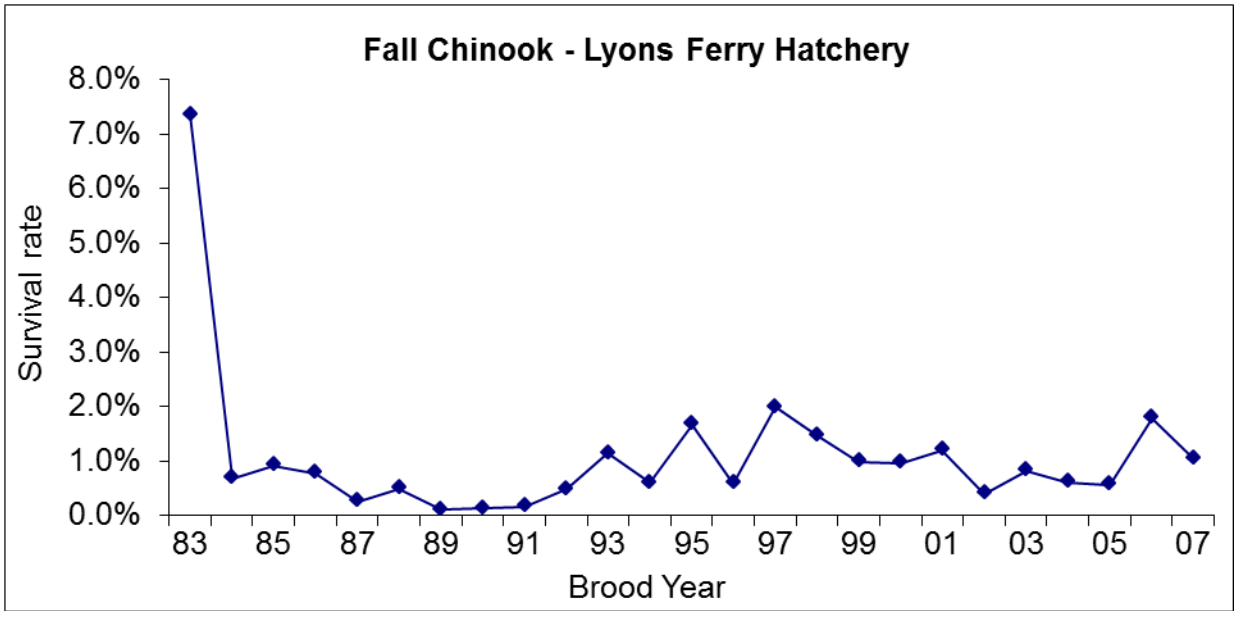

Figure 9. Survival by brood year of Lyons Ferry Hatchery late upriver bright fall Chinook.

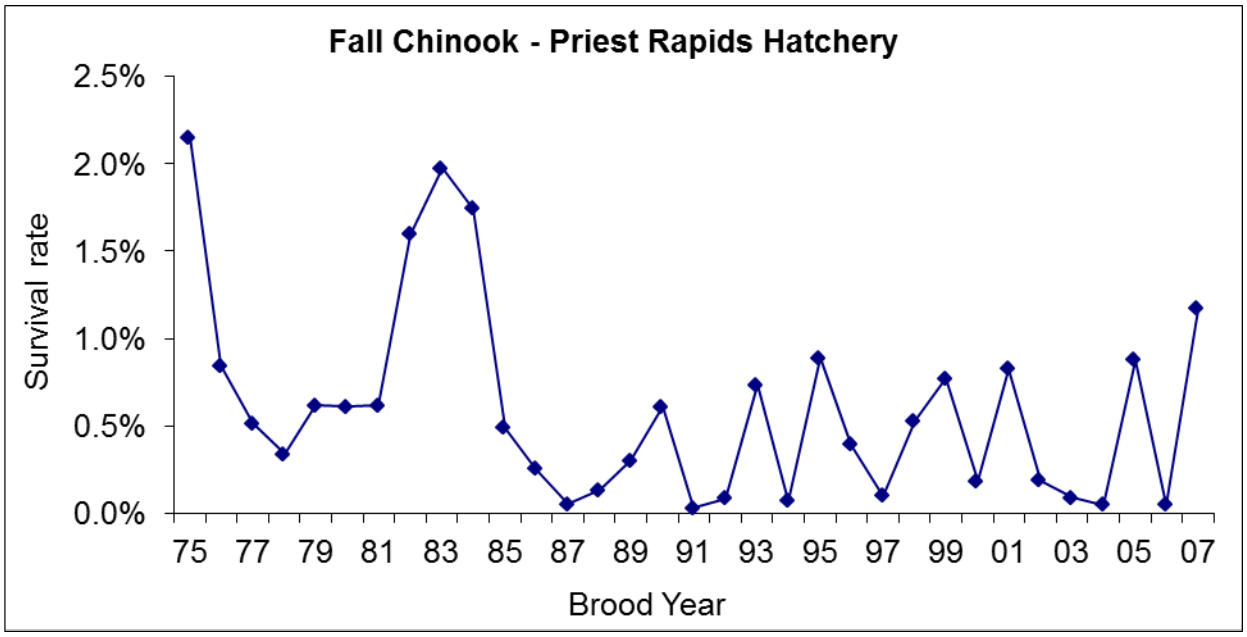

Figure 10. Survival by brood year of Priest Rapids Hatchery fall Chinook.

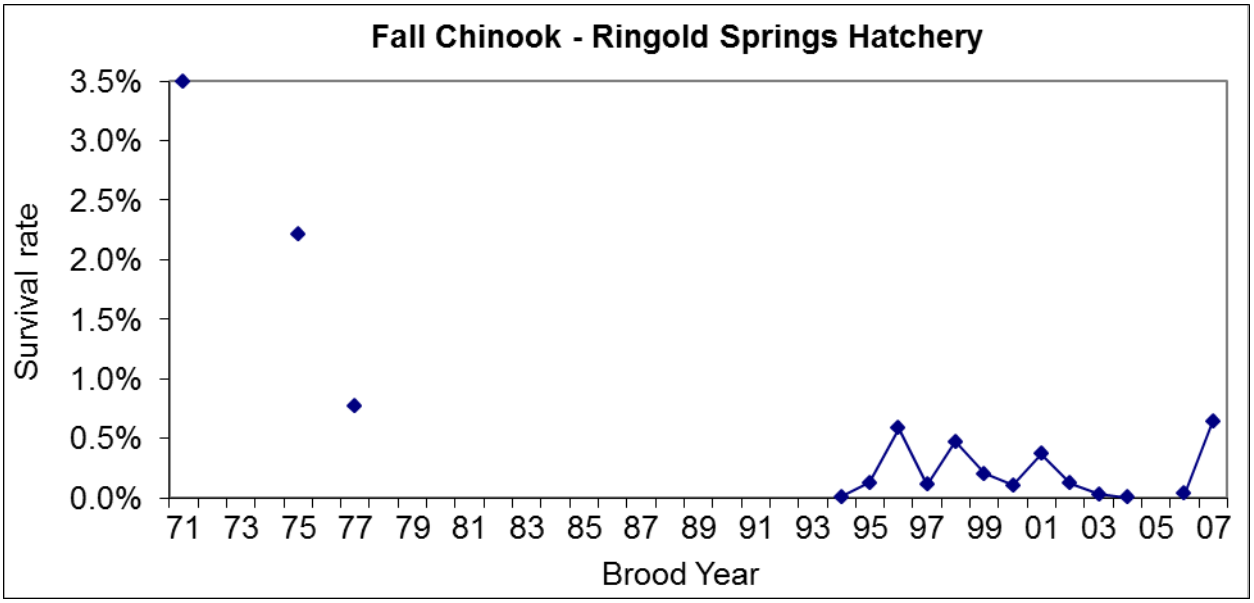

Figure 11. Survival by brood year of Ringold Springs Hatchery fall Chinook. A survival rate was not calculated for 2005 due to an insufficient number of coded-wire tags being implanted for that brood year (Appendix C).

Table 8. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for Upper Columbia fall Chinook released in 2002 - 2007.

Tag Recovery Type	Klickitat	Lyons Ferry	Priest Rapids	Ringold	Mean
Alaska fisheries	22.3%	2.4%	14.7%	10.0%	12.4%
Canadian fisheries	20.5%	14.7%	10.7%	13.6%	14.9%
Oregon fisheries	1.1%	3.0%	0.6%	0.4%	1.3%
California fisheries	0.1%	0.2%	0.0%	0.0%	0.1%
Ocean trawl bycatch	< 0.1%	0.1%	0.1%	0.0%	< 0.1%
WA coastal sport	1.5%	9.5%	1.3%	2.2%	3.6%
Columbia Estuary sport	0.8%	1.6%	0.6%	0.9%	1.0%
Lower Columbia sport	5.6%	2.3%	4.4%	4.6%	4.3%
Terminal sport	1.9%	0.8%	4.8%	5.4%	3.2%
WA coast commercial/treaty	2.2%	9.1%	1.2%	2.1%	3.6%
Columbia commercial/treaty	42.1%	18.3%	22.0%	27.1%	27.4%
Hatchery escapement	0.2%	33.1%	32.2%	20.5%	21.5%
Spawning escapement	1.7%	4.7%	7.4%	13.3%	6.8%
Estimated tags recovered	7,068	40,600	5,379	1,825	13,718

Table 9. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for Upper Columbia fall Chinook released in 2002 - 2007.

Tag Recovery Type	Klickitat	Lyons Ferry	Priest Rapids	Ringold	Mean
Alaska fisheries	20.6%	3.0%	13.0%	8.8%	11.4%
Canadian fisheries	16.5%	14.9%	8.2%	11.8%	12.9%
Oregon fisheries	1.9%	4.1%	0.6%	0.5%	1.8%
California fisheries	0.2%	0.6%	0.0%	0.0%	0.2%
Ocean trawl bycatch	0.0%	0.0%	0.0%	0.0%	< 0.1%
WA coastal sport	2.4%	13.8%	1.1%	2.2%	4.9%
Columbia Estuary sport	0.7%	1.7%	0.6%	0.8%	1.0%
Lower Columbia sport	6.5%	3.2%	5.1%	5.6%	5.1%
Terminal sport	2.8%	2.4%	3.4%	2.7%	2.8%
WA coast commercial/treaty	2.7%	10.2%	1.9%	1.7%	4.1%
Columbia commercial/treaty	44.2%	25.1%	24.1%	28.9%	30.6%
Hatchery escapement	0.1%	15.2%	36.4%	22.9%	18.6%
Spawning escapement	1.3%	5.8%	5.5%	14.0%	6.7%
Estimated tags recovered	2,726	8,785	2,384	1,429	3,831

Spring Chinook

Cowlitz Hatchery rears yearling and sub-yearling spring Chinook, typically released in February and March. From 1971 (the first release group) to 2007, the survival rate for spring Chinook ranged from 0.1% to 7.3% (Figure 12) with a mean of 1.9% (Appendix B). The brood year 2007 survival rate (0.5%) was well below average. Hatchery escapement and terminal sport fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 68.6% and 6.5%, respectively (Table 10). For the 2007 brood, hatchery escapement and terminal sport fisheries were also the sources of the largest number of tag recoveries (Table 11).

Eastbank Hatchery Complex (Chiwawa Ponds) traps spring Chinook adults at various sites and trucks them to the Eastbank Hatchery for spawning, and rearing. Juveniles are trucked to the Chiwawa River Acclimation Ponds and released as yearlings in April and May. The survival rate of spring Chinook released from Chiwawa between 1989 and 2007 ranged from < 0.1% to 1.5% (Figure 13), with a mean of 0.4% (Appendix B). The 2007 brood year survival was average (0.4%). Spawning escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 71.6% and 11.6%, respectively (Table 10). For the 2007 brood, spawning escapement and Columbia River commercial/treaty fisheries were also the sources of the largest number of tag recoveries (Table 11).

Fallert Creek Hatchery releases spring Chinook as yearlings in late March or early April. Brood year survival rates for fish released in 1989 to 2007 ranged from < 0.1% to 1.7% (Figure 14), with a mean of 0.3% (Appendix B). Terminal sport fisheries and spawning escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 27.4% and 25.5%, respectively (Table 10). For the 2007 brood, hatchery escapement and terminal sport fisheries were the sources of the largest number of tag recoveries (Table 11).

Kalama Falls Hatchery rears and releases spring Chinook as yearlings in March. Brood year survival rates for fish released in 1971 to 2007 ranged from < 0.1% to 2.2% (Figure 15), with a mean of 0.9% (Appendix B). The 2007 brood had a survival rate of 0.1%, well below the mean. Terminal sport and hatchery escapement were the most common source of tag recoveries from 2002 to 2007 broods with 31.5% and 29.1%, respectively (Table 10). For the 2007 brood, hatchery escapement was the most common source of tag recoveries followed by terminal sport fisheries (Table 11).

Klickitat Hatchery releases most spring Chinook as yearlings in April and May. Brood year survival rates for fish released in 1973 to 2007 ranged from < 0.1% to 0.9% (Figure 16), with a mean of 0.3% (Appendix B). Hatchery escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 35.5% and 26.2%, respectively (Table 10). For the 2007 brood, Columbia River commercial/treaty fisheries was the most common source of tag recoveries followed by hatchery escapement (Table 11).

Lewis River Hatchery typically releases spring Chinook as yearlings in March. Brood year survival rates for fish released in 1988 to 2007 ranged from < 0.1% to 2.0% (Figure 17), with a mean of 0.4% (Appendix B). The 2007 brood year survival rate was the third lowest since production started in 1988 (Figure 21). Hatchery escapement and Washington terminal sport fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 73.5% and 9.2%, respectively (Table 10). For the 2007 brood, hatchery escapement and Oregon fisheries were the sources of the largest number of tag recoveries (Table 11).

Methow Hatchery releases spring Chinook as yearlings in the Chewuch, Twisp and Methow rivers in April. Brood year survival rates for fish released in 1988 to 2007 ranged from < 0.1% to 0.8% (Figure 18), with a mean of 0.3% (Appendix B). The 2007 brood year survival rate of 0.45% was above average (Figure 25). Spawning escapement and hatchery escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 64.4% and 31.0%, respectively (Table 10). For the 2007 brood, spawning escapement and hatchery escapement were also the sources of the largest number of tag recoveries (Table 11).

Ringold Hatchery releases spring Chinook as yearlings in April. Production has occurred sporadically in the 1970's, consistently from 1989 to 1998, and only three broods since 1998 (2003, 2004, and 2006). Brood year survival rates for fish released in 1972 to 2006 ranged from <0.1% to 3.0% (Figure 19), with a mean of 0.5% (Appendix B). Hatchery escapement and Lower Columbia sport were the sources of the largest number of tag recoveries from 2003, 2004, and 2006 broods with 56.4% and 20.3%, respectively (Table 10). No production occurred in brood year 2007.

Tucannon Hatchery is a satellite rearing and capture facility operating in conjunction with Lyons Ferry Hatchery. Wild spring Chinook returning to the Tucannon River were captured at the Tucannon trap to supply brood stock for hatchery releases beginning in 1985. Adults are transported to the Lyons Ferry Hatchery to be spawned. Fish are hatched and reared at Lyons Ferry then transported to acclimation ponds at Tucannon Hatchery in late fall of the first year and released in the spring. Brood year survival rates for spring Chinook released in 1972 to 2007 ranged from < 0.1% to 0.8% (Figure 20), with a mean of 0.2% (Appendix B). The 2007 survival rate of 0.20% is just below average. Spawning escapement and hatchery escapement were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 80.7% and 16.3%, respectively (Table 10). For the 2007 brood, spawning escapement and hatchery escapement were also the sources of the largest number of tag recoveries (Table 11). These CWT Chinook were not adipose clipped and would not be recovered in any fishery unless all sampled harvest (with or without adipose fins) was wanded for CWTs.

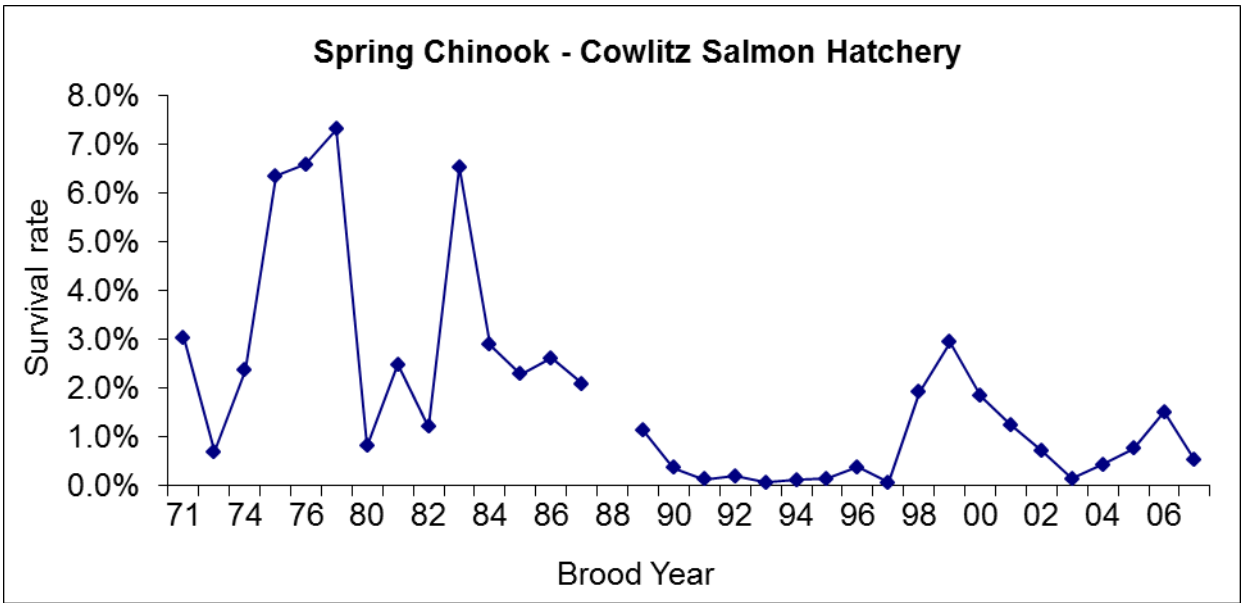

Figure 12. Survival by brood year of spring Chinook from the Cowlitz Salmon Hatchery.

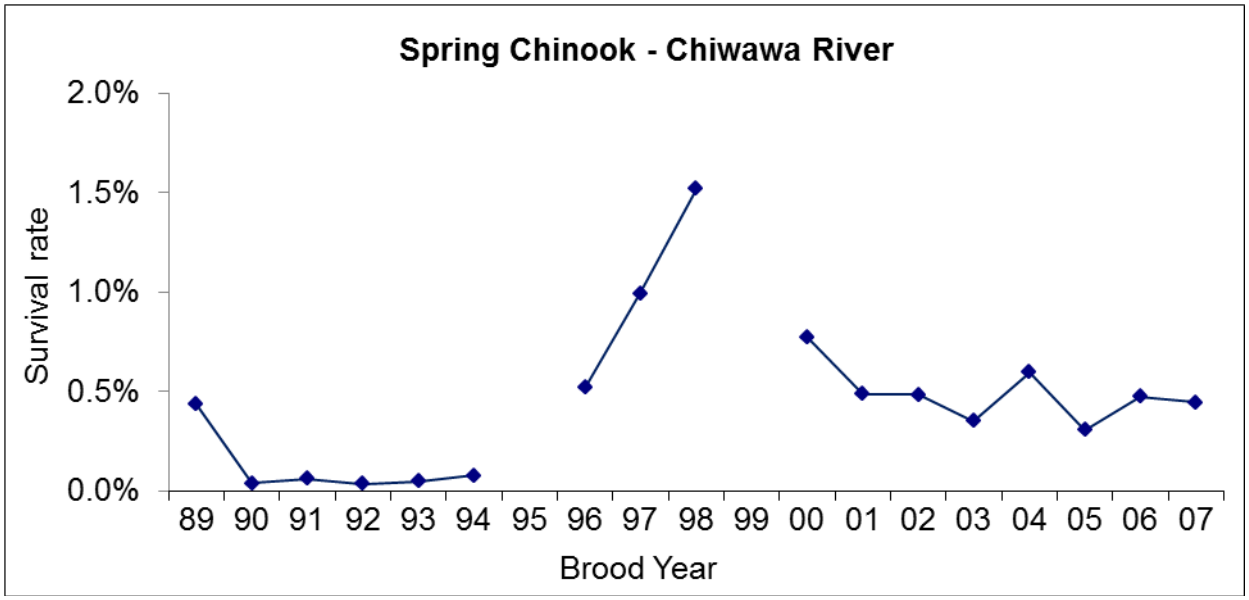

Figure 13. Survival by brood year of Chiwawa River Acclimation Pond (Eastbank Hatchery Complex) spring Chinook.

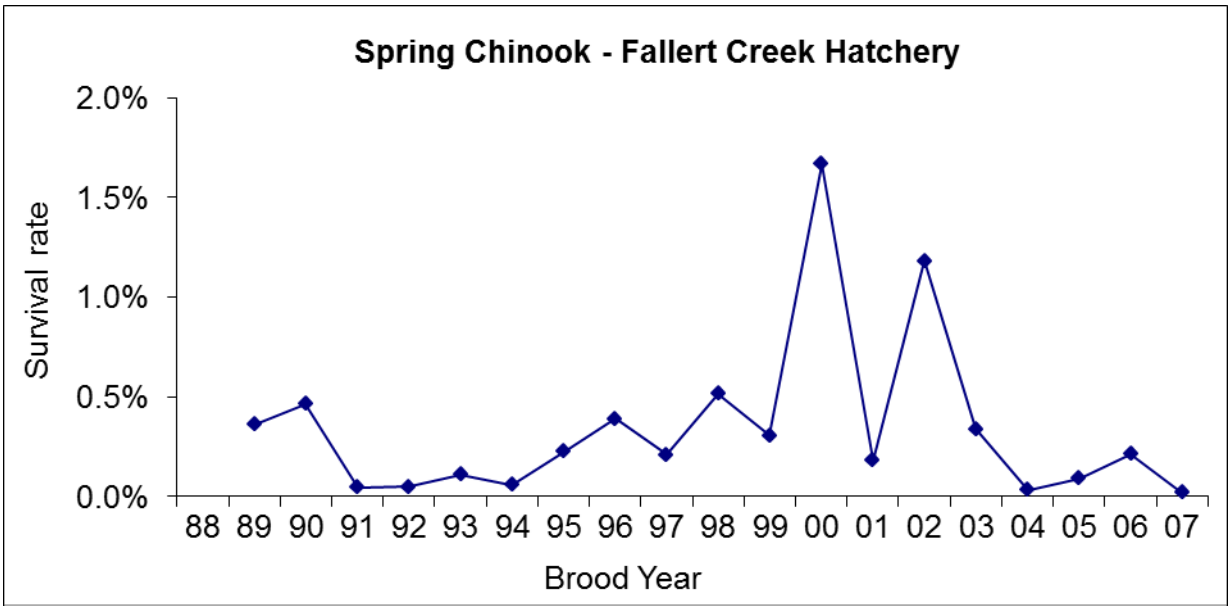

Figure 14. Survival by brood year of Fallert Creek spring Chinook.

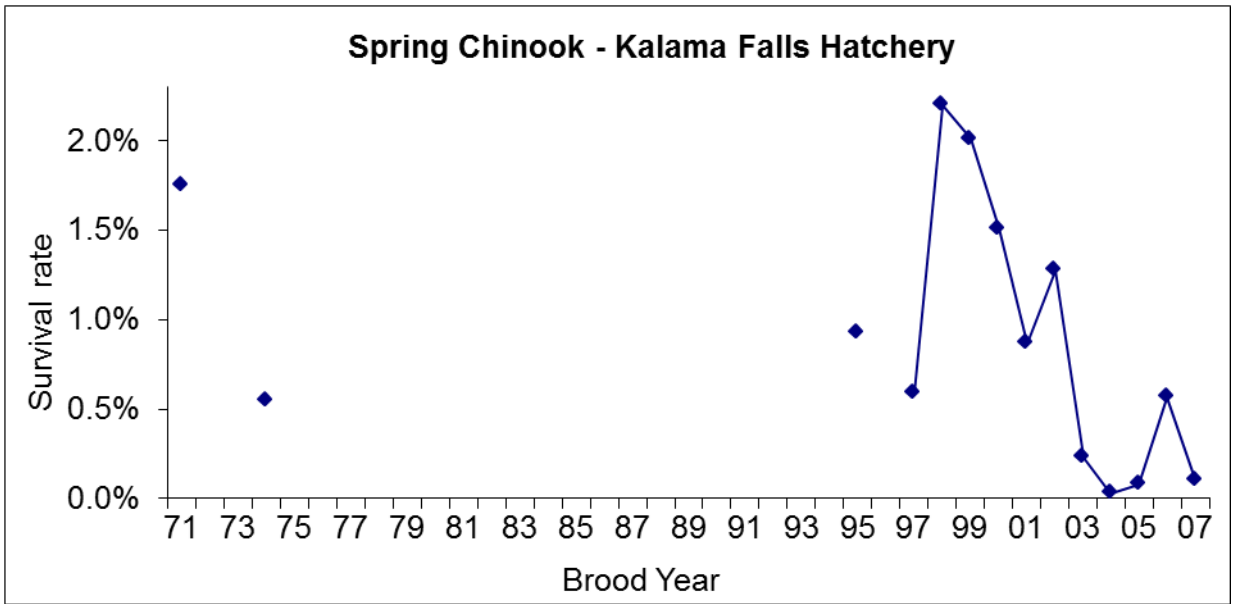

Figure 15. Survival by brood year of Kalama Falls Hatchery spring Chinook.

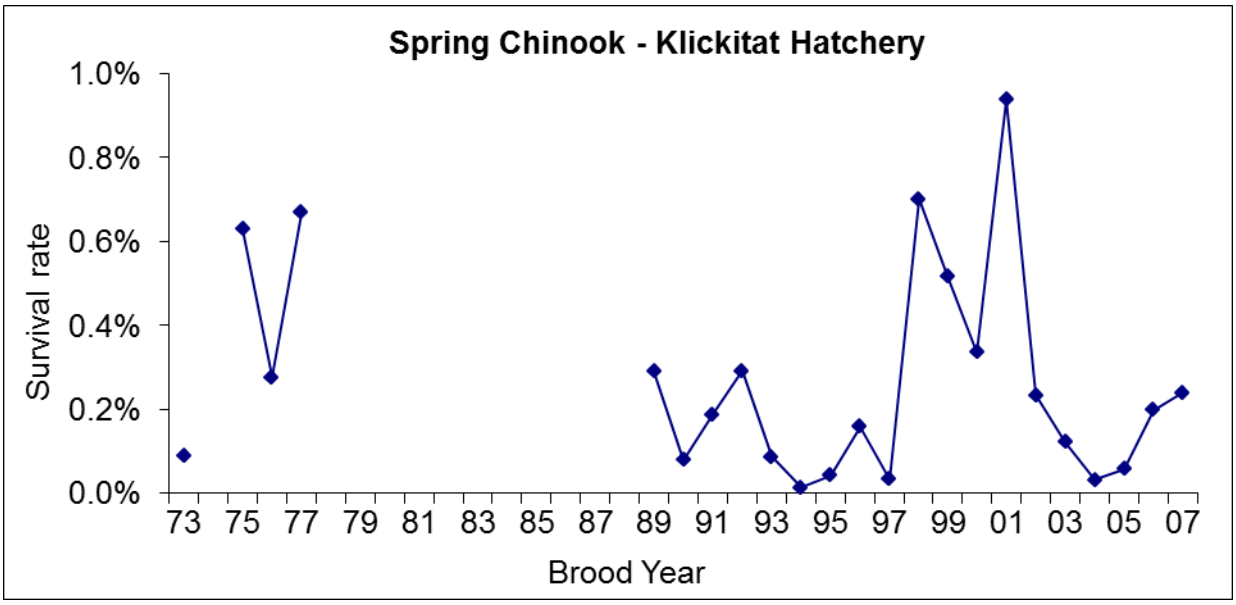

Figure 16. Survival by brood year of Klickitat Hatchery fall Chinook.

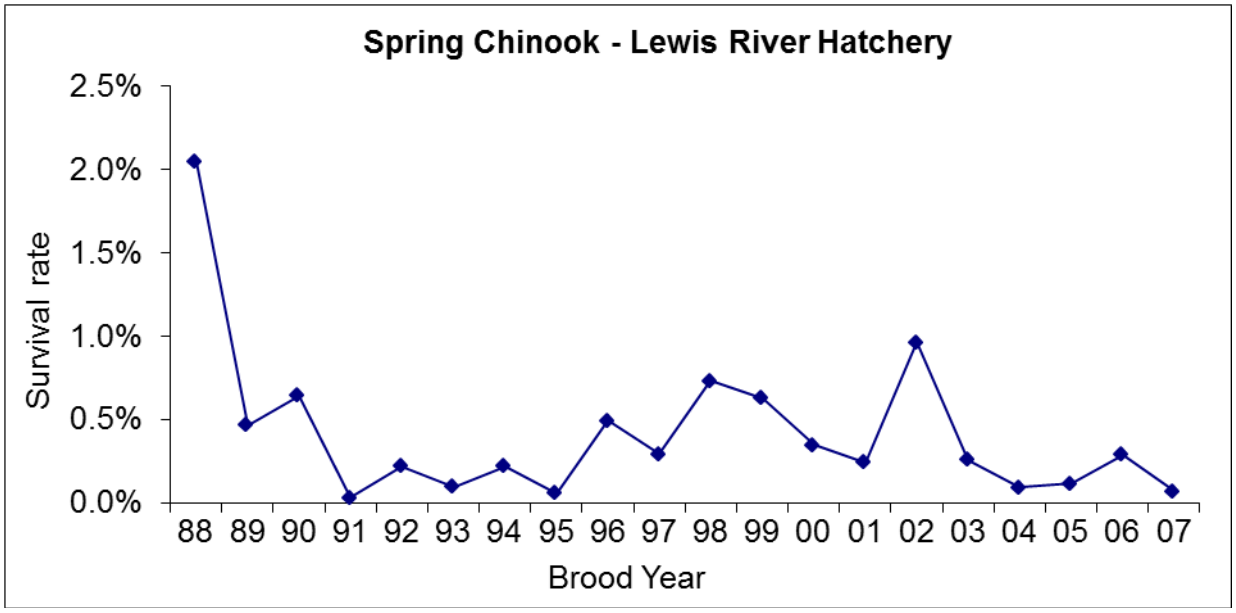

Figure 17. Survival by brood year of Lewis River Hatchery spring Chinook.

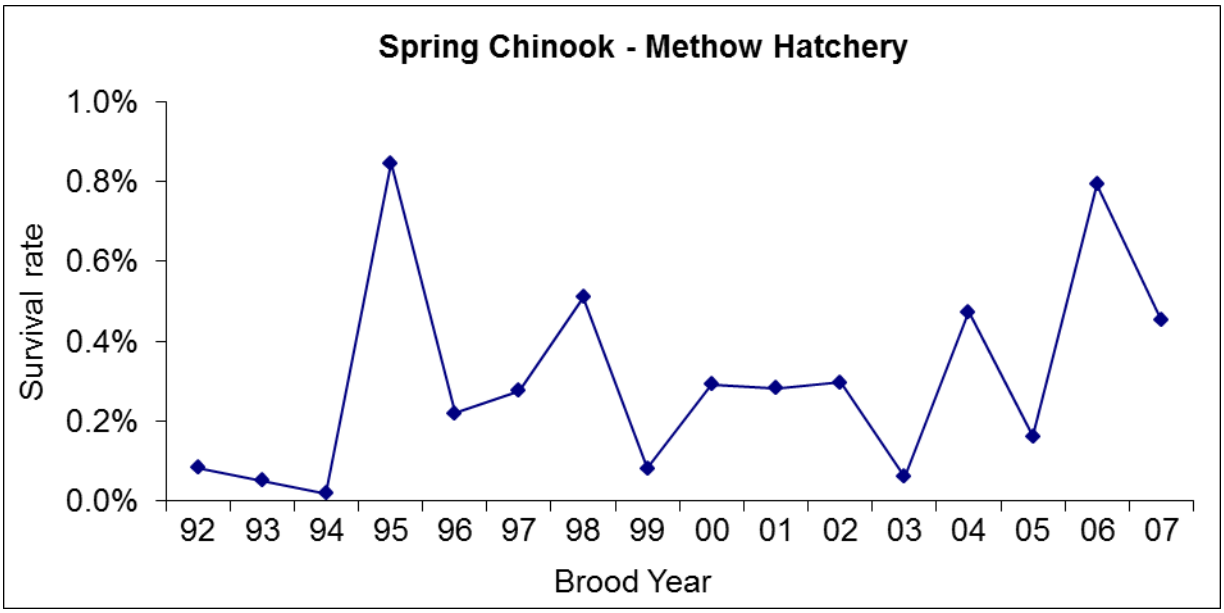

Figure 18. Survival by brood year of Methow Hatchery spring Chinook.

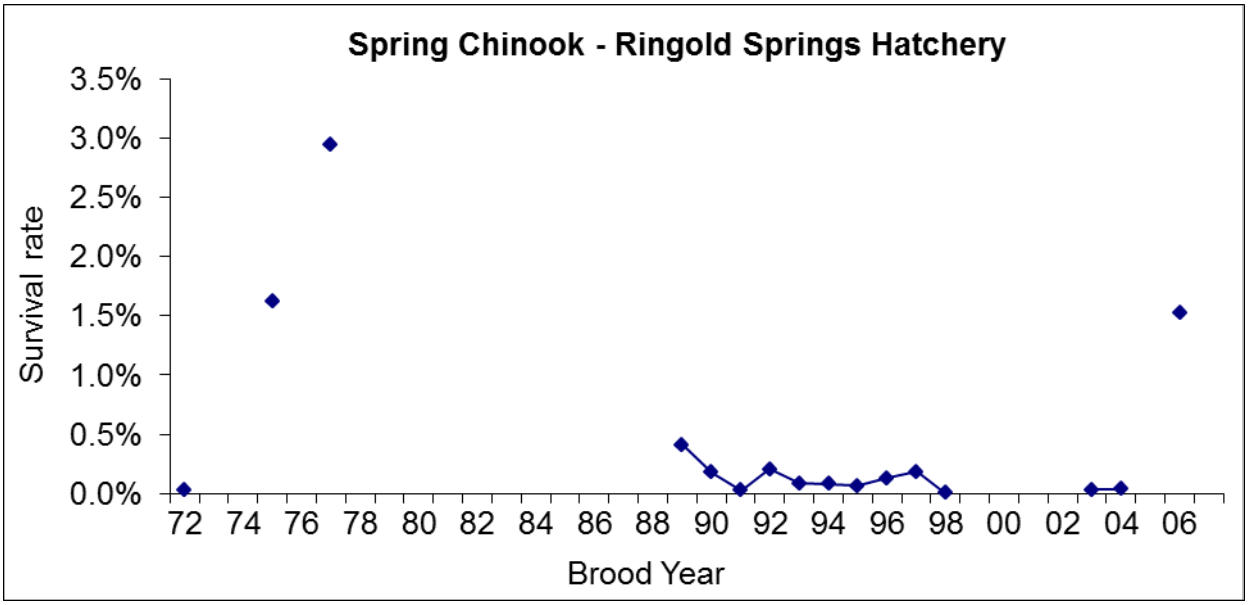

Figure 19. Survival by brood year of Ringold Springs Hatchery spring Chinook.

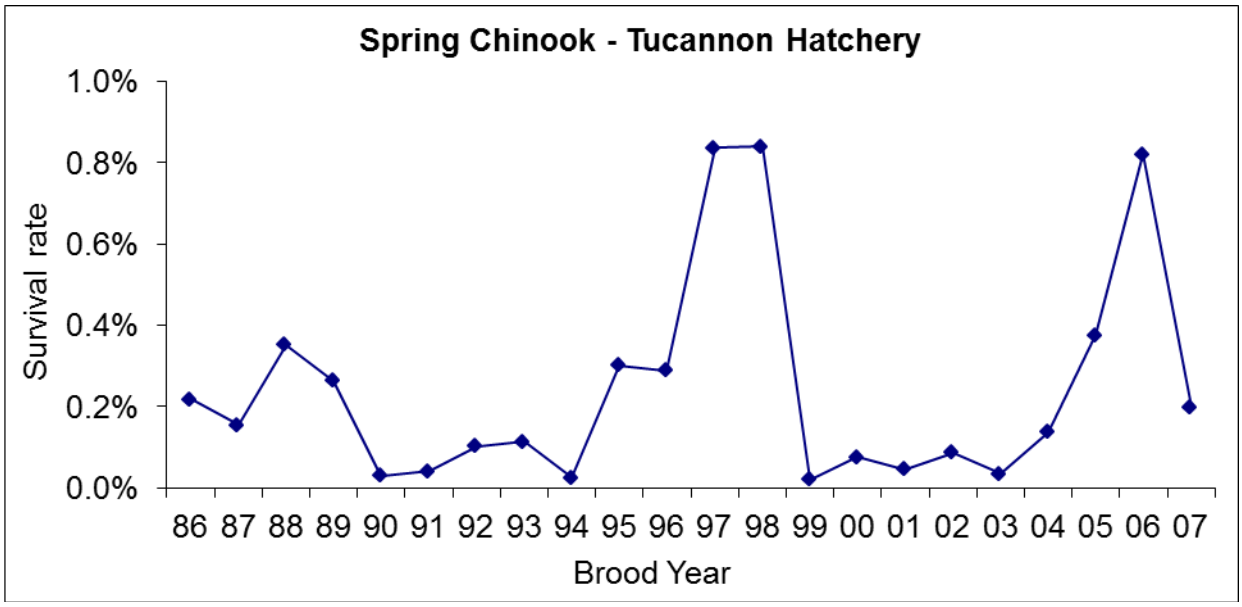

Figure 20. Survival by brood year of Tucannon Hatchery spring Chinook.

Table 10. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for spring Chinook released in 2002 - 2007.

Tag Recovery Type	Cowlitz	Chiwawa	Fallert	Kalama	Klickitat	Lewis	Methow	Ringold*	Tucannon	Mean
Alaska fisheries	2.4%	0.2%	6.4%	8.0%	1.3%	3.1%	0.0%	0.0%	0.0%	2.4%
Canadian fisheries	5.7%	0.1%	9.8%	6.6%	1.8%	5.9%	0.1%	0.0%	< 0.1%	3.3%
Oregon fisheries	1.5%	0.5%	1.0%	0.9%	1.3%	0.7%	0.4%	0.6%	0.4%	0.8%
California fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	< 0.1%	0.0%	0.0%	0.0%	< 0.1%
Ocean trawl bycatch	0.4%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
WA coastal sport	5.7%	< 0.1%	0.6%	0.6%	0.3%	0.7%	0.0%	0.0%	0.0%	0.9%
Columbia Estuary sport	0.5%	< 0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Lower Columbia sport	1.3%	5.3%	7.7%	6.1%	10.7%	2.0%	0.0%	20.3%	0.1%	6.0%
Terminal sport	6.5%	2.0%	27.4%	31.5%	21.5%	9.2%	< 0.1%	9.0%	0.0%	11.9%
WA coast commercial/treaty	1.8%	0.2%	1.6%	0.6%	1.3%	1.0%	0.0%	0.0%	0.0%	0.7%
Columbia commercial/treaty	1.7%	11.6%	5.7%	5.2%	26.2%	1.3%	4.0%	12.1%	2.5%	7.8%
Hatchery escapement	68.6%	8.4%	14.1%	29.1%	35.5%	73.5%	31.0%	56.4%	16.3%	37.0%
Spawning escapement	3.8%	71.7%	25.5%	11.3%	0.1%	2.4%	64.4%	1.7%	80.7%	29.1%
Estimated tags recovered	7,864	9,849	2,337	2,687	1,643	5,130	6,408	713	3,021	4,406

Table 11. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for spring Chinook released in 2007.

Tag Recovery Type	Cowlitz	Chiwawa	Fallert	Kalama	Klickitat	Lewis	Methow	Ringold*	Tucannon	Mean
Alaska fisheries	2.1%	0.0%	0.0%	9.4%	0.2%	2.5%	0.0%	NA	0.0%	1.8%
Canadian fisheries	3.4%	0.0%	0.0%	2.4%	0.8%	3.5%	0.0%	NA	0.0%	1.3%
Oregon fisheries	2.3%	0.2%	0.0%	1.6%	0.6%	8.5%	0.1%	NA	0.0%	1.7%
California fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NA	0.0%	0.0%
Ocean trawl bycatch	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	NA	0.0%	0.0%
WA coastal sport	7.5%	0.2%	12.0%	0.0%	0.0%	1.5%	0.0%	NA	0.0%	2.7%
Columbia Estuary sport	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	NA	0.0%	0.1%
Lower Columbia sport	0.0%	3.8%	36.0%	14.2%	18.2%	1.5%	0.0%	NA	0.0%	9.2%
Terminal sport	12.4%	7.8%	0.0%	19.7%	15.9%	0.5%	0.0%	NA	0.0%	7.0%
WA coast commercial/treaty	1.0%	0.6%	0.0%	0.0%	1.5%	3.0%	0.0%	NA	0.0%	0.8%
Columbia commercial/treaty	2.3%	19.7%	0.0%	1.6%	37.8%	1.5%	1.3%	NA	2.2%	8.3%
Hatchery escapement	68.1%	6.1%	52.0%	51.2%	24.6%	76.9%	35.5%	NA	28.3%	42.8%
Spawning escapement	0.2%	61.4%	0.0%	0.0%	0.4%	0.5%	63.1%	NA	69.5%	24.4%
Estimated tags recovered	477	1,302	25	127	479	199	1,309	NA	223	518

Summer Chinook

Eastbank Hatchery Complex traps summer Chinook adults at various sites and trucks them to the Eastbank Hatchery for spawning, and rearing. Summer Chinook juveniles are trucked to three ponds for acclimation: Dryden Pond on the Wenatchee River, Similkameen Pond on the Similkameen River, and Carlton Pond on the Methow River near Twisp.

Dryden Pond releases summer Chinook as yearlings in May. Brood year survival rates for fish released in 1989 to 2007 ranged from < 0.1% to 1.8% (Figure 21), with a mean of 0.5% (Appendix B). Spawning escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 39.4% and 17.9%, respectively (Table 12). For the 2007 brood, spawning escapement and Alaska fisheries were the sources of the largest number of tag recoveries (Table 13).

Similkameen Pond releases summer Chinook as yearlings in April or May. Brood year survival rates for fish released in 1989 to 2007 ranged from < 0.1% to 3.2% (Figure 21), with a mean of 0.9% (Appendix B). Spawning escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 37.4% and 23.2%, respectively (Table 12). For the 2007 brood, spawning escapement and Columbia River commercial/treaty fisheries were also the sources of the largest number of tag recoveries (Table 13).

Carlton Pond releases summer Chinook as yearlings in April and May. Brood year survival rates for fish released in 1990 to 2007 ranged from < 0.1% to 1.9% (Figure 21), with a mean of 0.3% (Appendix B). The brood year 2007 survival rate of 0.1% was below average. There were no tagged releases of 2002 and 2003 brood summer Chinook; tag recoveries are for 2004-2007. Spawning escapement and Columbia commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 38.1% and 22.0%, respectively (Table 12). For the 2007 brood, spawning escapement and Columbia commercial/treaty fisheries were also the sources of the largest number of tag recoveries (Table 13).

Turtle Rock Hatchery at Rocky Reach Dam releases summer Chinook as yearlings in April and, beginning with the 1992 brood year, sub-yearlings released in June. These Chinook were originally classified as upriver bright fall Chinook, but were reclassified as summer Chinook to better reflect run timing. Brood year survival rates for fish released in 1982 to 2007 ranged from 0.1% to 3.6% (Figure 22), with a mean of 0.7% (Appendix B). 2007 brood year survival rate of 0.28% was a significant drop from the previous year. Columbia River commercial/treaty fisheries and Canadian fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 25.1% and 13.7%, respectively (Table 12). For the 2007 brood, Columbia River commercial/treaty fisheries and hatchery escapement were the sources of the largest number of tag recoveries (Table 13).

Wells Dam Hatchery typically releases summer Chinook as yearlings in April and sub-yearlings in June. Brood year survival rates for fish released in 1974 to 2007 ranged from < 0.1% to 1.3% (Figure 23), with a mean of 0.4% (Appendix B). The survival rate for 2007 was 0.3% which is about average. Hatchery escapement and Columbia River commercial/treaty fisheries were the sources of the largest number of tag recoveries from 2002 to 2007 broods with 33.7% and 20.5%, respectively (Table 12). For the 2007 brood, hatchery escapement and Columbia River commercial/treaty fisheries were also the sources of the largest number of tag recoveries (Table 13).

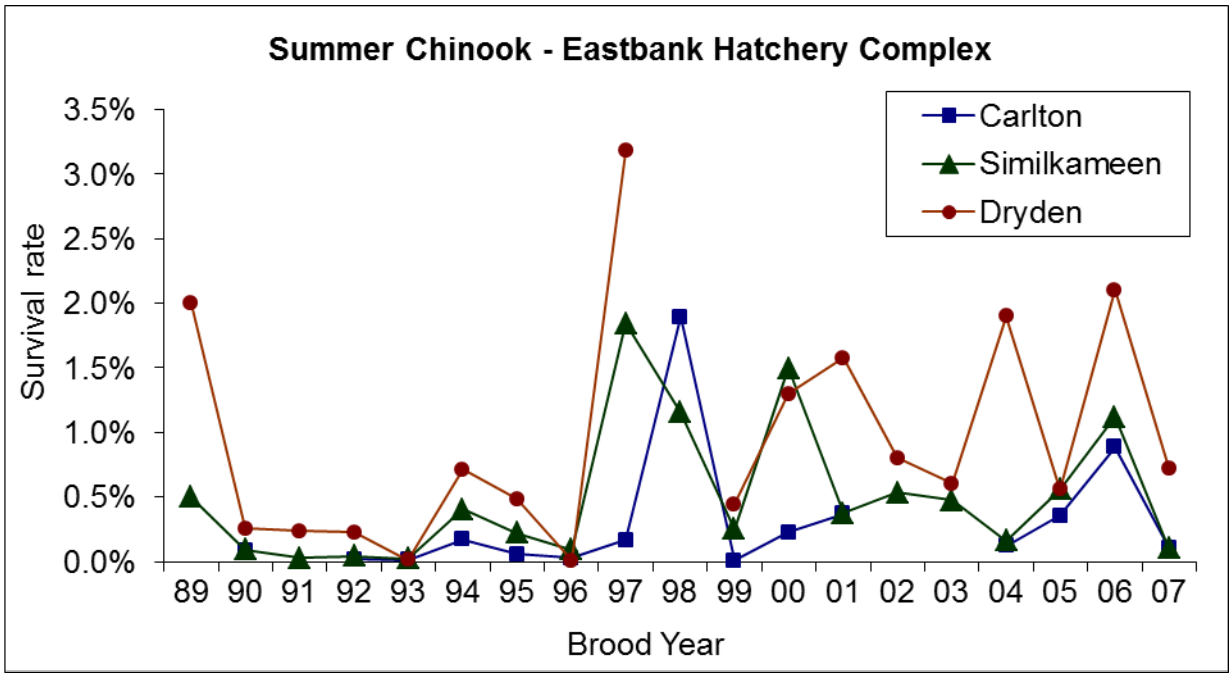

Figure 21. Survival by brood year of Eastbank Hatchery Complex summer Chinook.

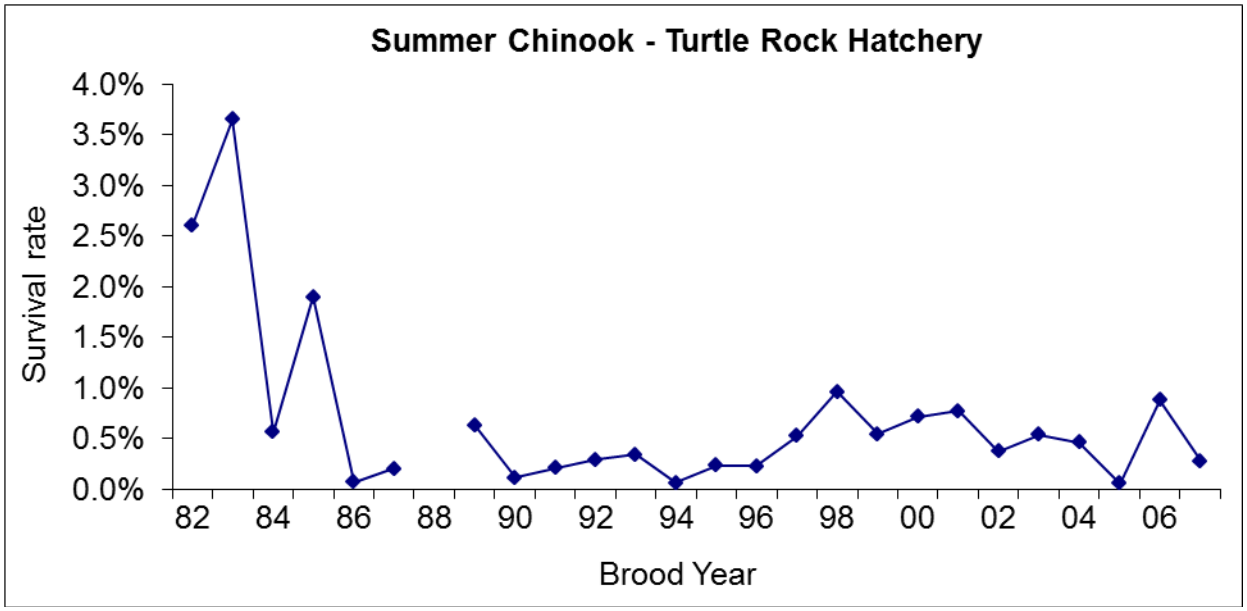

Figure 22. Survival by brood year of Turtle Rock Hatchery summer Chinook.

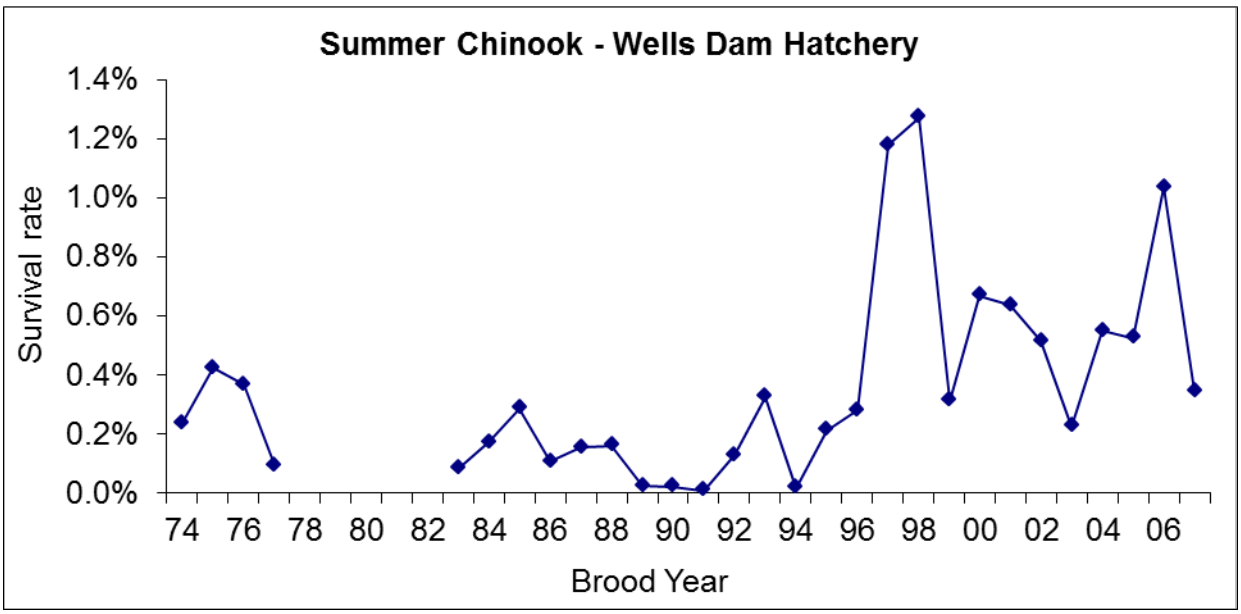

Figure 23. Survival by brood year of Wells Dam Hatchery summer Chinook.

Table 12. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for summer Chinook released in 2002 - 2007.

Tag Recovery Type	Dryden	Similkameen	Carlton	Turtle Rock	Wells	Mean
Alaska fisheries	13.2%	10.8%	9.9%	13.5%	10.5%	11.6%
Canadian fisheries	15.3%	10.6%	14.1%	13.7%	13.8%	13.5%
Oregon fisheries	1.7%	1.2%	2.7%	2.1%	2.3%	2.0%
California fisheries	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%
Ocean trawl bycatch	0.0%	0.0%	0.0%	< 0.1%	0.0%	< 0.1%
WA coastal sport	0.6%	0.7%	1.4%	0.7%	0.6%	0.8%
Columbia Estuary sport	0.1%	0.1%	0.3%	0.2%	0.2%	0.2%
Lower Columbia sport	4.0%	4.2%	4.9%	6.5%	3.4%	4.6%
Terminal sport	4.9%	9.5%	3.9%	11.9%	8.5%	7.8%
WA coast commercial/treaty	1.9%	1.2%	2.0%	2.4%	2.7%	2.0%
Columbia commercial/treaty	17.9%	23.2%	22.0%	25.1%	20.5%	21.7%
Hatchery escapement	0.8%	1.0%	0.7%	13.2%	33.7%	9.9%
Spawning escapement	39.4%	37.4%	38.1%	10.5%	3.7%	25.8%
Estimated tags recovered	11,362	38,347	5,682	13,984	23,963	18,668

* Brood years released from Carlton Pond include 2004-2007

Table 13. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for summer Chinook released in 2007.

Tag Recovery Type	Dryden	Similkameen	Carlton*	Turtle Rock	Wells	Mean
Alaska fisheries	19.6%	15.8%	15.1%	14.3%	12.4%	15.4%
Canadian fisheries	13.3%	10.8%	13.5%	13.0%	11.8%	12.5%
Oregon fisheries	5.3%	1.9%	4.9%	4.2%	4.4%	4.1%
California fisheries	0.6%	0.4%	0.9%	0.7%	0.6%	0.6%
Ocean trawl bycatch	0.0%	0.0%	0.0%	0.0%	0.0%	< 0.1%
WA coastal sport	2.9%	1.1%	2.8%	1.1%	1.3%	1.9%
Columbia Estuary sport	0.6%	0.1%	0.6%	0.2%	0.0%	0.3%
Lower Columbia sport	4.8%	6.0%	4.5%	9.5%	4.9%	5.9%
Terminal sport	6.1%	12.6%	7.3%	6.5%	7.8%	8.1%
WA coast commercial/treaty	1.3%	1.2%	3.2%	3.7%	2.8%	2.5%
Columbia commercial/treaty	18.9%	20.9%	18.1%	22.8%	24.2%	21.0%
Hatchery escapement	0.6%	0.4%	0.4%	16.2%	26.7%	8.9%
Spawning escapement	25.9%	28.8%	28.6%	7.8%	3.0%	18.8%
Estimated tags recovered	475	4,847	465	1,238	2,446	1,894

Early Coho

Elochoman Hatchery closed in the fall of 2008 and there were no brood year 2008 to 2010 releases.

Fallert Creek Hatchery released early Coho from 1988 to 2010 with survival rates that ranged from < 0.2% to 5.9% (Figure 24), with a mean of 1.2% (Appendix B). The 2010 brood survival rate of 1.5% was a large increase from the record low for brood 2009. Hatchery escapement and Washington coastal sport fisheries were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 54.6% and 17.6%, respectively (Table 14). For the 2010 brood, spawning escapement and Washington coastal sport fisheries were the sources of the largest number of tag recoveries (Table 15).

Grays River Hatchery reared early Coho as yearlings in May until 2007, then switched to rearing late-Coho so there were no brood year 2008 to 2010 releases of early-Coho.

Lewis River Hatchery releases early Coho as yearlings in April and May. Brood year survival rates for fish released in 1988 to 2007 ranged from < 0.1% to 6.6% (Figure 25), with a mean of 2.4% (Appendix B). The 2010 brood year survival rate of 1.7% was a marked improvement from the previous year's record low although still below average. Hatchery escapement accounted for the majority number of tag recoveries from 2008 to 2010 broods with 87.7% (Table 14). For the 2010 brood, hatchery escapement was also the source of most of the tag recoveries (Table 15).

North Toutle Hatchery was destroyed during the eruption of Mount St. Helens in 1980. It was rebuilt and began producing Type S Coho in 1986. Stock was provided from area hatcheries including the Washougal, Grays and Cowlitz. Early Coho from 1971 to 2010 had survival rates that ranged from 0.1% to 5.2% (Figure 26), with a mean of 2.1% (Appendix B). The survival of the 2010 brood (0.9%) was below average. Hatchery escapement and Columbia Estuary sport were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 80.0% and 6.9%, respectively (Table 14). For the 2010 brood, hatchery escapement and Washington coastal sport fisheries were the sources of the largest number of tag recoveries (Table 15).

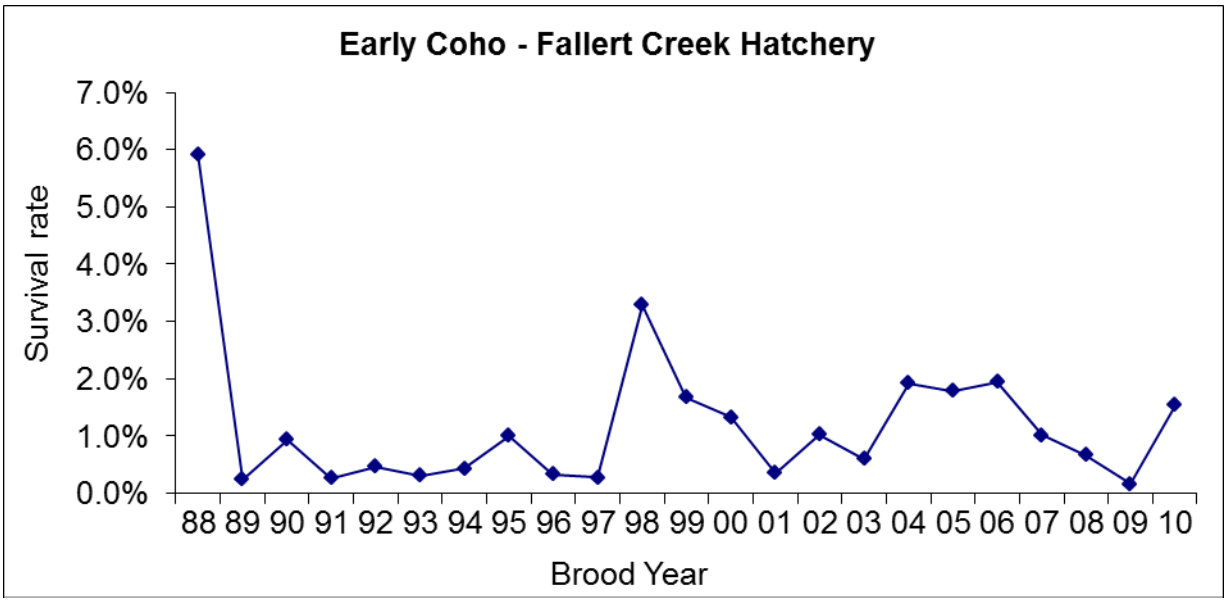

Figure 24. Survival by brood year of Fallert Creek Hatchery early Coho.

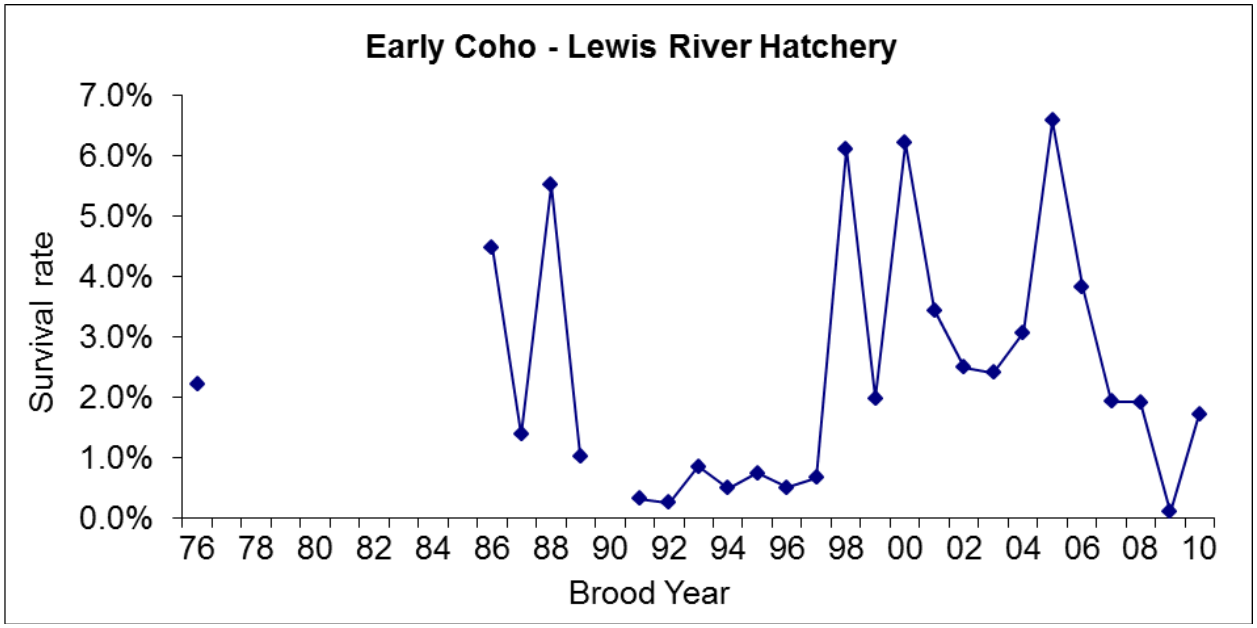

Figure 25. Survival by brood year of Lewis River Hatchery early Coho.

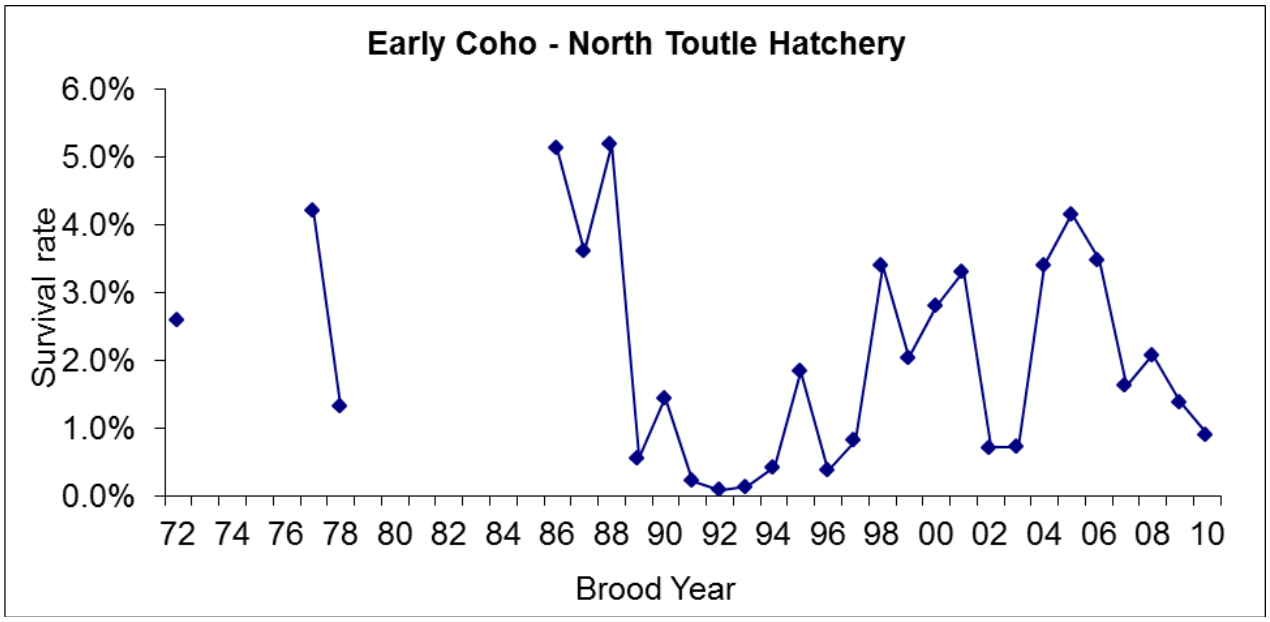

Figure 26. Survival by brood year of North Toutle Hatchery early Coho.

Table 14. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for early Coho released in 2008 - 2010.

Tag Recovery Type	Fallert	Lewis	N.Toutle	Mean
Alaska fisheries	0.0%	0.0%	0.0%	0.0%
Canadian fisheries	0.0%	0.1%	0.0%	0.0%
Oregon fisheries	2.7%	1.3%	3.1%	2.3%
California fisheries	0.0%	0.0%	0.0%	0.0%
Ocean trawl bycatch	0.0%	< 0.1%	0.0%	< 0.1%
WA coastal sport	17.6%	2.9%	5.1%	8.5%
Columbia Estuary sport	13.1%	2.9%	6.9%	7.6%
Lower Columbia sport	0.1%	0.5%	0.9%	0.5%
Terminal sport	2.6%	1.4%	0.1%	1.3%
WA coast commercial/treaty	0.3%	0.4%	0.2%	0.3%
Columbia commercial/treaty	7.2%	2.5%	3.3%	4.4%
Hatchery escapement	54.6%	87.7%	80.0%	74.1%
Spawning escapement	1.9%	0.3%	0.5%	0.9%
Estimated tags recovered	779	5,435	1,323	2,512

Table 15. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for early Coho released in 2010.

Tag Recovery Type	Fallert	Lewis	N.Toutle	Mean
Alaska fisheries	0.0%	0.0%	0.0%	0.0%
Canadian fisheries	0.0%	0.2%	0.0%	0.1%
Oregon fisheries	3.3%	1.1%	2.9%	2.4%
California fisheries	0.0%	0.0%	0.0%	0.0%
Ocean trawl bycatch	0.0%	< 0.1%	0.0%	< 0.1%
WA coastal sport	20.2%	4.0%	6.4%	10.2%
Columbia Estuary sport	15.9%	3.3%	0.0%	6.4%
Lower Columbia sport	0.2%	0.1%	1.1%	0.5%
Terminal sport	4.1%	0.3%	0.0%	1.5%
WA coast commercial/treaty	0.4%	0.7%	0.7%	0.6%
Columbia commercial/treaty	8.0%	2.6%	4.6%	5.1%
Hatchery escapement	0.0%	87.2%	82.9%	56.7%
Spawning escapement	46.4%	0.5%	1.4%	16.1%
Estimated tags recovered	485	2,384	280	1,050

Late Coho

Cowlitz Salmon Hatchery released late Coho from 1980 to 2010 with survival rates that ranged from 0.1% to 5.5% (Figure 27), with a mean of 2.0% (Appendix B). The 2010 brood year survival rate (0.7%) was an improvement over the 2009 rate (a record low for the time-series), but still remained below the mean. Washington coastal sport fishery and terminal sport fisheries were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 42.4% and 18.4%, respectively (Table 16). For the 2010 brood, Washington coastal sport fishery and terminal sport fisheries were also the sources of the largest number of tag recoveries (Table 12).

Elochoman Hatchery closed in the fall of 2008 and there were no brood year 2008 to 2010 releases.

Grays River Hatchery reared and released early Coho until 2006, then began releasing late Coho in 2007. Brood year survival rates for fish released in 1974 to 2006 ranged from < 0.1% to 4.6% (Figure 28), with a mean of 1.3% (Appendix B). For Type N Coho the mean survival rate for brood years 2007 - 2010 was 1.6% (Appendix B). Hatchery escapement and Washington coastal sport were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 39.8% and 20.9%, respectively (Table 16). For the 2010 brood, hatchery escapement and Washington coastal sport fisheries were also the sources of the largest number of tag recoveries (Table 17).

Kalama Falls Hatchery releases late Coho as yearlings in April. Brood year survival rates for fish released in 1983 to 2010 ranged from 0.1% to 8.8% (Figure 29), with a mean of 2.0% (Appendix B). The 2010 brood year survival rate of 1.6% was an improvement over the previous year, which was a 13 year low. Hatchery escapement and Washington Coastal sport fisheries were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 52.6% and 15.5%, respectively (Table 16). For the 2010 brood, hatchery escapement and Washington coastal sport fisheries were also the sources of the largest number of tag recoveries (Table 17).

Klickitat Hatchery releases late Coho as yearlings in April, May and June. Brood year survival rates for fish released in 1973 to 2007 ranged from < 0.1% to 3.3% (Figure 30), with a mean of 1.0% (Appendix B). The 2010 brood year survival rate of 0.1% was only slightly up from the previous year and well below the mean. Washington coastal sport and Oregon fisheries were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 60.9% and 19.0%, respectively (Table 16). For the 2010 brood, Washington coastal sport and Washington commercial/treaty coastal fisheries were the sources of the largest number of tag recoveries (Table 17).

Lewis River Hatchery releases late Coho as yearlings in April and May. Brood year survival rates for fish released in 1988 to 2007 ranged from 0.2% to 8.3% (Figure 31), with a mean of 2.7% (Appendix B). The 2010 brood year survival rate of 1.9% was a marked improvement over the previous year although still below average. Hatchery escapement and Washington coastal sport were the sources of the largest number of

tag recoveries from 2008 to 2010 broods with 72.9% and 10.5%, respectively (Table 16). For the 2010 brood, hatchery escapement and Washington coastal sport fisheries were also the sources of the largest number of tag recoveries (Table 17).

Washougal Hatchery releases late Coho as yearlings in April. Brood year survival rates for fish released in 1974 to 2010 ranged from 0.1% to 5.4% (Figure 32), with a mean of 1.5% (Appendix B). The 2010 survival rate of 0.71% is an improvement over the past two years but still below average. Hatchery escapement and Washington coastal sport were the sources of the largest number of tag recoveries from 2008 to 2010 broods with 42.8% and 26.9%, respectively (Table 16). For the 2010 brood, hatchery escapement and Washington coastal sport fisheries were also the sources of the largest number of tag recoveries (Table 17).

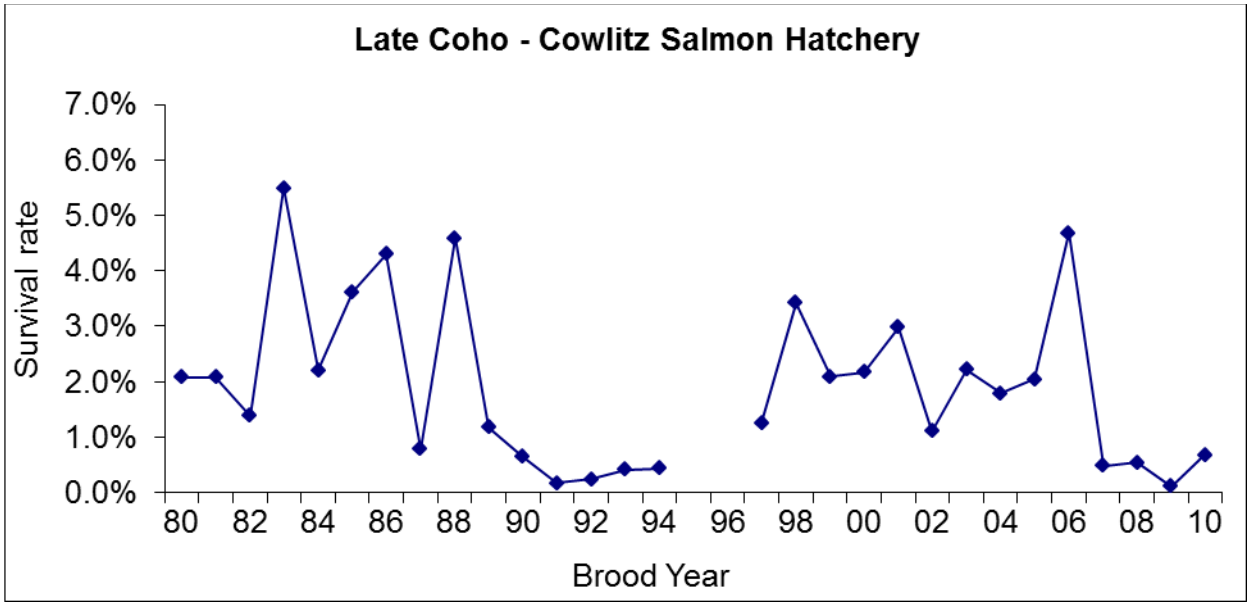

Figure 27. Survival by brood year of late (Type N) Coho from the Cowlitz Salmon Hatchery.

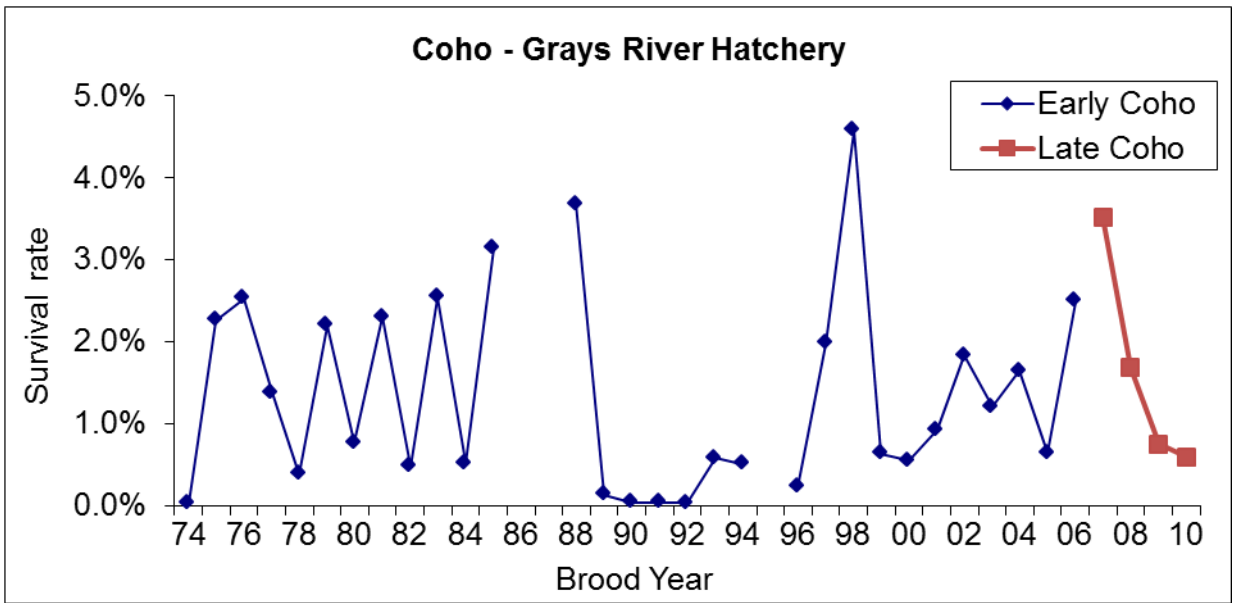

Figure 28. Survival by brood year of Grays River Hatchery Coho. Note that the hatchery switched from early to late Coho production in 2007.

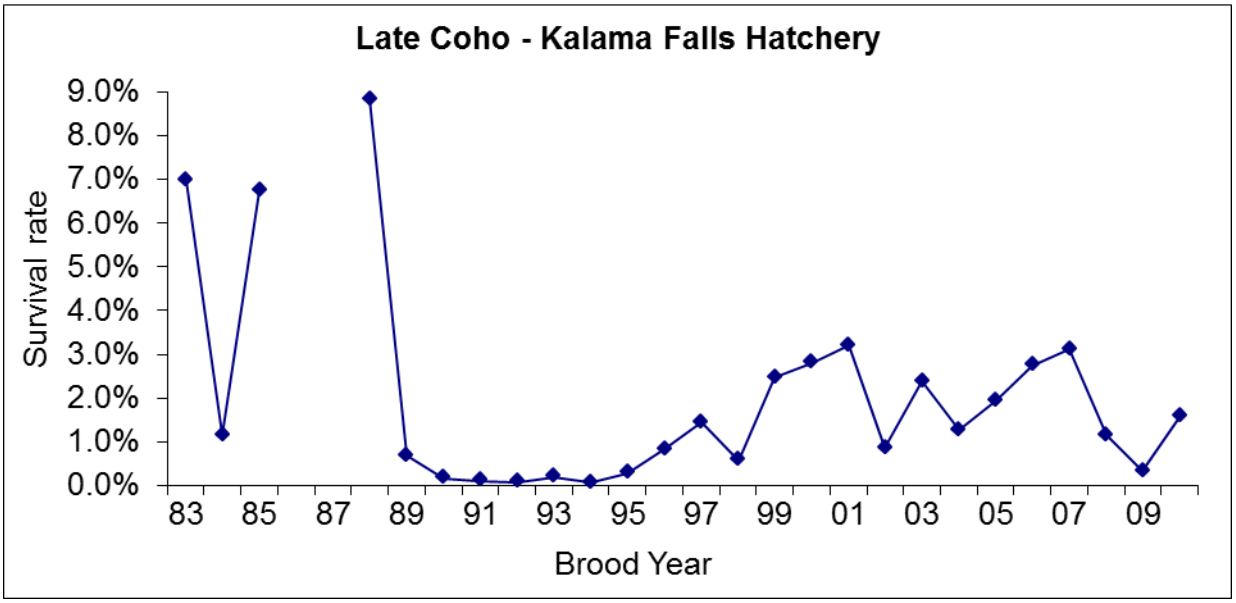

Figure 29. Survival by brood year of Kalama Falls Hatchery Type N Coho.

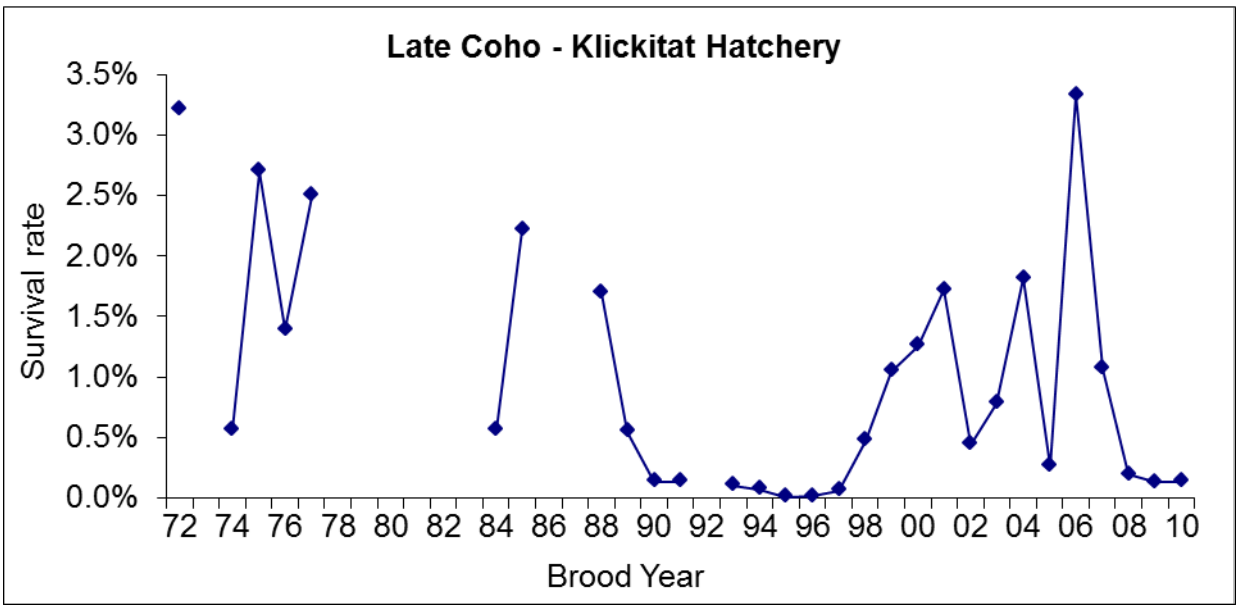

Figure 30. Survival by brood year of Klickitat Hatchery fall Chinook.

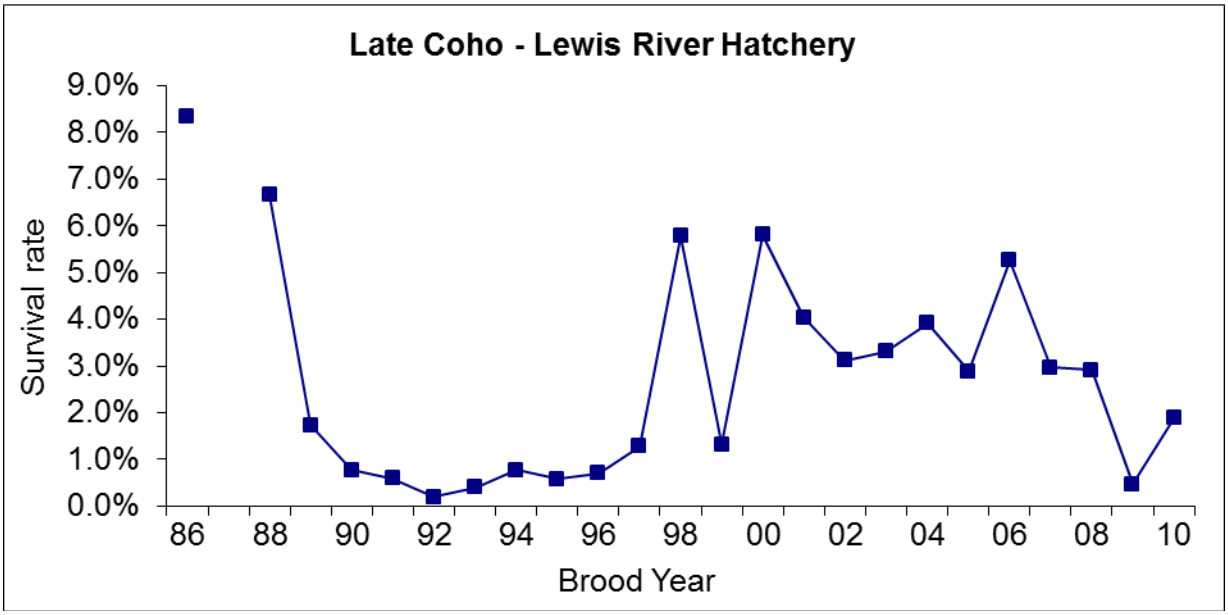

Figure 31. Survival by brood year of Lewis River Hatchery Coho.

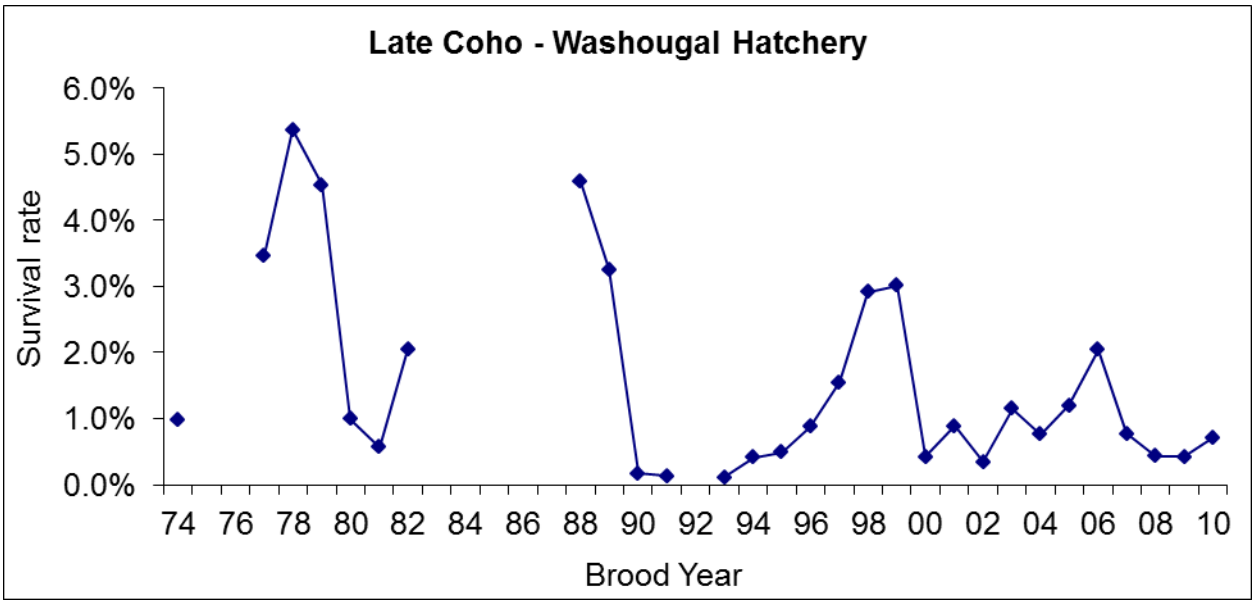

Figure 32. Survival by brood year of Washougal Hatchery Coho.

Table 16. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for late Coho released in 2008 - 2010.

Tag Recovery Type	Cowlitz	Grays	Kalama	Klickitat	Lewis	Washougal	Mean
Alaska fisheries	< 0.1%	0.0%	0.1%	22.3%	0.0%	0.0%	3.7%
Canadian fisheries	2.3%	0.0%	1.3%	20.5%	0.3%	0.9%	4.2%
Oregon fisheries	16.6%	11.8%	7.8%	1.1%	3.9%	11.6%	8.8%
California fisheries	0.1%	0.6%	0.0%	0.1%	0.1%	0.0%	0.1%
Ocean trawl bycatch	< 0.1%	0.2%	0.0%	< 0.1%	0.0%	0.0%	< 0.1%
WA coastal sport	42.4%	20.9%	15.5%	1.5%	10.5%	26.9%	19.6%
Columbia Estuary sport	4.6%	4.1%	2.4%	0.8%	0.5%	3.1%	2.6%
Lower Columbia sport	0.6%	0.0%	0.0%	5.6%	0.1%	2.4%	1.5%
Terminal sport	18.4%	0.1%	12.4%	1.9%	4.6%	0.1%	6.3%
WA coast commercial/treaty	2.8%	1.4%	1.8%	2.2%	0.6%	2.5%	1.9%
Columbia commercial/treaty	7.5%	12.8%	6.1%	42.1%	4.6%	9.4%	13.8%
Hatchery escapement	4.7%	39.8%	52.6%	0.2%	72.9%	42.8%	35.5%
Spawning escapement	0.1%	8.4%	0.0%	1.7%	1.9%	0.1%	2.0%
Estimated tags recovered	13,449	909	964	7,068	7,687	1,397	5,246

Table 17. Percent of total recovered tags for each hatchery by recovery type and the total expanded tag recoveries for early Coho released in 2010.

Tag Recovery Type	Cowlitz	Grays	Kalama	Klickitat	Lewis	Washougal	Mean
Alaska fisheries	< 0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	< 0.1%
Canadian fisheries	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%
Oregon fisheries	12.5%	12.6%	9.1%	0.0%	3.6%	11.4%	8.2%
California fisheries	0.1%	2.9%	0.0%	0.0%	0.0%	0.0%	0.5%
Ocean trawl bycatch	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.1%
WA coastal sport	34.1%	27.4%	17.9%	80.3%	17.0%	27.2%	34.0%
Columbia Estuary sport	3.9%	2.3%	0.8%	9.9%	0.3%	4.1%	3.5%
Lower Columbia sport	0.1%	0.0%	0.0%	0.0%	0.0%	0.8%	0.1%
Terminal sport	30.0%	0.0%	15.4%	0.0%	3.0%	0.3%	8.1%
WA coast commercial/treaty	3.6%	0.0%	1.5%	8.5%	1.4%	3.9%	3.1%
Columbia commercial/treaty	5.0%	2.3%	6.6%	0.0%	5.4%	12.1%	5.2%
Hatchery escapement	8.0%	51.4%	48.7%	1.4%	69.0%	39.8%	36.4%
Spawning escapement	0.2%	0.6%	0.0%	0.0%	0.3%	0.3%	0.2%
Estimated tags recovered	7,129	175	519	71	2,386	613	1,816

Summary

Lower Columbia Fall Chinook (Tule) had a mean survival rate of 0.7% in 1971 to 2007 for the six hatcheries involved, with a maximum of 6.4% in 1974 (Appendix B). For 2002 to 2007 brood years, the mean survival rate was 0.2%. The 2007 brood had a mean survival rate of 0.4%, double the previous year. For brood years 2002 to 2007, hatchery and spawning escapement account for over 50% of the expanded CWT recoveries at five of the six hatcheries producing tule fall Chinook as of 2007 (the Elochoman Hatchery was the only one below 50%) (Table 6). Canadian fisheries had the second highest percent of expanded CWT recoveries (18%).

Upper Columbia fall Chinook (Upriver Brights) had a mean survival rate of 0.7% in 1975 to 2007 for the four hatcheries involved, with a maximum of 4.7% in 1983 (Appendix B). For 2002 to 2007 brood years, the mean survival rate was 0.4%. The 2007 brood had a mean survival rate of 0.8%, the highest since 1984. For brood years 2002 to 2007 either hatchery escapement or Columbia River commercial/treaty fisheries were the sources of the highest number of CWT expanded recoveries for the four hatcheries that produced upriver bright fall Chinook (Table 8).

Spring Chinook had a mean survival rate of 1.2% in 1971 to 2007 for the nine hatcheries involved, with a maximum of 6.5% in 1983 (Appendix B). For 2002 to 2007 brood years, the mean survival rate was 0.4%. The 2007 brood had a mean survival rate of 0.3%, less than half of the previous year. Hatchery and spawning escapement accounted for the majority of the expanded CWT recoveries (Table 10).

Summer Chinook had a mean survival rate of 0.5% in 1976 to 2007 for the nine hatcheries involved, with a maximum of 1.9% in 1983 (Appendix B). For 2002 to 2007 brood years, the mean survival rate was 0.6%. The 2007 brood had a mean survival rate of 0.3%, the lowest since 1999. Over half the Spring Chinook CWT recoveries for brood years 2002 to 2007 were from spawning escapement and Columbia River commercial/treaty fisheries (Table 12).

Early Coho (Type S) had a mean survival rate of 1.7% in 1972 to 2010 for the three hatcheries involved, with a maximum of 4.8% in 1986 (Appendix B). For 2008 to 2010 brood years, the mean survival rate was 1.2%. The 2010 brood had a mean survival rate of 1.4%, almost triple the previous year. Hatchery escapement accounted for the majority of tag recoveries at the three hatcheries that released broods in 2008 to 2010 (Table 14).

Late Coho (Type N) had a mean survival rate of 1.8% in 1972 to 2010 for the three hatcheries involved, with a maximum of 6.3% in 1986 (Appendix B). For 2008 to 2010 brood years, the mean survival rate was 0.8%. The 2010 brood had a mean survival rate of 0.9%, more than double the previous year. Late Coho varied in the location where most recoveries occurred, with hatchery escapement, Washington coastal sport, and Columbia River commercial being the most common sources (Table 16). Late Coho are typically caught at a higher rate than early Coho in the Columbia River

commercial/tribal fisheries and in the Washington coastal fisheries; however, for the 2008-2010 broods, this was true only for Washington coastal fisheries. Hatchery escapement recoveries were higher for early Coho than for late Coho. Shorter Chinook seasons and the use of large mesh gear to harvest the larger Chinook have kept the early Coho catch down in the Columbia River commercial/treaty fisheries, while the late fall fishery is mainly a Coho fishery. These factors probably contribute to the higher early Coho hatchery and Spawning escapement.

Two of the five hatcheries that were producing Type S Coho stopped production. Grays Hatchery switched to production of Type N Coho starting with the 2007 brood and Elochoman Hatchery closed in the fall of 2008, leaving North Toutle, Fallert, and Lewis Hatcheries producing Type S Coho. Also, the closure of Elochoman Hatchery in 2008 decreased the number of hatcheries producing Type N Coho from seven to six (including Grays Hatchery).

Within some species and runs there was a high amount of variability in the tagging rates for released broods. This is primarily due to the different levels of funding that has been available for each hatchery. Among species and runs the tagging rates also varied considerably, this is mainly due to the priority level of each. Priority can be determined by the length of time the tagging has been conducted, the relative numbers of releases for the run or the relative likelihood of tags being recovered for that run.

The coded-wire tag program continues to be an effective tool for monitoring survival, relative contributions to fisheries, and stray rates. All objectives were achieved for this project during the time-periods covered by this report.

References

Nandor, G. F., J. R. Longwill, and D. L. Webb. 2009. Overview of the Coded Wire Tag Program in the Greater Pacific Region of North America. 53 p. (http://www.rmpc.org/publications.html)

Northwest Power and Conservation Council. 2014. Columbia River Basin Fish and Wildlife Program. Document 2014-12. 334 p. (http://nwcouncil.org/fw/program)

United States v. Oregon Management Agreement 2008 – 2017, May 2008. (http://www.nwr.noaa.gov/fisheries/salmon_and_steelhead_fisheries/united_states_v_oregon.html)

Pacific Salmon Treaty, 1985. (http://www.psc.org/about_treaty.htm)

Appendix A: Coded-wire Tag Releases for 2013.
Releases are shown by tagging facility or type along with the release site. Start and end dates (yy/mm/dd) are provided for each release group.

Table 18. 2013 Coded-wire tag releases for WDFW reared and/or tagged fish in the Columbia River basin.

Run / Species	Brood Year	Release Location and WRIA Number		Start Date	End Date	Number Tagged	Total Released
Tagged - Natural Spawn							
Fall Chinook	2012	Lewis R -NF	27.0168	13/07/07	13/07/28	34,092	34,325
Carlton acclimation							
Summer Chinook	2011	Methow R	48.0002	13/04/15	13/04/23	213,986	219,046
Summer Chinook	2011	Methow R	48.0002	13/04/15	13/04/23	210,144	217,046
Chelan Falls Hatchery							
Summer Chinook	2011	Chelan R	47.0052	13/04/11	13/04/11	108,316	109,300
Summer Chinook	2011	Chelan R	47.0052	13/04/11	13/04/11	105,957	106,276
Summer Chinook	2011	Chelan R	47.0052	13/04/11	13/04/11	176,909	177,441
Summer Chinook	2011	Chelan R	47.0052	13/04/11	13/04/11	188,875	189,443
Chelan Hatchery							
Summer Chinook	2012	LK Chelan @ 25 MILE		13/07/19	13/07/19		4,245
Summer Chinook	2012	LK Chelan @ 25 MILE		13/07/19	13/07/19		7,075
Summer Chinook	2012	LK Chelan @ First Cr		13/07/19	13/07/19		8,490
Summer Chinook	2012	25 MILE CR	47.0195	13/07/19	13/07/19		4,363
Chewuch acclimation							
Spring Chinook	2011	Chewuch R	48.0728	13/04/18	13/04/20	91,701	93,372
Chiwawa Hatchery							
Spring Chinook	2011	Chiwawa R	45.0759	13/04/16	13/04/24	110,900	111,682
Spring Chinook	2011	Chiwawa R	45.0759	13/04/16	13/04/24	167,900	170,111
Cle Elum Hatchery							
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	45,243	45,243
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	41,088	41,088
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	42,308	42,308
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	39,731	39,731
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	40,250	40,250
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	42,609	42,609
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	44,056	44,056
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	44,225	44,225
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	42,092	42,092
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	42,610	42,610
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	42,759	42,759
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	44,190	44,190
Spring Chinook	2011	Clark Flat Pond (39)		13/03/15	13/05/15	43,003	43,003
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	44,590	44,590
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	44,036	44,036
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	41,479	41,479
Spring Chinook	2011	Easton Pond (39)		13/03/15	13/05/15	41,625	41,625
Spring Chinook	2011	Jack Cr Accl. Ponds		13/03/15	13/05/15	43,288	43,288

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number		Start Date	End Date	Number Tagged	Total Released
Cowlitz Salmon Hatchery							
Fall Chinook	2012	Cowlitz R	26.0002	13/06/10	13/06/13		209,846
Fall Chinook	2012	Cowlitz R	26.0002	13/06/10	13/06/13		313,069
Fall Chinook	2012	Cowlitz R	26.0002	13/06/10	13/06/13		498,255
Fall Chinook	2012	Cowlitz R	26.0002	13/06/10	13/06/13		296,254
Fall Chinook	2012	Cowlitz R	26.0002	13/06/10	13/06/13	200,131	201,847
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03	69,709	69,850
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		55,866
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/01		56,385
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		52,679
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,287
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,095
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		46,886
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,590
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		56,474
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		56,430
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,786
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,372
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		46,025
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		46,569
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,194
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		57,105
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03	31,249	31,249
Spring Chinook	2011	Cowlitz R	26.0002	13/03/29	13/04/03		54,855
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		69,774
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		72,413
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		74,252
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		38,184
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		72,573
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		70,406
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04		73,252
Spring Chinook	2012	Cowlitz R	26.0002	13/11/01	13/11/04	99,986	100,428
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01		278,256
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01		278,507
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01		266,186
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01		277,929
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01		278,037
Type N Coho	2011	Cowlitz R	26.0002	13/04/26	13/05/01	976,274	996,198

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number		Start Date	End Date	Number Tagged	Total Released
Deep R Net Pens							
Fall Chinook	2012	Deep R	25.0071	13/06/13	13/06/13		168,000
Fall Chinook	2012	Deep R	25.0071	13/06/13	13/06/13		60,000
Fall Chinook	2012	Deep R	25.0071	13/06/25	13/06/25		605,000
Fall Chinook	2012	Deep R	25.0071	13/06/13	13/06/13		112,000
Fall Chinook	2012	Deep R	25.0071	13/06/13	13/06/13	87,939	90,000
Fall Chinook	2012	Deep R	25.0071	13/05/24	13/05/24		550,000
Fall Chinook	2012	Deep R	25.0071	13/06/13	13/06/13		1,035,000
Spring Chinook	2011	Deep R	25.0071	13/02/04	13/02/04		271,000
Spring Chinook	2011	Deep R	25.0071	13/02/04	13/02/04	48,892	49,000
Type S Coho	2011	Deep R	25.0071	13/05/01	13/05/01		320,000
Type S Coho	2011	Deep R	25.0071	13/05/01	13/05/01	29,949	30,000
Type S Coho	2011	Deep R	25.0071	13/05/01	13/05/01		250,000
Dryden Pond							
Summer Chinook	2011	Wenatchee R	45.0030	13/04/24	13/04/24	204,576	207,355
Summer Chinook	2011	Wenatchee R	45.0030	13/04/24	13/04/24	206,063	207,557
Summer Chinook	2011	Wenatchee R	45.0030	13/04/24	13/04/24	206,192	207,792
Summer Chinook	2011	Wenatchee R	45.0030	13/04/24	13/04/24	202,893	205,005
Echo Net Pens (Lewsis R-NF)							
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		11,550
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		11,450
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		12,043
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		10,308
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		14,526
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		11,550
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		10,582
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		10,655
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		11,450
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		12,650
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		10,746
Spring Chinook	2011	Lewis R -NF	27.0168	13/03/09	13/03/09		10,911
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		12,350
Spring Chinook	2011	Lewis R -NF	27.0168	13/01/19	13/01/19		11,650
Fallert Cr Hatchery							
Fall Chinook	2012	Fallert CR	27.0017	13/06/10	13/06/10		78,111
Fall Chinook	2012	Fallert CR	27.0017	13/06/10	13/06/10	93,598	95,120
Fall Chinook	2012	Fallert CR	27.0017	13/06/01	13/06/01		241,926
Fall Chinook	2012	Fallert CR	27.0017	13/06/10	13/06/10		213,608
Fall Chinook	2012	Fallert CR	27.0017	13/06/01	13/06/01		241,112
Fall Chinook	2012	Fallert CR	27.0017	13/06/01	13/06/04		1,210,399
Fall Chinook	2012	Fallert CR	27.0017	13/06/01	13/06/01		200,772
Fall Chinook	2012	Fallert CR	27.0017	13/06/01	13/06/01		1,241,287
Spring Chinook	2011	Fallert CR	27.0017	13/03/01	13/03/11	128,155	128,155
Type S Coho	2011	Fallert CR	27.0017	13/04/15	13/04/17		89,019
Type S Coho	2011	Fallert CR	27.0017	13/04/15	13/04/17	31,954	31,986

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number		Start Date	End Date	Number Tagged	Total Released
Gobar Pond							
Spring Chinook	2011	Gobar CR	27.0073	13/03/01	13/03/06	17,292	17,327
Spring Chinook	2011	Gobar CR	27.0073	13/03/01	13/03/06	64,782	65,180
Spring Chinook	2011	Gobar CR	27.0073	13/03/01	13/03/06		310,800
Grays River Hatchery							
Type N Coho	2011	GraysR -WF	25.0131	13/05/01	13/05/01	30,500	30,500
Type N Coho	2011	GraysR -WF	25.0131	13/05/01	13/05/01		134,500
Kalama Falls Hatchery							
Fall Chinook	2012	Kalama R	27.0002	13/06/25	13/06/25		246,283
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		181,321
Fall Chinook	2012	Kalama R	27.0002	13/06/11	13/06/11		329,878
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		185,842
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		319,975
Fall Chinook	2012	Kalama R	27.0002	13/06/18	13/06/18		207,328
Fall Chinook	2012	Kalama R	27.0002	13/06/25	13/06/25		281,126
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		315,301
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		185,950
Fall Chinook	2012	Kalama R	27.0002	13/06/18	13/06/18		315,134
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/11	93,297	94,490
Fall Chinook	2012	Kalama R	27.0002	13/06/11	13/06/11		193,408
Fall Chinook	2012	Kalama R	27.0002	13/06/05	13/06/05		300,975
Type N Coho	2011	Kalama R	27.0002	13/04/15	13/04/15		176,899
Type N Coho	2011	Kalama R	27.0002	13/04/15	13/04/15		143,126
Type N Coho	2011	Kalama R	27.0002	13/04/15	13/04/15		175,496
Type N Coho	2011	Kalama R	27.0002	13/04/15	13/04/15	30,892	31,258
Type N Coho	2011	Kalama R	27.0002	13/04/15	13/04/15		178,773
Klickitat Hatchery							
Spring Chinook	2011	Klickitat Hatchery		13/03/05	13/03/07		363,325
Spring Chinook	2011	Klickitat Hatchery		13/03/05	13/03/07		126,290
Spring Chinook	2011	Klickitat Hatchery		13/03/05	13/03/07	140,785	140,785
Type N Coho	2011	Klickitat Hatchery		13/05/13	13/05/15		990,961
Type N Coho	2011	Klickitat Hatchery		13/05/13	13/05/15	47,114	47,114
Fall Chinook	2012	Klickitat Hatchery		13/06/06	13/06/20		1,840,921
Fall Chinook	2012	Klickitat Hatchery		13/06/06	13/06/20	456,888	1,448,559

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number	Start Date	End Date	Number Tagged	Total Released
Lewis River Hatchery						
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/10		92,626
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/10		121,090
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/05	13/02/15		112,022
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/10		91,970
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/15	136,699	139,489
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/05	13/02/15		112,087
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/05	13/02/15		110,886
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/05	13/02/15		110,464
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/10		93,626
Spring Chinook	2011	Lewis R -NF 27.0168	13/02/01	13/02/15	133,351	139,489
Type N Coho	2011	Lewis R -NF 27.0168	13/04/22	13/04/22		185,683
Type N Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/22	70,655	70,939
Type N Coho	2011	Lewis R -NF 27.0168	13/04/22	13/04/22		183,408
Type N Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/22	70,088	70,939
Type N Coho	2011	Lewis R -NF 27.0168	13/04/22	13/04/22		184,456
Type N Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/01		180,372
Type S Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/22	70,638	70,638
Type S Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/22	70,476	70,638
Type S Coho	2011	Lewis R -NF 27.0168	13/04/22	13/04/22		172,130
Type S Coho	2011	Lewis R -NF 27.0168	13/04/01	13/04/01		177,145
Lyons Ferry Hatchery						
Fall Chinook	2011	Snake L.Mon-LTL Goos	13/04/10	13/04/12	242,845	243,649
Fall Chinook	2011	Snake L.Mon-LTL Goos	13/04/10	13/04/12	243,073	245,851
Fall Chinook	2012	Lyons Ferry	13/05/09	13/05/10	210,627	211,600
Fall Chinook	2012	Couse CR 35.2147	13/05/09	13/05/10	204,171	205,300
Marion Yakima Trib Hatchery						
Summer Chinook	2012	Yakima R-Upr 39.0002	13/06/01	13/06/01	32,229	42,282
Summer Chinook	2012	Yakima R-Low 37.0002	13/05/29	13/05/29	16,446	16,446
Summer Chinook	2012	Yakima R-Upr 39.0002	13/06/01	13/06/01	10,327	10,327
Summer Chinook	2012	Yakima R-Low 37.0002	13/05/29	13/05/29	31,909	46,996
Methow Hatchery						
Spring Chinook	2011	Mid-Valley Acclimation	13/04/12	13/05/02	23,016	23,735
Spring Chinook	2011	Methow R 48.0007	13/04/15	13/04/21	23,439	23,844
Spring Chinook	2011	Methow R 48.0007	13/04/15	13/04/21	222,112	234,642
Spring Chinook	2011	Mid-Valley Acclimation	13/04/12	13/05/02	23,279	23,735
Spring Chinook	2011	Methow R 48.0007	13/04/15	13/04/21	30,129	31,496
Spring Chinook	2011	Methow R 48.0007	13/04/15	13/04/21	28,173	29,071
Spring Chinook	2011	Methow R 48.0007	13/04/15	13/04/21	21,874	22,346
North Toutle Hatchery						
Fall Chinook	2012	Green R 26.0323	13/06/25	13/07/04	93,487	94,241
Fall Chinook	2012	Green R 26.0324	13/06/17	13/06/25		697,845
Fall Chinook	2012	Green R 26.0325	13/06/25	13/07/04		722,683
Type S Coho	2011	Green R 26.0326	13/05/02	13/05/09		134,596
Type S Coho	2011	Green R 26.0327	13/05/02	13/05/09	28,469	28,693

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number	Start Date	End Date	Number Tagged	Total Released
Priest Rapids Hatchery						
Fall Chinook	2012	Col R @ Priest Rapid	13/06/15	13/06/15		1,038,588
Fall Chinook	2012	Col R @ Priest Rapid	13/06/13	13/06/16	603,930	603,930
Fall Chinook	2012	Col R @ Priest Rapid	13/06/14	13/06/14		1,482,305
Fall Chinook	2012	Col R @ Priest Rapid	13/06/13	13/06/16	601,009	603,847
Fall Chinook	2012	Col R @ Priest Rapid	13/06/16	13/06/16		805,793
Fall Chinook	2012	Col R @ Priest Rapid	13/06/13	13/06/13		488,840
Fall Chinook	2012	Col R @ Priest Rapid	13/06/12	13/06/12		753,238
Fall Chinook	2012	Col R @ Priest Rapid	13/06/13	13/06/13		138,000
Fall Chinook	2012	Col R @ Priest Rapid	13/06/12	13/06/12		789,991
Fall Chinook	2012	Col R @ Priest Rapid	13/06/16	13/06/16		118,329
Prosser Hatchery						
Summer Chinook	2012	Yakima R-UPR 39.0002	13/05/15	13/05/15	30,307	45,370
Summer Chinook	2012	Yakima R-UPR 39.0002	13/05/15	13/05/15	15,345	15,345
Ringold Springs Hatchery						
Fall Chinook	2012	Col R @ RM 369.9	13/06/26	13/07/03	220,816	221,703
Fall Chinook	2012	Col R @ RM 369.10	13/06/19	13/06/26		984,346
Fall Chinook	2012	Col R @ RM 369.11	13/06/26	13/07/03		2,041,324
Similkameen Hatchery						
Summer Chinook	2011	Similkameen R 490325	13/04/16	13/05/08	207,863	208,677
Summer Chinook	2011	Similkameen R 490326	13/04/16	13/05/08	208,253	209,806
Summer Chinook	2011	Similkameen R 490327	13/04/16	13/05/08	209,118	209,495
Speelyai Bay Net Pens						
Type S Coho	2011	Lewis R -NF 27.0168	13/04/09	13/04/09		497,860
Speelyai Hatchery						
Spring Chinook	2011	Muddy R 27.0517	13/04/03	13/04/03		18,560
Spring Chinook	2011	Lewis R -NF 27.0168	13/04/04	13/04/04		13,506
Spring Chinook	2011	Lewis R -NF 27.0168	13/04/04	13/04/04		750
Spring Chinook	2011	Clear CR 27.051	13/04/01	13/04/01		5,679
Spring Chinook	2011	Clear CR 27.052	13/04/03	13/04/03		26,546
Spring Chinook	2011	Muddy R 27.0517	13/04/01	13/04/01		17,655
Spring Chinook	2012	Swift Res (SKAM)	13/10/07	13/10/07		16,200
Tucannon Hatchery						
Spring Chinook	2011	Tucannon R 35.0009	13/04/03	13/04/22	29,396	29,573
Spring Chinook	2011	Tucannon R 35.0010	13/04/03	13/04/22	227,695	230,391
Twisp acclimation PD						
Spring Chinook	2011	TWISP R 48.0374	13/04/18	13/04/30	17,832	18,190
Washougal Hatchery						
Fall Chinook	2012	Washougal R 28.0159	13/06/11	13/06/11		3,027,996
Fall Chinook	2012	Washougal R 28.0159	13/06/11	13/06/11	91,871	92,009
Type N Coho	2011	Washougal R 28.0159	13/05/01	13/05/01	29,894	29,999
Type N Coho	2011	Klickitat R 30.0002	13/03/25	13/03/29		2,433,926
Type N Coho	2011	Klickitat R 30.0003	13/03/25	13/03/29	60,414	60,414
Type N Coho	2011	Washougal R 28.0159	13/05/01	13/05/01		73,939
Type N Coho	2011	Washougal R 28.0159	13/05/01	13/05/01		49,289

Table 18. cont'd.

Run / Species	Brood Year	Release Location and WRIA Number	Start Date	End Date	Number Tagged	Total Released
Wells Hatchery						
Summer Chinook	2011	Columbia near Wells	13/04/16	13/05/16	289,998	289,998
Summer Chinook	2012	Columbia near Wells	13/06/20	13/06/20		5,914
Summer Chinook	2012	Columbia near Wells	13/05/20	13/05/20	51,047	51,667
Summer Chinook	2012	Columbia near Wells	13/05/20	13/05/20	436,483	441,784
Winthrop NFH						
Spring Chinook	2011	Methow R 48.0002	13/04/19	13/06/04	42,592	46,498

Appendix B: Survival rates by run/species

Survival rates for by year and the mean of all released broods for each hatchery and across all hatcheries. Separate tables are provided for each run/species.

Table 19. Tule fall Chinook survival rates for brood years 1971 - 2007.

Brood Year	Grays	Elochoman	Cowlitz	North Toutle	Fallert	Kalama	Washougal	Annual Mean
1971				4.7%	2.0%			3.3%
1972				0.5%	0.4%	0.6%		0.5%
1973		1.0%		1.1%		1.6%	4.8%	2.1%
1974	12.5%					0.2%		6.4%
1975	2.0%					5.2%		3.6%
1976	0.1%	0.3%		0.9%		1.5%	1.6%	0.9%
1977	<0.1%	0.1%	0.4%	0.7%	0.1%	0.4%	0.4%	0.3%
1978	0.1%	<0.1%	0.3%	0.1%		0.1%	0.2%	0.1%
1979	0.2%	0.1%	0.3%		0.2%	0.3%	0.4%	0.2%
1980	0.2%	0.2%	0.4%		0.5%	0.2%	0.2%	0.3%
1981	<0.1%	<0.1%	0.2%		0.2%	0.2%	0.2%	0.2%
1982	0.4%		0.2%				0.3%	0.3%
1983			0.9%				1.3%	1.1%
1984	3.5%		2.0%				1.4%	2.3%
1985	1.1%	0.7%	0.2%				0.8%	0.7%
1986			0.2%				0.2%	0.2%
1987			<0.1%	<0.1%			0.2%	0.1%
1988	<0.1%	0.1%	0.1%			0.2%		0.1%
1989	0.1%		0.1%	<0.1%			0.2%	0.1%
1990	<0.1%		0.2%	0.1%			0.2%	0.2%
1991	<0.1%	<0.1%	0.1%	<0.1%			0.1%	0.1%
1992	<0.1%	0.1%	0.1%	0.0%	0.1%	0.2%	0.3%	0.1%
1993	0.1%	0.2%	0.1%	0.2%	0.1%	0.2%	0.2%	0.2%
1994	<0.1%	<0.1%	<0.1%	<0.1%	0.1%	0.1%	0.1%	<0.1%
1995	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
1996	0.1%	0.1%	<0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
1997		<0.1%	0.1%	0.3%	0.1%	0.1%	0.2%	0.1%
1998		0.4%	0.2%	0.5%	0.8%	0.7%	0.8%	0.6%
1999		1.2%	0.4%	0.3%	1.1%	1.1%	1.0%	0.8%
2000		0.8%	0.1%	0.2%	0.3%	0.3%	0.4%	0.3%
2001		0.2%	0.1%	0.7%	0.3%	0.2%	0.3%	0.3%
2002		0.1%	<0.1%	0.2%	0.5%	0.4%	0.3%	0.3%
2003		0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%
2004		0.1%	0.2%	0.1%	0.3%	0.2%	0.2%	0.2%
2005		0.2%	0.2%	0.1%	0.4%	0.6%	0.4%	0.3%
2006		0.2%	0.3%	<0.1%	0.1%	0.3%	0.4%	0.2%
2007		0.3%	0.8%	0.4%	0.2%	0.3%	0.7%	0.4%
2002-2007 mean	NA	0.2%	0.2%	0.1%	0.3%	0.3%	0.3%	0.2%
1971-2007 mean	1.0%	0.3%	0.3%	0.4%	0.4%	0.6%	0.6%	0.7%

Table 20. Upriver bright fall Chinook survival rates for brood years 1971 - 2007.

Brood Year	Klickitat	Lyons Ferry*	Ringold Springs	Priest Rapids	Annual Mean
1971			3.5%		NA
1972					NA
1973					NA
1974					NA
1975	0.5%		2.2%	2.1%	1.6%
1976	1.1%			0.8%	0.9%
1977	0.4%		0.8%	0.5%	0.6%
1978	0.1%			0.3%	0.2%
1979	0.2%			0.6%	0.4%
1980	<0.1%			0.6%	0.3%
1981	<0.1%			0.6%	0.3%
1982				1.6%	NA
1983		7.3%		2.0%	4.7%
1984		0.7%		1.7%	1.2%
1985		0.9%		0.5%	0.7%
1986	0.4%	0.8%		0.3%	0.5%
1987		0.3%		0.1%	0.2%
1988		0.5%		0.1%	0.3%
1989	0.1%	0.1%		0.3%	0.2%
1990	0.2%	0.1%		0.6%	0.3%
1991	<0.1%	0.2%		<0.1%	0.1%
1992	0.1%	0.5%		0.1%	0.2%
1993	0.3%	1.1%		0.7%	0.7%
1994	0.1%	0.6%	0.0%	0.1%	0.2%
1995	0.4%	1.7%	0.1%	0.9%	0.8%
1996	0.3%	0.6%	0.6%	0.4%	0.5%
1997	<0.1%	2.0%	0.1%	0.1%	0.6%
1998	0.3%	1.5%	0.5%	0.5%	0.7%
1999	0.7%	1.0%	0.2%	0.8%	0.7%
2000	0.1%	1.0%	0.1%	0.2%	0.3%
2001	0.3%	1.2%	0.4%	0.8%	0.7%
2002	0.2%	0.4%	0.1%	0.2%	0.2%
2003	0.1%	0.8%	<0.1%	0.1%	0.3%
2004	0.1%	0.6%	<0.1%	<0.1%	0.2%
2005	0.3%	0.6%		0.9%	0.6%
2006	0.2%	1.8%	<0.1%	<0.1%	0.5%
2007	0.5%	1.0%	0.6%	1.2%	0.8%
2002-2007 mean	0.2%	0.9%	0.2%	0.4%	0.4%
1975-2007 mean	0.3%	1.1%	0.4%	0.6%	0.7%

* Lyons Ferry describes the run as late fall URB's

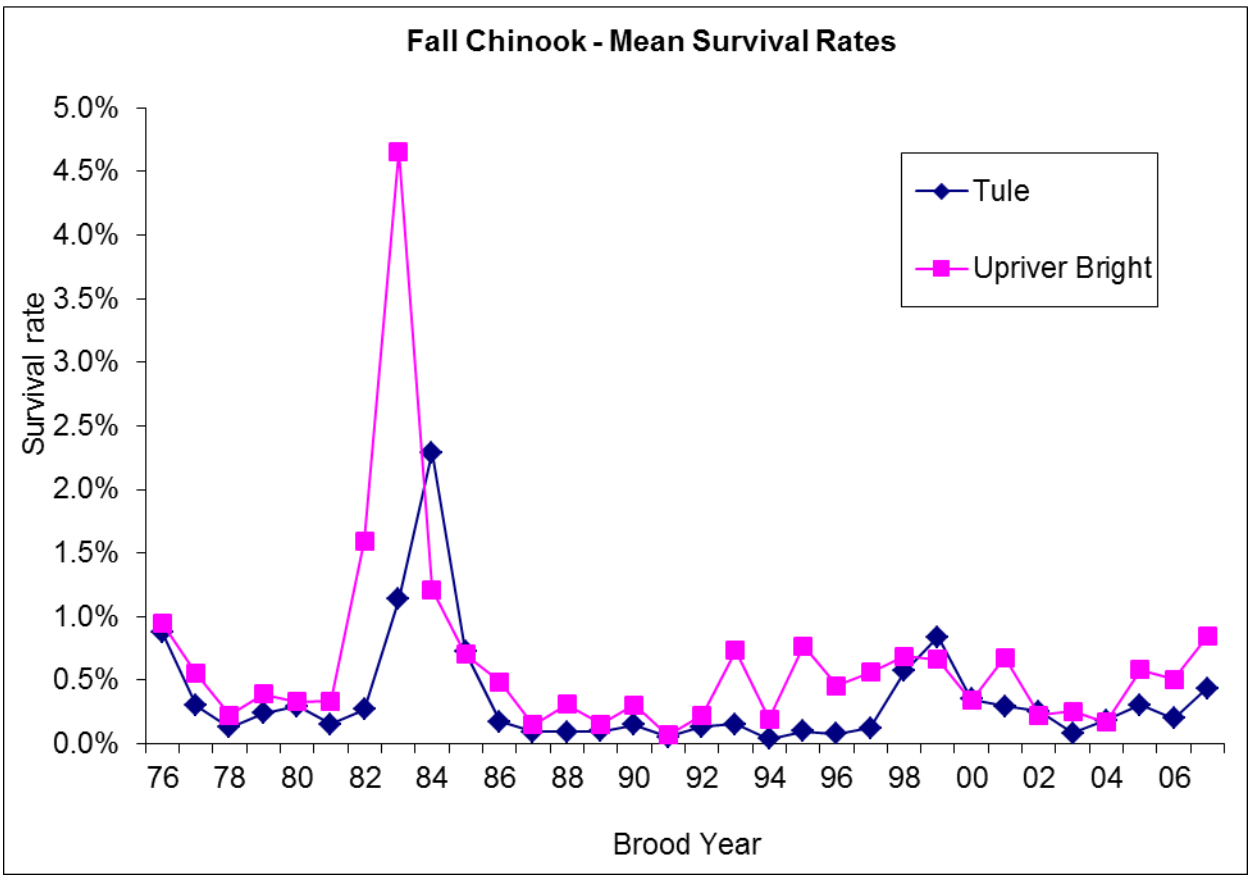

Figure 33. Mean survival rates for tule and upriver bright fall Chinook for brood years 1976 – 2007.

Table 21. Spring Chinook survival rates for brood years 1971 - 2007.

Brood Year	Cowlitz	North Toutle	Fallert	Lewis	Kalama	Klickitat	Tucannon	Ringold	Chiwawa	Methow	Annual Mean
1971	3.0%				1.8%						2.4%
1972	0.7%							<0.1%			0.4%
1973						0.1%					NA
1974	2.4%				0.5%						1.5%
1975	6.3%					0.6%		1.6%			2.9%
1976	6.6%					0.3%					3.4%
1977	7.3%					0.7%		2.9%			3.6%
1978											NA
1979											NA
1980	0.8%										0.8%
1981	2.5%										2.5%
1982	1.2%										1.2%
1983	6.5%										6.5%
1984	2.9%										2.9%
1985	2.3%						0.5%				1.4%
1986	2.6%						0.2%				1.4%
1987	2.1%						0.2%				1.1%
1988				2.0%			0.4%				1.2%
1989	1.1%		0.4%	0.5%		0.3%	0.3%	0.4%	0.4%		0.5%
1990	0.4%		0.5%	0.6%		0.1%	<0.1%	0.2%	<0.1%		0.3%
1991	0.1%	0.1%	<0.1%	<0.1%		0.2%	<0.1%	<0.1%	0.1%		0.1%
1992	0.2%		<0.1%	0.2%		0.3%	0.1%	0.2%	<0.1%	0.1%	0.1%
1993	0.1%	<0.1%	0.1%	0.1%		0.1%	0.1%	0.1%	<0.1%	0.1%	0.1%
1994	0.1%		0.1%	0.2%		<0.1%	<0.1%	0.1%	0.1%	<0.1%	0.1%
1995	0.1%	0.1%	0.2%	0.1%	0.9%	<0.1%	0.3%	0.1%		0.8%	0.3%
1996	0.4%	0.2%	0.4%	0.5%		0.2%	0.3%	0.1%	0.5%	0.2%	0.3%
1997	0.1%	0.1%	0.2%	0.3%	0.6%	0.0%	0.8%	0.2%	1.0%	0.3%	0.4%
1998	1.9%		0.5%	0.7%	2.2%	0.7%	0.8%	<0.1%	1.5%	0.5%	1.0%
1999	2.9%	1.7%	0.3%	0.6%	2.0%	0.5%	<0.1%			0.1%	1.0%
2000	1.8%	1.0%	1.7%	0.3%	1.5%	0.3%	0.1%		0.8%	0.3%	0.9%
2001	1.2%		0.2%	0.2%	0.9%	0.9%	<0.1%		0.5%	0.3%	0.5%
2002	0.7%		1.2%	1.0%	1.3%	0.2%	0.1%		0.5%	0.3%	0.7%
2003	0.1%		0.3%	0.3%	0.2%	0.1%	<0.1%	<0.1%	0.4%	0.1%	0.2%
2004	0.4%		<0.1%	0.1%	<0.1%	<0.1%	0.2%	<0.1%	0.6%	0.5%	0.2%
2005	0.8%		0.1%	0.1%	0.1%	0.1%	0.4%		0.3%	0.2%	0.2%
2006	1.5%		0.2%	0.3%	0.6%	0.2%	0.8%	1.5%	0.5%	0.8%	0.7%
2007	0.5%		<0.1%	0.1%	0.1%	0.2%	0.2%		0.4%	0.5%	0.3%
2002-2007 mean	0.7%	NA	0.3%	0.3%	0.4%	0.1%	0.3%	0.5%	0.4%	0.4%	0.4%
1971-2007 mean	1.9%	0.4%	0.3%	0.4%	0.9%	0.3%	0.3%	0.5%	0.4%	0.3%	1.2%

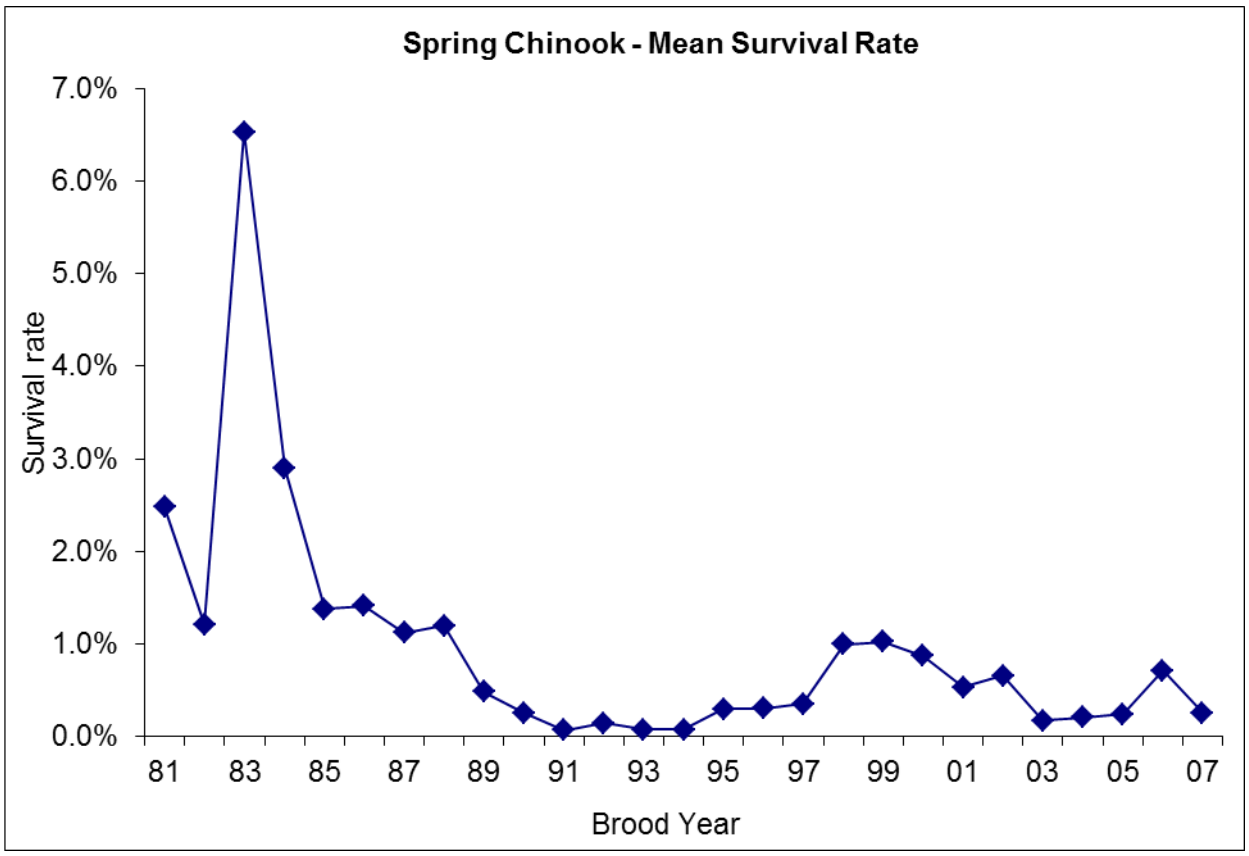

Figure 34. Mean survival rates for spring Chinook for brood years 1981 - 2007.

Table 22. Summer Chinook survival rates for brood years 1974 - 2007.

Brood Year	Carlton Pond	Dryden Pond	Similkameen Pond	Turtle Rock	Wells	Methow	Annual Mean
1974					0.2%		NA
1975					0.4%		NA
1976					0.4%		NA
1977					0.1%		NA
1978							NA
1979							NA
1980							NA
1981							NA
1982				2.6%			NA
1983				3.7%	0.1%		1.9%
1984				0.6%	0.2%		0.4%
1985				1.9%	0.3%		1.1%
1986				0.1%	0.1%		0.1%
1987				0.2%	0.2%		0.2%
1988					0.2%		NA
1989		0.5%	2.0%	0.6%	<0.1%		0.8%
1990	0.1%	0.1%	0.3%	0.1%	<0.1%		0.1%
1991		<0.1%	0.2%	0.2%	<0.1%	<0.1%	0.1%
1992	<0.1%	<0.1%	0.2%	0.3%	0.1%		0.1%
1993	<0.1%	<0.1%	<0.1%	0.3%	0.3%		0.1%
1994	0.2%	0.4%	0.7%	0.1%	<0.1%		0.3%
1995	0.1%	0.2%	0.5%	0.2%	0.2%		0.2%
1996	<0.1%	0.1%	<0.1%	0.2%	0.3%		0.1%
1997	0.2%	1.8%	3.2%	0.5%	1.2%		1.4%
1998	1.9%	1.2%		1.0%	1.3%		1.3%
1999	<0.1%	0.2%	0.4%	0.5%	0.3%		0.3%
2000	0.2%	1.5%	1.3%	0.7%	0.7%		0.9%
2001	0.4%	0.4%	1.6%	0.8%	0.6%		0.7%
2002		0.5%	0.8%	0.4%	0.5%	0.3%	0.5%
2003		0.5%	0.6%	0.5%	0.2%		0.5%
2004	0.1%	0.2%	1.9%	0.5%	0.5%	0.1%	0.5%
2005	0.4%	0.6%	0.6%	0.1%	0.5%		0.4%
2006	0.9%	1.1%	2.1%	0.9%	1.0%		1.2%
2007	0.1%	0.1%	0.7%	0.3%	0.3%		0.3%
2002-2007 mean	0.4%	0.5%	1.1%	0.4%	0.5%	0.2%	0.6%
1983-2007 mean	0.3%	0.5%	1.0%	0.6%	0.4%	0.1%	0.6%

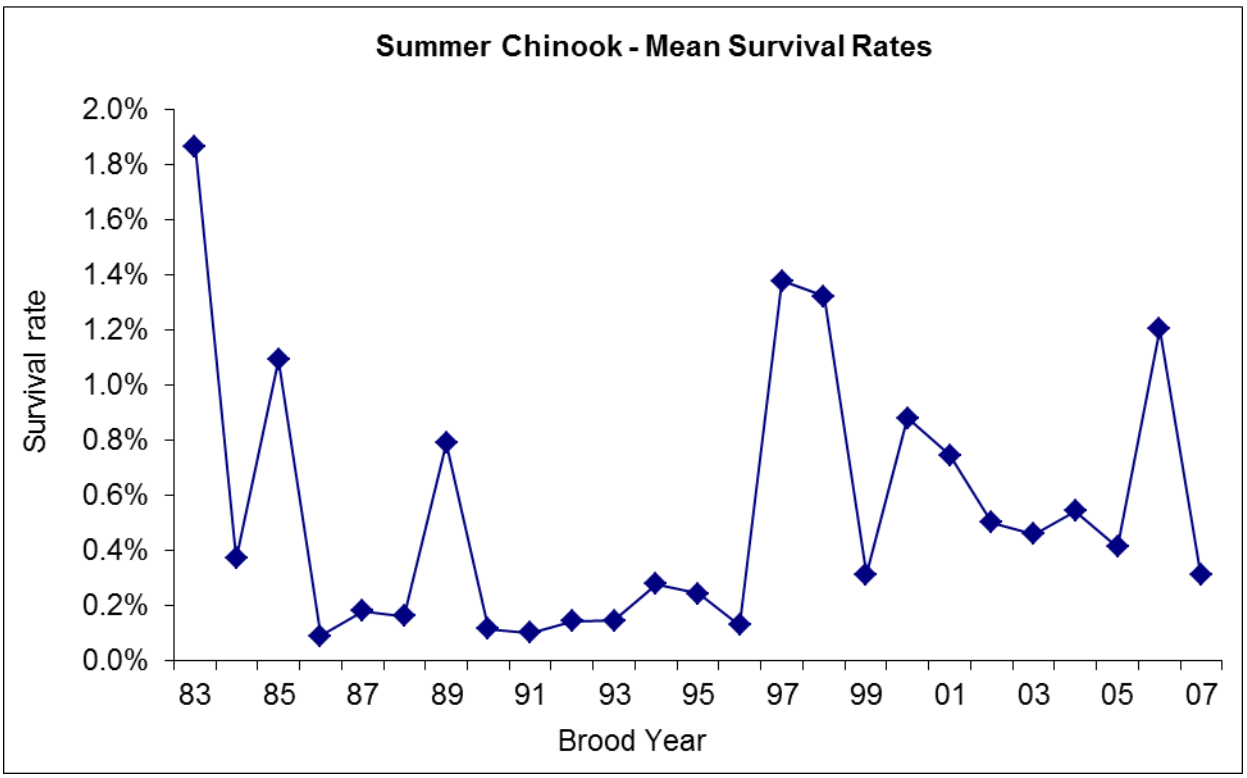

Figure 35. Mean survival rates for summer Chinook for brood years 1983 – 2007.

Table 23. Early (Type S) Coho survival rates for brood years 1972 - 2010.

Brood Year	Grays	Elochoman	North Toutle	Fallert	Lewis	Washougal	Annual Mean
1972		0.5%	2.6%				1.6%
1973							NA
1974	<0.1%	1.7%				0.3%	0.7%
1975	2.3%						NA
1976	2.5%				2.2%		2.4%
1977	1.4%		4.2%				2.8%
1978	0.4%		1.3%				0.8%
1979	2.2%					4.1%	3.2%
1980	0.8%						NA
1981	2.3%					2.1%	2.2%
1982	0.5%						NA
1983	2.5%					4.1%	3.3%
1984	0.5%					1.4%	0.9%
1985	3.1%						NA
1986			5.1%		4.5%		4.8%
1987			3.6%		1.4%		2.5%
1988	3.7%	3.4%	5.2%	5.9%	5.5%		4.7%
1989	0.1%	0.2%	0.6%	0.2%	1.0%		0.4%
1990	<0.1%	0.5%	1.4%	0.9%			0.7%
1991	<0.1%	<0.1%	0.2%	0.3%	0.3%		0.2%
1992	<0.1%	0.2%	0.1%	0.5%	0.3%		0.2%
1993	0.6%	0.1%	0.1%	0.3%	0.9%		0.4%
1994	0.5%	0.0%	0.4%	0.4%	0.5%		0.4%
1995		0.1%	1.8%	1.0%	0.7%		0.9%
1996	0.2%	0.4%	0.4%	0.3%	0.5%		0.4%
1997	2.0%	0.3%	0.8%	0.3%	0.7%		0.8%
1998	4.6%	3.5%	3.4%	3.3%	6.1%	1.0%	3.6%
1999	0.6%	1.3%	2.0%	1.7%	2.0%	0.1%	1.3%
2000	0.5%	1.3%	2.8%	1.3%	6.2%		2.4%
2001	0.9%	0.4%	3.3%	0.4%	3.4%		1.7%
2002	1.8%	0.3%	0.7%	1.0%	2.5%		1.3%
2003	1.2%	0.5%	0.7%	0.6%	2.4%		1.1%
2004	1.6%	1.0%	3.4%	1.9%	3.1%		2.2%
2005	0.6%	1.4%	4.2%	1.8%	6.6%		2.9%
2006	2.5%	1.5%	3.5%	1.9%	3.8%		2.7%
2007		0.1%	1.6%	1.0%	1.9%		1.2%
2008		Closed	2.1%	0.7%	1.9%		1.6%
2009		Closed	1.4%	0.2%	0.1%		0.5%
2010		Closed	0.9%	1.5%	1.7%		1.4%
2008-2010 mean	NA	NA	1.5%	0.8%	1.2%	NA	1.2%
1972-2010 mean	1.3%	0.8%	2.1%	1.2%	2.4%	1.9%	1.7%

Table 24. Late (Type N) Coho survival rates for brood years 1971 - 2010.

Brood Year	Grays	Elochoman	Cowlitz	Kalama	Lewis	Washougal	Klickitat	Annual Mean
1972		1.5%	3.4%				3.2%	2.7%
1973								NA
1974		1.2%				1.0%	0.6%	0.9%
1975							2.7%	NA
1976							1.4%	NA
1977						3.5%	2.5%	3.0%
1978						5.4%		NA
1979						4.5%		NA
1980			2.1%			1.0%		1.5%
1981			2.1%			0.6%		1.3%
1982			1.4%			2.1%		1.7%
1983		3.9%	5.5%	7.0%				5.5%
1984		0.7%	2.2%	1.2%			0.6%	1.1%
1985		4.6%	3.6%	6.7%			2.2%	4.3%
1986			4.3%		8.3%			6.3%
1987			0.8%					NA
1988		8.0%	4.6%	8.8%	6.6%	4.6%	1.7%	5.7%
1989		0.3%	1.2%	0.7%	1.7%	3.3%	0.5%	1.3%
1990		0.4%	0.6%	0.2%	0.8%	0.2%	0.1%	0.4%
1991		<0.1%	0.2%	0.1%	0.6%	0.1%	0.1%	0.2%
1992		<0.1%	0.2%	0.1%	0.2%		0.1%	0.1%
1993		<0.1%	0.4%	0.2%	0.4%	0.1%		0.2%
1994		<0.1%	0.4%	0.1%	0.8%	0.4%	0.1%	0.3%
1995		0.4%		0.3%	0.6%	0.5%	<0.1%	0.3%
1996		1.4%		0.8%	0.7%	0.9%	0.0%	0.8%
1997		2.5%	1.3%	1.4%	1.3%	1.5%	0.1%	1.3%
1998		2.4%	3.4%	0.6%	5.8%	2.9%	0.5%	2.6%
1999		1.2%	2.1%	2.5%	1.3%	3.0%	1.0%	1.9%
2000			2.2%	2.8%	5.8%	0.4%	1.3%	2.5%
2001		0.5%	3.0%	3.2%	4.0%	0.9%	1.7%	2.2%
2002			1.1%	0.8%	3.1%	0.3%	0.4%	1.2%
2003		0.3%	2.2%	2.4%	3.3%	1.2%	0.8%	1.7%
2004		0.8%	1.8%	1.3%	3.9%	0.8%	1.8%	1.7%
2005		0.9%	2.0%	1.9%	2.9%	1.2%	0.3%	1.5%
2006		1.4%	4.7%	2.7%	5.3%	2.0%	3.3%	3.2%
2007	3.5%	0.2%	0.5%	3.1%	3.0%	0.8%	1.1%	1.7%
2008	1.7%	Closed	0.5%	1.1%	2.9%	0.4%	0.2%	1.1%
2009	0.7%	Closed	0.1%	0.3%	0.5%	0.4%	0.1%	0.4%
2010	0.6%	Closed	0.7%	1.6%	1.9%	0.7%	0.1%	0.9%
2008-2010 mean	NA	NA	0.4%	1.0%	1.8%	0.5%	0.2%	0.8%
1972-2010 mean	1.6%	1.4%	2.0%	2.0%	2.7%	1.5%	1.0%	1.8%

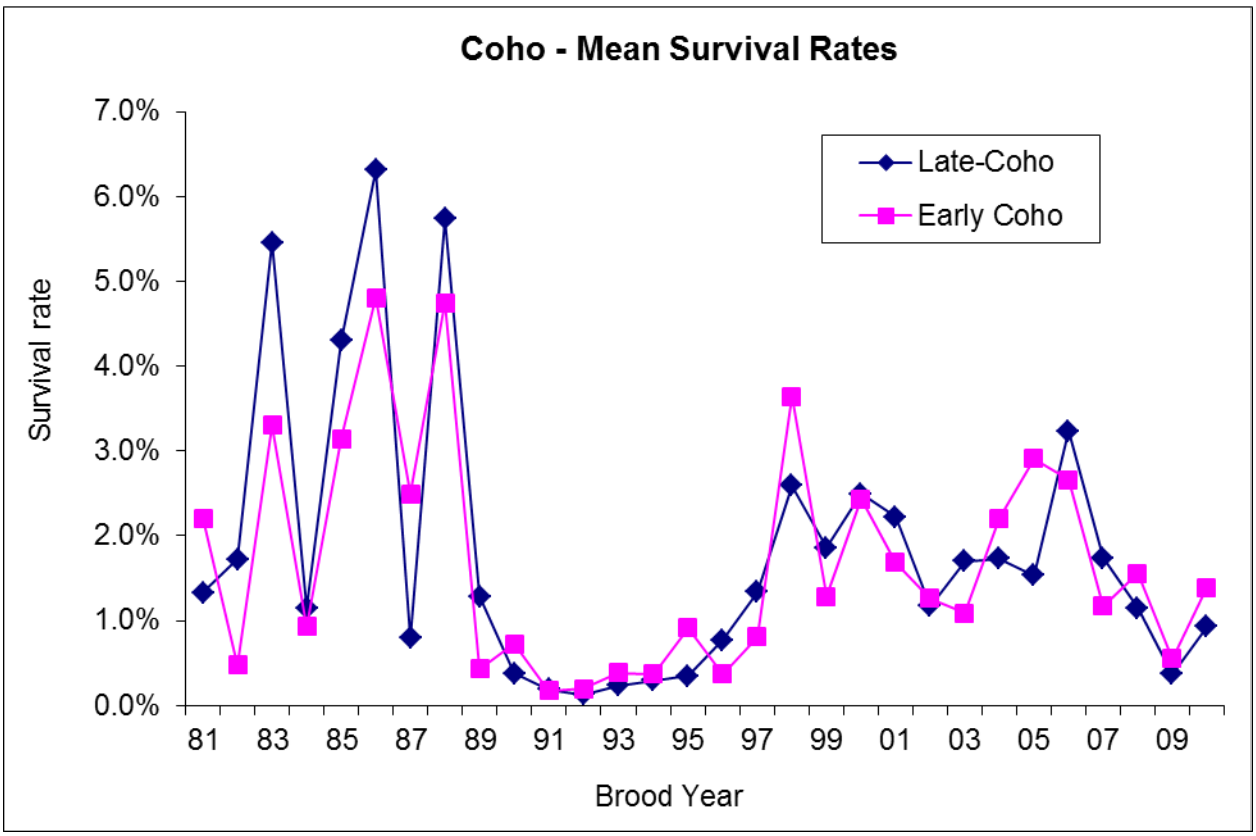

Figure 36. Mean survival rates for early and late Coho for brood years 1981 – 2010.

Appendix C: Detailed Release Information

Detailed release information of Chinook is for brood years 2002 - 2007, and of Coho is for brood years 2008 - 2010. Date format is yy/mm/dd.

Cowlitz Salmon Hatchery

Table 25. Cowlitz Salmon Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
631782	030602	030625	5,215,558	200,134	93	0.046	COWLITZ R	26.0002	02
2002 Totals			5,215,558	200,134	93	0.046			
632573	040606	040614	5,016,495	198,600	112	0.056	COWLITZ R	26.0002	03
2003 Totals			5,016,495	198,600	112	0.056			
633075	050615	050615	4,610,461	42,381	84	0.198	COWLITZ R	26.0002	04
2004 Totals			4,610,461	42,381	84	0.198			
633287	60619	60619	4,758,152	178,376	284	0.159	COWLITZ R	26.0002	05
2005 Totals			4,758,152	178,376	284	0.159			
!04P00003426	70626	70627	85,224	0			COWLITZ R	26.0002	06
!04P00014074	70626	70627	385,328	0			COWLITZ R	26.0002	06
!04P00015718	70626	70627	308,943	0			COWLITZ R	26.0002	06
!04P00018428	70626	70627	310,959	0			COWLITZ R	26.0002	06
!04P00018574	70619	70620	418,557	0			COWLITZ R	26.0002	06
!04P00023768	70619	70620	333,200	0			COWLITZ R	26.0002	06
!04P00037328	70619	70620	364,810	0			COWLITZ R	26.0002	06
!04P00041743	70619	70620	353,591	0			COWLITZ R	26.0002	06
!04P00047786	70619	70620	301,140	0			COWLITZ R	26.0002	06
!04P00054784	70619	70620	384,025	0			COWLITZ R	26.0002	06
!04P00055637	70619	70620	315,277	0			COWLITZ R	26.0002	06
!04P00057327	70626	70627	436,686	0			COWLITZ R	26.0002	06
!04P00058958	70626	70627	78,166	0			COWLITZ R	26.0002	06
!04P00060750	70626	70627	399,071	0			COWLITZ R	26.0002	06
633877	70619	70627	203,215	202,114	515	0.255	COWLITZ R	26.0002	06
633877	70619	70627	203,215	202,114	1,101	0.545	COWLITZ R	26.0002	06
2006 Totals			4,881,407	404,228	1,616	0.400			
!04P00003605	80618	80619	428,628	0			COWLITZ R	26.0002	07
!04P00005219	80618	80619	464,631	0			COWLITZ R	26.0002	07
!04P00008390	80618	80619	424,076	0			COWLITZ R	26.0002	07
!04P00010616	80707	80708	466,493	0			COWLITZ R	26.0002	07
!04P00011590	80623	80624	441,341	0			COWLITZ R	26.0002	07
!04P00018173	80618	80619	264,310	0			COWLITZ R	26.0002	07
!04P00018536	80618	80619	418,624	0			COWLITZ R	26.0002	07
!04P00024490	80623	80624	399,061	0			COWLITZ R	26.0002	07
!04P00029779	80623	80624	171,046	0			COWLITZ R	26.0002	07
!04P00038794	80618	80619	213,507	0			COWLITZ R	26.0002	07
!04P00041103	80618	80619	416,788	0			COWLITZ R	26.0002	07
!04P00046394	80618	80619	400,959	0			COWLITZ R	26.0002	07
!04P00057878	80707	80708	384,995	0			COWLITZ R	26.0002	07

634280	80618	80708	203,676	202953	1,522	0.750	COWLITZ R	26.0002	07
2007 Totals			5,098,135	202,953	1522	0.750			

Table 26. Cowlitz Salmon Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04040033441	040322	040322	80,481	0			COWLITZ R	26.0002	02
!04040033442	040329	040329	39,800	0			COWLITZ R	26.0002	02
!04040033443	040329	040329	28,671	0			COWLITZ R	26.0002	02
!04040033445	040329	040329	28,169	0			COWLITZ R	26.0002	02
!04040033447	040329	040329	27,010	0			COWLITZ R	26.0002	02
!04040033449	040329	040329	28,991	0			COWLITZ R	26.0002	02
!04040033451	040329	040329	29,039	0			COWLITZ R	26.0002	02
!04040033453	040329	040329	28,571	0			COWLITZ R	26.0002	02
!04040033455	040329	040329	26,225	0			COWLITZ R	26.0002	02
!04040033457	040329	040329	27,989	0			COWLITZ R	26.0002	02
!04040033459	040329	040329	26,436	0			COWLITZ R	26.0002	02
!04040033461	040329	040329	27,698	0			COWLITZ R	26.0002	02
!04040033463	040329	040329	27,119	0			COWLITZ R	26.0002	02
!04040033465	040329	040329	27,073	0			COWLITZ R	26.0002	02
!04040033467	040329	040329	28,273	0			COWLITZ R	26.0002	02
!04040033469	040329	040329	29,362	0			COWLITZ R	26.0002	02
!04040033471	040329	040329	26,728	0			COWLITZ R	26.0002	02
631592	040329	040329	27,162	27,162	163	0.600	COWLITZ R	26.0002	02
631593	040329	040329	25,392	25,342	191	0.754	COWLITZ R	26.0002	02
631594	040329	040329	25,422	25,422	38	0.149	COWLITZ R	26.0002	02
631595	040329	040329	25,395	25,345	119	0.470	COWLITZ R	26.0002	02
631596	040329	040329	25,365	25,365	318	1.254	COWLITZ R	26.0002	02
631597	040329	040329	25,028	24,930	42	0.168	COWLITZ R	26.0002	02
631898	040329	040329	25,359	25,309	363	1.434	COWLITZ R	26.0002	02
631899	040329	040329	25,045	25,045	240	0.958	COWLITZ R	26.0002	02
631967	040329	040329	25,298	25,298	61	0.241	COWLITZ R	26.0002	02
631968	040329	040329	25,578	25,578	366	1.431	COWLITZ R	26.0002	02
631969	040329	040329	25,125	25,024	249	0.995	COWLITZ R	26.0002	02
631970	040329	040329	25,221	25,087	39	0.155	COWLITZ R	26.0002	02
631972	040329	040329	25,587	25,587	33	0.129	COWLITZ R	26.0002	02
631973	040329	040329	26,059	25,803	190	0.736	COWLITZ R	26.0002	02
631974	040329	040329	25,916	25,779	321	1.245	COWLITZ R	26.0002	02
2002 Totals			920,587	382,076	2,733	0.715			
!04050036852	050322	050322	40,589	0			COWLITZ R	26.0002	03
!04050036853	050322	050322	33,078	0			COWLITZ R	26.0002	03
!04050040488	050404	050404	30,686	0			COWLITZ R	26.0002	03
!04050040489	050404	050404	29,293	0			COWLITZ R	26.0002	03
!04050040490	050404	050404	28,251	0			COWLITZ R	26.0002	03
!04050040491	050404	050404	28,768	0			COWLITZ R	26.0002	03
!04050040492	050404	050404	29,952	0			COWLITZ R	26.0002	03
!04050040493	050404	050404	29,752	0			COWLITZ R	26.0002	03
!04050040494	050404	050404	28,607	0			COWLITZ R	26.0002	03
!04050040495	050404	050404	29,448	0			COWLITZ R	26.0002	03
!04050040496	050404	050404	29,886	0			COWLITZ R	26.0002	03
!04050040497	050404	050404	30,278	0			COWLITZ R	26.0002	03
!04050040498	050404	050404	27,116	0			COWLITZ R	26.0002	03

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04050040499	050404	050404	27,730	0			COWLITZ R	26.0002	03
!04050040500	050404	050404	27,126	0			COWLITZ R	26.0002	03
!04050040501	050404	050404	27,122	0			COWLITZ R	26.0002	03
!04050040502	050404	050404	30,343	0			COWLITZ R	26.0002	03
632587	050404	050404	48,986	48,398	79	0.163	COWLITZ R	26.0002	03
632588	050404	050404	49,925	49,546	72	0.145	COWLITZ R	26.0002	03
632589	050404	050404	49,327	49,327	33	0.067	COWLITZ R	26.0002	03
632590	050404	050404	54,909	54,481	15	0.028	COWLITZ R	26.0002	03
632591	050404	050404	54,283	50,326	10	0.020	COWLITZ R	26.0002	03
632592	050404	050404	53,062	51,460	76	0.148	COWLITZ R	26.0002	03
632593	050404	050404	51,676	51,257	180	0.351	COWLITZ R	26.0002	03
632594	050404	050404	53,953	53,235	18	0.034	COWLITZ R	26.0002	03
632595	050404	050404	54,230	51,188	91	0.178	COWLITZ R	26.0002	03
632596	050404	050404	52,848	51,680	122	0.236	COWLITZ R	26.0002	03
632597	050404	050404	51,826	51,380	156	0.304	COWLITZ R	26.0002	03
632598	050404	050404	54,010	51,310	51	0.099	COWLITZ R	26.0002	03
632599	050404	050404	54,269	52,006	17	0.033	COWLITZ R	26.0002	03
632664	050404	050404	24,606	24,429	1	0.004	COWLITZ R	26.0002	03
632665	050404	050404	21,947	21,684	24	0.111	COWLITZ R	26.0002	03
2003 Totals			1,237,882	711,707	945	0.128			
!04060040459	060403	060403	29,101	0			COWLITZ R	26.0002	04
!04060040461	060403	060403	28,859	0			COWLITZ R	26.0002	04
!04060040463	060403	060403	25,613	0			COWLITZ R	26.0002	04
!04060040465	060403	060403	26,860	0			COWLITZ R	26.0002	04
!04060040467	060403	060403	27,482	0			COWLITZ R	26.0002	04
!04060040469	060403	060403	25,028	0			COWLITZ R	26.0002	04
!04060040471	060403	060403	25,447	0			COWLITZ R	26.0002	04
!04060040473	060403	060403	26,108	0			COWLITZ R	26.0002	04
!04060040475	060403	060403	26,527	0			COWLITZ R	26.0002	04
!04060040477	060403	060403	24,962	0			COWLITZ R	26.0002	04
!04060040479	060403	060403	26,363	0			COWLITZ R	26.0002	04
!04060040481	060403	060403	26,609	0			COWLITZ R	26.0002	04
!04060040483	060403	060403	26,841	0			COWLITZ R	26.0002	04
!04060040485	060403	060403	25,000	0			COWLITZ R	26.0002	04
!04060040487	060403	060403	22,799	0			COWLITZ R	26.0002	04
!04060041016	060320	060320	39,637	0			COWLITZ R	26.0002	04
632992	060403	060403	25,505	24,842	126	0.507	COWLITZ R	26.0002	04
632993	060403	060403	25,022	24,874	102	0.410	COWLITZ R	26.0002	04
632994	060403	060403	25,409	25,409	65	0.256	COWLITZ R	26.0002	04
632995	060403	060403	25,076	24,890	29	0.117	COWLITZ R	26.0002	04
632996	060403	060403	25,048	24,985	125	0.500	COWLITZ R	26.0002	04
632997	060403	060403	25,102	24,801	177	0.714	COWLITZ R	26.0002	04
632998	060403	060403	25,018	24,843	191	0.769	COWLITZ R	26.0002	04
632999	060403	060403	25,029	25,029	102	0.408	COWLITZ R	26.0002	04
633064	060403	060403	25,511	25,154	49	0.195	COWLITZ R	26.0002	04
633065	060403	060403	25,146	24,869	85	0.342	COWLITZ R	26.0002	04
633066	060403	060403	25,062	24,486	143	0.584	COWLITZ R	26.0002	04
633177	060403	060403	25,094	25,031	53	0.212	COWLITZ R	26.0002	04
633178	060403	060403	25,046	24,745	43	0.174	COWLITZ R	26.0002	04
633179	060403	060403	25,077	25,077	136	0.542	COWLITZ R	26.0002	04
633180	060403	060403	25,132	25,026	156	0.623	COWLITZ R	26.0002	04
2004 Totals			810,513	374,061	1,582	0.423			

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04070043875	70402	70402	27,348	0			COWLITZ R	26.0002	05
!04070043877	70402	70402	50,535	0			COWLITZ R	26.0002	05
!04070043879	70402	70402	50,190	0			COWLITZ R	26.0002	05
!04070043881	70402	70402	50,207	0			COWLITZ R	26.0002	05
!04070043883	70402	70402	50,953	0			COWLITZ R	26.0002	05
!04070043885	70402	70402	48,238	0			COWLITZ R	26.0002	05
!04070043887	70402	70402	45,457	0			COWLITZ R	26.0002	05
!04070043889	70402	70402	45,259	0			COWLITZ R	26.0002	05
!04070043891	70402	70402	50,253	0			COWLITZ R	26.0002	05
!04070043893	70402	70402	59,342	0			COWLITZ R	26.0002	05
!04070043895	70402	70402	59,805	0			COWLITZ R	26.0002	05
!04070043897	70402	70402	60,060	0			COWLITZ R	26.0002	05
!04070043899	70402	70402	60,494	0			COWLITZ R	26.0002	05
!04070043901	70402	70402	49,754	0			COWLITZ R	26.0002	05
!04070043903	70402	70402	49,914	0			COWLITZ R	26.0002	05
!04070044482	70501	70501	277,167	0			COWLITZ R	26.0002	05
633465	70320	70320	106,499	105,785	800	0.756	COWLITZ R	26.0002	05
2005 Totals			1,141,475	105,785	800	0.756			
!04P00001050	80401	80402	53,806	0			COWLITZ R	26.0002	06
!04P00005019	80401	80402	47,596	0			COWLITZ R	26.0002	06
!04P00007173	80401	80402	53,230	0			COWLITZ R	26.0002	06
!04P00008223	80401	80402	53,784	0			COWLITZ R	26.0002	06
!04P00009545	80402	80404	54,495	0			COWLITZ R	26.0002	06
!04P00016628	80401	80402	53,970	0			COWLITZ R	26.0002	06
!04P00023692	80401	80402	50,686	0			COWLITZ R	26.0002	06
!04P00031514	80401	80402	51,752	0			COWLITZ R	26.0002	06
!04P00033591	80401	80402	55,783	0			COWLITZ R	26.0002	06
!04P00040141	80401	80402	52,613	0			COWLITZ R	26.0002	06
!04P00045092	80401	80402	49,897	0			COWLITZ R	26.0002	06
!04P00056463	80401	80402	53,559	0			COWLITZ R	26.0002	06
!04P00057712	80401	80402	46,335	0			COWLITZ R	26.0002	06
!04P00057754	80401	80402	45,817	0			COWLITZ R	26.0002	06
!04P00059068	80401	80402	30,759	0			COWLITZ R	26.0002	06
633473	80325	80404	87,842	86,441	1,298	1.502	COWLITZ R	26.0002	06
633473	80325	80404	87,842	86,441	1,401	1.621	COWLITZ R	26.0002	06
2006 Totals			929,766	172,882	2,699	1.561			
!04P00000368	90330	90331	47,070	0			COWLITZ R	26.0002	07
!04P00001410	90330	90331	55,218	0			COWLITZ R	26.0002	07
!04P00003621	90330	90331	48,860	0			COWLITZ R	26.0002	07
!04P00023201	90330	90331	46,189	0			COWLITZ R	26.0002	07
!04P00030859	90330	90331	44,299	0			COWLITZ R	26.0002	07
!04P00040042	90330	90331	48,350	0			COWLITZ R	26.0002	07
!04P00044310	90330	90331	52,872	0			COWLITZ R	26.0002	07
!04P00052835	90330	90331	47,586	0			COWLITZ R	26.0002	07
!04P00052869	90330	90331	48,594	0			COWLITZ R	26.0002	07
!04P00053205	90330	90331	47,332	0			COWLITZ R	26.0002	07
!04P00054649	90330	90331	51,860	0			COWLITZ R	26.0002	07
!04P00059323	90330	90331	47,205	0			COWLITZ R	26.0002	07
!04P00059470	90330	90331	52,950	0			COWLITZ R	26.0002	07
!04P00060150	90330	90331	51,812	0			COWLITZ R	26.0002	07
!04P00062744	90330	90331	47,513	0			COWLITZ R	26.0002	07
!04P00062959	90330	90331	53,428	0			COWLITZ R	26.0002	07

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
633974	90330	90331	89,469	89,316	467	0.523	COWLITZ R	26.0002	07
2007 Totals			880,607	89,316	467	0.523			

Table 27. Cowlitz Salmon Hatchery late Coho (Type N) juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04100065578	100503	100505	282,241	0			COWLITZ R	26.0002	08
!04100065782	100503	100505	282,040	0			COWLITZ R	26.0002	08
!04100065783	100503	100505	282,370	0			COWLITZ R	26.0002	08
!04100065784	100503	100505	281,988	0			COWLITZ R	26.0002	08
!04100065829	100503	100505	277,244	0			COWLITZ R	26.0002	08
!04100065830	100503	100505	282,362	0			COWLITZ R	26.0002	08
!04100065831	100503	100505	281,957	0			COWLITZ R	26.0002	08
635176	100428	100430	938,202	936,291	5,040	0.538	COWLITZ R	26.0002	08
2008 Totals			2,908,404	936,291	5,040	0.5383			
!04P00000785	110427	110502	245,680	0			COWLITZ R	26.0002	09
!04P00018744	110427	110502	246,177	0			COWLITZ R	26.0002	09
!04P00026643	110427	110502	245,448	0			COWLITZ R	26.0002	09
!04P00027885	110427	110502	246,786	0			COWLITZ R	26.0002	09
!04P00032016	110427	110502	241,540	0			COWLITZ R	26.0002	09
!04P00043612	110427	110502	34,505	0			COWLITZ R	26.0002	09
!04P00044742	110427	110502	244,257	0			COWLITZ R	26.0002	09
!04P00051178	110427	110502	241,760	0			COWLITZ R	26.0002	09
!04P00055892	110428	110502	244,131	0			COWLITZ R	26.0002	09
635389	110427	110502	251,270	251,270	43	0.017	COWLITZ R	26.0002	09
635576	110427	110502	827,732	823,180	1,213	0.147	COWLITZ R	26.0002	09
2009 Totals			3,069,286	1,074,450	1,256	0.117			
!04P00003449	120427	120501	206,840	0			COWLITZ R	26.0002	10
!04P00045209	120427	120501	205,498	0			COWLITZ R	26.0002	10
!04P00047609	120427	120501	206,887	0			COWLITZ R	26.0002	10
!04P00063373	120427	120501	190,860	0			COWLITZ R	26.0002	10
635885	120427	120501	1,069,797	1,051,284	7,111	6.7641	COWLITZ R	26.0002	10
2010 Totals			1,879,882	1,051,284	7,111	0.676			

Eastbank Hatchery Complex

Table 28. Similkameen Pond (Eastbank Hatchery Complex) summer Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631978	040417	040430	247,631	245,997	1,949	0.792	SIMILKAMEEN R 490325	02
2002 Totals			247,631	245,997	1,949	0.792		
632579	050411	050415	579,019	574,908	3,432	0.597	SIMILKAMEEN R 490325	03
2003 Totals			579,019	574,908	3,432	0.597		
632977	060411	060411	99,293	96,652	1,263	1.307	BONAPARTE CR 49.0246	04
633168	060417	060427	303,503	291,053	5,739	1.972	SIMILKAMEEN R 490325	04
633169	060517	060527	300,563	288,517	5,846	2.026	SIMILKAMEEN R 490325	04
2004 Totals			703,359	676,222	12,848	1.900		
633474	70418	70418	49	49	10	20.408	OKANOGAN R 49.0019	05
633594	70418	70430	275,919	273,463	1,516	0.554	SIMILKAMEEN R 490325	05
2005 Totals			275,968	273,512	1,526	0.558		
633972	80416	80507	96,045	94,970	2,017	2.124	SIMILKAMEEN R 490325	06
634182	80416	80507	507,990	502,306	10,549	2.100	SIMILKAMEEN R 490325	06
2006 Totals			604,035	597,276	12,566	2.104		
633475	90414	90509	105,686	104,745	963	0.919376	SIMILKAMEEN R 490325	07
634365	90414	90509	100,248	99,356	761	0.765933	SIMILKAMEEN R 490325	07
634366	90414	90509	110,457	109,474	795	0.7262	SIMILKAMEEN R 490325	07
634367	90410	90422	102,756	101,903	377	0.36996	OKANOGAN R 49.0019	07
634392	90414	90509	196,648	194,898	1,506	0.772712	SIMILKAMEEN R 490325	07
2007 Totals			615,795	610,376	4,402	0.721		

Table 29. Carlton Pond (Eastbank Hatchery Complex) summer Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
2002 - No releases.									
2003 - No releases.									
633164	060418	060426	400,579	394,490	497	0.125985	METHOW R	48.0002	04

2004 Totals			400,579	394,490	497	0.125985			
633593	70415	70430	263,729	262,496	935	0.356196	METHOW R	48.0002	05
2005 Totals			263,729	262,496	935	0.356196			
634183	80416	80502	419,734	417,795	3,708	0.888	METHOW R	48.0002	06
634183	80416	80502	419,734	417,795	1,939	0.464	METHOW R	48.0002	06
2006 Totals			839,468	835,590	5,647	0.676			
634691	90421	90425	433,256	426,194	455	0.107	METHOW R	48.0002	07
2007 Totals			433,256	426,194	455	0.107			

Table 30. Dryden Pond (Eastbank Hatchery Complex) spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631980	040423	040426	835,645	805,919	4,255	0.528	WENATCHEE R 45.0030	02
2002 Totals			835,645	805,919	4,255	0.528		
632581	050425	050425	653,764	639,381	3,005	0.470	WENATCHEE R 45.0030	03
2003 Totals			653,764	639,381	3,005	0.470		
633165	060428	060428	308148	302817	554	0.182949	WENATCHEE R 45.0030	04
633166	060428	060428	309545	301125	491	0.163055	WENATCHEE R 45.0030	04
633167	060426	060428	275233	271816	365	0.134282	WENATCHEE R 45.0030	04
2004 Totals			892,926	875,758	1,410	0.161		
633592	70430	70430	644,182	631,492	3,535	0.560	WENATCHEE R 45.0030	05
2005 Totals			644,182	631,492	3,535	0.560		
634184	80421	80428	950,657	931,880	10,428	1.119	WENATCHEE R 45.0030	06
634184	80421	80428	950,657	931,880	18,777	2.015	WENATCHEE R 45.0030	06
2006 Totals			1,901,314	1,863,760	29,205	1.567		
632868	90429	90429	120,094	119,277	170	0.14	WENATCHEE R 45.0030	07
632869	90429	90429	120,642	119,822	110	0.09	WENATCHEE R 45.0030	07
632974	90429	90429	120,642	119,822	110	0.09	WENATCHEE R 45.0030	07
632975	90429	90429	95,427	94,778	75	0.08	WENATCHEE R 45.0030	07
2007 Totals			456,805	453,699	465	0.102		

Table 31. Chiwawa Hatchery (Eastbank Hatchery Complex) summer Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
631389	040419	040514	149,668	145,074	700	0.483	CHIWAWA R	45.0759	02
2002 Totals			149,668	145,074	700	0.483			
631894	050418	050518	152,224	148,312	504	0.340	CHIWAWA R	45.0759	03
632272	050502	050502	69,907	68,390	259	0.379	CHIWAWA R	45.0759	03
2003 Totals			222,131	216,702	763	0.352			
632373	060521	060521	221,655	221,655	1,626	0.734	CHIWAWA R	45.0759	04
632891	060501	060517	43,700	43,700	167	0.382	CHIWAWA R	45.0759	04
632898	060417	060517	229,162	229,162	1,167	0.509	CHIWAWA R	45.0759	04
2004 Totals			494,517	494,517	2,960	0.599			
632896	70501	70501	245,406	243,246	804	0.331	CHIWAWA R	45.0759	05
633296	70416	70515	248,606	246,418	698	0.283	CHIWAWA R	45.0759	05
2005 Totals			494,012	489,664	1,502	0.307			
633864	80513	80513	267,325	265,532	1,793		CHIWAWA R	45.0759	06
633295	80513	80513	285,157	283,245	1,912		CHIWAWA R	45.0759	06
633864	80513	80513	267,325	265,532	1,697	0.639094	CHIWAWA R	45.0759	06
633295	80513	80513	285,157	283,245	903	0.318805	CHIWAWA R	45.0759	06
2006 Totals			1,104,964	1,097,554	6,305	0.574459			
634290	90415	90513	114,665	114,298	576	0.504	CHIWAWA R	45.0759	07
634291	90415	90513	110,136	109,784	585	0.533	CHIWAWA R	45.0759	07
634292	90415	90513	69,282	68,596	139	0.203	CHIWAWA R	45.0759	07
2007 Totals			294,083	292,678	1,300	0.444			

Elochoman Hatchery

Table 32. Elochoman Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030031880	030601	030615	1,963,000	0			ELOCHOMAN R 25.0236	02
631410	030601	030615	92,000	88,870	131	0.147	ELOCHOMAN R 25.0236	02
2002 Totals			2,055,000	88,870	131	0.147		
!04040034395	040505	040531	1,820,000	0			ELOCHOMAN R 25.0236	03
631872	040505	040531	90,000	87,113	51	0.059	ELOCHOMAN R 25.0236	03
2003 Totals			1,910,000	87,113	51	0.059		
!04050038660	050601	050607	375,000	0			ELOCHOMAN R 25.0236	04
!04050038661	050601	050607	914,000	0			ELOCHOMAN R 25.0236	04
632474	050607	050610	90,000	88,776	84	0.095	ELOCHOMAN R 25.0236	04
2004 Totals			1,379,000	88,776	84	0.095		
632882	60605	60615	92,297	89,537	163	0.182048	ELOCHOMAN R	05

!04060042304	60605	60615	1,692,703	0			25.0236 ELOCHOMAN R 25.0236	05
2005 Totals			1,785,000	89,537	163	0.182		
!04P00060093	70607	70613	1,815,771	0			ELOCHOMAN R 25.0236	06
633479	70607	70613	90,400	86,510	181	0.209	ELOCHOMAN R 25.0236	06
633479	70607	70613	90,400	86,510	3,890	4.497	ELOCHOMAN R 25.0236	06
2006 Totals			1,996,571	173,020	4,071	2.353		
!04P00009433	80606	80609	1002007	0			ELOCHOMAN R 25.0236	07
!04P00028563	80606	80609	688776	0			ELOCHOMAN R 25.0236	07
634370	80606	80609	92220	90935	300	0.329906	ELOCHOMAN R 25.0236	07
2007 Totals			1,783,003	90,935	300	0.330		

Fallert Creek Hatchery

Table 33. Fallert Creek Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04030032915	030618	030618	220,295	0			FALLERT CR	27.0017	02
!04030032916	030618	030618	220,252	0			FALLERT CR	27.0017	02
!04030032917	030608	030608	917,906	0			FALLERT CR	27.0017	02
!04030032918	030619	030619	931,985	0			FALLERT CR	27.0017	02
631556	030618	030618	91,188	90,590	423	0.467	FALLERT CR	27.0017	02
2002 Totals			2,381,626	90,590	423	0.467			
!04040035452	040621	040621	10,107	0			FALLERT CR	27.0017	03
!04040035453	040621	040621	201,385	0			FALLERT CR	27.0017	03
!04040035454	040614	040621	985,962	0			FALLERT CR	27.0017	03
!04040035455	040614	040621	936,796	0			FALLERT CR	27.0017	03
632275	040621	040621	91,389	86,244	131	0.152	FALLERT CR	27.0017	03
2003 Totals			2,225,639	86,244	131	0.152			
!04050038732	050627	050627	953,484	0			FALLERT CR	27.0017	04
!04050038733	050627	050627	1,022,892	0			FALLERT CR	27.0017	04
!04050038875	050705	050705	282,943	0			KALAMA R	27.0002	04
!04050038876	050705	050705	277,282	0			KALAMA R	27.0002	04
632476	050627	050627	89,383	85,942	243	0.032	FALLERT CR	27.0017	04
2004 Totals			2,625,984	85,942	243	0.032			
!04060042058	60613	60620	1,027,533	0			FALLERT CR	27.0017	05
!04060042059	60628	60630	897,092	0			FALLERT CR	27.0017	05
632885	60629	60629	91,911	91,755	395	0.430	FALLERT CR	27.0017	05
2005 Totals			2,016,536	91,755	395	0.430			
!04P00013882	70625	70630	926,132	0			FALLERT CR	27.0017	06

!04P00020944	70606	70623	1,089,219	0			FALLERT CR	27.0017	06
!04P00064442	70702	70702	39,520	0			FALLERT CR	27.0017	06
633978	70702	70702	89,145	87,663	67	0.076	FALLERT CR	27.0017	06
2006 Totals			2,144,016	87,663	67	0.076			
!04P00020347	80706	80706	126,071	0			FALLERT CR	27.0017	07
!04P00033407	80706	80706	136,264	0			FALLERT CR	27.0017	07
!04P00048782	80622	80703	1,197,679	0			FALLERT CR	27.0017	07
!04P00053734	80706	80706	199,619	0			FALLERT CR	27.0017	07
634371	80706	80706	90,932	90,250	173	0.192	FALLERT CR	27.0017	07
2007 Totals			1,750,565	90,250	173	0.192			

Table 34. Fallert Creek Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04040034202	040303	040316	111,050	0			FALLERT CR	27.0017	02
631793	040303	040316	128,930	127,482	1,508	1.183	FALLERT CR	27.0017	02
2002 Totals			239,980	127,482	1,508	1.183			
!04050037534	050301	050301	120,635	0			FALLERT CR	27.0017	03
632395	050301	050301	117,831	113,754	385	0.338	FALLERT CR	27.0017	03
2003 Totals			238,466	113,754	385	0.338			
!04060040504	060301	060310	45,401	0			FALLERT CR	27.0017	04
632398	060301	060310	125,684	125,684	40	0.032	FALLERT CR	27.0017	04
2004 Totals			171,085	125,684	40	0.032			
633399	70301	70310	125,050	122,687	113	0.092	FALLERT CR	27.0017	05
2005 Totals			125,050	122,687	113	0.092			
633464	80301	80310	120,481	120,481	258	0.214	FALLERT CR	27.0017	06
2006 Totals			120,481	120,481	258	0.214			
!04P00041226	90301	90312	25,690	0			FALLERT CR	27.0017	07
634288	90301	90312	123,672	122,683	25	0.0204	FALLERT CR	27.0017	07
2007 Totals			149,362	122,683	25	0.020			

Table 35. Fallert Creek Hatchery early Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
634879	100415	100420	30,078	29,954	202	0.674	FALLERT CR	27.0017	08
2008 Totals			30,078	29,954	202	0.674			
!04P00001784	110415	110415	52,715	0			FALLERT CR	27.0017	09
635376	110415	110415	52,724	52724	85	0.161	FALLERT CR	27.0017	09
2009 Totals			105,439	52724	85	0.161			
!04P00031243	120415	120416	82,247	0			FALLERT CR	27.0017	10
635982	120415	120416	31,271	31,093	478	1.537	FALLERT CR	27.0017	10
2010 Totals			113,518	31,093	478	1.537			

Grays River

Table 36. Grays River Hatchery late Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04080048604	080501	080501	98,363	0			GRAYS R -WF 25.0131	08
634177	080501	080501	33,825	33,758	843	2.497	GRAYS R -WF 25.0131	08
2008 Totals			132,188	33,758	843	2.497		
632768	110501	110501	25,000	25,000	187	0.748	GRAYS R -WF 25.0131	09
!04P00037106	110501	110501	130,000	0			GRAYS R -WF 25.0131	09
2009 Totals			155,000	25,000	187	0.748		
!04P00034547	120501	120501	134000	0			GRAYS R -WF 25.0131	10
635795	120501	120501	29000	28884	172	0.595485	GRAYS R -WF 25.0131	10
2010 Totals			163000	28884	172	0.595485		

Kalama Falls Hatchery

Table 37. Kalama Falls Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04030032045	030609	030609	218,206	0			KALAMA R	27.0002	02
!04030032047	030609	030609	273,643	0			KALAMA R	27.0002	02
!04030032048	030609	030609	273,369	0			KALAMA R	27.0002	02
!04030032049	030609	030609	273,454	0			KALAMA R	27.0002	02
!04030032050	030620	030620	239,195	0			KALAMA R	27.0002	02
!04030032052	030620	030620	232,980	0			KALAMA R	27.0002	02
!04030032054	030620	030620	221,974	0			KALAMA R	27.0002	02
!04030032056	030624	030624	247,691	0			KALAMA R	27.0002	02
!04030032057	030624	030624	247,798	0			KALAMA R	27.0002	02
!04030032058	030624	030624	234,569	0			KALAMA R	27.0002	02
631554	030609	030624	82,761	82,761	319	0.385	KALAMA R	27.0002	02
2002 Totals			2,545,640	82,761	319	0.385			
!04040035647	040605	040605	261,624	0			KALAMA R	27.0002	03
!04040035648	040605	040605	258,087	0			KALAMA R	27.0002	03
!04040035649	040607	040607	218,587	0			KALAMA R	27.0002	03
!04040035651	040607	040607	224,230	0			KALAMA R	27.0002	03
!04040035653	040607	040607	238,155	0			KALAMA R	27.0002	03
!04040035654	040607	040607	258,195	0			KALAMA R	27.0002	03
!04040035655	040609	040609	258,132	0			KALAMA R	27.0002	03

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04040035656	040615	040615	233,441	0			KALAMA R	27.0002	03
!04040035658	040615	040615	240,346	0			KALAMA R	27.0002	03
!04040035660	040615	040615	221,677	0			KALAMA R	27.0002	03
631873	040607	040615	90,701	88,621	51	0.058	KALAMA R	27.0002	03
2003 Totals			2,503,175	88,621	51	0.058			
!04050038716	050617	050617	257,858	0			KALAMA R	27.0002	04
!04050038718	050617	050617	257,905	0			KALAMA R	27.0002	04
!04050038720	050617	050617	257,853	0			KALAMA R	27.0002	04
!04050038722	050617	050617	238,081	0			KALAMA R	27.0002	04
!04050038724	050617	050617	257,700	0			KALAMA R	27.0002	04
!04050038726	050621	050621	247,547	0			KALAMA R	27.0002	04
!04050038727	050621	050621	243,663	0			KALAMA R	27.0002	04
!04050038728	050621	050621	240,920	0			KALAMA R	27.0002	04
!04050038729	050621	050621	243,452	0			KALAMA R	27.0002	04
!04050038730	050621	050621	245,452	0			KALAMA R	27.0002	04
632477	050617	050617	90,577	90,441	169	0.187	KALAMA R	27.0002	04
2004 Totals			2,581,008	90,441	169	0.187			
!04060042258	60613	60613	250,046	0			KALAMA R	27.0002	05
!04060042259	60613	60613	211,661	0			KALAMA R	27.0002	05
!04060042260	60613	60613	197,000	0			KALAMA R	27.0002	05
!04060042261	60622	60622	217,372	0			KALAMA R	27.0002	05
!04060042262	60622	60622	218,856	0			KALAMA R	27.0002	05
!04060042263	60628	60628	290,843	0			KALAMA R	27.0002	05
!04060042264	60628	60628	245,037	0			KALAMA R	27.0002	05
!04060042265	60628	60628	250,520	0			KALAMA R	27.0002	05
!04060042390	60711	60711	38,964	0			KALAMA R	27.0002	05
632886	60711	60711	91,786	91,240	542	0.594	KALAMA R	27.0002	05
2005 Totals			2,012,085	91,240	542	0.594			
!04P00032352	70621	70621	274,715	0			KALAMA R	27.0002	06
!04P00034872	70621	70621	250,041	0			KALAMA R	27.0002	06
!04P00035229	70621	70621	221,861	0			KALAMA R	27.0002	06
!04P00036523	70628	70628	246,012	0			KALAMA R	27.0002	06
!04P00036849	70621	70621	251,098	0			KALAMA R	27.0002	06
!04P00037904	70621	70621	239,574	0			KALAMA R	27.0002	06
!04P00041953	70621	70621	185,423	0			KALAMA R	27.0002	06
!04P00047834	70621	70621	247,364	0			KALAMA R	27.0002	06
!04P00055360	70628	70628	155,013	0			KALAMA R	27.0002	06
!04P00059539	70628	70628	210,890	0			KALAMA R	27.0002	06
633977	70628	70628	92,770	92,475	235	0	KALAMA R	27.0002	06
2006 Totals			2,374,761	92,475	235	0.254			
!04P00002479	80701	80701	212,284	0			KALAMA R	27.0002	07
!04P00006172	80701	80701	207,570	0			KALAMA R	27.0002	07
!04P00011913	80625	80625	219,896	0			KALAMA R	27.0002	07
!04P00018579	80625	80625	249,784	0			KALAMA R	27.0002	07
!04P00018665	80707	80707	155,412	0			KALAMA R	27.0002	07
!04P00026369	80625	80625	219,866	0			KALAMA R	27.0002	07
!04P00029426	80701	80701	213,202	0			KALAMA R	27.0002	07
!04P00046041	80625	80625	219,673	0			KALAMA R	27.0002	07

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04P00049495	80625	80625	177,010	0			KALAMA R	27.0002	07
!04P00053384	80707	80707	179,602	0			KALAMA R	27.0002	07
634372	80625	80707	87,810	80,785	253	0.313	KALAMA R	27.0002	07
2007 Totals			2,142,109	80,785	253	0.313			

Table 38. Kalama Falls Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04040033633	040301	040308	93,191	0			GOBAR CR	27.0073	02
630875	040301	040308	76,806	74,750	1,007	1.347	GOBAR CR	27.0073	02
631542	040301	040308	42,109	40,982	469	1.144	GOBAR CR	27.0073	02
2002 Totals			212,106	115,732	1,476	1.246			
!04050036857	050301	050307	121,627	0			GOBAR CR	27.0073	03
631794	050301	050307	109,362	102,483	236	0.230	GOBAR CR	27.0073	03
2003 Totals			230,989	102,483	236	0.230			
!04060041083	060301	060307	55,438	0			KALAMA R	27.0002	04
632867	060301	060307	126,088	125,753	37	0.029	KALAMA R	27.0002	04
2004 Totals			181,526	125,753	37	0.029			
!04070043650	70301	70317	175,040	0			GOBAR CR	27.0073	05
633288	70301	70307	121,638	119,728	96	0.080	GOBAR CR	27.0073	05
2005 Totals			296,678	119,728	96	0.080			
!04P00049863	80301	80307	61,592	0			GOBAR CR	27.0073	06
633899	80301	80307	125,174	124,698	707	0.567	GOBAR CR	27.0073	06
2006 Totals			186,766	124,698	707	0.567			
!04P00056255	90302	90306	160780	0			GOBAR CR	27.0073	07
634289	90302	90306	124780	122908	129	0.104957	GOBAR CR	27.0073	07
2007 Totals			285560	122908	129	0.105			

Table 39. Kalama Falls Hatchery late Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04100065756	100401	100401	106,025	0			KALAMA R	27.0002	08
!04100065757	100415	100415	137,719	0			KALAMA R	27.0002	08
!04100065758	100415	100415	137,814	0			KALAMA R	27.0002	08
!04100065759	100415	100415	137,793	0			KALAMA R	27.0002	08
!04100066333	100415	100415	87,975	0			KALAMA R	27.0002	08
634882	100415	100415	31,303	30,468	348	1.142	KALAMA R	27.0002	08
2008 Totals			638,629	30,468	348	1.142			
!04P00000718	110415	110415	176,057	0			KALAMA R	27.0002	09
!04P00008892	110415	110415	142,249	0			KALAMA R	27.0002	09
!04P00016322	110415	110415	127,085	0			KALAMA R	27.0002	09

!04P00019151	110415	110415	173,118	0			KALAMA R	27.0002	09
635377	110415	110415	30,383	30,240	99	0.327	KALAMA R	27.0002	09
2009 Totals			648,892	30,240	99	0.327			
!04P00007803	120418	120418	135,767	0			KALAMA R	27.0002	10
!04P00018677	120418	120418	183,266	0			KALAMA R	27.0002	10
!04P00050644	120418	120418	138,056	0			KALAMA R	27.0002	10
!04P00063294	120418	120418	144,742	0			KALAMA R	27.0002	10
635983	120418	120418	34,015	32,988	519	1.573	KALAMA R	27.0002	10
2010 Totals			635,846	32,988	519	1.573			

Klickitat Hatchery

Table 40. Klickitat Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030032811	030716	030720	126,000	0			KLICKITAT R 30.0002	02
!04030032814	030603	030605	1,997,300	0			KLICKITAT R 30.0002	02
!04030032816	030616	030619	1,054,237	0			KLICKITAT R 30.0002	02
631796	030603	030605	110,800	108,588	210	0.193	KLICKITAT R 30.0002	02
631797	030616	030619	102,650	99,622	196	0.197	KLICKITAT R 30.0002	02
2002 Totals			3,390,987	208,210	406	0.195		
!04040035646	040614	040618	2,364,190	0			KLICKITAT R 30.0002	03
!04040035740	040706	040713	1,215,120	0			KLICKITAT R 30.0002	03
632380	040706	040713	210,600	205,397	208	0.101	KLICKITAT R 30.0002	03
632381	040614	040618	226,460	220,866	206	0.093	KLICKITAT R 30.0002	03
632382	040706	040713	209,280	204,110	169	0.083	KLICKITAT R 30.0002	03
2003 Totals			4,225,650	630,373	583	0.092		
!04050039166	050613	050617	1,670,973	0			KLICKITAT R 30.0002	04
!04050039169	050613	050617	1,765,985	0			KLICKITAT R 30.0002	04
632798	050613	050617	197,850	196,386	122	0.062	KLICKITAT R 30.0002	04
632968	050613	050617	219,917	210,790	82	0.039	KLICKITAT R 30.0002	04
632969	050613	050617	236,215	231,207	205	0.089	KLICKITAT R 30.0002	04
2004 Totals			4,090,940	638,383	409	0.063		
633377	60612	60622	2,314,110	217,420	779	0.358	KLICKITAT HATCHERY	05
633393	60612	60616	169,960	169,960	599	0.352	KLICKITAT HATCHERY	05
633578	60619	60622	2,064,200	232,200	511	0.220	KLICKITAT HATCHERY	05
2005 Totals			4,548,270	619,580	1,889	0.305		
!11YNKL0407	70612	70612	3,732,325	0			KLICKITAT HATCHERY	06
633873	70611	70611	225,716	225,716	343	0.152	KLICKITAT HATCHERY	06
633874	70611	70611	225,383	225,383	387	0.172	KLICKITAT HATCHERY	06
633898	70611	70611	173,405	173,405	286	0.165	KLICKITAT HATCHERY	06
2006 Totals			4,356,829	624,504	1,016	0.163		
!11YNKL0508	80616	80620	1,081,631	0			KLICKITAT HATCHERY	07
!11YNKL0608	80630	80704	1,956,968	0			KLICKITAT HATCHERY	07
634268	80616	80620	232,127	232,127	1,330	0.573	KLICKITAT HATCHERY	07
634269	80616	80620	230,980	230,980	950	0.411	KLICKITAT HATCHERY	07
634481	80630	80704	55,992	50,992	425	0.833	KLICKITAT HATCHERY	07

2007 Totals	3,557,698	514,099	2,705	0.526		

Table 41. Klickitat Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030032639	030806	030806	39,850	0			KLICKITAT R 30.0002	02
!04030032820	030506	030506	76,800	0			KLICKITAT R 30.0002	02
!04030032821	030506	030506	88,900	0			KLICKITAT R 30.0002	02
!04030032822	030506	030506	80,850	0			KLICKITAT R 30.0002	02
!04040033645	040301	040305	139,834	0			KLICKITAT R 30.0002	02
!04040033647	040301	040305	283,266	0			KLICKITAT R 30.0002	02
631446	040301	040305	87,966	87,618	165	0.188	KLICKITAT R 30.0002	02
631551	040301	040305	98,734	98,341	270	0.275	KLICKITAT R 30.0002	02
2002 Totals			896,200	185,959	435	0.231		
!04040035043	040510	040510	319,300	0			KLICKITAT R 30.0002	03
!04040036051	040804	040804	29,610	0			KLICKITAT R 30.0002	03
!04050038679	050301	050304	155,750	0			KLICKITAT R 30.0002	03
!04050038681	050303	050307	19,498	0			KLICKITAT R 30.0002	03
632465	050301	050304	94,250	91,988	100	0.109	KLICKITAT R 30.0002	03
632466	050303	050307	97,425	94,697	128	0.135	KLICKITAT R 30.0002	03
2003 Totals			715,833	186,685	228	0.122		
!04050038684	050505	050517	269,800	0			KLICKITAT R 30.0002	04
632797	060306	060310	607,900	159,296	52	0.033	KLICKITAT HATCHERY	04
2004 Totals			877,700	159,296	52	0.033		
!11YNKL0107	70306	70306	447,939	0			KLICKITAT HATCHERY	05
!11YNKL0206	60712	60712	20,830	0			KLICKITAT HATCHERY	05
!11YNKL1406	60521	60521	133,400	0			KLICKITAT HATCHERY	05
!11YNKL1906	60712	60712	20,830	0			KLICKITAT HATCHERY	05
!11YNKL2006	60612	60612	1,000	0			KLICKITAT HATCHERY	05
!15YNKL1406	60521	60521	133,400	0			KLICKITAT HATCHERY	05
!15YNKL1906	60712	60712	20,830	0			KLICKITAT HATCHERY	05
!15YNKL2006	60612	60612	1,000	0			KLICKITAT HATCHERY	05
633392	70305	70306	172,055	172,055	100	0.058	KLICKITAT HATCHERY	05
2005 Totals			951,284	172,055	100	0.058		
!11YNKL0708	80303	80308	142,874	0			KLICKITAT HATCHERY	06
!11YNKL0808	80303	80308	307,979	0			KLICKITAT HATCHERY	06
633984	80303	80308	90,131	90,131	173	0.192	KLICKITAT HATCHERY	06
633985	80303	80308	88,137	86,137	178	0.207	KLICKITAT HATCHERY	06
2006 Totals			629,121	176,268	351	0.199		
!11YNKL0509	90225	90228	190,554	0			KLICKITAT HATCHERY	07
!11YNKL0609	90225	90228	284,734	0			KLICKITAT HATCHERY	07
634573	90225	90228	75,099	75,091	239	0.318	KLICKITAT HATCHERY	07
634574	90225	90228	74,938	74,926	120	0.160	KLICKITAT HATCHERY	07
2007 Totals			625,325	150,017	359	0.239		

Table 42. Klickitat Hatchery late Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	ReleaseSite	BY
!11YNKL0610	100411	100415	964,676	0			KLICKITAT HATCHERY	08
!11YNKL0710	100330	100331	650,000	0			KLICKITAT HATCHERY	08
634877	100411	100415	30,470	30,470	58	0.190	KLICKITAT HATCHERY	08
2008 Totals			1,645,146	30,470	58	0.190		
!11YNKL1311	110511	110515	981,931	0			KLICKITAT HATCHERY	09
635379	110511	110515	40,319	40,319	52	0.129	KLICKITAT HATCHERY	09
2009 Totals			1,022,250	40,319	52	0.129		
!11YNKL1312	120529	120531	1,029,433	0			KLICKITAT HATCHERY	10
635866	120529	120531	51,317	51,317	70	0.136	KLICKITAT HATCHERY	10
2010 Totals			1,080,750	51,317	70	0.136		

Lewis Hatchery

Table 43. Lewis River Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04040033638	040215	040217	368,594	0			LEWIS R -NF 27.0168	02
!04040033641	040215	040217	268,583	0			LEWIS R -NF 27.0168	02
630682	040215	040217	145,482	143,503	1,442	1.005	LEWIS R -NF 27.0168	02
631385	040215	040217	144,010	141,275	1,303	0.922	LEWIS R -NF 27.0168	02
2002 Totals			926,669	284,778	2,745	0.964		
!04050036860	050301	050301	257,246	0			LEWIS R -NF 27.0168	03
!04050036863	050314	050314	228,123	0			LEWIS R -NF 27.0168	03
631792	050301	050314	148,742	146,410	387	0.264	LEWIS R -NF 27.0168	03
631892	050301	050314	148,743	140,473	355	0.253	LEWIS R -NF 27.0168	03
2003 Totals			782,854	286,883	742	0.259		
!04060040193	060320	060320	353,720	0			LEWIS R -NF 27.0168	04
!04060040196	060321	060321	306,673	0			LEWIS R -NF 27.0168	04
632393	060320	060321	147,487	144,877	128	0.088	LEWIS R -NF 27.0168	04
632394	060320	060321	147,487	137,576	135	0.098	LEWIS R -NF 27.0168	04
2004 Totals			955,367	282,453	263	0.093		
!04070046205	70319	70319	340,056	0			LEWIS R -NF 27.0168	05
!04070046208	70319	70319	297,849	0			LEWIS R -NF 27.0168	05
632866	70319	70319	152,351	151,132	146	0.097	LEWIS R -NF 27.0168	05
633394	70319	70319	154,939	154,939	205	0.132	LEWIS R -NF 27.0168	05
2005 Totals			945,195	306,071	351	0.115		
!04P00019004	80317	80317	284,626	0			LEWIS R -NF 27.0168	06
!04P00062158	80317	80317	335,874	0			LEWIS R -NF 27.0168	06
633396	80317	80317	146,430	146,430	404	0.276	LEWIS R -NF 27.0168	06
633397	80317	80317	148,261	139,785	421	0.301	LEWIS R -NF 27.0168	06
2006 Totals			915,191	286,215	825	0.288		
!04P00044994	90217	90323	342,037	0			LEWIS R -NF 27.0168	07

!04P00064839	90217	90316	303,698	0			LEWIS R -NF 27.0168	07
634387	90217	90323	154,495	143,124	93	0.065	LEWIS R -NF 27.0168	07
634388	90217	90323	153,446	144,945	103	0.071	LEWIS R -NF 27.0168	07
2007 Totals			953,676	288,069	196	0.068		

Table 44. Lewis River Hatchery early Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04100051048	100927	100927	117	0			SWIFT RES (SKAM)	08
!04100051049	100929	100929	117	0			SWIFT RES (SKAM)	08
!04100051050	100930	100930	123	0			SWIFT RES (SKAM)	08
!04100065581	100510	100510	738,480	0			LEWIS R -NF 27.0168	08
634964	100510	100510	76,702	75,634	1,474	1.949	LEWIS R -NF 27.0168	08
634965	100510	100510	76,702	75,307	1,427	1.895	LEWIS R -NF 27.0168	08
2008 Totals			892,241	150,941	2,901	1.922		
!04P00055864	110413	110425	677,873	0			LEWIS R -NF 27.0168	09
635395	110413	110425	75,411	75,411	85	0.113	LEWIS R -NF 27.0168	09
635396	110413	110425	75,411	75,411	60	0.080	LEWIS R -NF 27.0168	09
2009 Totals			828,695	150,822	145	0.096		
!04P00001312	120416	120423	111,736	0			LEWIS R -NF 27.0168	10
!04P00012558	120409	120410	305,140	0			LEWIS R -NF 27.0168	10
!04P00047028	120416	120423	446,945	0			LEWIS R -NF 27.0168	10
635873	120416	120423	69,522	68,702	1,277	1.859	LEWIS R -NF 27.0168	10
635874	120416	120423	69,590	68,985	1,097	1.590	LEWIS R -NF 27.0168	10
2010 Totals			1,002,933	137,687	2,374	1.724		

Table 45. Lewis River Hatchery late Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04100065690	100510	100510	657,038	0			LEWIS R -NF 27.0168	08
634898	100510	100510	76,964	76,559	2,364	3.088	LEWIS R -NF 27.0168	08
634899	100510	100510	76,155	75,764	2,072	2.735	LEWIS R -NF 27.0168	08
2008 Totals			810,157	152,323	4,436	2.912		
!04P00017098	110413	110425	649,519	0			LEWIS R -NF 27.0168	09
635393	110413	110425	76,178	76,178	334	0.438	LEWIS R -NF 27.0168	09
635394	110413	110425	76,178	76,178	387	0.508	LEWIS R -NF 27.0168	09
2009 Totals			801,875	152,356	721	0.473		
!04P00011242	120416	120423	473,500	0			LEWIS R -NF 27.0168	10
!04P00029054	120416	120423	290,211	0			LEWIS R -NF	10

635875	120416	120423	63,895	63,141	1,018	1.612	27.0168 LEWIS R -NF	10
635876	120416	120423	63,550	62,997	1,360	2.159	27.0168 LEWIS R -NF	10
2010 Totals			891,156	126,138	2,378	1.885		

Lyons Ferry Hatchery

Table 46. Lyons Ferry Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030032236	030304	030304	33,505	0			SNAKE R @ ASOTIN	02
631391	030609	030616	100,019	98,704	34	0.034	SNAKE R-UPPR 35.0002	02
631545	030606	030606	200,092	198,365	158	0.080	SNAKE R-LOWR 33.0002	02
632167	040412	040414	446,355	427,713	2679	0.626	SNAKE R-LOWR 33.0002	02
2002 Totals			779,971	724,782	2,871	0.247		
631769	050328	050330	217,947	217,947	3,001	1.377	SNAKE R-LOWR 33.0002	03
631770	050328	050330	218,771	218,150	1,764	0.809	SNAKE R-LOWR 33.0002	03
631786	040621	040621	201,534	197,308	170	0.086	SNAKE R-LOWR 33.0002	03
632368	050328	050330	16,480	16,398	331	2.019	LYONS FERRY REL.SITE	03
2003 Totals			654,732	649,803	5,266	1.073		
!04050038663	050524	050524	281,688	0			GRAND RONDE R35.2192	04
!04050041966	050523	050523	234,030	0			SNAKE R-UPPR 35.0002	04
632782	050525	050525	200,772	192,480	59	0.031	GRAND RONDE R35.2192	04
632787	050527	050527	200,171	196,301	62	0.032	SNAKE R-LOWR 33.0002	04
633283	060405	060410	224,853	224,640	2,976	1.325	SNAKE R-LOWR 33.0002	04
633284	060405	060410	225,147	220,952	1,941	0.878	SNAKE R-LOWR 33.0002	04
2004 Totals			1,366,661	834,373	5,038	0.566		
!04060042177	60404	60404	71,000	0			SNAKE R-LOWR 33.0002	05
610178	60622	60622	211,508	208,682	252	0.121	COUSE CR 35.2147	05
633582	60601	60601	202,211	201,158	1,564	0.777	SNAKE R-LOWR 33.0002	05
633583	60530	60531	200,820	195,963	1,125	0.574	COUSE CR 35.2147	05
633584	60619	60621	409,165	196,965	284	0.144	GRAND RONDE R35.2192	05
633597	70402	70406	250,771	220,825	1,508	0.683	SNAKE R-LOWR 33.0002	05
633598	70402	70406	252,390	226,442	2,257	0.997	SNAKE R-LOWR 33.0002	05
2005 Totals			1,597,865	1,250,035	6,990	0.559		
!04P00034627	70523	70523	875	0	875		SNAKE R-LOWR 33.0002	06
633986	70523	70523	199,817	197,436	168	0.085	SNAKE R-LOWR 33.0002	06
633987	80407	80410	233,663	231,990	7,395	3.188	SNAKE R-LOWR 33.0002	06
634092	80407	80410	225,970	220,350	3,988	1.810	SNAKE R-LOWR 33.0002	06
2006 Totals			660,325	649,776	12,426	1.912		
!04P00011639	90406	90406	707	0			LYONS FERRY REL.SITE	07
!04P00012093	90406	90406	4,538	0			LYONS FERRY REL.SITE	07

!04P00013036	80528	80528	29,888	0			COUSE CR 35.2147	07
!04P00024712	90406	90406	5,228	0			LYONS FERRY REL.SITE	07
!04P00036775	90406	90406	282	0			LYONS FERRY REL.SITE	07
!04P00050045	90406	90406	1,757	0			LYONS FERRY REL.SITE	07
634671	80528	80528	200,513	197,224	1,423	0.722	COUSE CR 35.2147	07
634672	80602	80602	200,733	198,368	1,779	0.897	SNAKE R-LOWR 33.0002	07
634680	90406	90406	425,478	221,147	3,555	1.608	LYONS FERRY REL.SITE	07
634681	90406	90406	426,004	221,493	1,941	0.876	LYONS FERRY REL.SITE	07
2007 Totals			1,295,128	838,232	8,698	1.038		

Methow Hatchery

Table 47. Methow Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04020029491	021107	021108	4,160	0			LOST R	48.0592	02
!04020029499	021108	021121	29,756	0			LOST R	48.0592	02
!04020029492	021107	021108	145,134	0			METHOW R	48.0002	02
!04020029493	021107	021108	10,387	0			METHOW R	48.0002	02
!04020029494	021107	021108	14,530	0			METHOW R	48.0002	02
!04020029495	021108	021114	20,531	0			METHOW R	48.0002	02
!04020029496	021108	021114	144,476	0			METHOW R	48.0002	02
!04020029497	021108	021114	31,718	0			METHOW R	48.0002	02
!04020029498	021108	021121	29,586	0			METHOW R	48.0002	02
!04020029500	021108	021121	55,497	0			METHOW R	48.0002	02
!04020029501	021108	021121	75,049	0			METHOW R	48.0002	02
!04020029502	021108	021121	4,160	0			METHOW R	48.0002	02
!04020029503	021108	021128	21,309	0			METHOW R	48.0002	02
!04020029504	021108	021128	28,150	0			METHOW R	48.0002	02
!04020029505	021108	021128	23,296	0			METHOW R	48.0002	02
!04020029506	021104	021109	1,465	0			METHOW R	48.0002	02
631076	040421	040422	12,393	11,876	41	0.345	TWISP R	48.0374	02
631077	040421	040422	10,527	10,088	27	0.268	TWISP R	48.0374	02
631524	040402	040402	35,769	35,075	70	0.200	WOLF CR	48.1059	02
631582	040421	040422	20,541	20,377	119	0.584	TWISP R	48.0374	02
631694	040421	040422	8,812	8,504	19	0.223	TWISP R	48.0374	02
631695	040413	040413	5,801	5,599	0	0.000	TWISP R	48.0374	02
631891	040421	040425	145,466	142,804	523	0.366	METHOW R	48.0002	02
631976	040421	040425	254,238	249,763	620	0.248	CHEWUCH R 48.0728		02
2002 Totals			1,098,835	484,086	1,419	0.279			
!04030032952	031103	031109	102,341	0			METHOW R	48.0002	03
!04030032953	031107	031110	23,328	0			METHOW R	48.0002	03
!04030032954	031107	031110	17,568	0			METHOW R	48.0002	03
632499	050418	050425	46,774	44,660	26	0.058	TWISP R	48.0374	03
632564	040603	050425	61,600	58,816	13	0.022	TWISP R	48.0374	03
632565	050418	050425	9,425	8,999	9	0.100	TWISP R	48.0374	03
632566	050418	050425	54,939	54,598	26	0.048	CHEWUCH R		03

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
							48.0728		
632567	050418	050425	43,734	42,750	44	0.103	TWISP R	48.0374	03
632568	050418	050424	48,831	46,521	50	0.107	WINTHROP NFH		03
632569	050418	050425	72,675	71,432	31	0.043	CHEWUCH R 48.0728		03
2003 Totals			481,215	327,776	199	0.069			
!04040036592	041209	041229	156,868	0			METHOW R	48.0002	04
631187	060418	060422	65,146	63,270	309	0.488	METHOW R	48.0002	04
631508	050402	050425	3,643	3,643	0	0.000	TWISP R	48.0374	04
632694	050425	050430	42,252	42,252	0	0.000	WINTHROP NFH		04
2004 Totals			267,909	109,165	309	0.163			
633281	70416	70418	11,700	11,367	24	0.211	METHOW R	48.0002	05
633294	70416	70418	232,811	232,811	305	0.131	CHEWUCH R 48.0728		05
633395	70416	70418	144,933	143,571	300	0.209	METHOW R	48.0002	05
633483	70416	70418	27,658	27,182	43	0.158	TWISP R	48.0374	05
2005 Totals			417,102	414,931	672	0.162			
!04P00048705	61223	61223	37,787	0			METHOW R	48.0002	06
633687	80421	80421	40,389	39,206	183	0.467	TWISP R	48.0374	06
633866	80416	80416	211,717	208,689	1,656	0.794	METHOW R	48.0002	06
633884	80417	80417	154,381	151,046	698	0.462	CHEWUCH R 48.0728		06
634068	80421	80421	5,303	5,092	51	1.002	TWISP R	48.0374	06
2006 Totals			449,577	404,033	2,588	0.641			
634293	90421	90421	105,741	104,768	442	0.422	METHOW R	48.0002	07
634294	90421	90421	100,000	99,230	685	0.690	CHEWUCH R 48.0728		07
634471	90421	90421	26,055	25,854	120	0.464	CHEWUCH R 48.0728		07
634674	90421	90421	13,666	13,231	64	0.484	METHOW R	48.0002	07
2007 Totals			245,462	243,083	1,311	0.539			

North Toutle Hatchery

Table 48. North Toutle Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site		BY
!04030032129	030618	030624	512,051	0			GREEN R	26.0323	02
!04030032130	030606	030625	1,990,926	0			GREEN R	26.0323	02
631869	030606	030625	90,365	87,067	169	0.194	GREEN R	26.0323	02
2002 Totals			2,593,342	87,067	169	0.194			
!04040035619	040608	040609	314,000	0			GREEN R	26.0323	03
!04040035743	040708	040730	1,677,467	0			GREEN R	26.0323	03
632276	040708	040730	91,533	88,906	48	0.054	GREEN R	26.0323	03
2003 Totals			2,083,000	88,906	48	0.054			
!04050039162	050701	050708	1,620,955	0			GREEN R	26.0323	04

!04050039164	050712	050719	374,395	0			GREEN R	26.0323	04
632478	050701	050708	90,956	85,135	96	0.113	GREEN R	26.0323	04
2004 Totals			2,086,306	85,135	96	0.113			
!04060042399	60701	60712	1,577,611	0			GREEN R	26.0323	05
633476	60701	60712	90,089	87,510	73	0.083	GREEN R	26.0323	05
2005 Totals			1,667,700	87,510	73	0.083			
!04P00040650	70704	70721	2,226,000	0			GREEN R	26.0323	06
!04P00057168	70621	70630	267,426	0			GREEN R	26.0323	06
633970	70621	70630	91,515	90,583	42	0.046	GREEN R	26.0323	06
2006 Totals			2,584,941	90,583	42	0.046			
!04P00055936	80721	80731	1,791,286	0			GREEN R	26.0323	07
!04P00059735	80709	80731	401,243	0			GREEN R	26.0323	07
634386	80721	80731	90,400	87,231	302	0.346	GREEN R	26.0323	07
2007 Totals			2,282,929	87,231	302	0.346			

Table 49. North Toutle Hatchery early (Type S) Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	
!04090065695	90503	90510	147,232	0			GREEN R	26.0323
!04100066541	100503	100510	147,232	0			GREEN R	26.0323
634878	100503	100510	31,193	31,074	643	2.069	GREEN R	26.0323
2008 Totals			325,657	31,074	643	2.069		
!04P00028463	110502	110509	135,869	0			GREEN R	26.0323
634884	110502	110509	29,116	28,679	397	1.384	GREEN R	26.0323
2009 Totals			164,985	28,679	397	1.384		
!04P00004630	120501	120508	124679	0			GREEN R	26.0323
635794	120501	120508	30631	30328	274	0.903456	GREEN R	26.0323
2010 Totals			155,310	30,328	274	0.903		

Priest Rapids Hatchery

Table 50. Priest Rapids Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030032361	030612	030613	1,705,965	0			COL R @ PRIEST RAPID	02
!04030032364	030614	030615	1,170,599	0			COL R @ PRIEST RAPID	02
!04030032367	030616	030617	1,165,540	0			COL R @ PRIEST RAPID	02
!04030032370	030618	030619	1,168,033	0			COL R @ PRIEST RAPID	02
!04030032373	030620	030621	1,211,689	0			COL R @ PRIEST RAPID	02
631392	030614	030621	101,426	101,020	125	0.124	COL R @ PRIEST RAPID	02

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631768	030614	030621	254,353	254,353	544	0.214	COL R @ PRIEST RAPID	02
2002 Totals			6,777,605	355,373	669	0.169		
!04040035586	040614	040615	1,527,000	0			COLUMBIA R - GENERAL	03
!04040035589	040616	040617	1,224,270	0			COLUMBIA R - GENERAL	03
!04040035592	040618	040619	1,225,660	0			COLUMBIA R - GENERAL	03
!04040035595	040620	040621	1,217,370	0			COLUMBIA R - GENERAL	03
!04040035598	040622	040623	1,218,760	0			COLUMBIA R - GENERAL	03
632574	040616	040623	173,650	173,127	88	0.051	COLUMBIA R - GENERAL	03
632575	040616	040623	227,850	225,989	263	0.116	COLUMBIA R - GENERAL	03
2003 Totals			6,814,560	399,116	351	0.084		
!04050038707	050609	050610	1,422,125	0			COLUMBIA R - GENERAL	04
!04050038708	050611	050612	1,244,279	0			COLUMBIA R - GENERAL	04
!04050038710	050613	050614	1,244,820	0			COLUMBIA R - GENERAL	04
!04050038712	050615	050616	1,241,805	0			COLUMBIA R - GENERAL	04
!04050038714	050617	050618	1,244,510	0			COLUMBIA R - GENERAL	04
633076	050617	050618	202,296	200,072	101	0.050	COLUMBIA R - GENERAL	04
2004 Totals			6,599,835	200,072	101	0.050		
!04060041978	60612	60613	1,695,538	0			COLUMBIA R - GENERAL	05
!04060041979	60614	60615	1,248,646	0			COLUMBIA R - GENERAL	05
!04060041981	60616	60617	1,249,941	0			COLUMBIA R - GENERAL	05
!04060041983	60618	60619	1,250,421	0			COLUMBIA R - GENERAL	05
!04060041985	60620	60621	1,230,893	0			COLUMBIA R - GENERAL	05
633173	60614	60621	200,851	199,445	1753	0.879	COLUMBIA R - GENERAL	05
2005 Totals			6,876,290	199,445	1,753	0.879		
!04P00007005	70621	70622	1,205,634	0			COLUMBIA R - GENERAL	06
!04P00008247	70613	70614	1,718,467	0			COLUMBIA R - GENERAL	06
!04P00032060	70617	70618	1,205,771	0			COLUMBIA R - GENERAL	06
!04P00039564	70615	70616	1,206,789	0			COLUMBIA R - GENERAL	06
!04P00057266	70619	70620	1,204,440	0			COLUMBIA R -	06

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
633894	70615	70622	202,000	202,000	96	0.048	GENERAL COLUMBIA R - GENERAL	06
2006 Totals			6,743,101	202,000	96	0.048		
!04P00023418	80620	80621	805775	0			COL R @ PRIEST RAPID	07
!04P00031059	80612	80613	1116627	0			COL R @ PRIEST RAPID	07
!04P00043673	80616	80617	807108	0			COL R @ PRIEST RAPID	07
!04P00050488	80614	80615	813249	0			COL R @ PRIEST RAPID	07
!04P00058079	80618	80619	802166	0			COL R @ PRIEST RAPID	07
634391	80612	80621	203381	202568	2368	1.16899	COL R @ PRIEST RAPID	07
2007 Totals			4,548,306	202,568	2,368	1.169		

Ringold Hatchery

Table 51. Ringold Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
93752	30606	30618	3,130,015	192,931	238	0.123	COL R PASCO-PRIEST R	02
2002 Totals			3,130,015	192,931	238	0.123		
093963	040614	040620	3,007,316	211,197	63	0.030	COLUMBIA R - GENERAL	03
2003 Totals			3,007,316	211,197	63	0.030		
!04050039523	050614	050616	2,577,855	0			COLUMBIA R - GENERAL	04
071263	050624	050626	222,200	222,200	13	0.006	COLUMBIA R - GENERAL	04
2004 Totals			2,800,055	222,200	13	0.006		
!04060042064	60601	60605	65,386	0			COLUMBIA R - GENERAL	05
94421	60601	60605	4,516	4,516	0		COLUMBIA R - GENERAL	05
2005 Totals			69,902	4,516	0	0.000		
!04P00053600	70615	70622	3,179,824	0			COLUMBIA R - GENERAL	06
94504	70615	70622	222,706	222,706	82	0.037	COLUMBIA R - GENERAL	06
2006 Totals			3,402,530	222,706	82	0.037		
!04P00040436	80611	80616	2252490	0			COLUMBIA R - GENERAL	07
!04P00055038	80616	80627	623008	0			COLUMBIA R - GENERAL	07

94663	80616	80627	221951	221951	1427	0.642935	COLUMBIA R - GENERAL	07
2007 Totals			3,097,449	221,951	1,427	0.643		

Table 52. Ringold Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
2002 - No releases.								
!04050036855	050307	050315	368,393	0			COLUMBIA R - GENERAL	03
632485	050307	050315	50,200	50,100	16	0.032	COLUMBIA R - GENERAL	03
2003 Totals			418,593	50,100	16	0.032		
!04060041061	060410	060419	412,675	0			COLUMBIA R - GENERAL	04
632892	060410	060419	51,000	50,745	20	0.039	COLUMBIA R - GENERAL	04
2004 Totals			463,675	50,745	20	0.039		
2005 - No releases								
!04P00003376	80401	80408	199,243	0			COLUMBIA R - GENERAL	06
!04P00027779	80401	80408	86,888	0			COLUMBIA R - GENERAL	06
54806	80401	80408	20,580	20,580	276	1.341	COLUMBIA R - GENERAL	06
54807	80401	80408	23,520	23,520	398	1.692	COLUMBIA R - GENERAL	06
2006 Totals			330,231	44,100	674	1.528		
2007 - No releases.								

Tucannon Hatchery

Table 53. Tucannon Hatchery spring Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04040034663	040401	040420	44,784	0			TUCANNON R 35.0009	02
631791	040401	040420	123,586	122,516	106	0.087	TUCANNON R 35.0009	02
2002 Totals			168,370	122,516	106	0.087		
632482	050401	050415	71,154	69,831	43	0.062	TUCANNON R 35.0009	03
632778	050401	050415	130,064	125,304	24	0.019	TUCANNON R 35.0009	03
2003 Totals			201,218	195,135	67	0.040		

632865	060403	060426	132,312	131,121	127	0.097	TUCANNON R 35.0009	04
632887	060403	060426	67,542	67,488	147	0.218	TUCANNON R 35.0009	04
2004 Totals			199,854	198,609	274	0.157		
633477	70402	70423	90,056	89,606	302	0.337	TUCANNON R 35.0009	05
633599	70402	70423	149,466	148,151	592	0.400	TUCANNON R 35.0009	05
2005 Totals			239,522	237,757	894	0.376		
634093	80408	80422	52,735	50,309	484	0.962	TUCANNON R 35.0009	06
634094	80408	80422	53,795	51,858	554	1.068	TUCANNON R 35.0009	06
634194	80408	80422	78,176	75,283	418	0.555	TUCANNON R 35.0009	06
2006 Totals			184,706	177,450	1,456	0.821		
634687	90413	90422	64233	58041	78	0.134388	CURL LK RELEASE SITE	07
634688	90413	90422	58531	55264	146	0.264186	CURL LK RELEASE SITE	07
2007 Totals			122,764	113,305	224	0.198		

Turtle Rock Hatchery

Table 54. Turtle Rock Hatchery summer Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631007	040512	040512	195,851	192,234	2,488	1.294	COLUMBIA R - GENERAL	02
631373	040418	040607	216,041	211,838	467	0.220	COLUMBIA R - GENERAL	02
631778	030625	030625	364,461	200,165	5	0.002	COL R @ TURTLE ROCK	02
631779	030702	030702	656,399	200,163	39	0.019	COL R @ TURTLE ROCK	02
20 Totals			1,432,752	804,400	2,999	0.384		
631787	040629	040629	289,696	185,834	2	0.001	COLUMBIA R - GENERAL	03
631788	040630	040630	491,480	203,410	48	0.024	COLUMBIA R - GENERAL	03
2003 Totals			781,176	389,244	50	0.012		
632578	050627	050627	364,453	203,255	156	0.077	COLUMBIA R - GENERAL	04
632781	050627	050627	411,707	198,019	90	0.045	COLUMBIA R - GENERAL	04
633094	060501	060501	206,734	202,682	2,580	1.273	COLUMBIA R - GENERAL	04
2004 Totals			982,894	603,956	2,826	0.465		

!04070046425	70703	70703	154,023	0			COLUMBIA R - GENERAL	05
633093	60703	60705	490,074	197,135	144	0.073	COLUMBIA R - GENERAL	05
633170	60703	60704	457,340	192,045	77	0.040	COLUMBIA R - GENERAL	05
2005 Totals			1,101,437	389,180	221	0.057		
!04P00015130	70703	70703	350,142	0			COLUMBIA R - GENERAL	06
!04P00053203	70703	70703	154,023	0			COLUMBIA R - GENERAL	06
633881	70703	70703	188,250	186,782	349	0.187	COLUMBIA R - GENERAL	06
633895	80509	80514	143,214	142,699	3,964	2.778	COLUMBIA R - GENERAL	06
633378	70703	70703	188,250	186,324	215	0.115	COLUMBIA R - GENERAL	06
2006 Totals			1,023,879	515,805	4,528	0.878		
!04P00003693	80620	80620	241893	0			COLUMBIA R - GENERAL	07
!04P00024491	80620	80620	201892	0			COLUMBIA R - GENERAL	07
633896	80620	80620	190132	188328	306	0.162482	COLUMBIA R - GENERAL	07
633897	80620	80620	197913	194437	215	0.110576	COLUMBIA R - GENERAL	07
634694	90507	90507	61003	59338	706	1.189794	COL R @ TURTLE ROCK	07
2007 Totals			892,833	442,103	1,227	0.278		

Washougal Hatchery

Table 55. Washougal Hatchery fall Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04030032558	030707	030708	48,816	0			WASHOUGAL R 28.0159	02
!04030032561	030707	030708	64,272	0			WASHOUGAL R 28.0159	02
!04030032564	030707	030708	63,951	0			WASHOUGAL R 28.0159	02
!04030032567	030707	030708	68,111	0			WASHOUGAL R 28.0159	02
!04030032570	030707	030708	52,987	0			WASHOUGAL R 28.0159	02
!04030032573	030707	030708	70,454	0			WASHOUGAL R 28.0159	02
!04030032576	030707	030708	67,363	0			WASHOUGAL R 28.0159	02
!04030032588	030604	030612	3,412,503	0			WASHOUGAL R 28.0159	02
631543	030604	030708	48,841	46,106	148	0.321	WASHOUGAL R	02

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631544	030604	030708	51,192	50,782	127	0.250	28.0159 WASHOUGAL R 28.0159	02
2002 Totals			3,948,490	96,888	275	0.286		
!04040035962	040610	040615	3,101,962	0			WASHOUGAL R 28.0159	03
!04040035965	040707	040707	69,399	0			WASHOUGAL R 28.0159	03
!04040035968	040707	040707	72,457	0			WASHOUGAL R 28.0159	03
!04040035971	040707	040707	69,817	0			WASHOUGAL R 28.0159	03
!04040035974	040707	040707	69,741	0			WASHOUGAL R 28.0159	03
!04040035977	040707	040707	69,315	0			WASHOUGAL R 28.0159	03
!04040035980	040707	040707	69,292	0			WASHOUGAL R 28.0159	03
!04040035983	040707	040707	69,233	0			WASHOUGAL R 28.0159	03
631567	040610	040707	46,317	45,219	55	0.122	WASHOUGAL R 28.0159	03
631996	040610	040707	47,047	45,884	60	0.131	WASHOUGAL R 28.0159	03
2003 Totals			3,684,580	91,103	115	0.126		
!04050039089	050610	050615	3,657,740	0			WASHOUGAL R 28.0159	04
!04050039091	050706	050706	81,653	0			WASHOUGAL R 28.0159	04
!04050039093	050706	050706	81,750	0			WASHOUGAL R 28.0159	04
!04050039095	050706	050706	81,780	0			WASHOUGAL R 28.0159	04
!04050039097	050706	050706	81,731	0			WASHOUGAL R 28.0159	04
!04050039099	050706	050706	81,721	0			WASHOUGAL R 28.0159	04
!04050039101	050706	050706	81,780	0			WASHOUGAL R 28.0159	04
632475	050706	050706	100,455	100,265	219	0.218	WASHOUGAL R 28.0159	04
2004 Totals			4,248,610	100,265	219	0.218		
!04060042286	60616	60625	3,544,698	0			WASHOUGAL R 28.0159	05
!04060042288	60712	60712	78,699	0			WASHOUGAL R 28.0159	05
!04060042290	60712	60712	78,967	0			WASHOUGAL R 28.0159	05
!04060042292	60712	60712	79,149	0			WASHOUGAL R 28.0159	05
!04060042294	60712	60712	79,205	0			WASHOUGAL R 28.0159	05
!04060042296	60712	60712	78,366	0			WASHOUGAL R	05

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04060042298	60712	60712	78,250	0			28.0159 WASHOUGAL R 28.0159	05
632883	60616	60712	91,966	86,099	321	0.373	WASHOUGAL R 28.0159	05
2005 Totals			4,109,300	86,099	321	0.373		
!04P00021777	70618	70625	4,129,523	0			WASHOUGAL R 28.0159	06
!04P00055015	70618	70625	3,024	0			WASHOUGAL R 28.0159	06
633976	70618	70625	91,753	91,753	332	0.362	WASHOUGAL R 28.0159	06
2006 Totals			4,224,300	91,753	332	0.362		
!04P00060215	80701	80705	4072065	0			WASHOUGAL R 28.0159	07
634369	80701	80705	97672	97672	670	0.686	WASHOUGAL R 28.0159	07
2007 Totals			4,169,737	97,672	670	0.686		

Table 56. Washougal Hatchery late Coho juvenile releases for brood years 2008 - 2010.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
!04100065595	100501	100501	128,767	0			WASHOUGAL R 28.0159	08
!04100065635	100401	100405	1,783,675	0			KLICKITAT R 30.0002	08
634478	100501	100501	30,510	30,464	232	0.762	WASHOUGAL R 28.0159	08
634478	100501	100501	30,510	30,464			WASHOUGAL R 28.0159	08
634897	100401	100405	60,473	60,385	159	0.263	KLICKITAT R 30.0002	08
2008 Totals			2,033,935	121,313	391	0.322		
!04P00009856	110401	110405	2,440,900	0			KLICKITAT R 30.0002	09
!04P00011854	110502	110502	121,643	0			WASHOUGAL R 28.0159	09
634883	110502	110502	29,907	29,907	330	1.103	WASHOUGAL R 28.0159	09
635390	110401	110405	60,100	59,860	54	0.090	KLICKITAT R 30.0002	09
2009 Totals			2,652,550	89,767	384	0.428		
!04P00006871	120501	120501	43394	0			WASHOUGAL R 28.0159	10
!04P00028415	120402	120406	2545201	0			KLICKITAT R 30.0002	10
!04P00048880	120501	120501	78993	0			WASHOUGAL R 28.0159	10
635792	120501	120501	29652	29593	335	1.132024	WASHOUGAL R 28.0159	10
635870	120402	120406	60500	56440	276	0.489015	KLICKITAT R 30.0002	10
2010 Totals			2,757,740	86,033	611	0.710		

Wells Hatchery

Table 57. Wells Hatchery summer Chinook juvenile releases for brood years 2002 - 2007.

Tag Code	First Release	Last Release	Released	Tagged	TT	Survival %	Release Site	BY
631368	030616	030617	235,204	233,322	48	0.021	COLUMBIA NEAR WELLS	02
631370	030616	030617	237,897	233,431	78	0.033	COLUMBIA NEAR WELLS	02
631890	040419	040430	306,810	302,905	3,805	1.256	COLUMBIA NEAR WELLS	02
2002 Totals			779,911	769,658	3,931	0.437		
632370	040614	040615	210,770	201,200	36	0.018	COLUMBIA R - GENERAL	03
632371	040511	040511	214,501	192,558	105	0.055	COLUMBIA NEAR METHOW	03
632577	050502	050502	215,366	199,386	2,011	1.009	COLUMBIA R - GENERAL	03
632580	050425	050430	313,509	310,186	1,889	0.609	COLUMBIA R - GENERAL	03
2003 Totals			954,146	903,330	4,041	0.423		
!04040036455	041123	041123	50,000	0			LK CHELAN (CHEL)	04
!04050036658	050203	050203	17,734	0			LK CHELAN (CHEL)	04
632285	050613	050613	240,474	235,256	316	0.134	COLUMBIA R - GENERAL	04
632286	050518	050518	230,649	222,069	376	0.169	COLUMBIA R - GENERAL	04
632799	060421	060430	156,090	147,802	1,820	1.231	COLUMBIA R - GENERAL	04
632864	060421	060430	156,890	148,559	1,624	1.093	COLUMBIA R - GENERAL	04
2004 Totals			784,103	753,686	4,136	0.657		
!04060040395	60306	60306	18,497	0			LK CHELAN (CHEL)	05
633298	60512	60512	204,970	204,396	1,429	0.699	COLUMBIA R - GENERAL	05
633299	60614	60614	225,233	223,476	881	0.394	COLUMBIA R - GENERAL	05
633596	70523	70530	333,587	328,742	1,672	0.509	COLUMBIA R - GENERAL	05
2005 Totals			782,287	756,614	3,982	0.526		
633385	70516	70517	204,525	202,658	318	0.157	COLUMBIA R - GENERAL	06
633386	70613	70613	192,013	190,507	214	0.112	COLUMBIA R - GENERAL	06
633799	80406	80509	311,880	310,106	6,744	2.175	COLUMBIA R - GENERAL	06
2006 Totals			708,418	703,271	7,276	1.035		
633871	80616	80616	244,483	242,123	338	0.140	COLUMBIA R - GENERAL	07
633872	80513	80513	158,796	155,376	911	0.586	COLUMBIA R -	07

634287	90415	90625	134,567	133,369	482	0.361	GENERAL COLUMBIA NEAR WELLS	07
634390	90415	90625	175,496	173,934	691	0.397	COLUMBIA NEAR WELLS	07
2007 Totals			713,342	704,802	2,422	0.344		

Appendix D: Type of CWT Recovery by hatchery and year

Type of CWT recovery by brood year of each species/run released from WDFW Columbia River basin hatchery. Data are provided for brood years 2002 to 2007 (Chinook) and 2008 to 2010 (Coho). RMIS estimates of the number of tags recovered are provided ('Tag Rec'). 'Expanded' estimates are the total numbers of fish (with and without CWTs). This was calculated by multiplying Tag Rec numbers by an expansion factor. For each brood year, the expansion factor used was the total number of fish released divided by the number of coded-wire tagged fish released.

Cowlitz Salmon Hatchery

Table 58. Type of CWT recovery by brood year for Cowlitz Salmon Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	20	502	25	579	14	373
Canadian fisheries	62	1,557	32	741	27	720
Oregon fisheries	15	377	5	116	8	213
California fisheries	2	50	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	85	2,135	18	417	13	347
Columbia Estuary sport	3	75	14	324	5	133
Lower Columbia sport	17	427	7	162	20	533
Terminal sport	1	25	1	23	0	0
WA coast commercial/treaty	67	1,683	22	509	14	373
Columbia commercial/treaty	3	75	12	278	8	213
Hatchery escapement	1,235	31,023	366	8,472	166	4,428
Spawning escapement	13	327	17	393	9	240

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	2	218	3	76	1	26
Canadian fisheries	0	0	24	606	11	287
Oregon fisheries	3	326	2	51	8	208
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	4	435	3	76	5	130
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	0	0	4	104
Terminal sport	0	0	11	278	0	0
WA coast commercial/treaty	15	1,632	6	152	6	156
Columbia commercial/treaty	0	0	0	0	0	0
Hatchery escapement	53	5,766	54	1,364	53	1,381
Spawning escapement	7	762	7	177	4	104

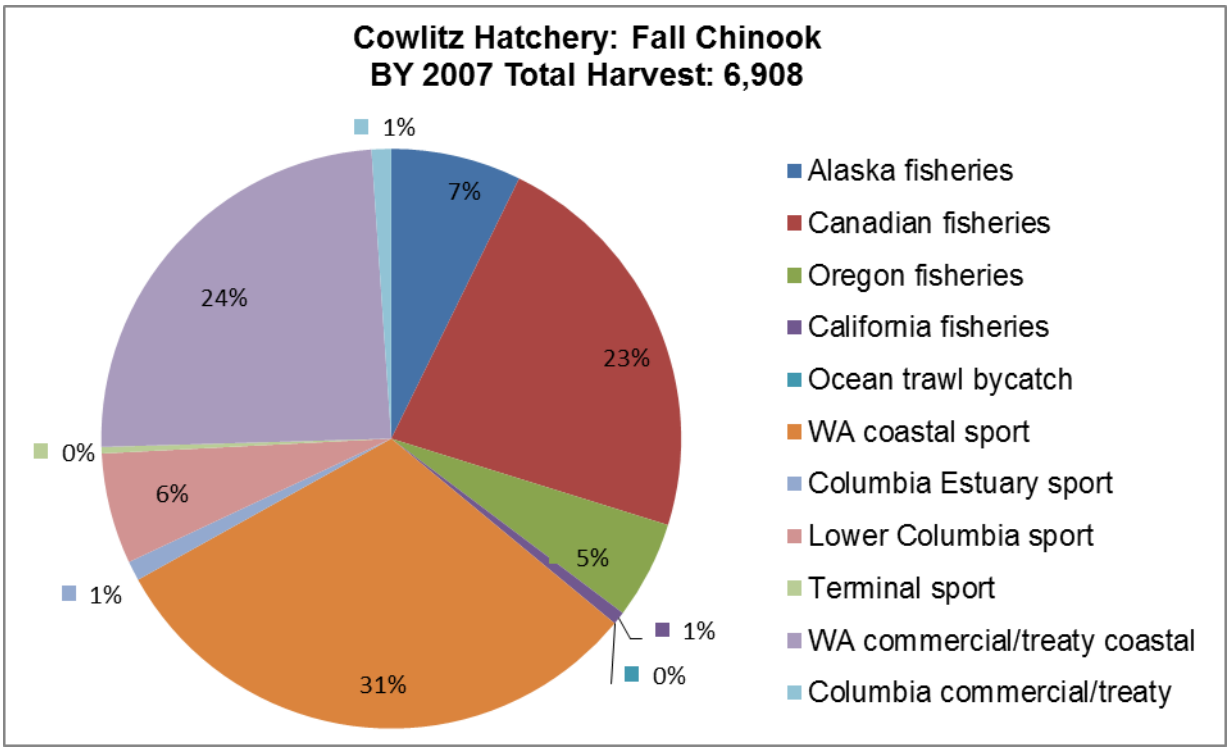

Figure 37. Types of CWT recoveries for brood year 2007 for Cowlitz Hatchery fall Chinook.

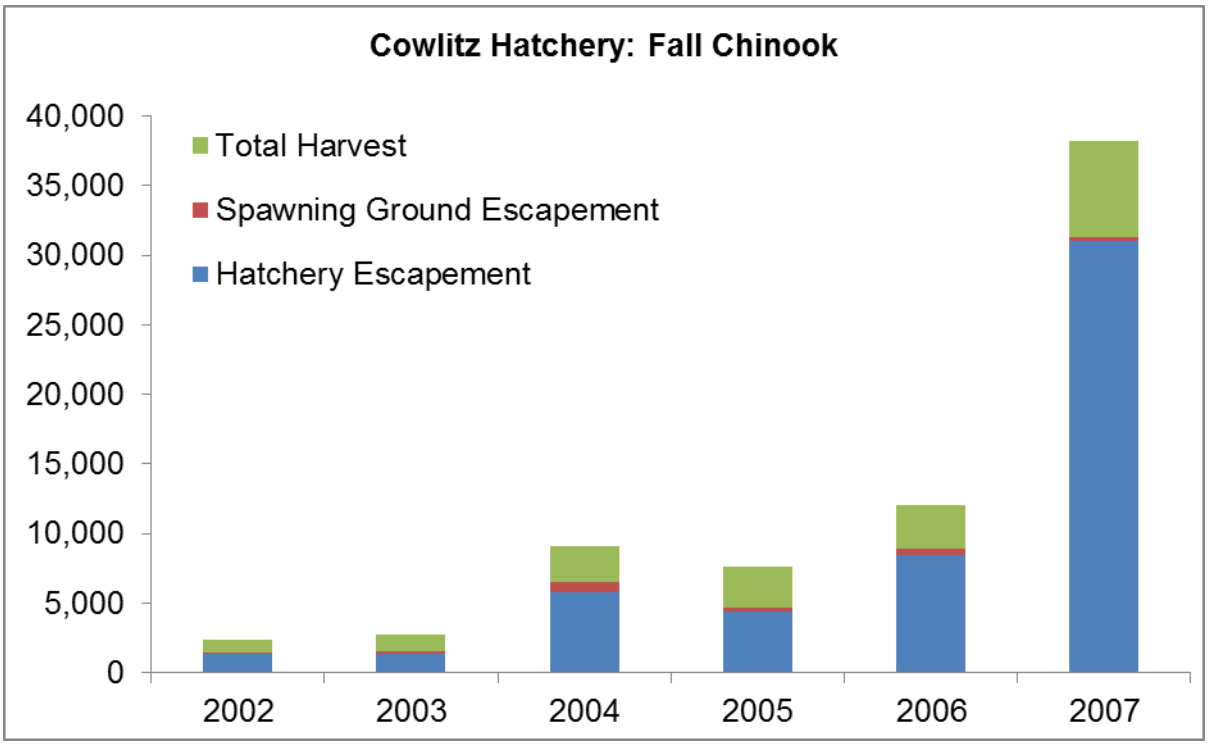

Figure 38. Escapement and Total Harvest for Cowlitz Hatchery Fall Chinook for Brood Years 2002-2007.

Table 59. Types of CWT recoveries by brood year for Cowlitz Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	10	99	20	195	10	108
Canadian fisheries	16	158	73	711	52	561
Oregon fisheries	11	108	18	175	4	43
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	36	355	79	769	49	529
Columbia Estuary sport	3	30	14	136	2	22
Lower Columbia sport	0	0	38	370	16	173
Terminal sport	59	582	174	1,695	105	1,133
WA coast commercial/treaty	5	49	13	127	33	356
Columbia commercial/treaty	11	108	21	205	12	129
Hatchery escapement	325	3,204	801	7,802	445	4,802
Spawning escapement	1	10	53	516	71	766

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	93	202	25	43	33	80
Canadian fisheries	58	126	94	163	153	369
Oregon fisheries	31	67	5	9	58	140
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	26	56	0	0	0	0
WA coastal sport	54	117	31	54	199	479
Columbia Estuary sport	12	26	0	0	12	29
Lower Columbia sport	11	24	11	19	29	70
Terminal sport	61	132	17	30	93	224
WA coast commercial/treaty	23	50	37	64	34	82
Columbia commercial/treaty	6	13	19	33	62	149
Hatchery escapement	1,117	2,420	668	1,162	2,038	4,910
Spawning escapement	90	195	43	75	41	99

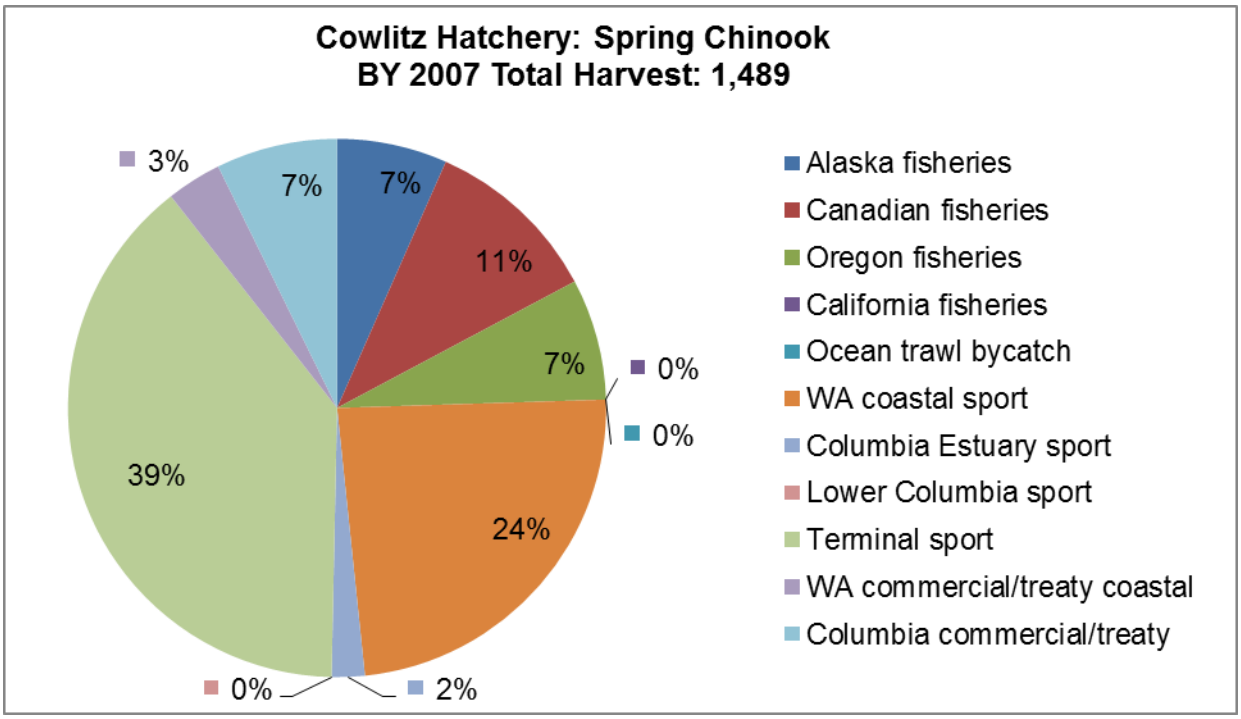

Figure 39. Types of CWT recoveries for brood year 2007 for Cowlitz Hatchery spring Chinook.

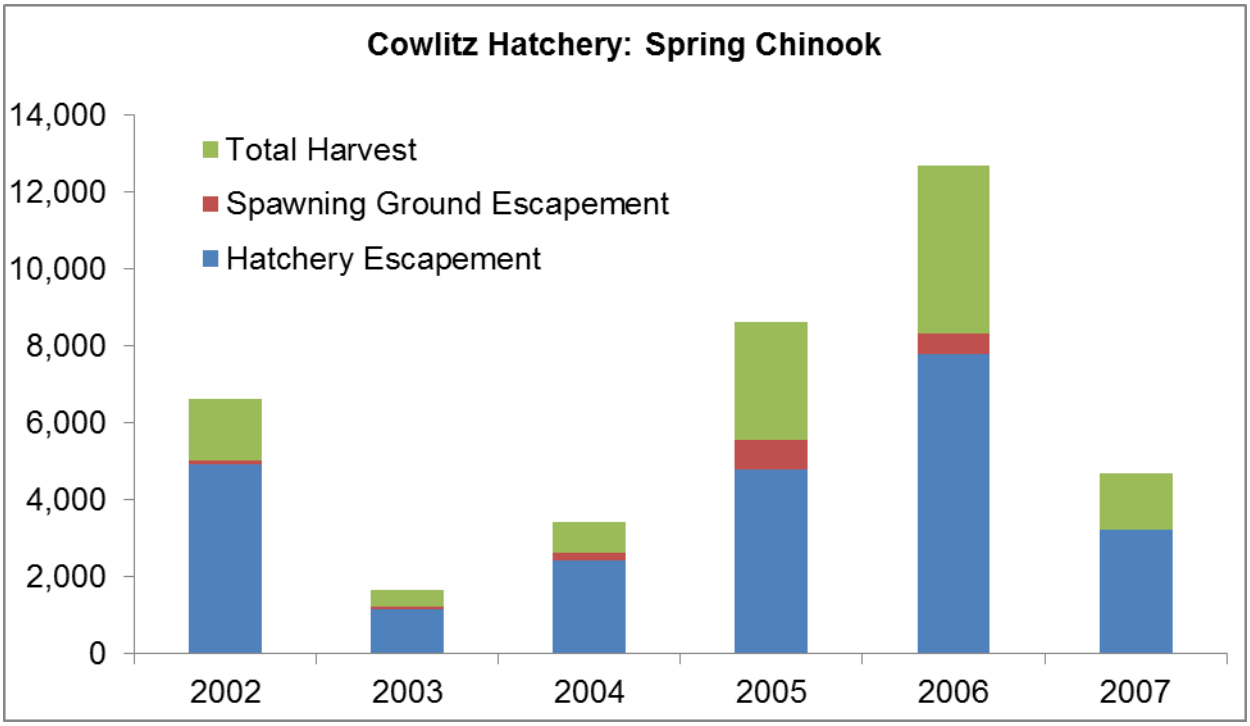

Figure 40. Escapement and Total Harvest for Cowlitz Hatchery spring Chinook for Brood Years 2002-2007.

Table 60. Types of CWT recoveries by brood year for Cowlitz Hatchery late Coho.

Late (Type N) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	1	2	0	0	1	3
Canadian fisheries	183	327	19	54	105	326
Oregon fisheries	892	1,595	240	686	1,102	3,423
California fisheries	5	9	1	3	5	16
Ocean trawl bycatch	2	4	0	0	1	3
WA coastal sport	2,432	4,349	603	1,723	2,661	8,266
Columbia Estuary sport	280	501	90	257	244	758
Lower Columbia sport	6	11	12	34	60	186
Terminal sport	2,136	3,820	185	528	152	472
WA coast commercial/treaty	254	454	39	111	80	249
Columbia commercial/treaty	355	635	65	186	595	1,848
Hatchery escapement	572	1,023	8	23	50	155
Spawning escapement	11	20	0	0	2	6

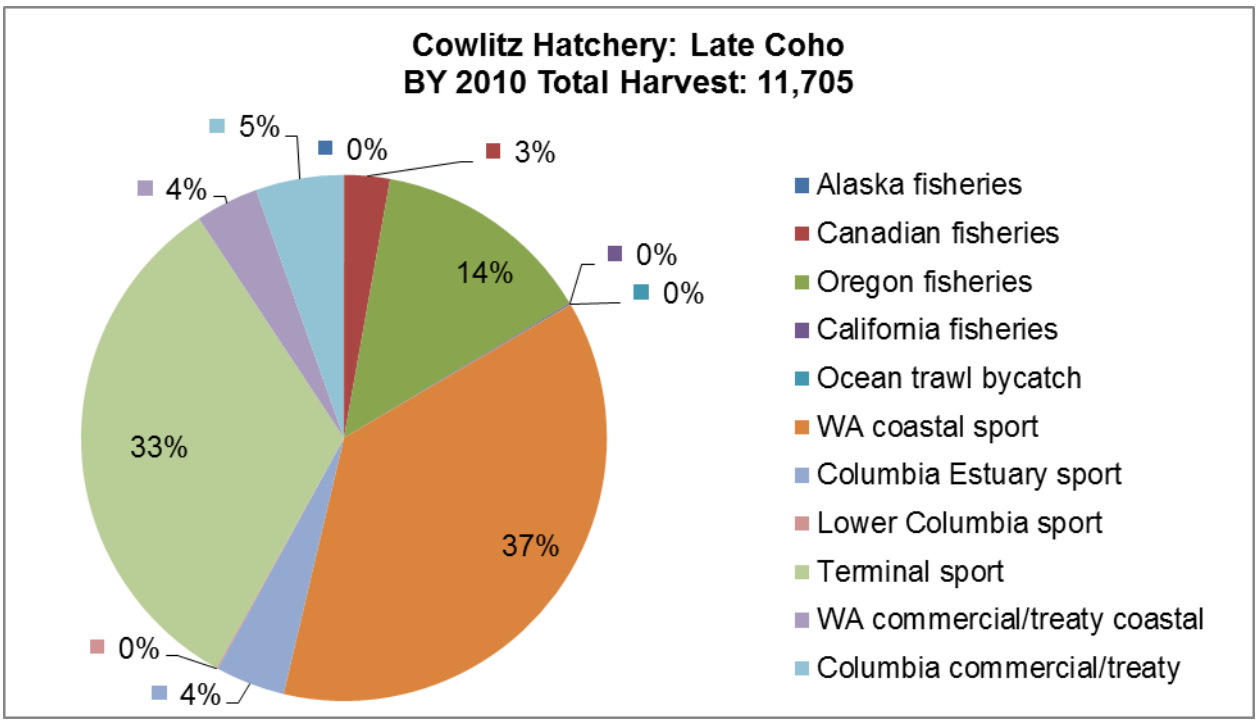

Figure 41. Types of CWT recoveries for brood year 2010 for Cowlitz Hatchery late (Type N) Coho.

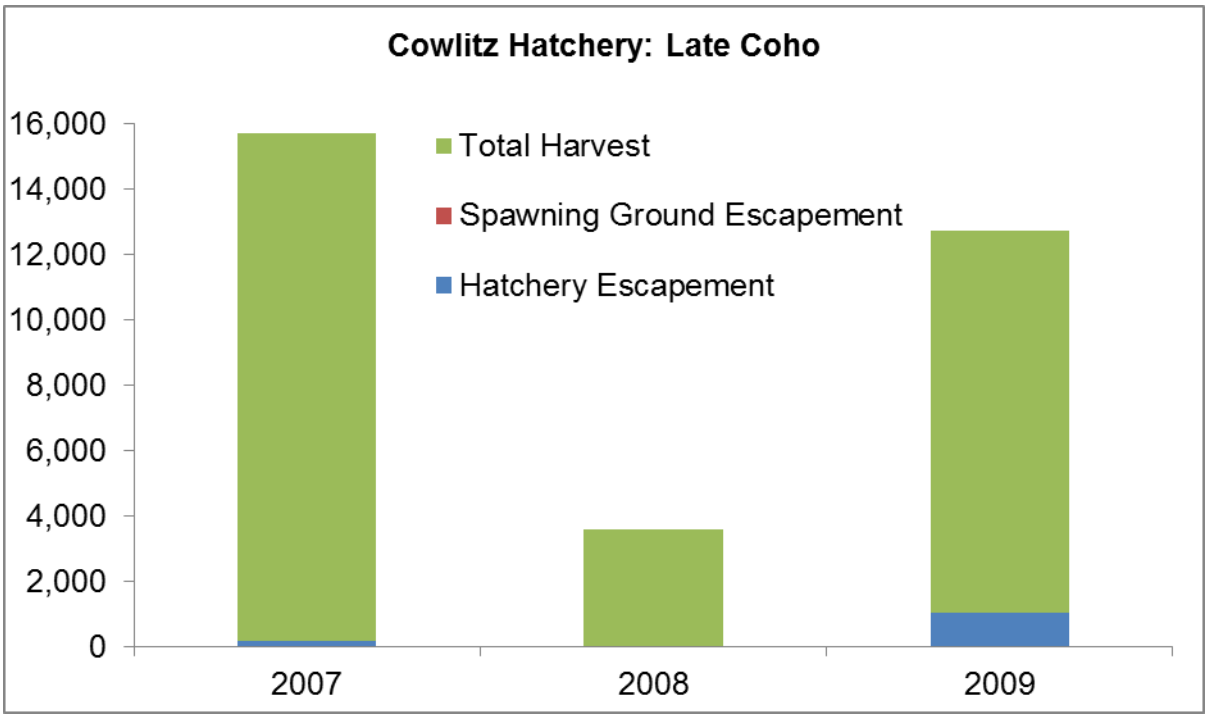

Figure 42. Escapement and Total Harvest for Cowlitz Hatchery late (Type N) Coho for Brood Years 2008-2010.

Eastbank Hatchery Complex

Table 61. Types of CWT recoveries by brood year for Carlton Pond (Eastbank Hatchery Complex) summer Chinook.

Summer Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	70	71	340	342	77	77
Canadian fisheries	63	64	544	547	151	152
Oregon fisheries	23	23	104	104	23	23
California fisheries	4	4	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	13	13	57	57	5	5
Columbia Estuary sport	3	3	10	10	2	2
Lower Columbia sport	21	21	195	196	25	25
Terminal sport	34	35	119	120	39	39
WA coast commercial/treaty	15	15	62	62	32	32
Columbia commercial/treaty	84	85	908	912	186	187
Hatchery escapement	2	2	15	15	16	16
Spawning escapement	133	135	1,417	1,424	393	395

Summer Chinook	2004		2003	2002
Type of Recovery	Tag Rec	Expanded		
Alaska fisheries	75	76	No Releases	No Releases
Canadian fisheries	41	42		
Oregon fisheries	4	4		
California fisheries	0	0		
Ocean trawl bycatch	0	0		
WA coastal sport	5	5		
Columbia Estuary sport	0	0		
Lower Columbia sport	39	40		
Terminal sport	30	30		
WA coast commercial/treaty	6	6		
Columbia commercial/treaty	70	71		
Hatchery escapement	6	6		
Spawning escapement	221	224		

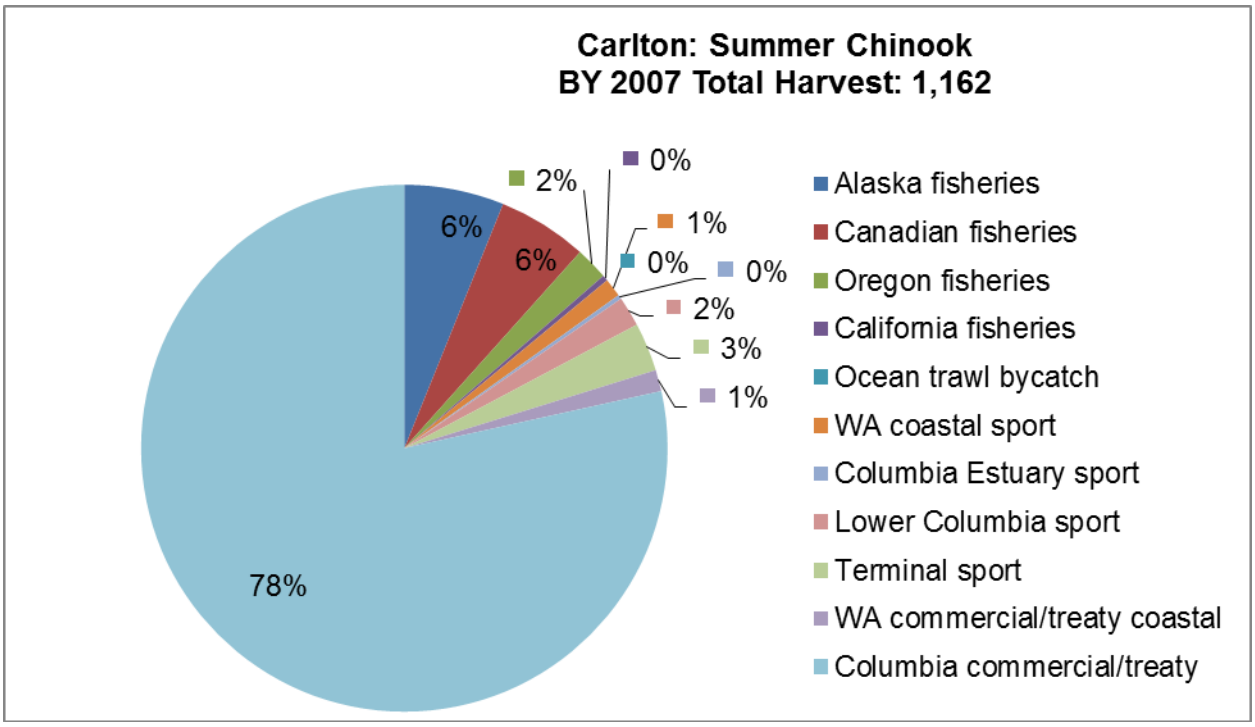

Figure 43. Types of CWT recoveries for brood year 2007 for Carlton Pond (Eastbank Hatchery Complex) summer Chinook.

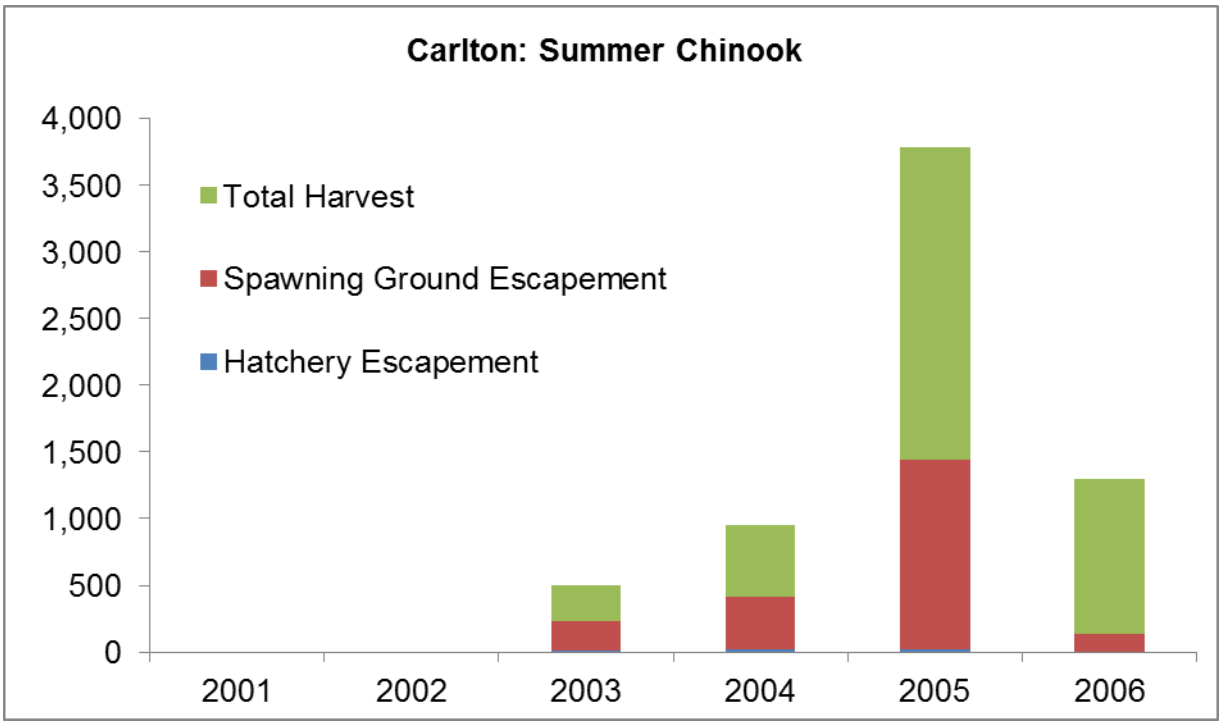

Figure 44. Escapement and Total Harvest for Carlton Pond (Eastbank Hatchery Complex) summer Chinook for Brood Years 2002-2007.

Table 62. Types of CWT recoveries by brood year for Chiwawa (Eastbank Hatchery Complex) spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	3	3	31	31	9	9
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	2	2	1	1	0	0
Columbia Estuary sport	3	3	0	0	0	0
Lower Columbia sport	50	50	161	162	68	69
Terminal sport	101	101	42	42	0	0
WA coast commercial/treaty	8	8	2	2	0	0
Columbia commercial/treaty	256	257	547	551	47	47
Hatchery escapement	79	79	161	162	149	150
Spawning escapement	800	804	1,666	1,677	1,230	1,241

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	18	18	0	0
Canadian fisheries	0	0	0	0	9	9
Oregon fisheries	7	7	1	1	2	2
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	215	215	24	25	7	7
Terminal sport	33	33	0	0	19	20
WA coast commercial/treaty	2	2	0	0	3	3
Columbia commercial/treaty	217	217	41	42	31	32
Hatchery escapement	222	222	16	16	205	211
Spawning escapement	2,264	2,264	666	683	431	445

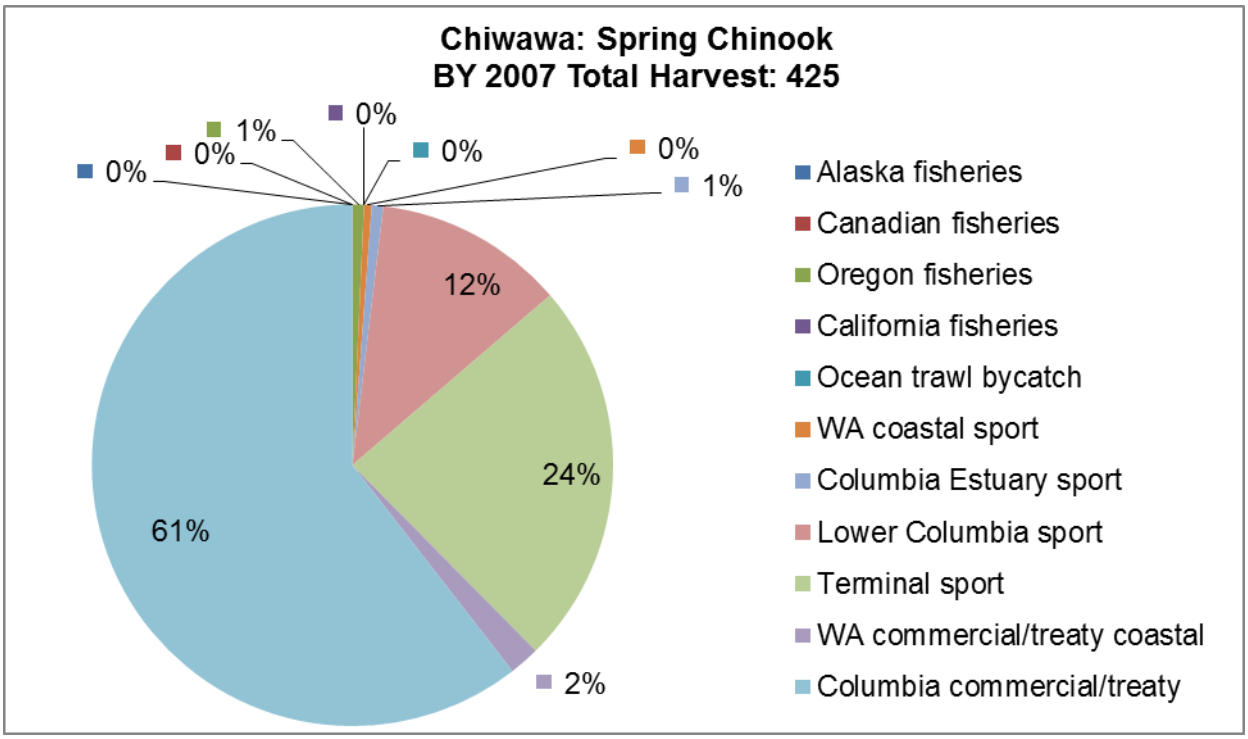

Figure 45. Types of CWT recoveries for brood year 2007 for Chiwawa (Eastbank Hatchery Complex) spring Chinook.

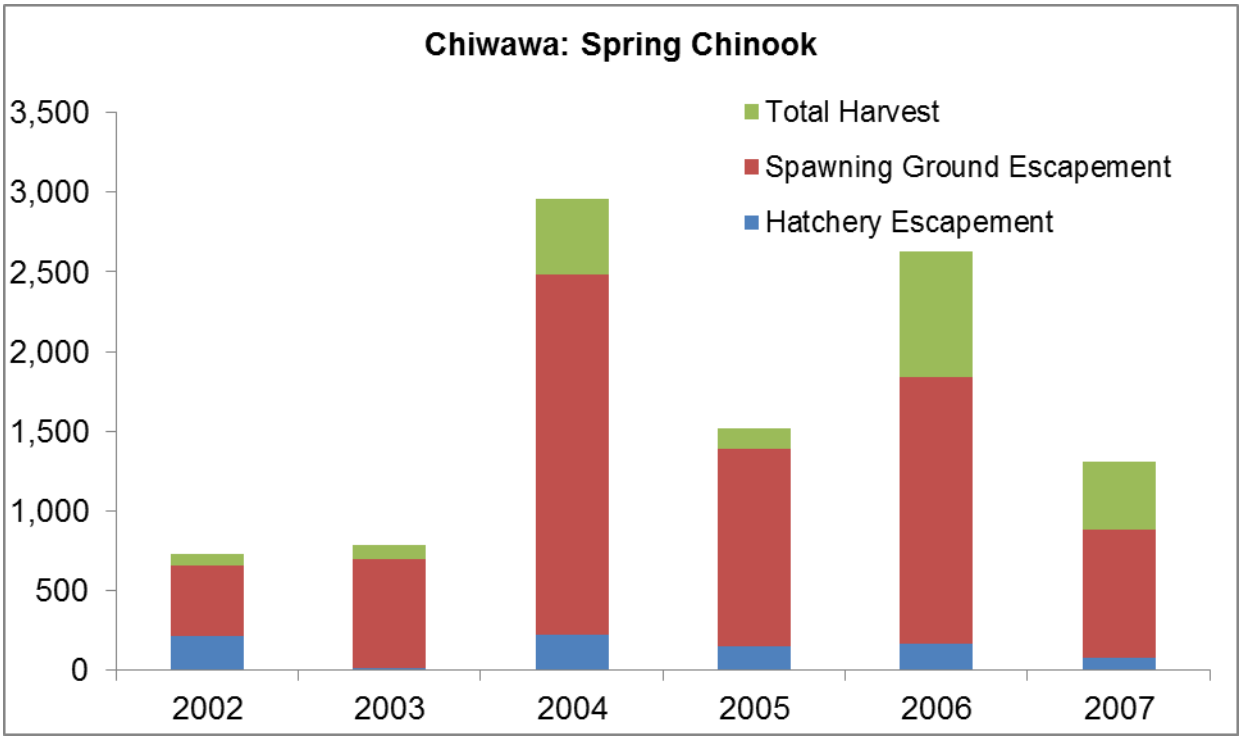

Figure 4646. Escapement and Total Harvest for Chiwawa (Eastbank Hatchery Complex) spring Chinook for Brood Years 2002-2007.

Table 63. Types of CWT recoveries by brood year for Dryden Pond (Eastbank Hatchery Complex) summer Chinook.

Summer Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	93	94	1,478	1,508	480	490
Canadian fisheries	63	63	1,401	1,429	666	679
Oregon fisheries	25	25	365	372	56	57
California fisheries	3	3	31	32	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	14	14	116	118	18	18
Columbia Estuary sport	3	3	70	71	6	6
Lower Columbia sport	23	23	609	621	94	96
Terminal sport	29	29	507	517	191	195
WA coast commercial/treaty	6	6	263	268	65	66
Columbia commercial/treaty	90	91	2,326	2,373	663	676
Hatchery escapement	3	3	74	75	22	22
Spawning escapement	123	124	3,242	3,307	1,296	1,322

Summer Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	189	193	360	368	565	586
Canadian fisheries	173	176	349	357	659	683
Oregon fisheries	9	9	28	29	81	84
California fisheries	0	0	0	0	24	25
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	10	10	9	9	24	25
Columbia Estuary sport	0	0	0	0	5	5
Lower Columbia sport	65	66	118	121	219	227
Terminal sport	101	103	137	140	200	207
WA coast commercial/treaty	16	16	61	62	87	90
Columbia commercial/treaty	286	292	563	576	720	747
Hatchery escapement	21	21	50	51	18	19
Spawning escapement	553	564	1,349	1,379	1,704	1,767

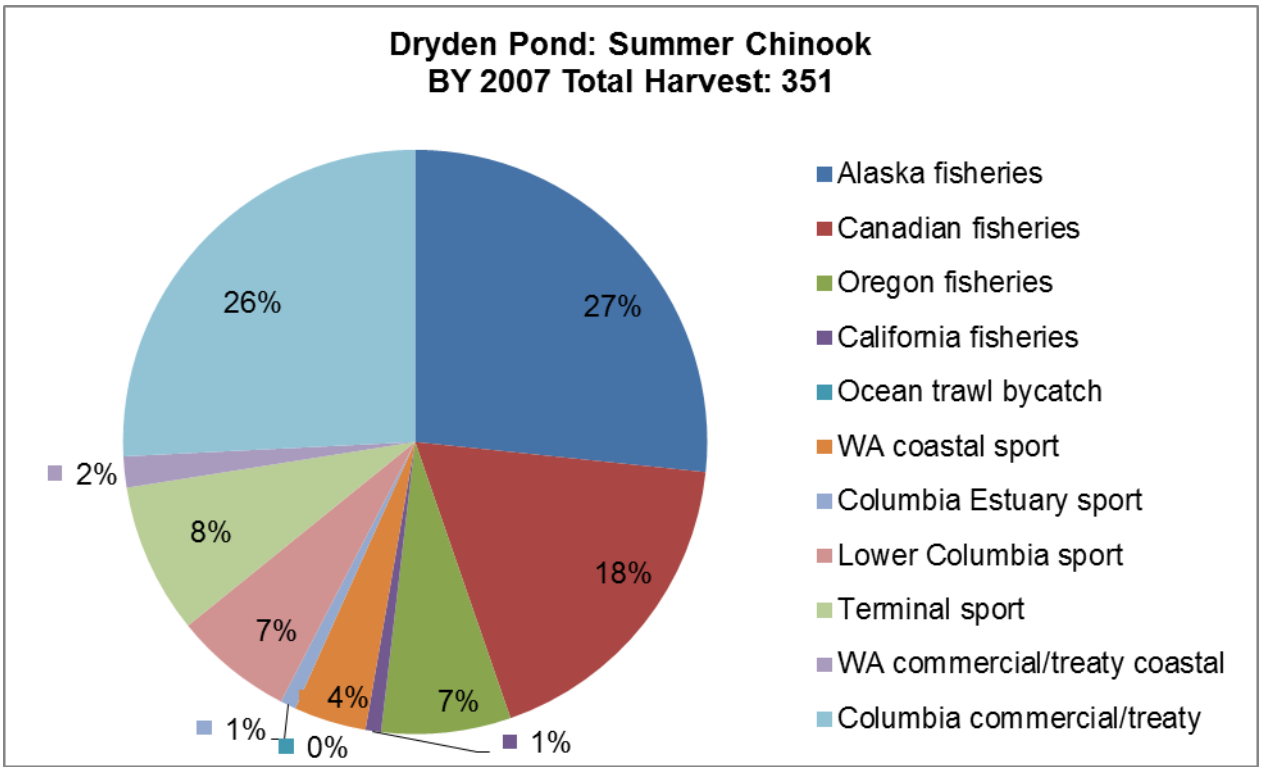

Figure 47. Types of CWT recoveries for brood year 2007 for Dryden Pond (Eastbank Hatchery Complex) summer Chinook.

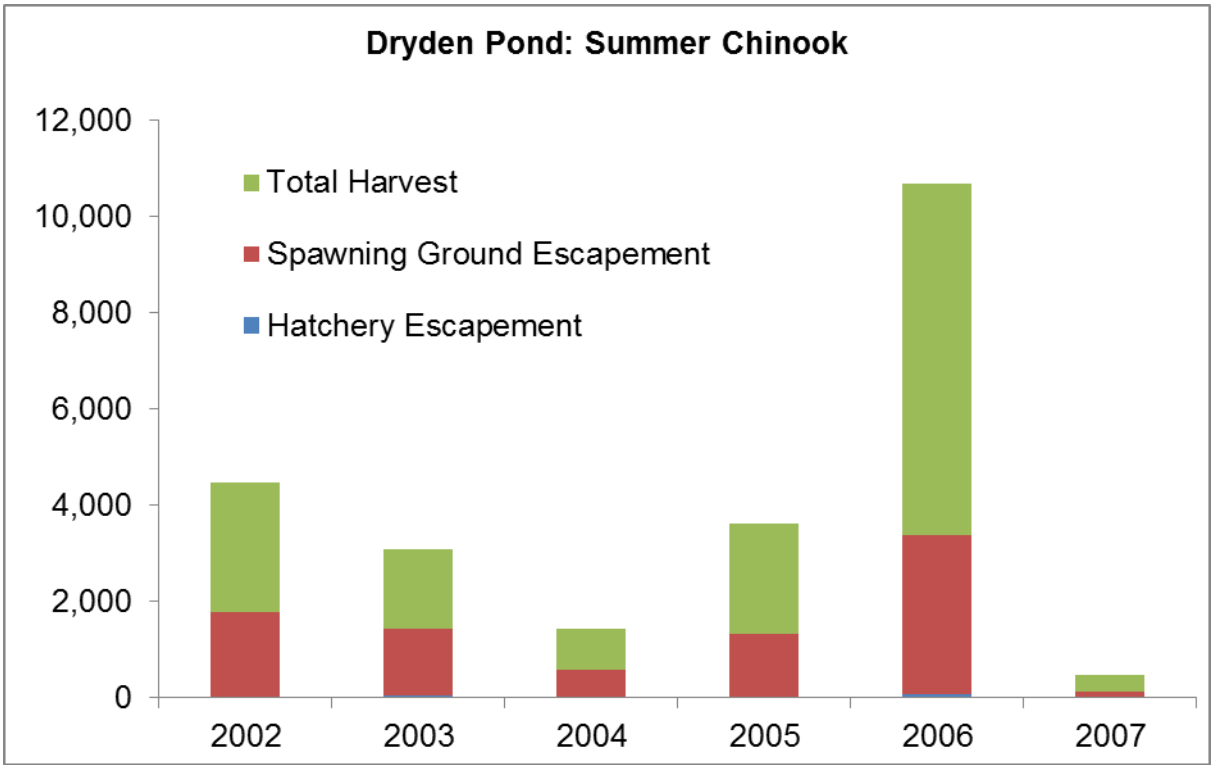

Figure 48. Escapement and Total Harvest for Dryden Pond (Eastbank Hatchery Complex) summer Chinook for Brood Years 2002-2007.

Table 64. Types of CWT recoveries by brood year for Similkameen (Eastbank Hatchery Complex) summer Chinook.

Summer Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	766	773	1,182	1,195	172	174
Canadian fisheries	525	531	1,347	1,362	243	245
Oregon fisheries	90	91	239	242	23	23
California fisheries	17	17	22	22	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	53	54	98	99	6	6
Columbia Estuary sport	6	6	20	20	0	0
Lower Columbia sport	291	294	657	664	61	62
Terminal sport	611	618	746	754	106	107
WA coast commercial/treaty	60	61	197	199	8	8
Columbia commercial/treaty	1,013	1,024	3,787	3,830	385	388
Hatchery escapement	20	20	60	61	22	22
Spawning escapement	1,395	1,411	5,221	5,280	620	626

Summer Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	1,449	1,507	286	288	278	280
Canadian fisheries	1,290	1,342	331	333	323	325
Oregon fisheries	50	52	22	22	45	45
California fisheries	4	4	0	0	3	3
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	58	60	15	15	21	21
Columbia Estuary sport	9	9	4	4	0	0
Lower Columbia sport	449	467	82	83	65	65
Terminal sport	1,628	1,693	378	381	190	191
WA coast commercial/treaty	127	132	29	29	29	29
Columbia commercial/treaty	2,752	2,862	686	691	288	290
Hatchery escapement	202	210	47	47	17	17
Spawning escapement	4,830	5,024	1,582	1,593	709	714

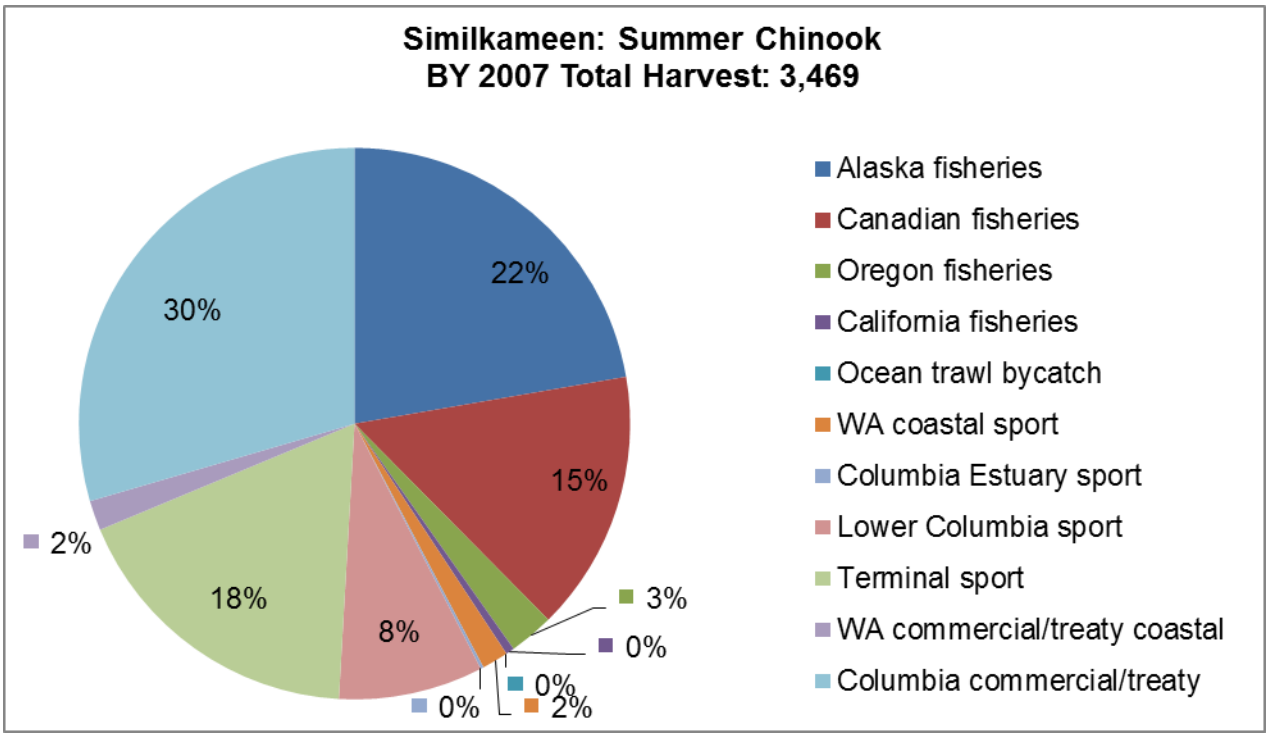

Figure 49. Types of CWT recoveries for brood year 2007 for Similkameen (Eastbank Hatchery Complex) summer Chinook.

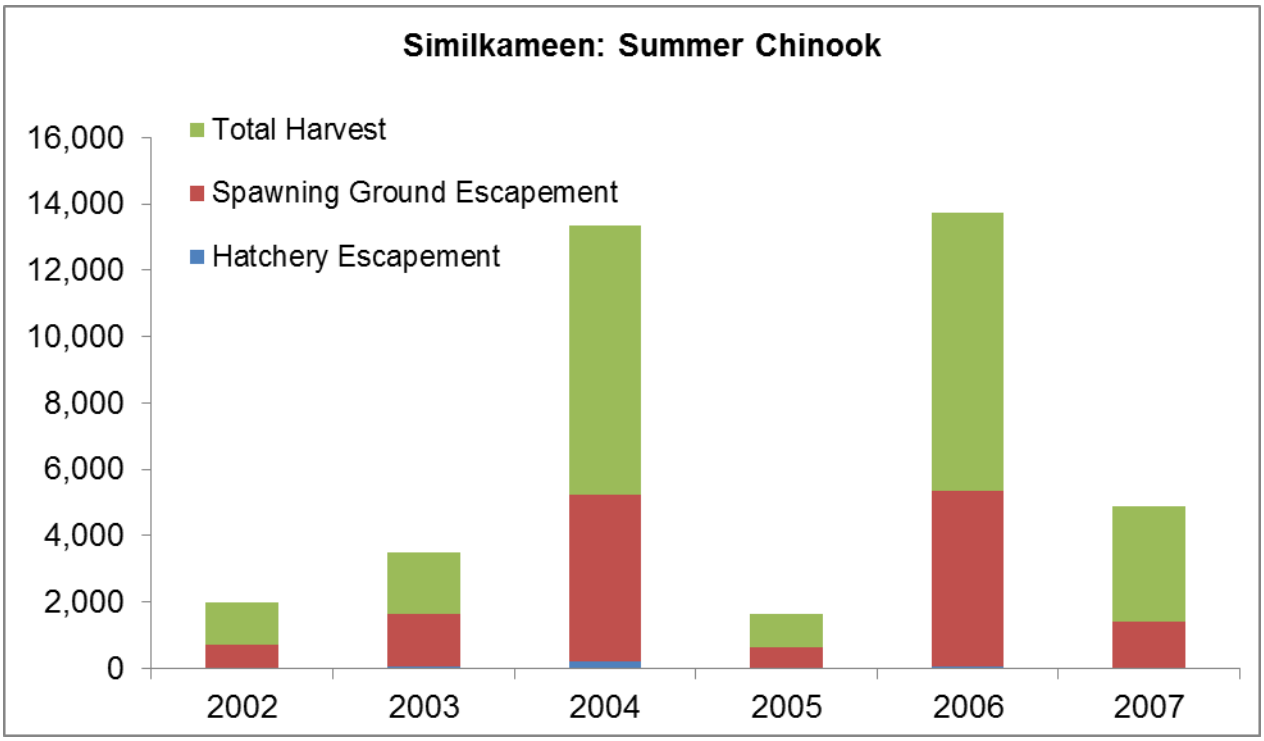

Figure 50. Escapement and Total Harvest for Similkameen (Eastbank Hatchery Complex) summer Chinook for Brood Years 2002-2007.

Elochoman Hatchery

Table 65. Types of CWT recoveries by brood year for Elochoman Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	5	98	17	196	0	0
Canadian fisheries	69	1,353	40	462	42	837
Oregon fisheries	32	627	2	23	3	60
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	19	373	0	0	17	339
Columbia Estuary sport	1	20	4	46	6	120
Lower Columbia sport	11	216	8	92	0	0
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	40	784	6	69	7	140
Columbia commercial/treaty	35	686	19	219	5	100
Hatchery escapement	101	1,980	85	981	46	917
Spawning escapement	67	1,314	35	404	40	797

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	4	88	1	23
Canadian fisheries	12	186	25	548	28	647
Oregon fisheries	2	31	0	0	4	92
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	3	47	0	0	4	92
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	0	0	4	92
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	7	109	4	88	10	231
Columbia commercial/treaty	3	47	2	44	5	116
Hatchery escapement	28	435	17	373	25	578
Spawning escapement	29	450	0	0	49	1,133

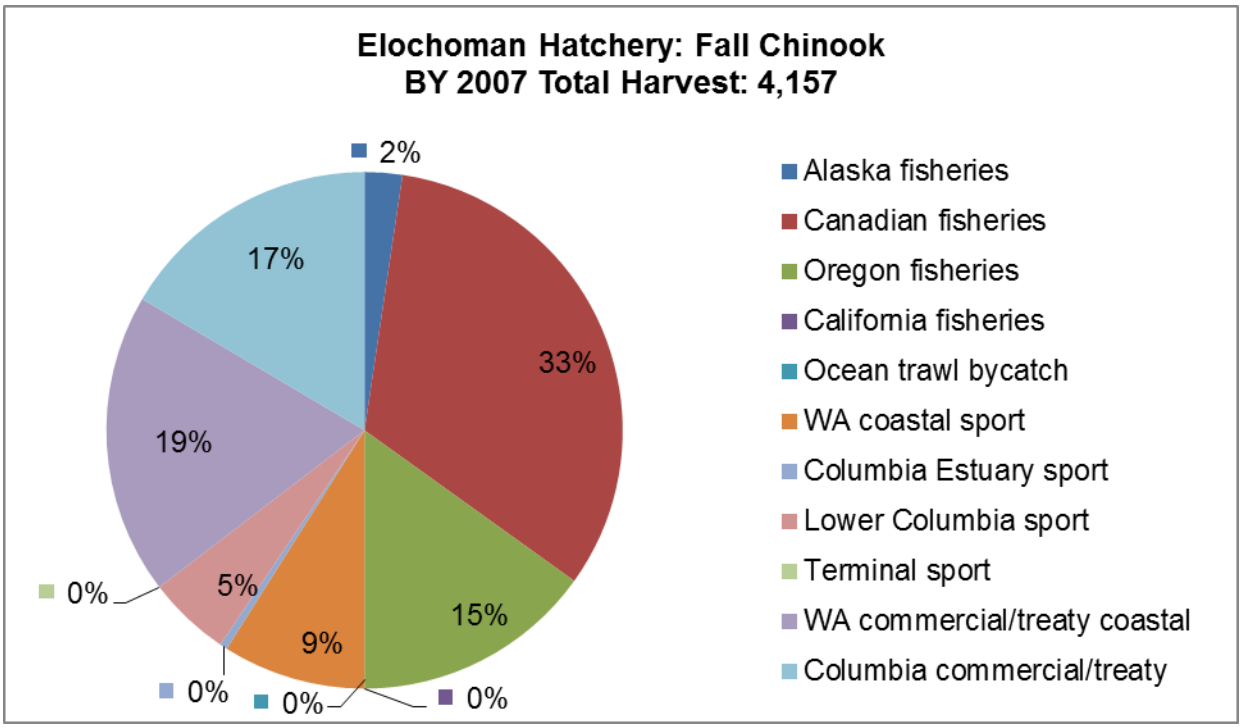

Figure 51. Types of CWT recoveries for brood year 2007 for Elochoman Hatchery fall Chinook.

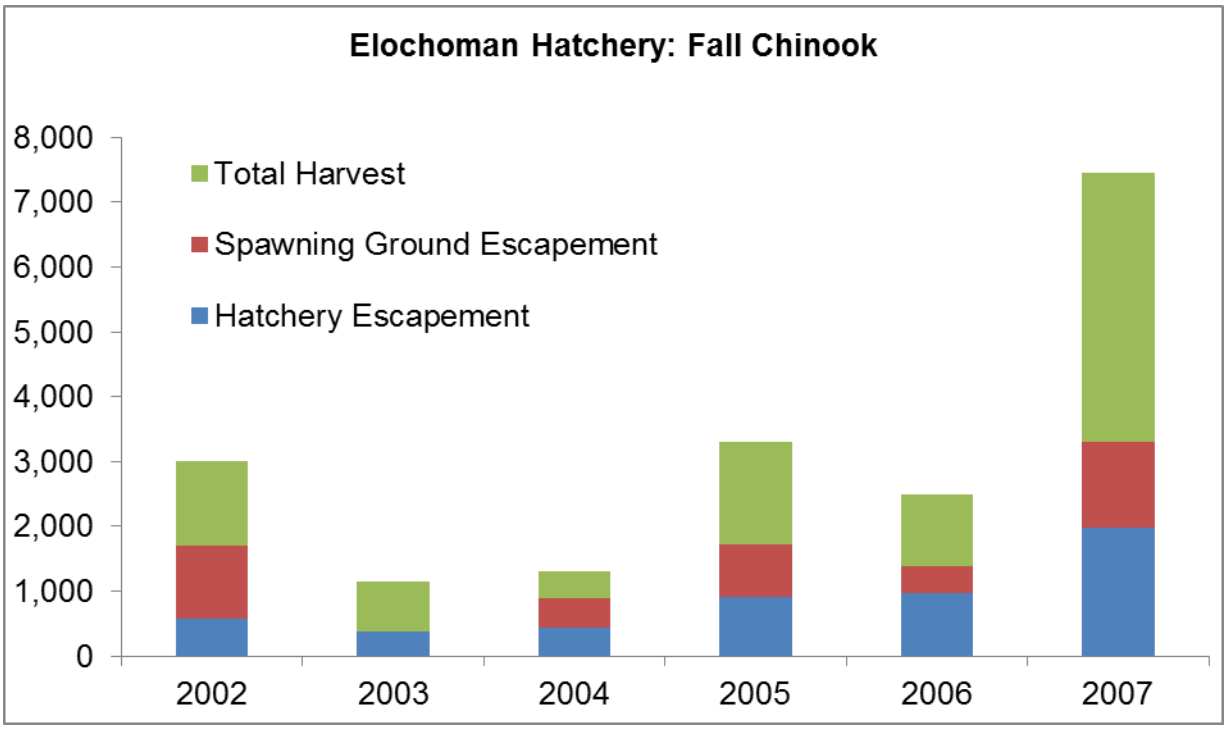

Figure 52. Escapement and Total Harvest for Elochoman Hatchery fall Chinook for Brood Years 2002-2007.

Fallert Creek Hatchery

Table 66. Types of CWT recoveries by brood year for Fallert Creek Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	33	640	4	98	36	791
Canadian fisheries	19	369	7	171	120	2,637
Oregon fisheries	3	58	0	0	0	0
California fisheries	3	58	0	0	0	0
Ocean trawl bycatch	0	0	0	0	1	22
WA coastal sport	15	291	6	147	6	132
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	5	97	0	0	0	0
Terminal sport	1	19	0	0	0	0
WA coast commercial/treaty	2	39	2	49	7	154
Columbia commercial/treaty	6	116	5	122	12	264
Hatchery escapement	49	950	24	587	62	1,363
Spawning escapement	39	756	19	465	152	3,341

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	16	489	7	181	31	815
Canadian fisheries	33	1,008	19	490	91	2,392
Oregon fisheries	0	0	0	0	14	368
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	1	31	9	232	11	289
Columbia Estuary sport	0	0	5	129	0	0
Lower Columbia sport	4	122	4	103	13	342
Terminal sport	11	336	0	0	0	0
WA coast commercial/treaty	4	122	3	77	5	131
Columbia commercial/treaty	12	367	9	232	11	289
Hatchery escapement	64	1,956	20	516	45	1,183
Spawning escapement	98	2,994	57	1,471	201	5,284

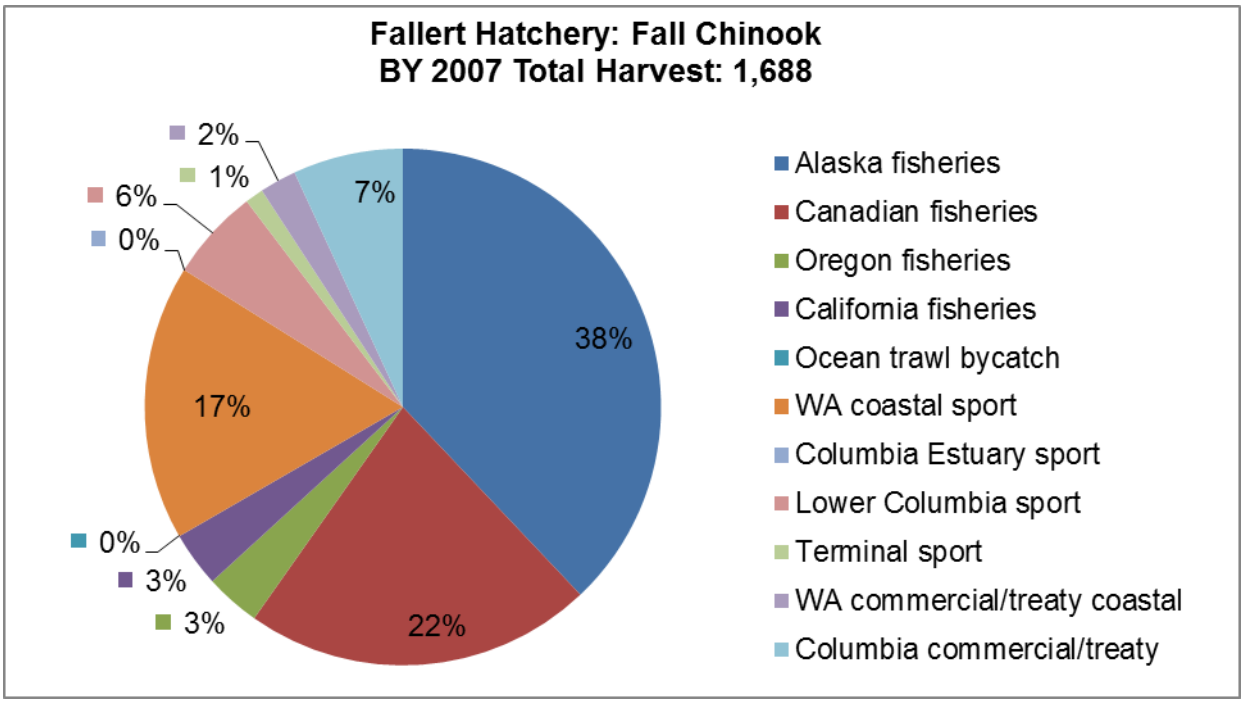

Figure 53. Types of CWT recoveries for brood year 2007 for Fallert Hatchery fall Chinook.

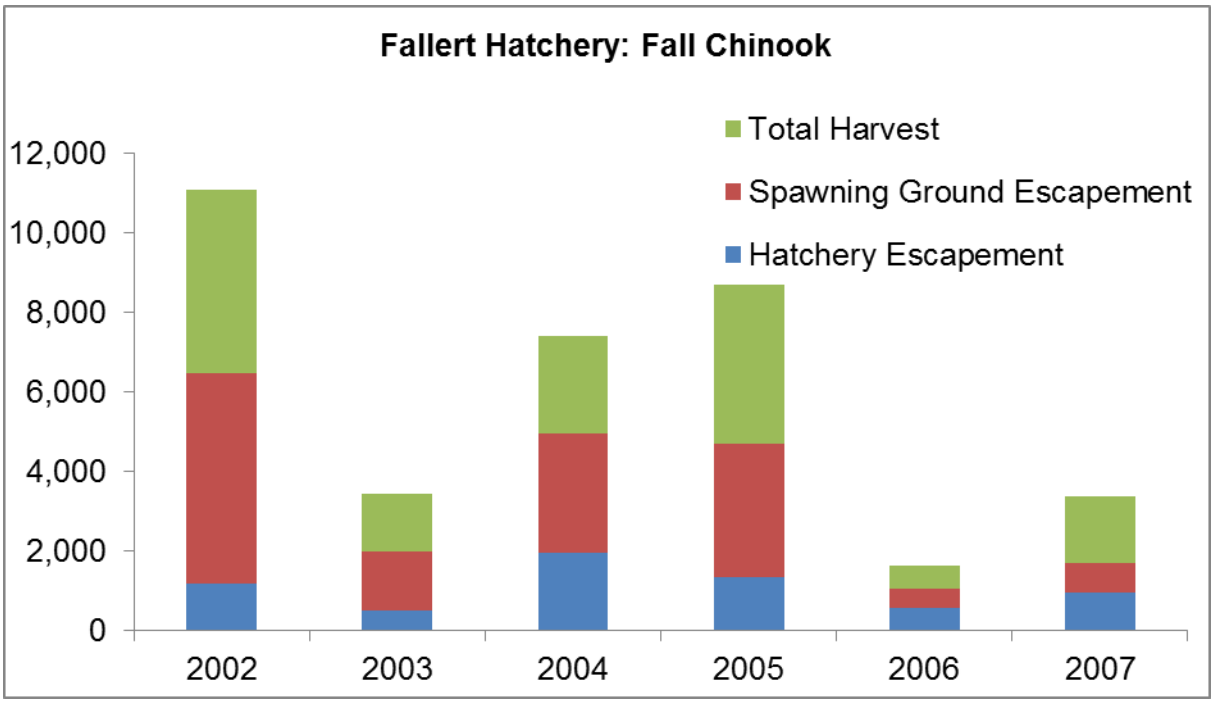

Figure 54. Escapement and Total Harvest for Fallert Hatchery fall Chinook for Brood Years 2002-2007.

Table 67. Types of CWT recoveries by brood year for Fallert Creek Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	16	16	7	7
Canadian fisheries	0	0	18	18	7	7
Oregon fisheries	0	0	7	7	4	4
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	3	4	3	3	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	9	11	8	8	12	12
Terminal sport	0	0	55	55	44	45
WA coast commercial/treaty	0	0	9	9	1	1
Columbia commercial/treaty	0	0	27	27	0	0
Hatchery escapement	13	16	108	108	36	37
Spawning escapement	0	0	5	5	5	5

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	4	8	123	232
Canadian fisheries	8	11	54	113	143	269
Oregon fisheries	0	0	3	6	10	19
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	9	17
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	11	15	11	23	128	241
Terminal sport	0	0	62	130	480	904
WA coast commercial/treaty	2	3	4	8	22	41
Columbia commercial/treaty	3	4	12	25	91	171
Hatchery escapement	16	22	59	124	98	184
Spawning escapement	0	0	179	375	408	768

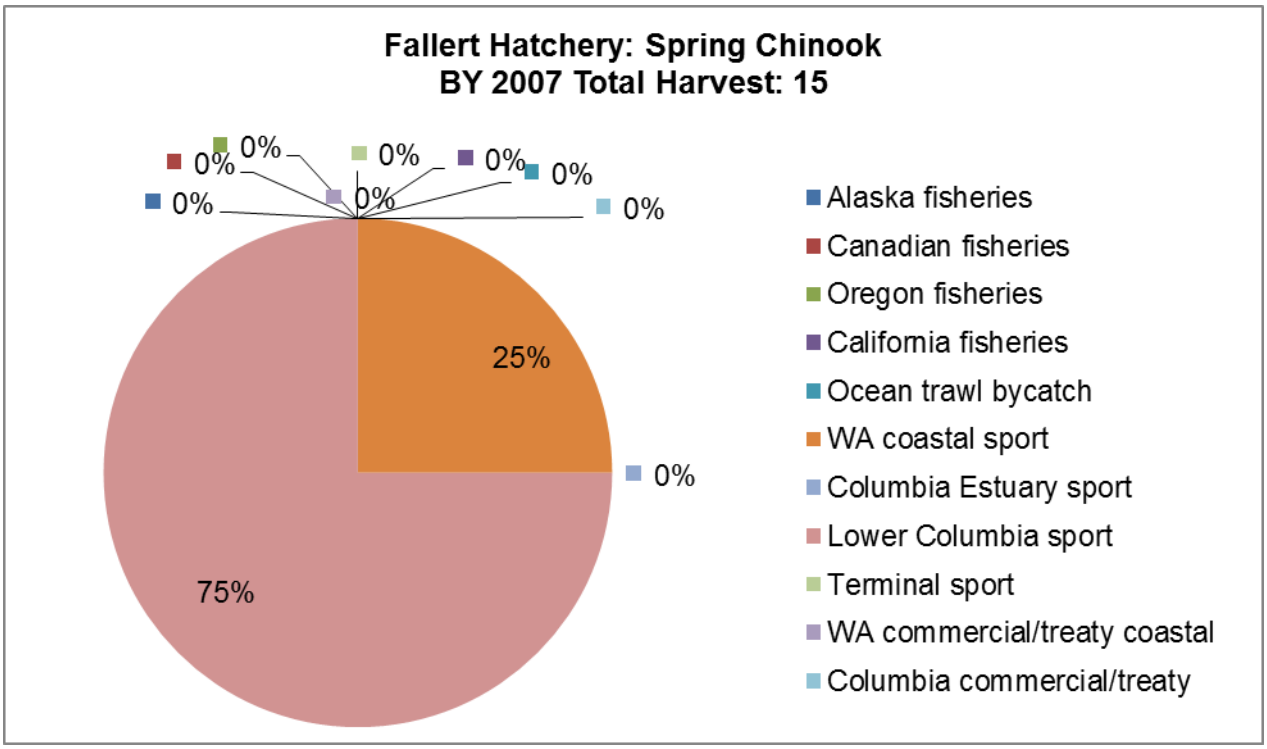

Figure 55. Types of CWT recoveries for brood year 2007 for Fallert Hatchery spring Chinook.

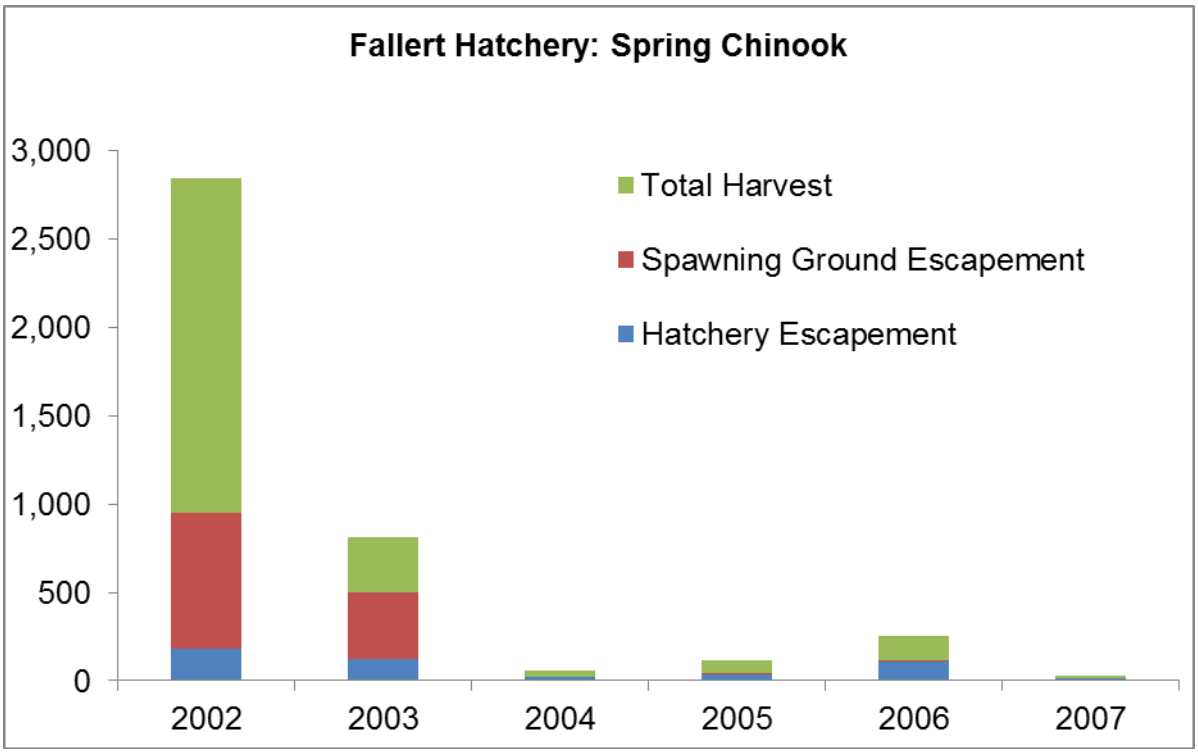

Figure 56. Escapement and Total Harvest for Fallert Hatchery spring Chinook for Brood Years 2002-2007.

Table 68. Types of CWT recoveries by brood year for Fallert Creek Hatchery early Coho.

Early (Type S) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	16	58	2	4	3	3
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	98	358	16	32	23	23
Columbia Estuary sport	77	281	18	36	7	7
Lower Columbia sport	1	4	0	0	0	0
Terminal sport	20	73	0	0	0	0
WA coast commercial/treaty	2	7	0	0	0	0
Columbia commercial/treaty	39	142	3	6	14	14
Hatchery escapement	225	821	46	92	154	155
Spawning escapement	7	26	1	2	7	7

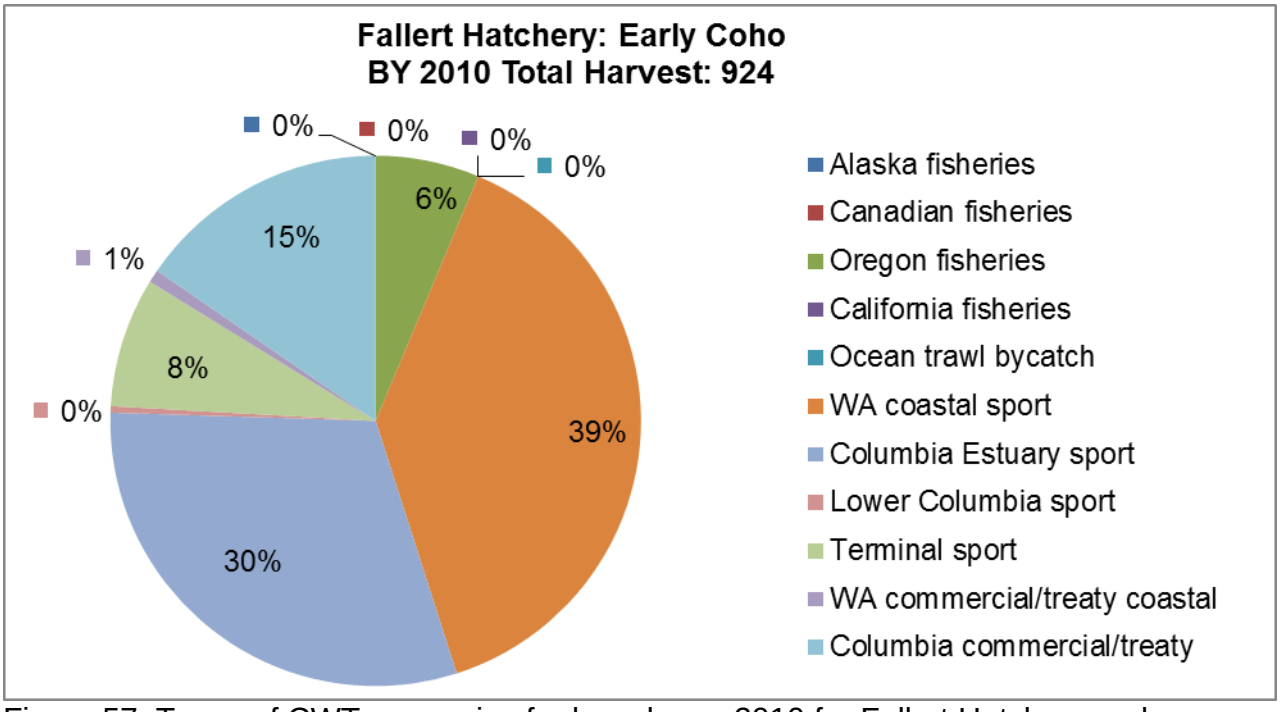

Figure 57. Types of CWT recoveries for brood year 2010 for Fallert Hatchery early Coho.

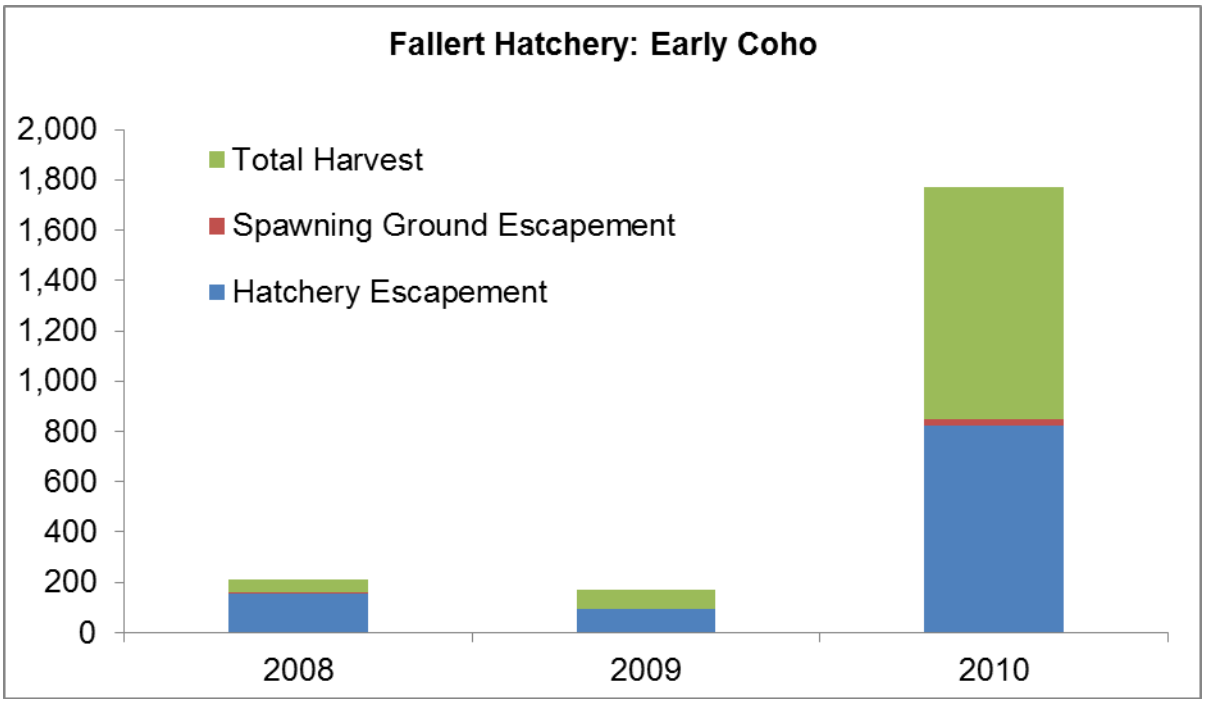

Figure 58. Escapement and Total Harvest for Fallert Hatchery early Coho for Brood Years 2008-2010.

Grays River Hatchery

Table 69. Types of CWT recoveries by brood year for Grays River Hatchery late Coho.

Late (Type N) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	22	124	21	130	64	353
California fisheries	5	28	0	0	0	0
Ocean trawl bycatch	1	6	0	0	1	6
WA coastal sport	48	271	32	198	110	607
Columbia Estuary sport	4	23	9	56	24	132
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	0	0	0	0	1	6
WA coast commercial/treaty	0	0	23	143	89	491
Columbia commercial/treaty	4	23	11	68	2	11
Hatchery escapement	90	508	93	577	179	988
Spawning escapement	1	6	3	19	72	397

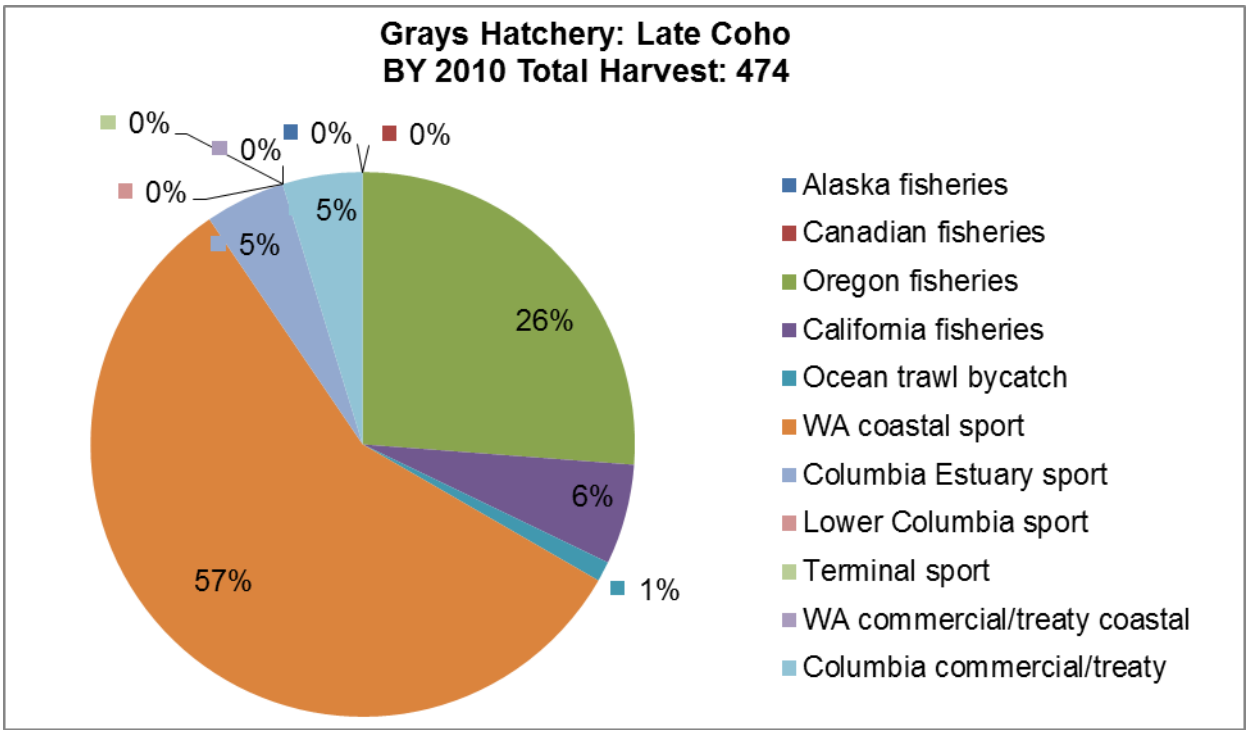

Figure 59. Types of CWT recoveries for brood year 2010 for Grays Hatchery late Coho.

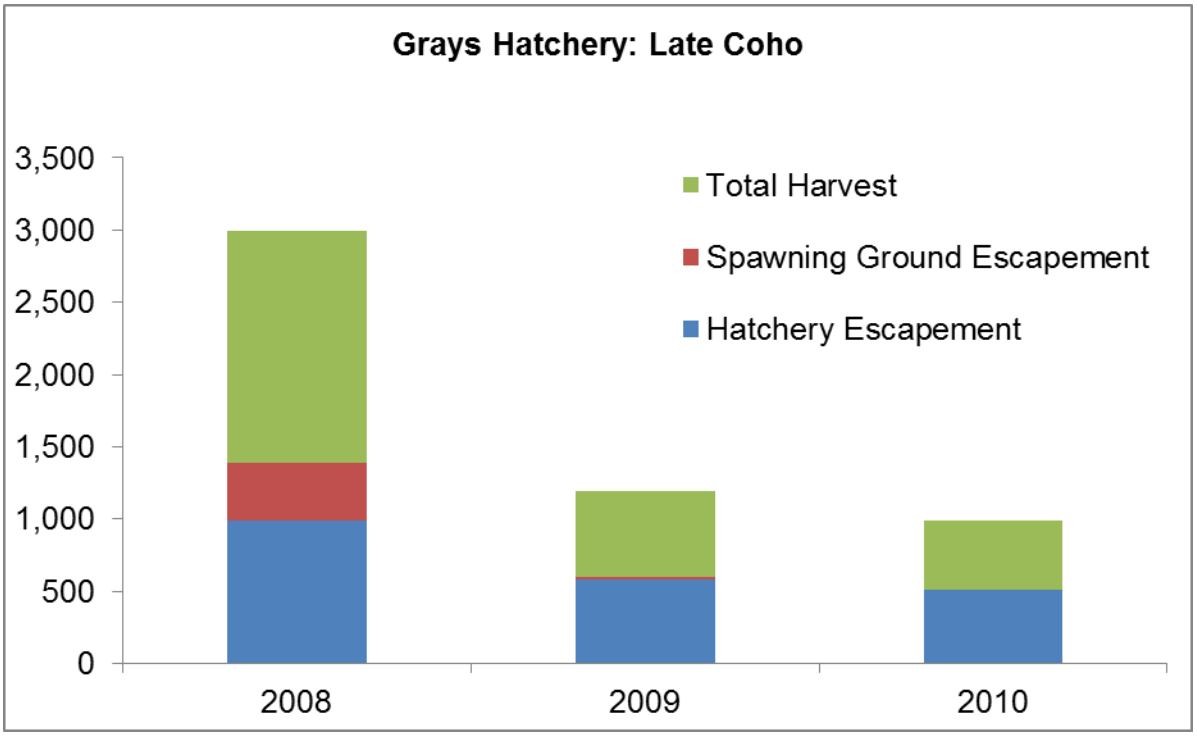

Figure 60. Escapement and Total Harvest for Grays Hatchery late Coho for Brood Years 2008-2010.

Kalama Falls Hatchery

Table 70. Types of CWT recoveries by brood year for Kalama Falls Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	20	530	14	360	45	992
Canadian fisheries	58	1,538	31	796	158	3,484
Oregon fisheries	1	27	0	0	5	110
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	3	80	11	282	6	132
Columbia Estuary sport	11	292	4	103	8	176
Lower Columbia sport	5	133	6	154	0	0
Terminal sport	8	212	0	0	1	22
WA coast commercial/treaty	17	451	9	231	18	397
Columbia commercial/treaty	20	530	6	154	35	772
Hatchery escapement	76	2,015	65	1,669	140	3,087
Spawning escapement	34	902	90	2,311	130	2,867

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	23	656	4	113	32	984
Canadian fisheries	31	885	17	480	83	2,553
Oregon fisheries	0	0	0	0	3	92
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	14	400	3	85	8	246
Columbia Estuary sport	4	114	1	28	3	92
Lower Columbia sport	7	200	0	0	16	492
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	4	114	2	56	2	62
Columbia commercial/treaty	3	86	2	56	21	646
Hatchery escapement	45	1,284	15	424	49	1,507
Spawning escapement	38	1,084	7	198	101	3,107

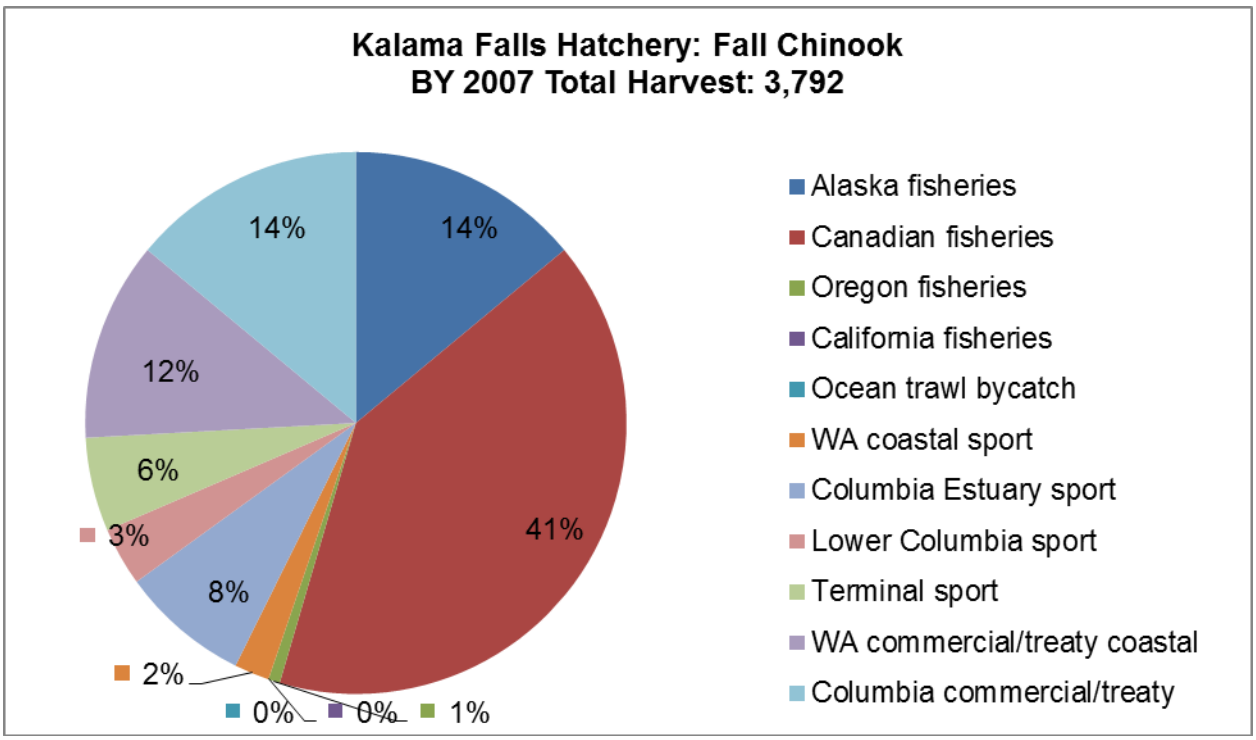

Figure 61. Types of CWT recoveries for brood year 2007 for Kalama Falls Hatchery fall Chinook.

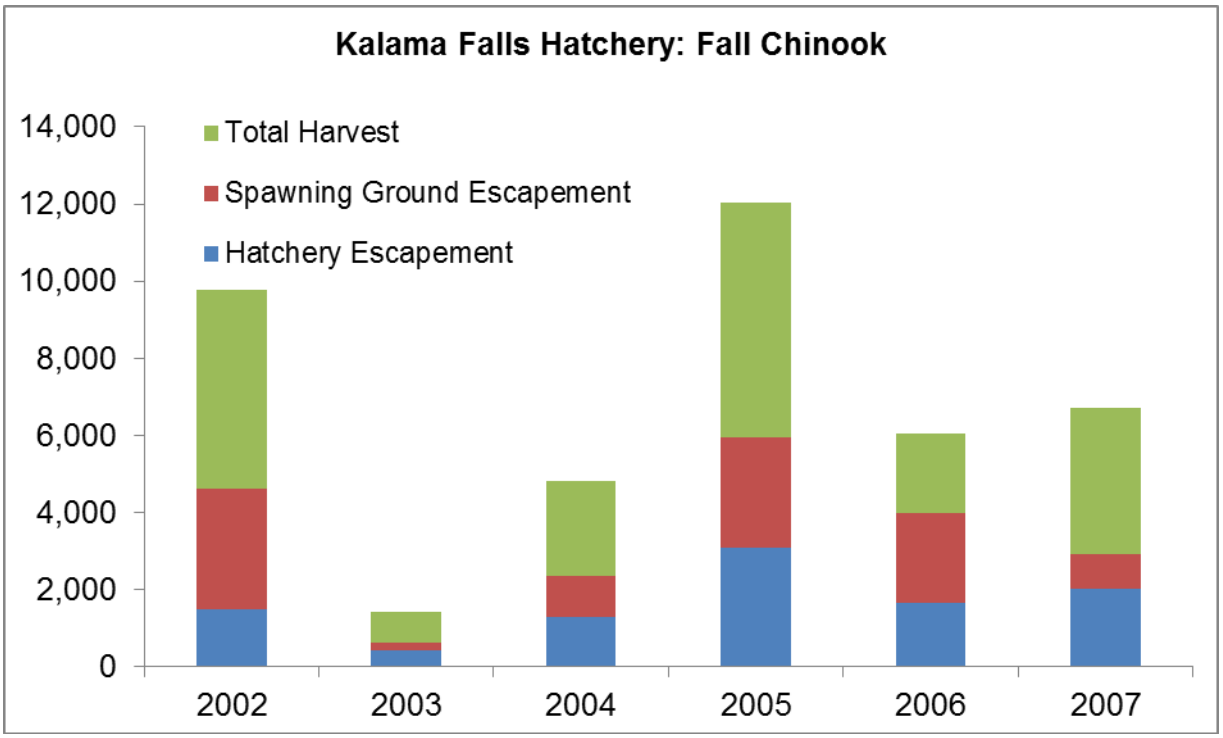

Figure 62. Escapement and Total Harvest for Kalama Falls Hatchery fall Chinook for Brood Years 2002-2007.

Table 71. Types of CWT recoveries by brood year for Kalama Falls Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	12	28	19	28	4	10
Canadian fisheries	3	7	30	45	0	0
Oregon fisheries	2	5	8	12	7	17
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	8	12	0	0
Columbia Estuary sport	0	0	4	6	0	0
Lower Columbia sport	18	42	33	49	8	20
Terminal sport	25	58	139	208	27	67
WA coast commercial/treaty	0	0	1	1	0	0
Columbia commercial/treaty	2	5	42	63	8	20
Hatchery escapement	65	151	416	623	45	112
Spawning escapement	0	0	7	10	0	0

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	3	4	25	56	153	280
Canadian fisheries	0	0	14	32	129	236
Oregon fisheries	2	3	3	7	4	7
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	8	15
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	17	38	88	161
Terminal sport	7	10	69	156	579	1061
WA coast commercial/treaty	0	0	7	16	8	15
Columbia commercial/treaty	0	0	12	27	75	137
Hatchery escapement	25	36	65	147	165	302
Spawning escapement	0	0	26	59	270	495

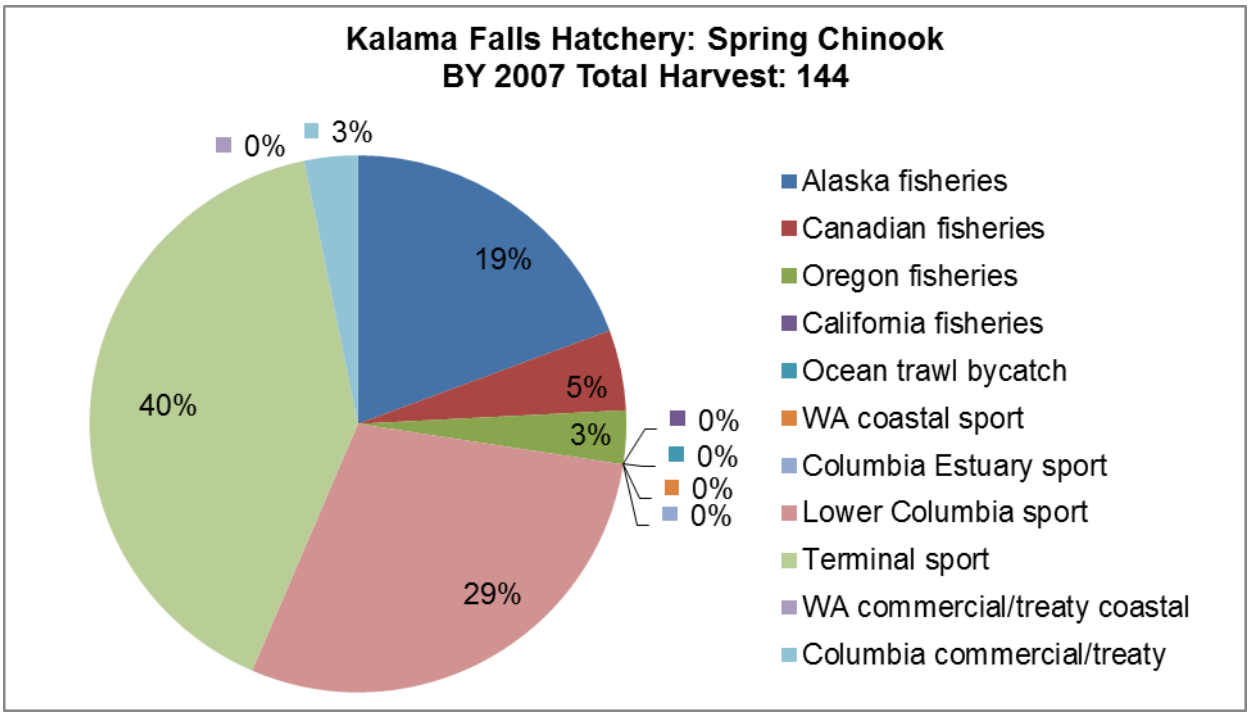

Figure 63. Types of CWT recoveries for brood year 2007 for Kalama Falls Hatchery spring Chinook.

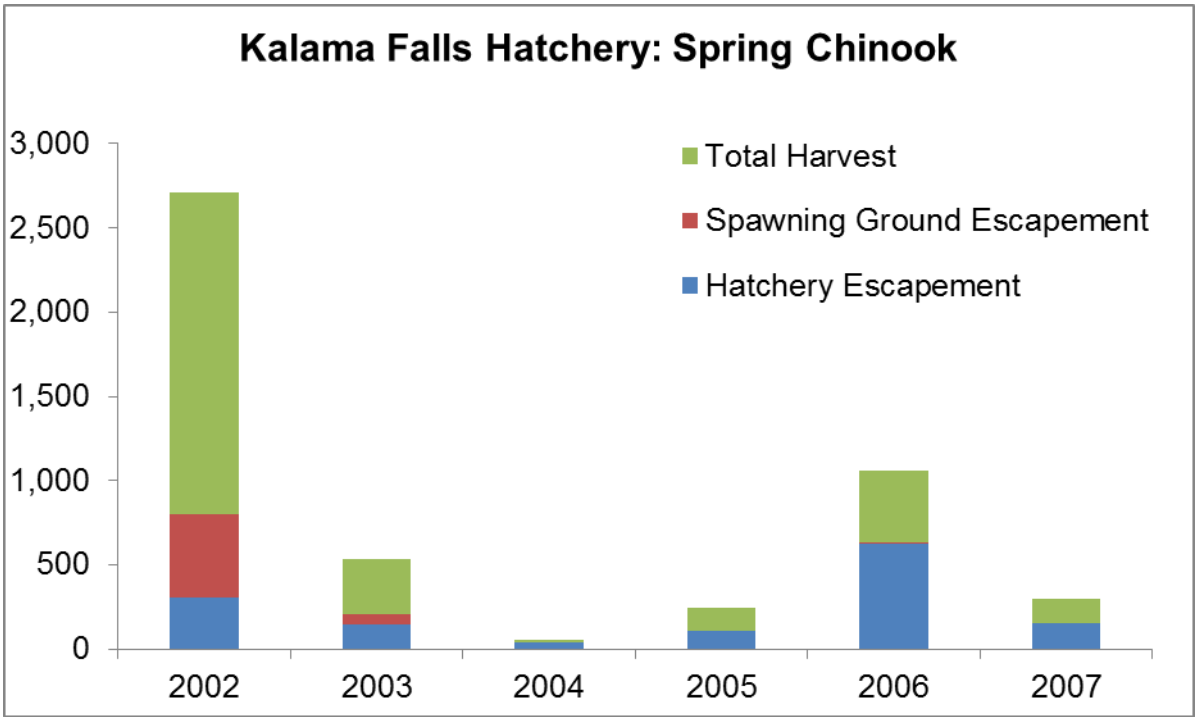

Figure 64. Escapement and Total Harvest for Kalama Falls Hatchery spring Chinook for Brood Years 2002-2007.

Table 72. Types of CWT recoveries by brood year for Kalama Falls Hatchery late Coho.

Late (Type N) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	1	21
Canadian fisheries	0	0	13	279	0	0
Oregon fisheries	47	906	5	107	23	482
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	93	1,793	11	236	45	943
Columbia Estuary sport	4	77	15	322	4	84
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	80	1,542	0	0	40	838
WA coast commercial/treaty	8	154	0	0	9	189
Columbia commercial/treaty	34	655	4	86	21	440
Hatchery escapement	253	4,877	51	1,094	203	4,255
Spawning escapement	0	0	0	0	0	0

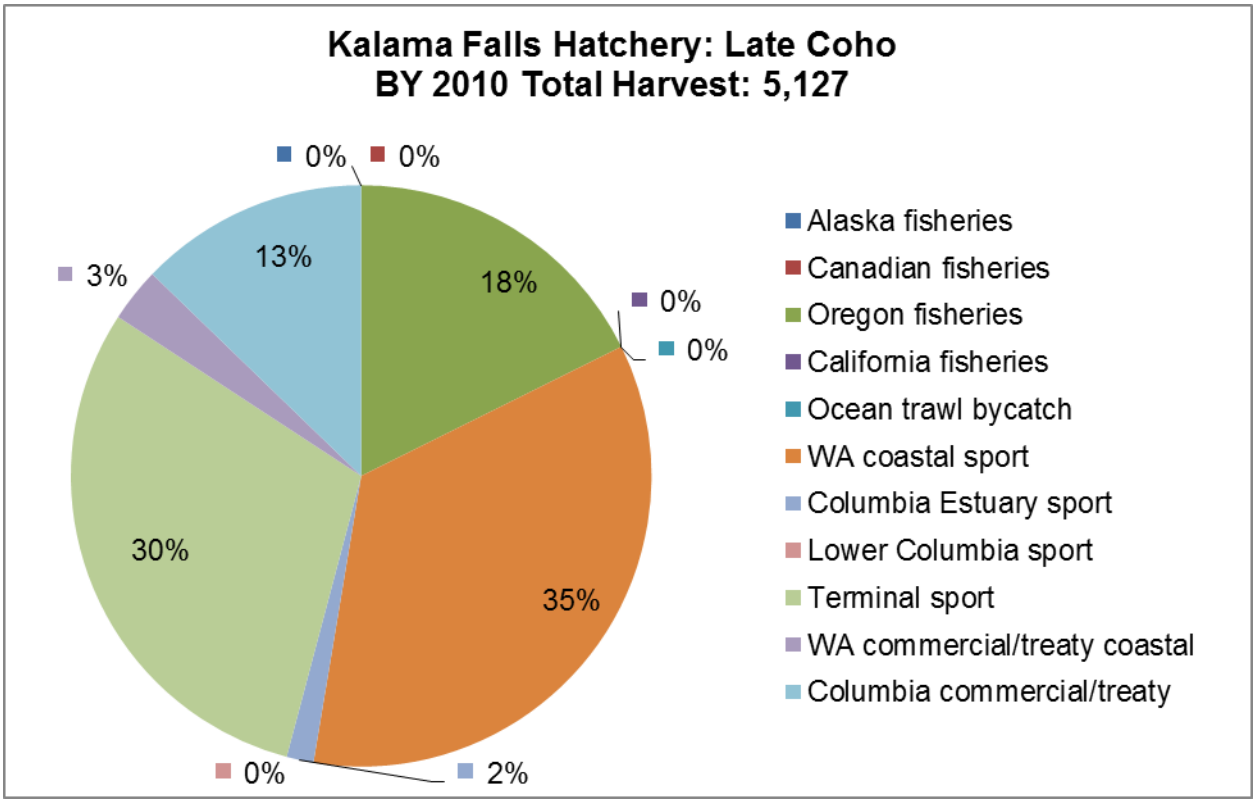

Figure 48. Types of CWT recoveries for brood year 2010 for Kalama Falls Hatchery late Coho.

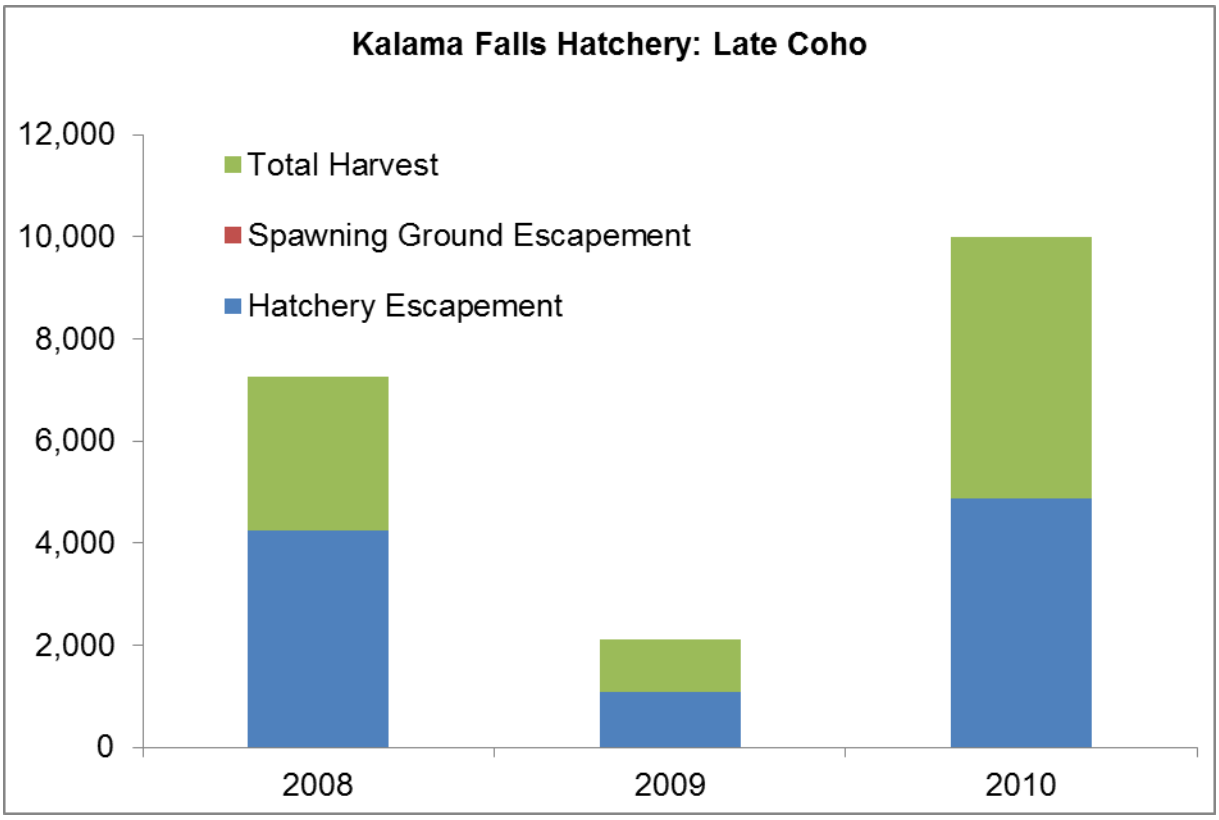

Figure 49. Escapement and Total Harvest for Kalama Falls Hatchery late Coho for Brood Years 2008-2010.

Klickitat Hatchery

Table 73. Types of CWT recoveries by brood year for Klickitat Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	561	3,882	211	1,472	429	3,149
Canadian fisheries	449	3,107	220	1,535	421	3,091
Oregon fisheries	53	367	6	42	14	103
California fisheries	5	35	2	14	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	66	457	18	126	14	103
Columbia Estuary sport	20	138	7	49	15	110
Lower Columbia sport	177	1,225	41	286	91	668
Terminal sport	76	526	49	342	5	37
WA coast commercial/treaty	74	512	10	70	34	250
Columbia commercial/treaty	1,206	8,346	454	3,167	862	6,328
Hatchery escapement	3	21	1	7	7	51
Spawning escapement	36	249	3	21	25	184

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	98	628	226	1,515	50	814
Canadian fisheries	118	756	117	784	121	1,971
Oregon fisheries	0	0	1	7	4	65
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	1	6	0	0	0	0
WA coastal sport	2	13	6	40	0	0
Columbia Estuary sport	12	77	0	0	2	33
Lower Columbia sport	20	128	30	201	39	635
Terminal sport	0	0	3	20	0	0
WA coast commercial/treaty	28	179	1	7	9	147
Columbia commercial/treaty	129	827	192	1,287	132	2,150
Hatchery escapement	1	6	2	13	3	49
Spawning escapement	0	0	5	34	51	831

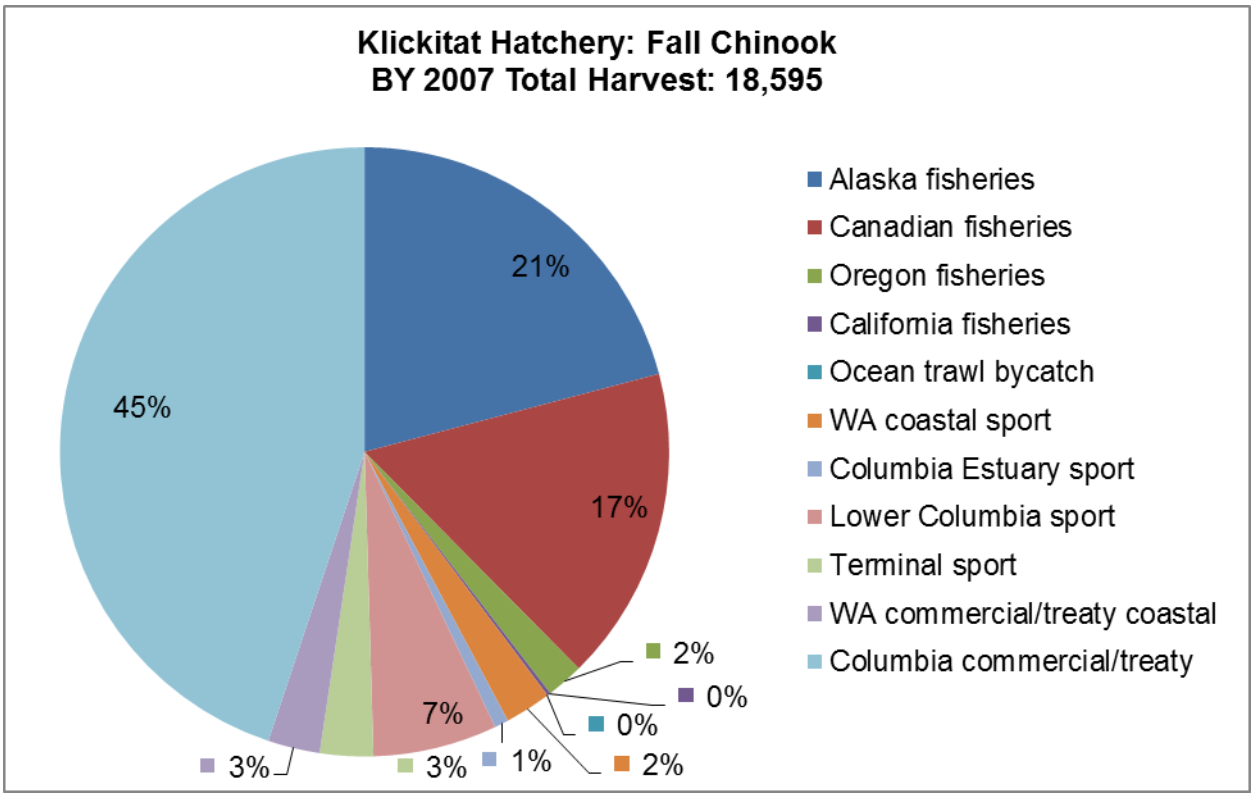

Figure 50. Types of CWT recoveries for brood year 2007 for Klickitat Hatchery fall Chinook.

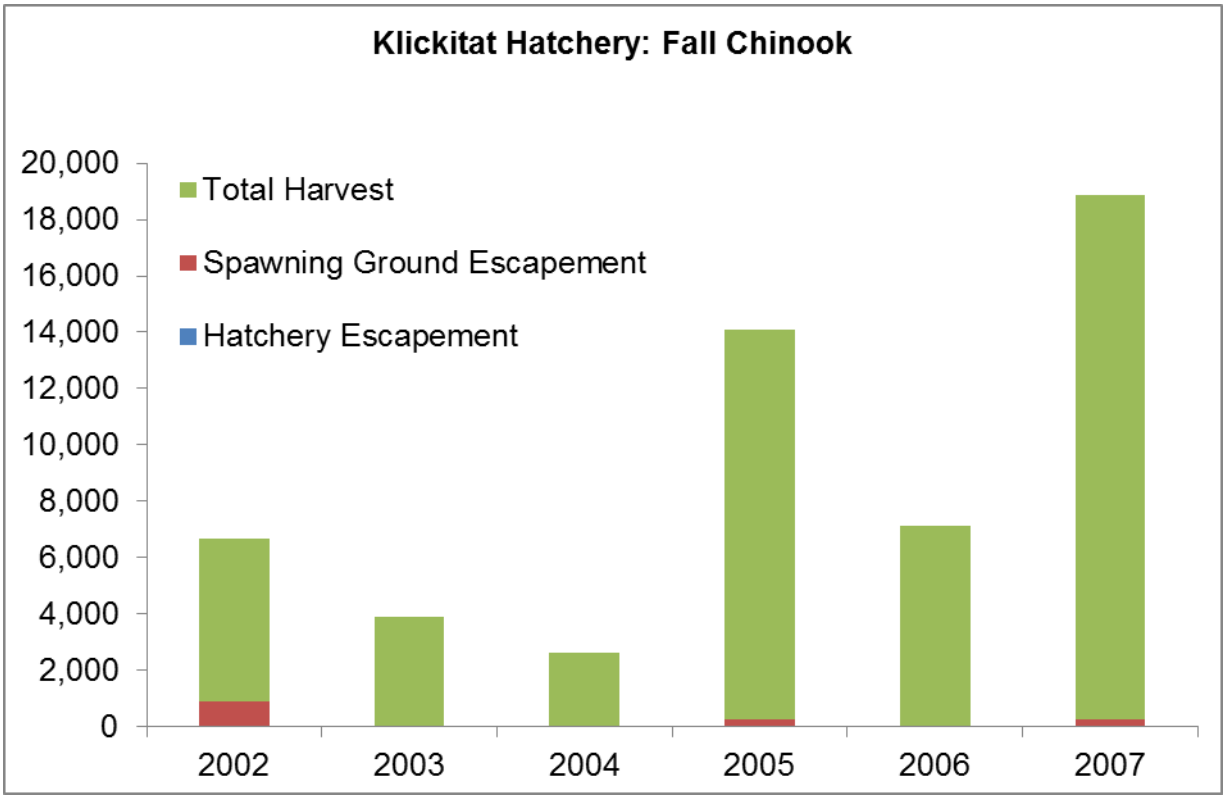

Figure 51. Escapement and Total Harvest for Klickitat Hatchery fall Chinook for Brood Years 2002-2007.

Table 74. Types of CWT recoveries by brood year for Klickitat Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	1	4	11	39	2	9
Canadian fisheries	4	17	3	11	12	56
Oregon fisheries	3	13	4	14	1	5
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	2	9
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	87	363	35	125	16	74
Terminal sport	76	317	134	478	42	194
WA coast commercial/treaty	7	29	1	4	4	19
Columbia commercial/treaty	181	754	159	567	21	97
Hatchery escapement	118	492	2	7	0	0
Spawning escapement	2	8	0	0	0	0

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	3	17	1	4	4	19
Canadian fisheries	0	0	2	8	8	39
Oregon fisheries	1	6	8	31	4	19
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	3	14
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	4	22	21	81	12	58
Terminal sport	14	77	14	54	73	352
WA coast commercial/treaty	2	11	4	15	3	14
Columbia commercial/treaty	13	72	21	81	36	173
Hatchery escapement	15	83	157	602	292	1,407
Spawning escapement	0	0	0	0	0	0

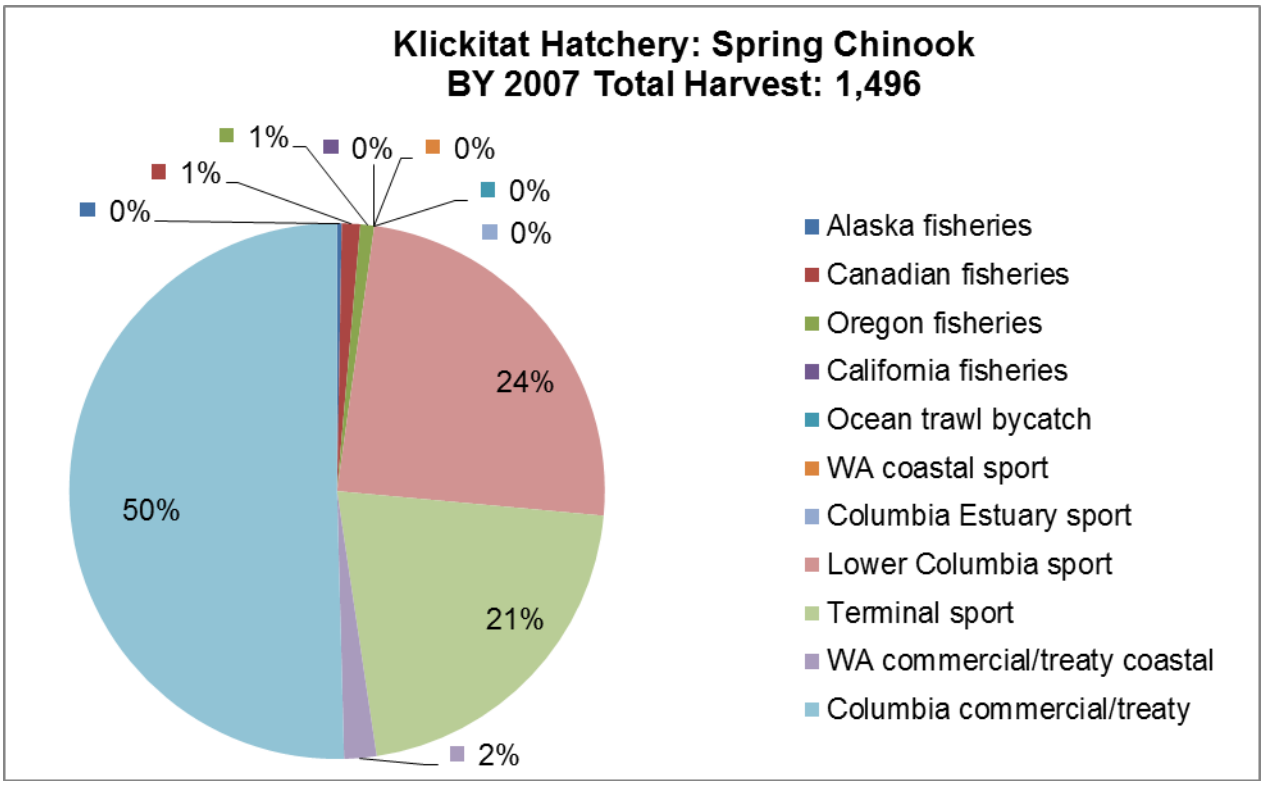

Figure 52. Types of CWT recoveries for brood year 2007 for Klickitat Hatchery spring Chinook.

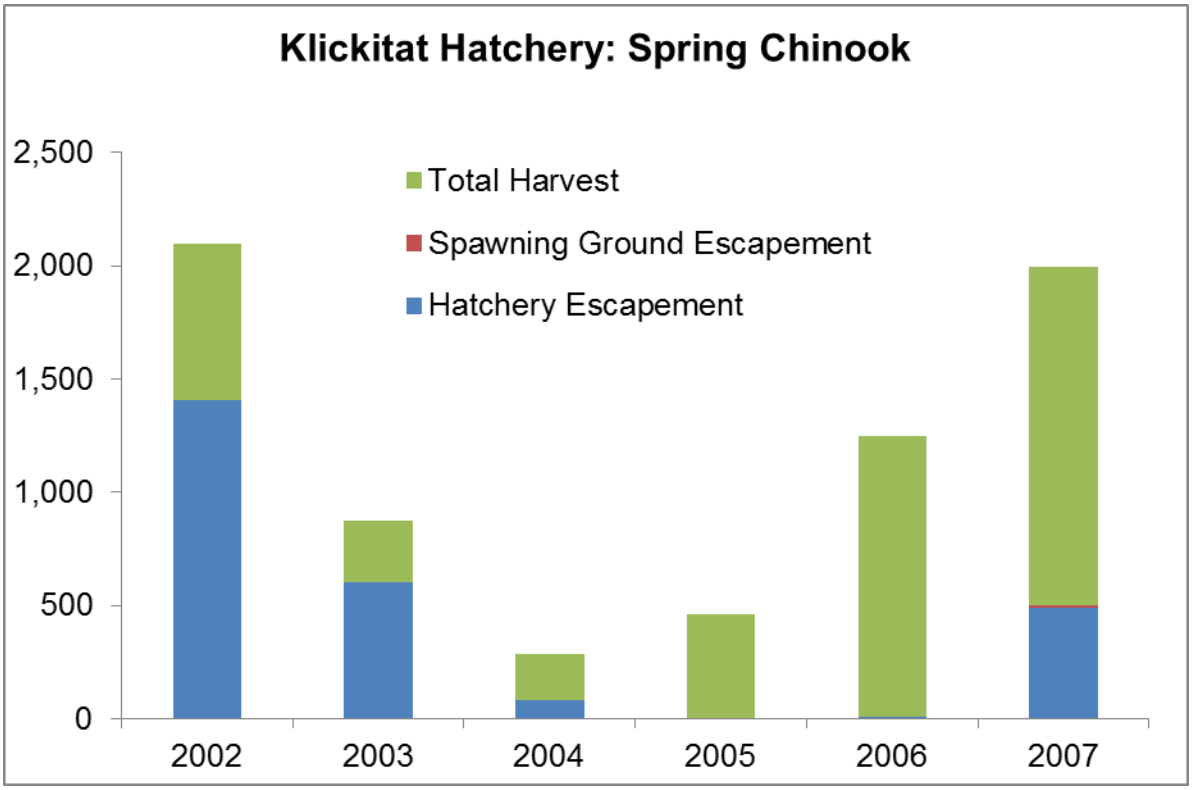

Figure 53. Escapement and Total Harvest for Klickitat Hatchery spring Chinook for Brood Years 2002-2007.

Table 75. Types of CWT recoveries by brood year for Klickitat Hatchery late Coho.

Late (Type N) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	0	0	13	330	22	1,188
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	57	1,200	26	659	29	1,566
Columbia Estuary sport	7	147	4	101	0	0
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	0	0	0	0	1	54
WA coast commercial/treaty	6	126	0	0	0	0
Columbia commercial/treaty	0	0	11	279	6	324
Hatchery escapement	1	21	0	0	1	54
Spawning escapement	0	0	0	0	0	0

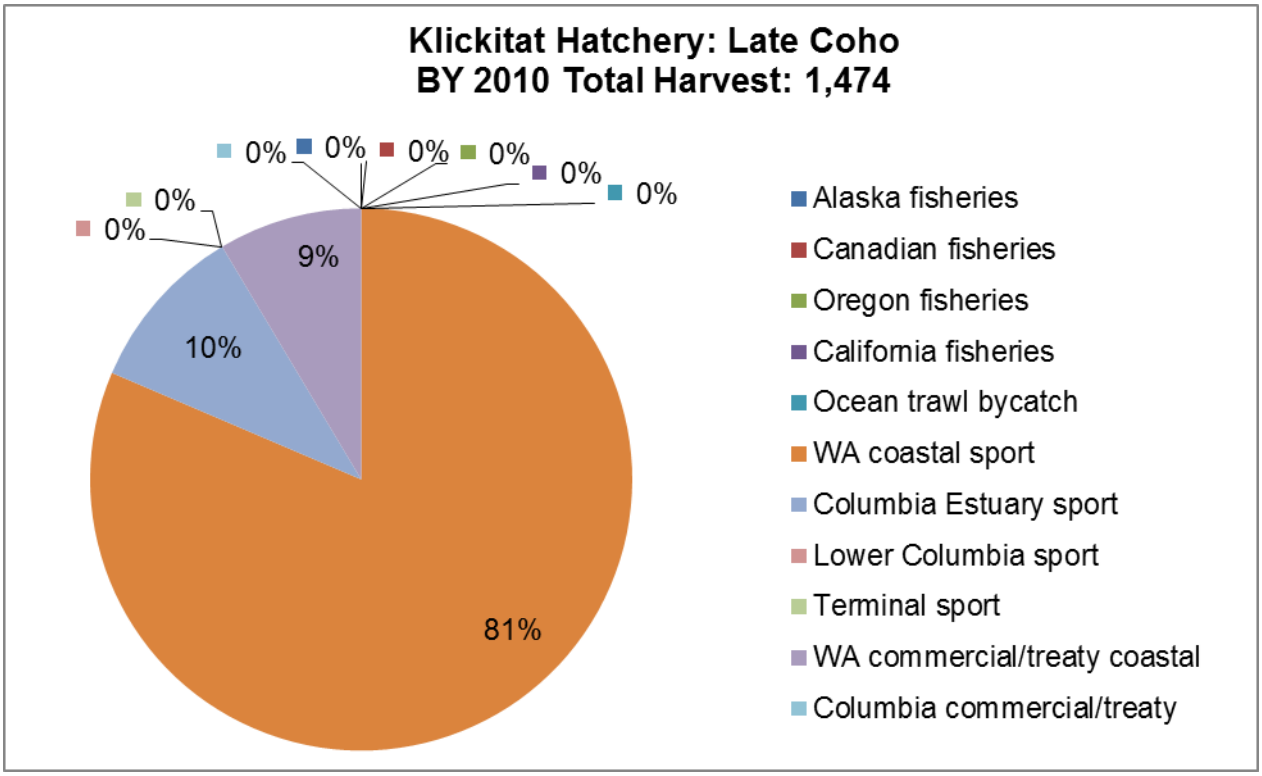

Figure 54. Types of CWT recoveries for brood year 2010 for Klickitat Hatchery late Coho.

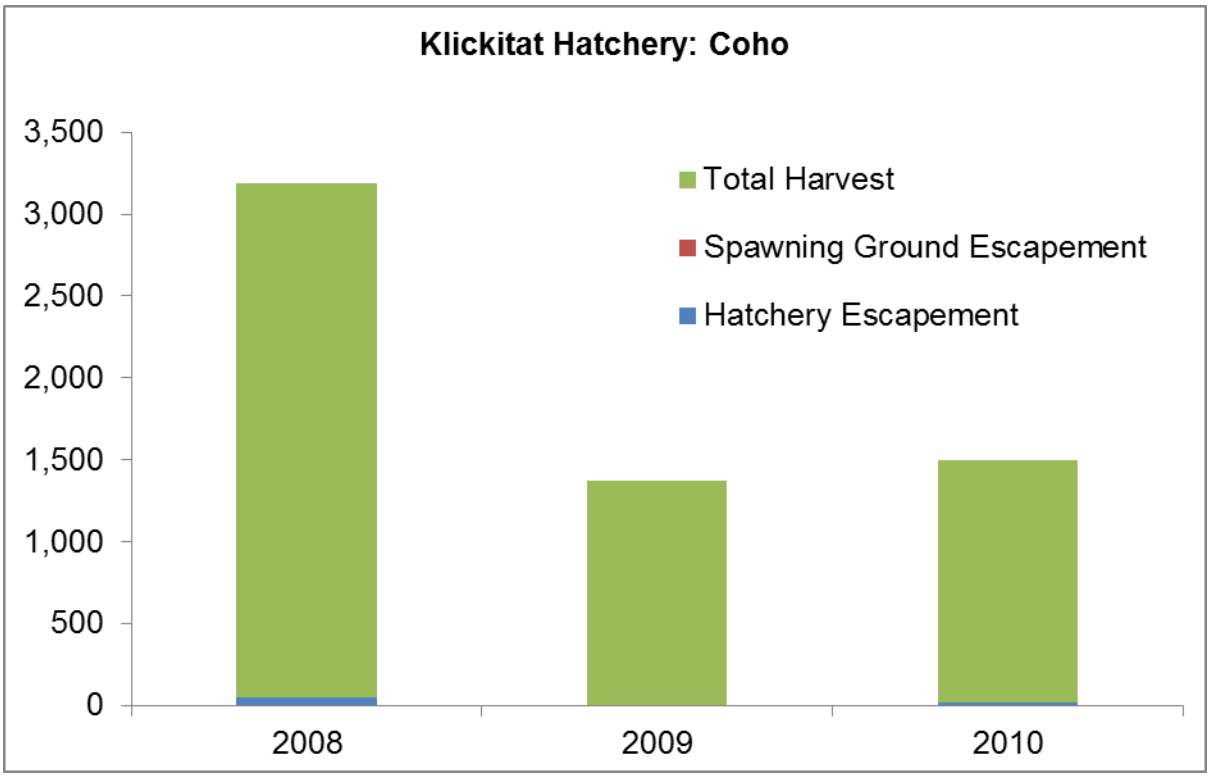

Figure 55. Escapement and Total Harvest for Klickitat Hatchery late Coho for Brood Years 2008-2010.

Lewis Hatchery

Table 76. Types of CWT recoveries by brood year for Lewis River Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	5	17	6	19	7	22
Canadian fisheries	7	23	47	150	25	77
Oregon fisheries	17	56	6	19	2	6
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	3	10	2	6	0	0
Columbia Estuary sport	0	0	3	10	0	0
Lower Columbia sport	3	10	33	106	8	25
Terminal sport	1	3	23	74	30	93
WA coast commercial/treaty	6	20	12	38	3	9
Columbia commercial/treaty	3	10	15	48	2	6
Hatchery escapement	153	507	679	2,171	217	670
Spawning escapement	1	3	0	0	54	167

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	9	30	47	128	84	273
Canadian fisheries	3	10	24	65	198	644
Oregon fisheries	0	0	0	0	10	33
California fisheries	0	0	0	0	2	7
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	2	7	8	22	21	68
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	4	14	22	60	35	114
Terminal sport	20	68	71	194	329	1,071
WA coast commercial/treaty	3	10	12	33	15	49
Columbia commercial/treaty	0	0	7	19	39	127
Hatchery escapement	222	751	550	1,501	1,952	6,352
Spawning escapement	0	0	5	14	63	205

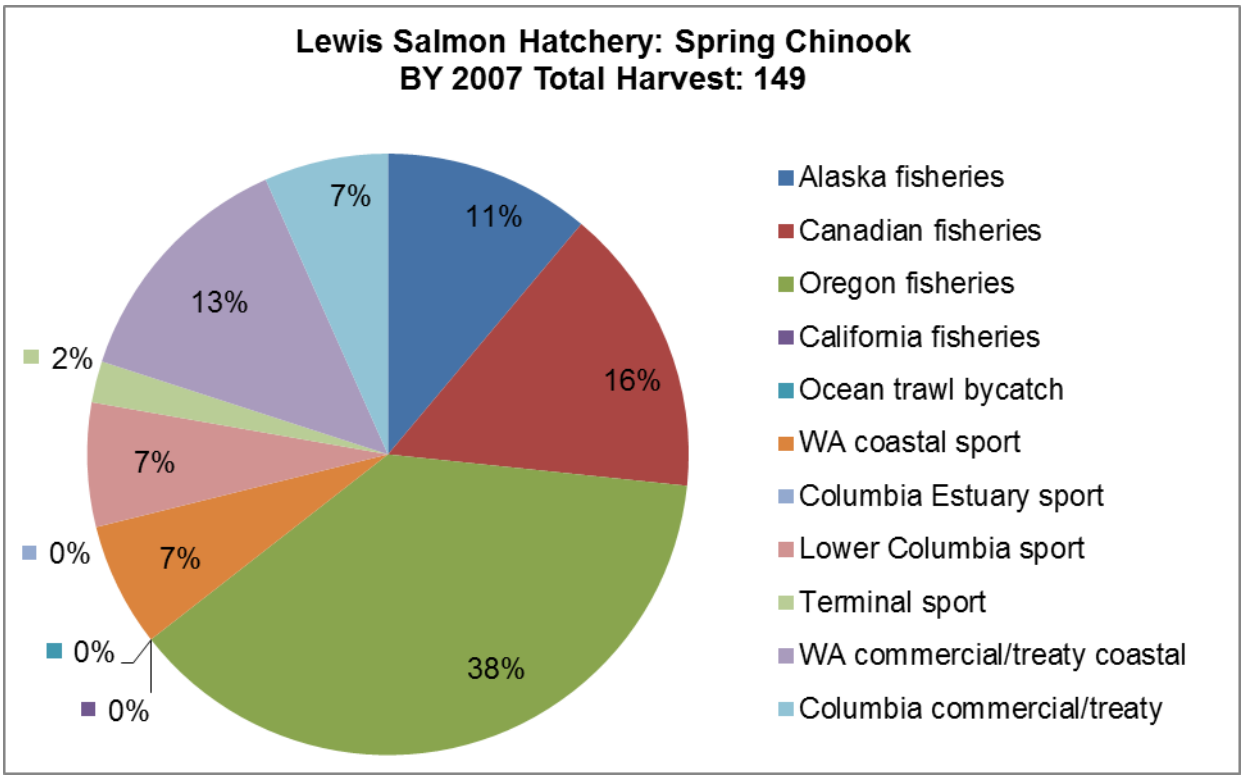

Figure 56. Types of CWT recoveries for brood year 2007 for Lewis Hatchery spring Chinook.

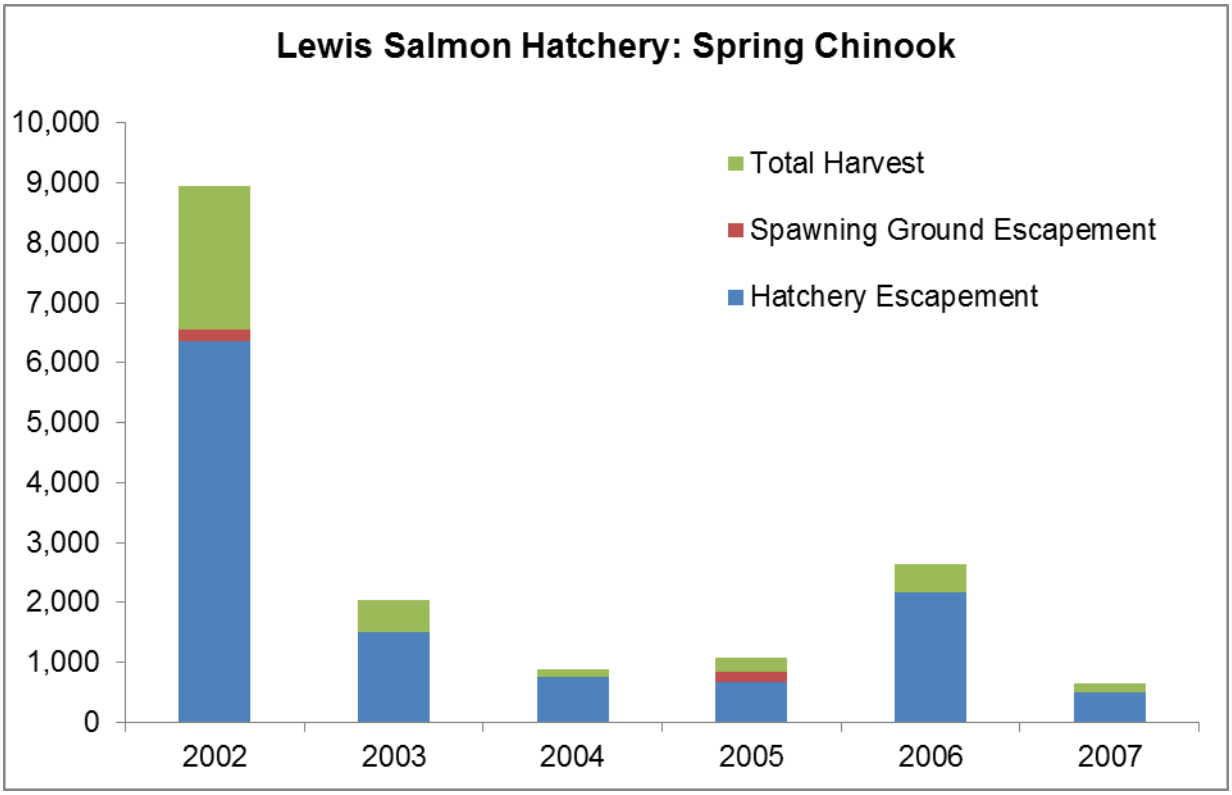

Figure 57. Escapement and Total Harvest for Lewis Hatchery spring Chinook for Brood Years 2002-2007.

Table 77. Types of CWT recoveries by brood year for Lewis River Hatchery early Coho.

Early (Type S) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	5	36	0	0	0	0
Oregon fisheries	27	197	3	18	38	225
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	1	7	0	0	0	0
WA coastal sport	95	692	6	35	56	331
Columbia Estuary sport	78	568	12	71	69	408
Lower Columbia sport	2	15	0	0	23	136
Terminal sport	7	51	0	0	69	408
WA coast commercial/treaty	17	124	4	24	0	0
Columbia commercial/treaty	63	459	0	0	75	443
Hatchery escapement	2,078	15,136	120	709	2,571	15,198
Spawning escapement	11	80	0	0	5	30

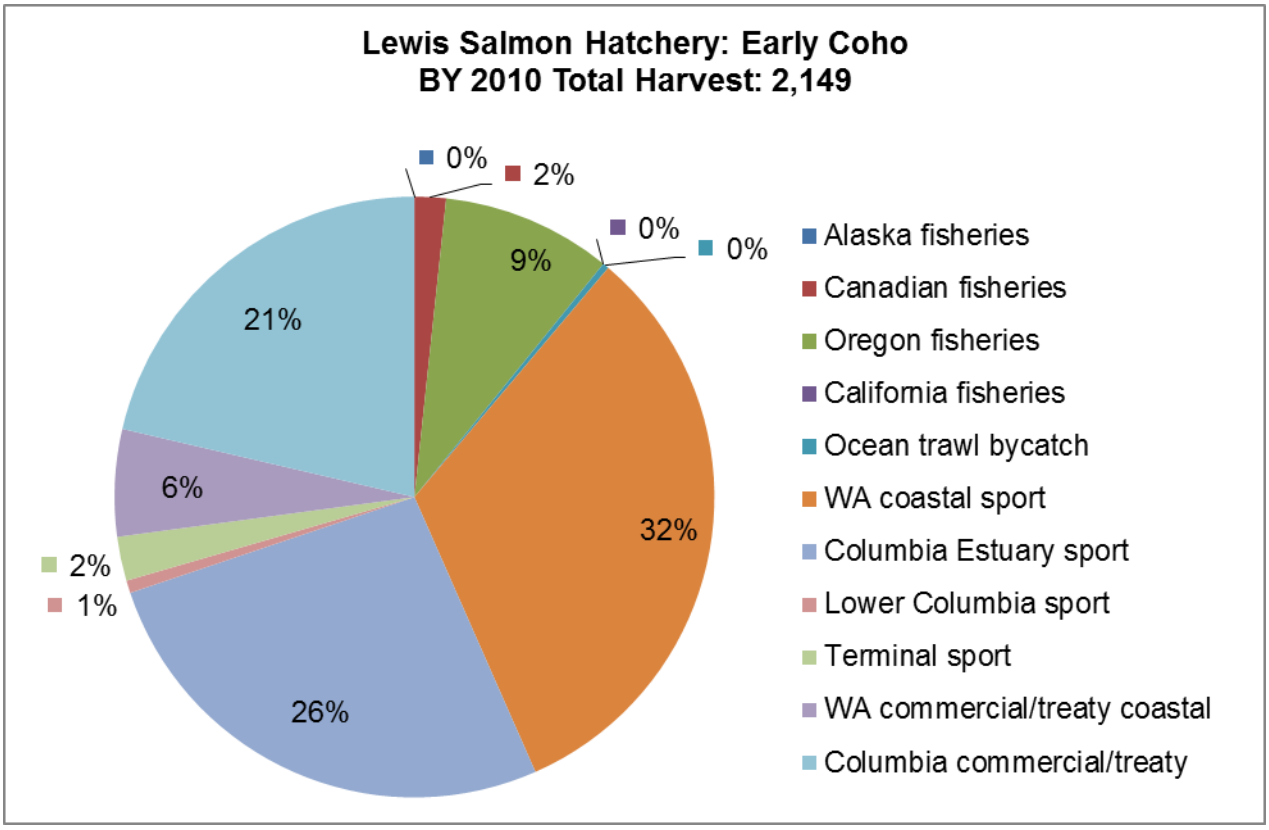

Figure 58. Types of CWT recoveries for brood year 2010 for Lewis Hatchery early Coho.

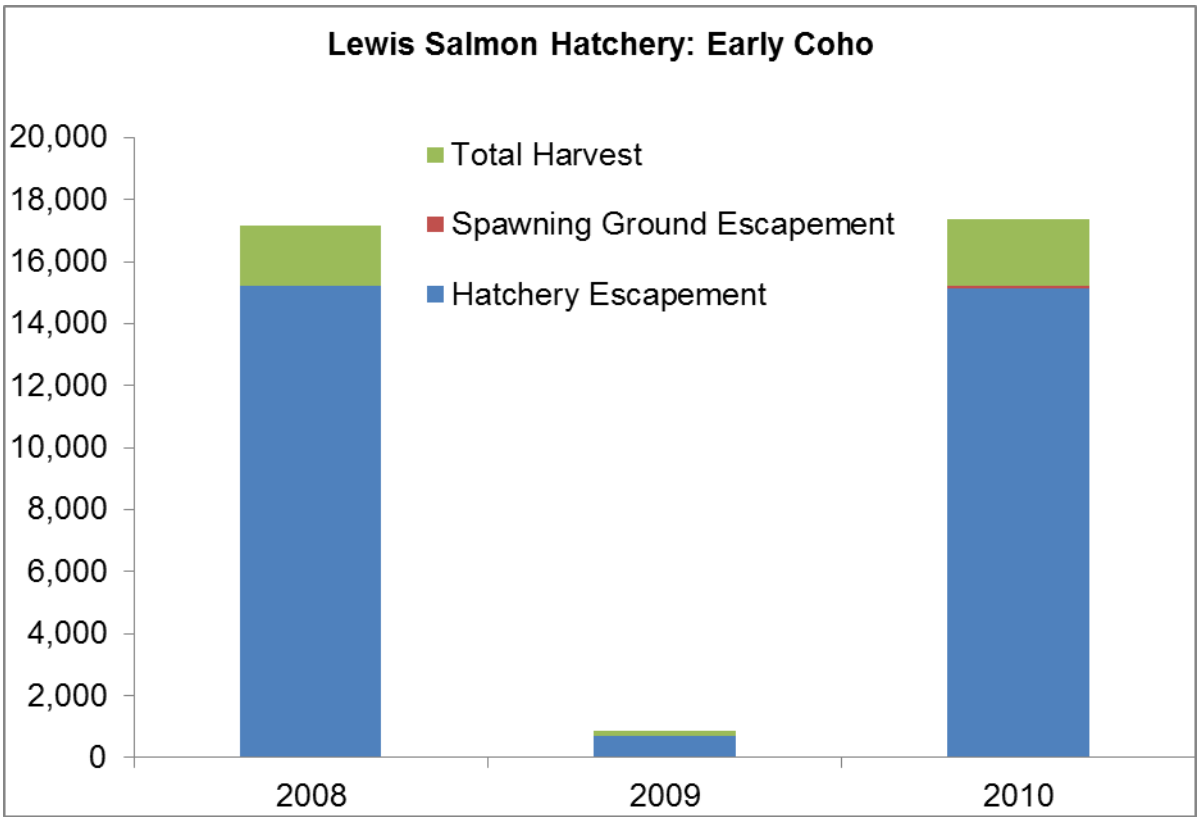

Figure 59. Escapement and Total Harvest for Lewis Hatchery early Coho for Brood Years 2008-2010.

Table 78. Types of CWT recoveries by brood year for Lewis River Hatchery late Coho.

Late (Type N) Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	193	1,027
Canadian fisheries	0	0	21	111	0	0
Oregon fisheries	87	615	18	95	0	0
California fisheries	0	0	0	0	5	27
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	405	2,861	80	421	319	1,697
Columbia Estuary sport	8	57	13	68	20	106
Lower Columbia sport	0	0	0	0	6	32
Terminal sport	72	509	41	216	243	1,292
WA coast commercial/treaty	33	233	0	0	16	85
Columbia commercial/treaty	128	904	31	163	197	1,048
Hatchery escapement	1,646	11,629	516	2,716	3,441	18,302
Spawning escapement	7	49	1	5	140	745

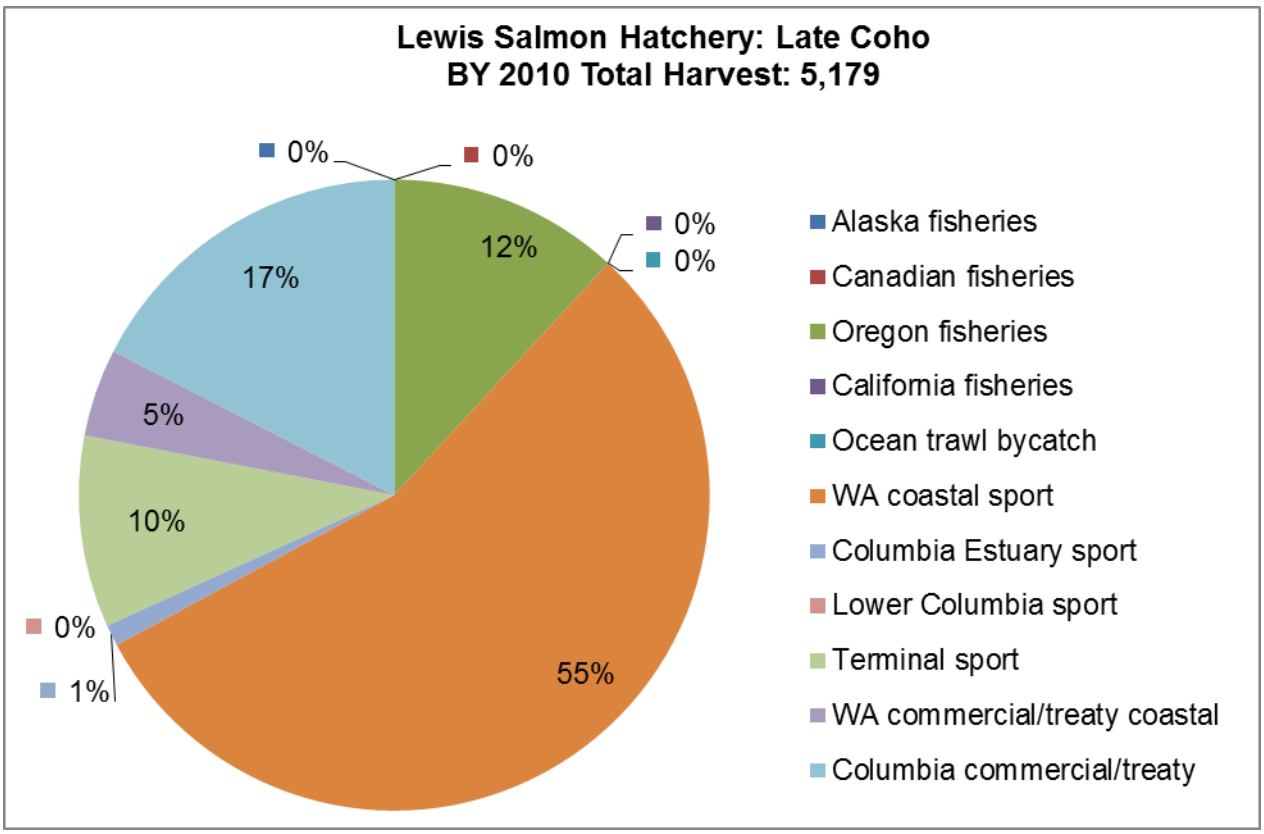

Figure 60. Types of CWT recoveries for brood year 2010 for Lewis Hatchery late Coho.

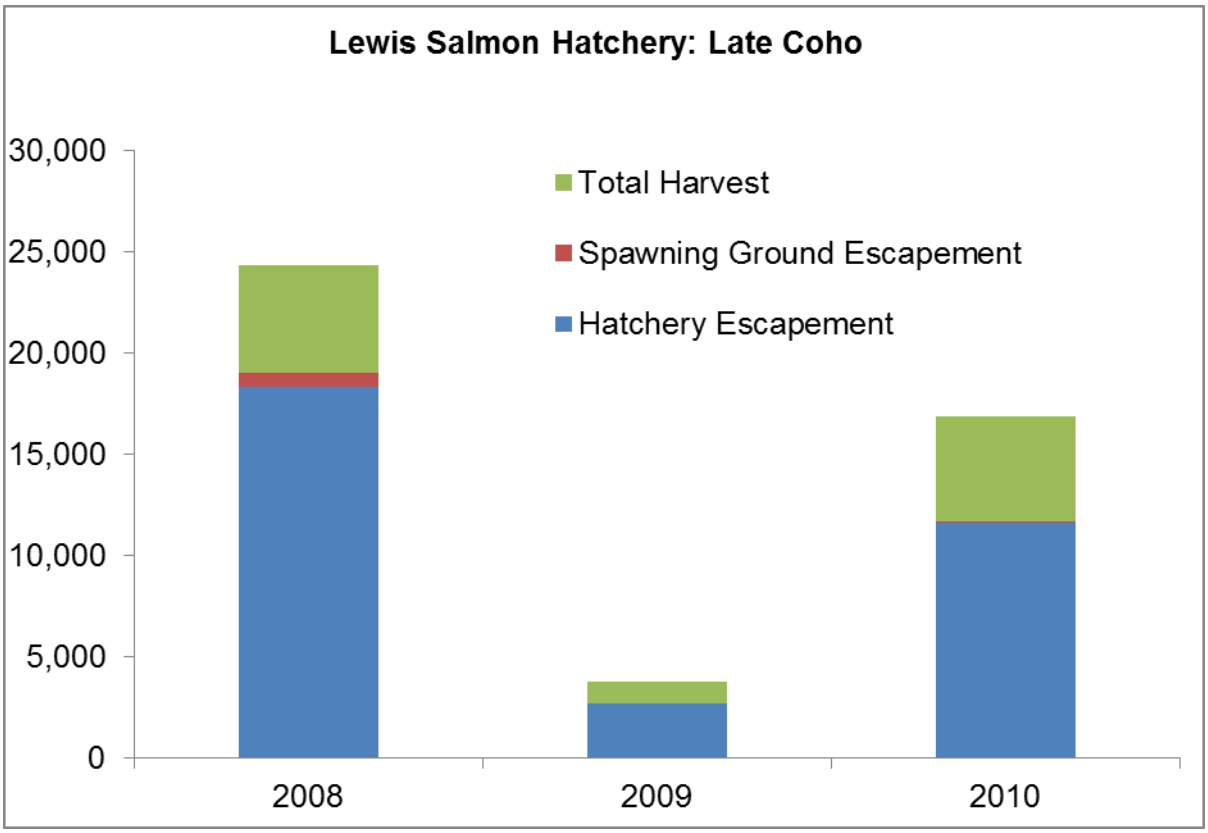

Figure 61. Escapement and Total Harvest for Lewis Hatchery late Coho for Brood Years 2008-2010.

Lyons Ferry Hatchery

Table 79. Types of CWT recoveries by brood year for Lyons Ferry Hatchery fall Chinook.

Fall (late URB) Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	265	409	242	246	185	236
Canadian fisheries	1,309	2,022	1,654	1,679	1,458	1,864
Oregon fisheries	358	553	415	421	75	96
California fisheries	54	83	10	10	0	0
Ocean trawl bycatch	0	0	0	0	1	1
WA coastal sport	1,214	1,876	1,536	1,559	363	464
Columbia Estuary sport	152	235	291	295	76	97
Lower Columbia sport	282	436	294	298	165	211
Terminal sport	213	329	42	43	44	56
WA coast commercial/treaty	895	1,383	1,231	1,249	656	839
Columbia commercial/treaty	2,202	3,402	2,196	2,229	1,411	1,804
Hatchery escapement	1,332	2,058	2,869	2,912	2,306	2,948
Spawning escapement	509	786	800	812	291	372

Fall (late URB) Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	103	169	130	131	55	59
Canadian fisheries	360	590	845	851	353	380
Oregon fisheries	131	215	134	135	122	131
California fisheries	6	10	24	24	6	6
Ocean trawl bycatch	28	46	0	0	0	0
WA coastal sport	342	560	213	215	179	193
Columbia Estuary sport	79	129	48	48	15	16
Lower Columbia sport	67	110	70	71	72	77
Terminal sport	0	0	21	21	0	0
WA coast commercial/treaty	257	421	517	521	152	164
Columbia commercial/treaty	548	898	560	564	527	567
Hatchery escapement	2,966	4,858	2,655	2,675	1,327	1,428
Spawning escapement	151	247	66	67	75	81

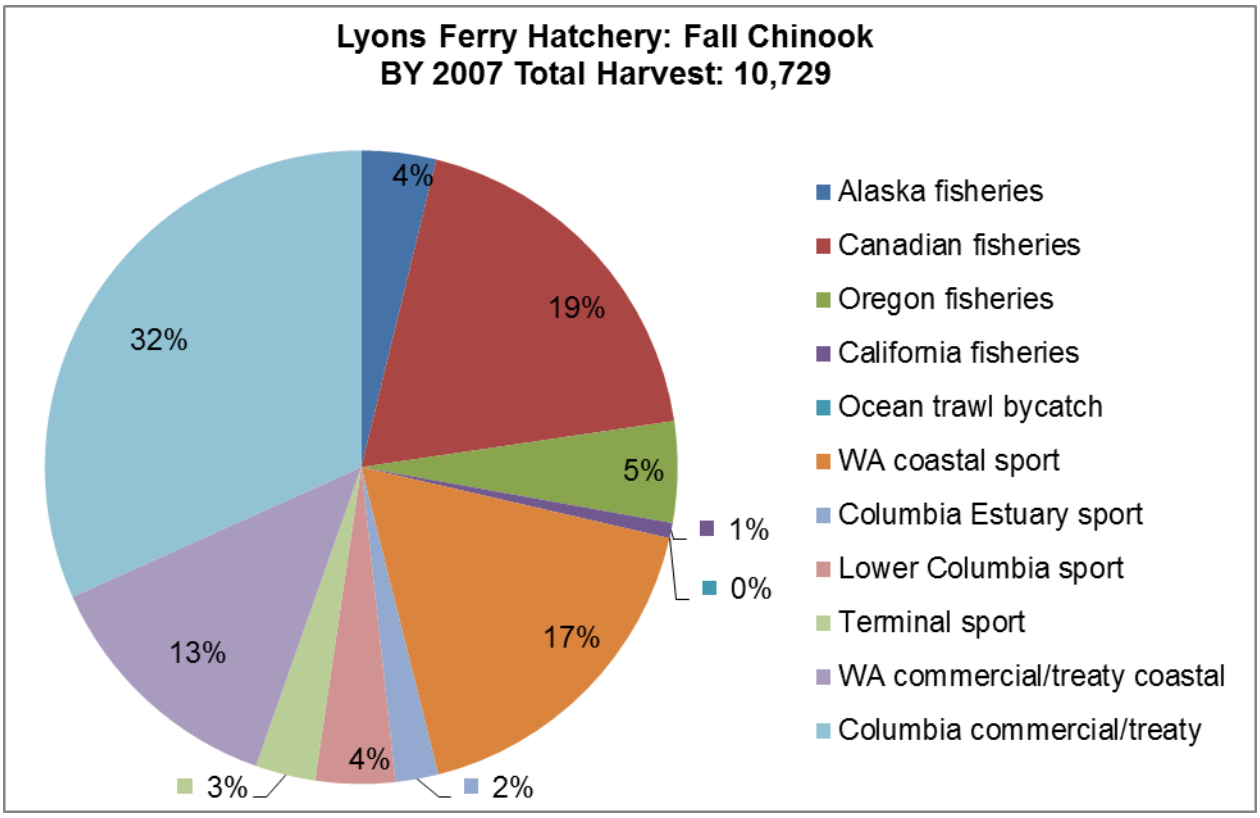

Figure 62. Types of CWT recoveries for brood year 2007 for Lyons Ferry Hatchery fall Chinook.

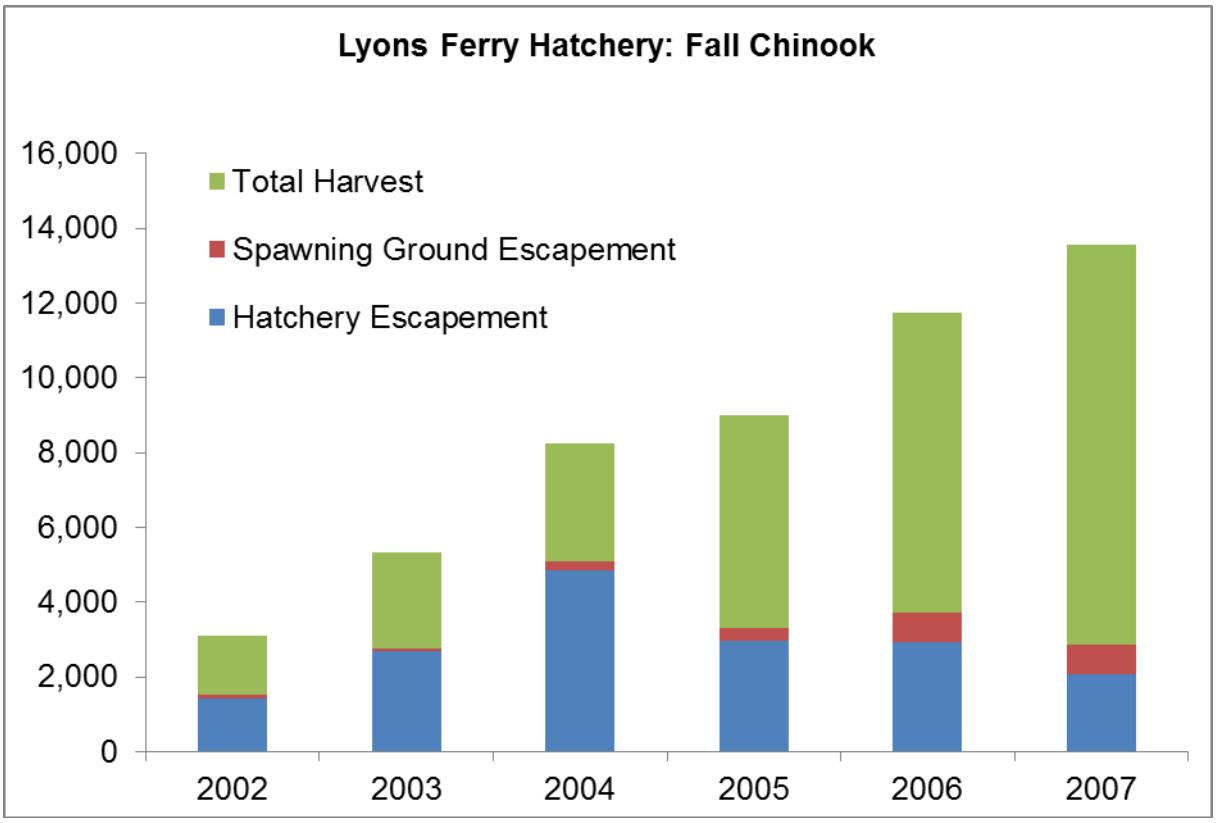

Figure 63. Escapement and Total Harvest for Lyons Ferry Hatchery fall Chinook for Brood Years 2002-2007.

Methow Hatchery

Table 80. Types of CWT recoveries by brood year for Methow Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	1	1	13	14	2	2
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	0	0	3	3	0	0
WA coast commercial/treaty	0	0	0	0	0	0
Columbia commercial/treaty	17	17	223	248	3	3
Hatchery escapement	465	470	569	633	215	216
Spawning escapement	826	834	1,777	1,977	453	455

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	4	9
Oregon fisheries	0	0	2	3	9	20
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	0	0	0	0	0	0
Columbia commercial/treaty	23	56	0	0	1	2
Hatchery escapement	149	366	104	153	498	1,130
Spawning escapement	137	336	91	134	906	2,057

*These fish are double-index-tagged (DIT) and would not be recovered in mark selective fisheries.

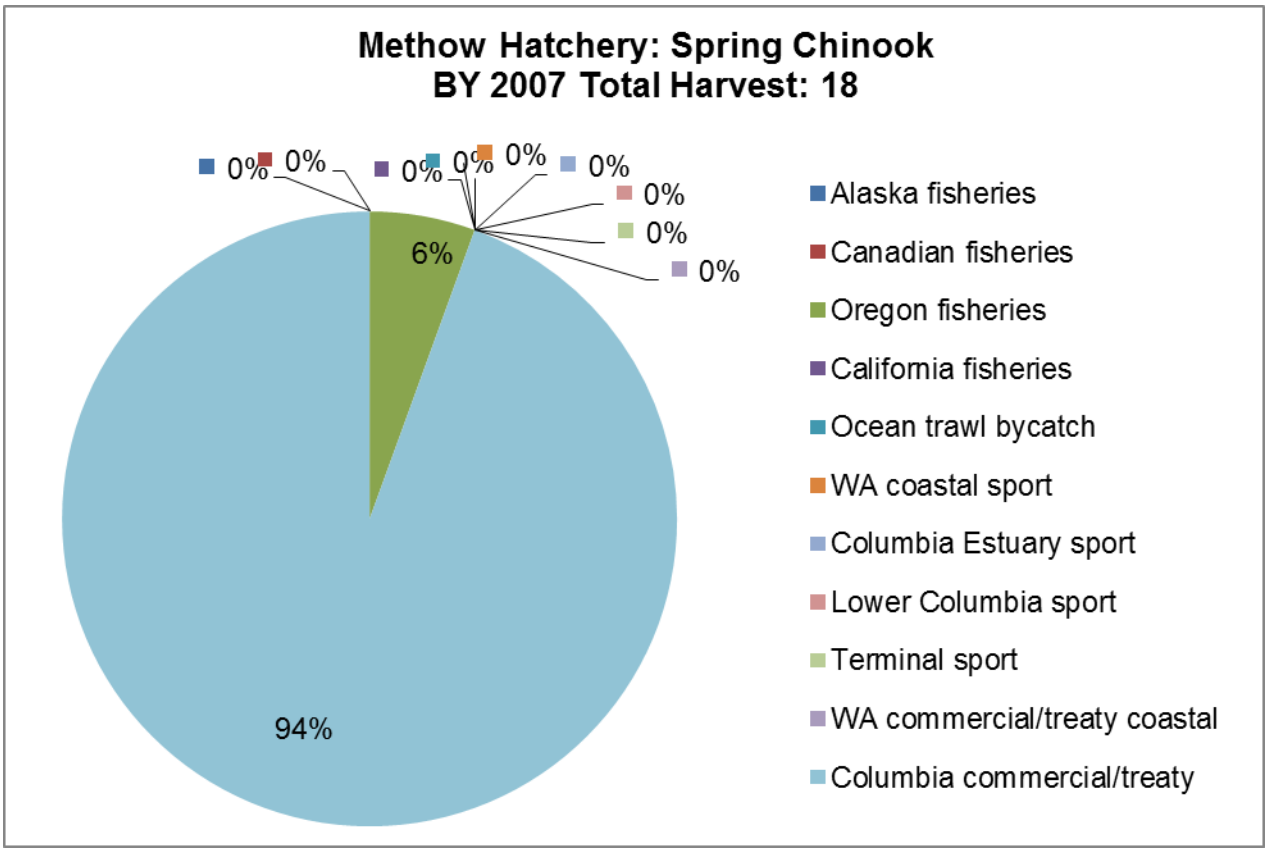

Figure 64. Types of CWT recoveries for brood year 2007 for Methow Hatchery spring Chinook.

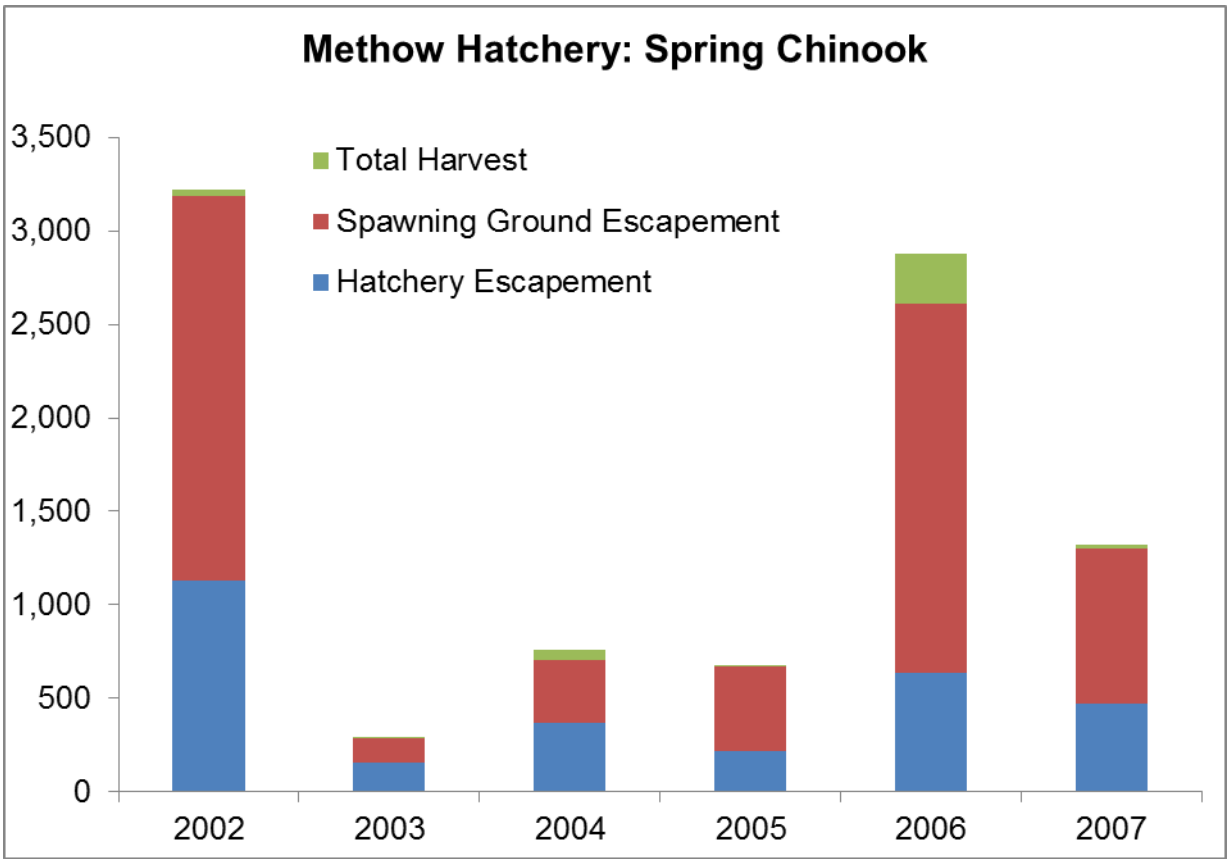

Figure 65. Escapement and Total Harvest for Methow Hatchery spring Chinook for Brood Years 2002 - 2007.

North Toutle Hatchery

Table 81. Types of CWT recoveries by brood year for North Toutle Hatchery fall Chinook.

North Toutle	Brood Year		Brood Year		Brood Year	
Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	9	236	8	228	0	0
Canadian fisheries	50	1,309	7	200	13	248
Oregon fisheries	10	262	0	0	2	38
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	5	131	0	0	2	38
Columbia Estuary sport	5	131	0	0	4	76
Lower Columbia sport	7	183	4	114	0	0
Terminal sport	2	52	0	0	16	305
WA coast commercial/treaty	7	183	0	0	2	38
Columbia commercial/treaty	0	0	0	0	3	57
Hatchery escapement	130	3,402	18	514	27	515
Spawning escapement	80	2,094	5	143	6	114

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	8	196	5	117	17	506
Canadian fisheries	36	882	2	47	24	715
Oregon fisheries	2	49	0	0	2	60
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	1	30
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	4	94	4	119
Terminal sport	11	270	0	0	0	0
WA coast commercial/treaty	0	0	0	0	9	268
Columbia commercial/treaty	0	0	0	0	2	60
Hatchery escapement	27	662	22	515	42	1,251
Spawning escapement	12	294	15	351	69	2,055

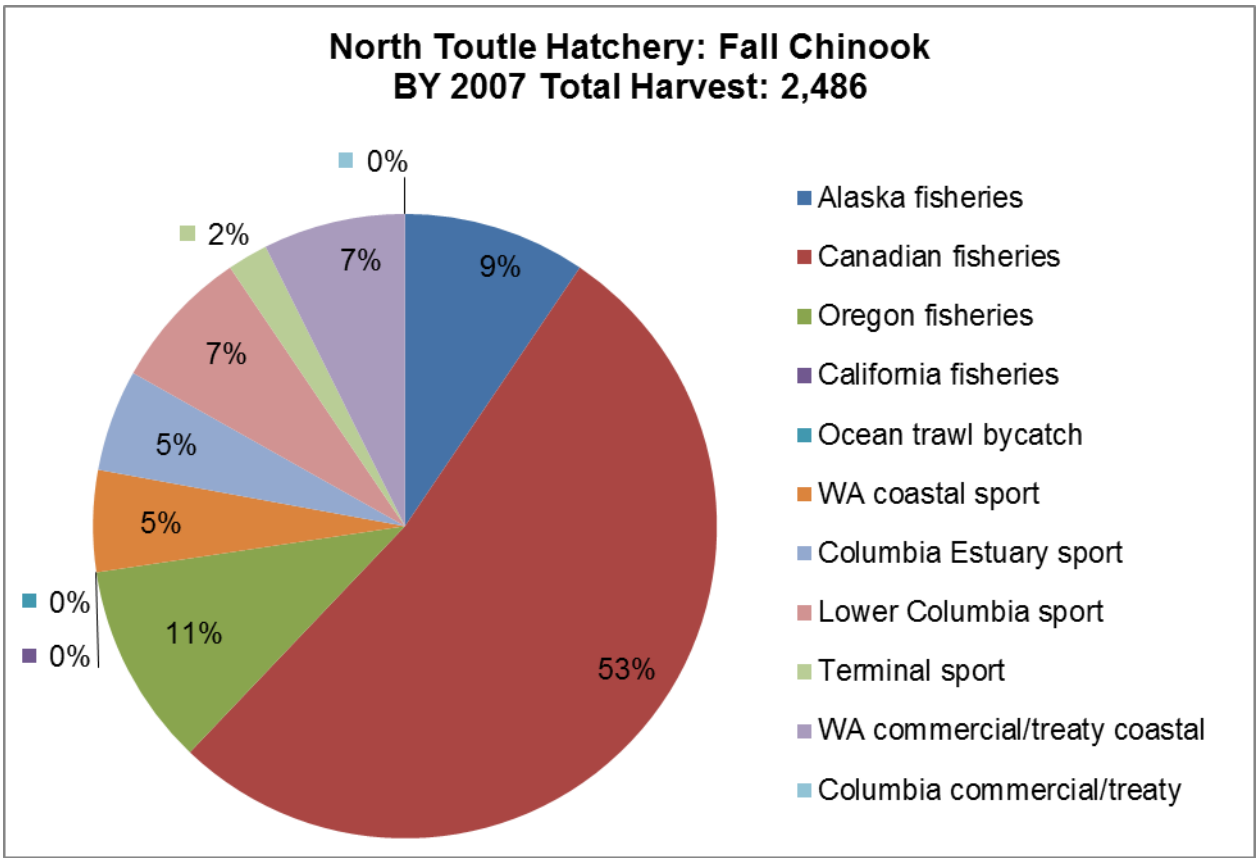

Figure 66. Types of CWT recoveries for brood year 2007 for North Toutle Hatchery fall Chinook.

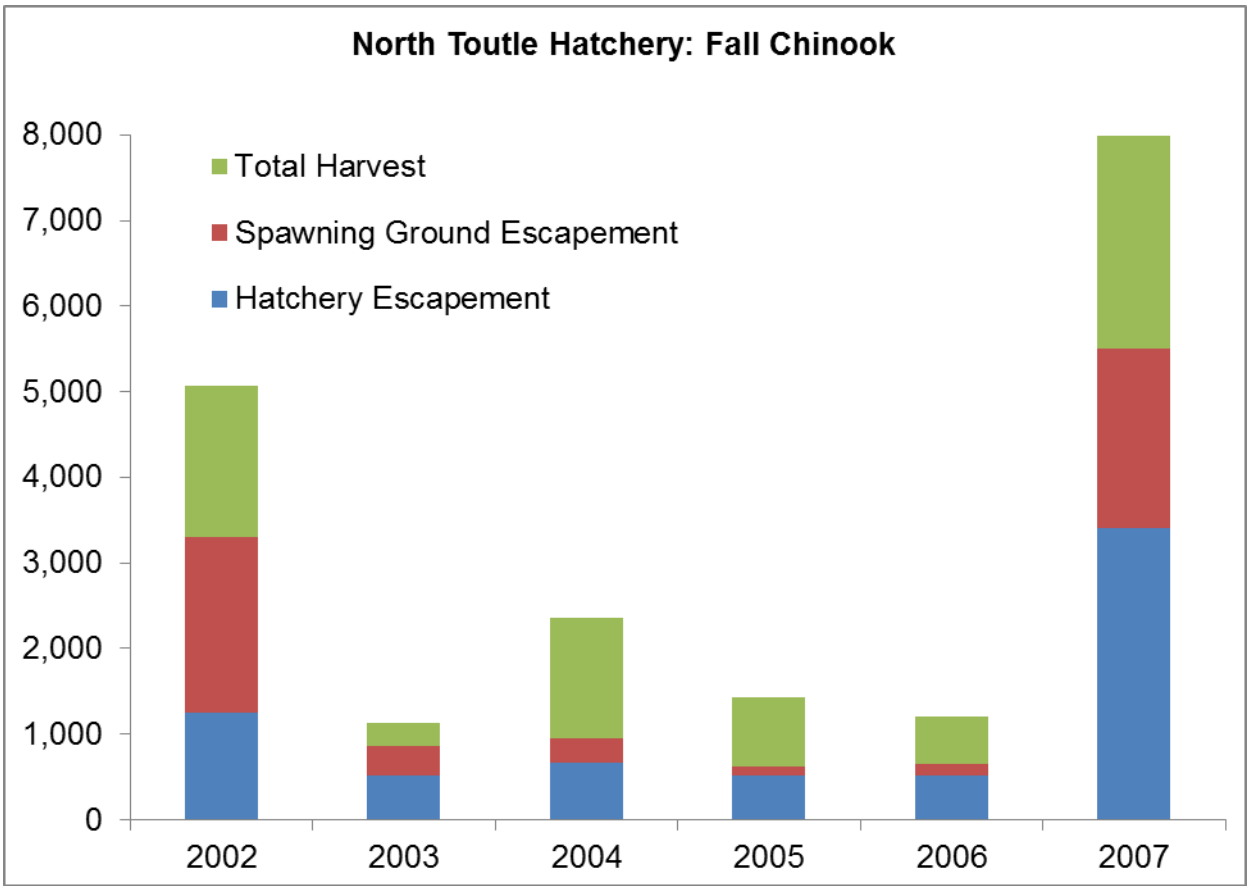

Figure 67. Escapement and Total Harvest for Lyons Ferry Hatchery fall Chinook for Brood Years 2002-2007.

Table 82. Types of CWT recoveries by brood year for North Toutle Hatchery early Coho.

Early Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	8	41	18	104	15	157
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	18	92	23	132	27	283
Columbia Estuary sport	0	0	55	316	36	377
Lower Columbia sport	3	15	9	52	0	0
Terminal sport	0	0	1	6	0	0
WA coast commercial/treaty	2	10	0	0	0	0
Columbia commercial/treaty	13	67	0	0	31	325
Hatchery escapement	232	1,188	293	1,686	533	5,586
Spawning escapement	4	20	1	6	1	10

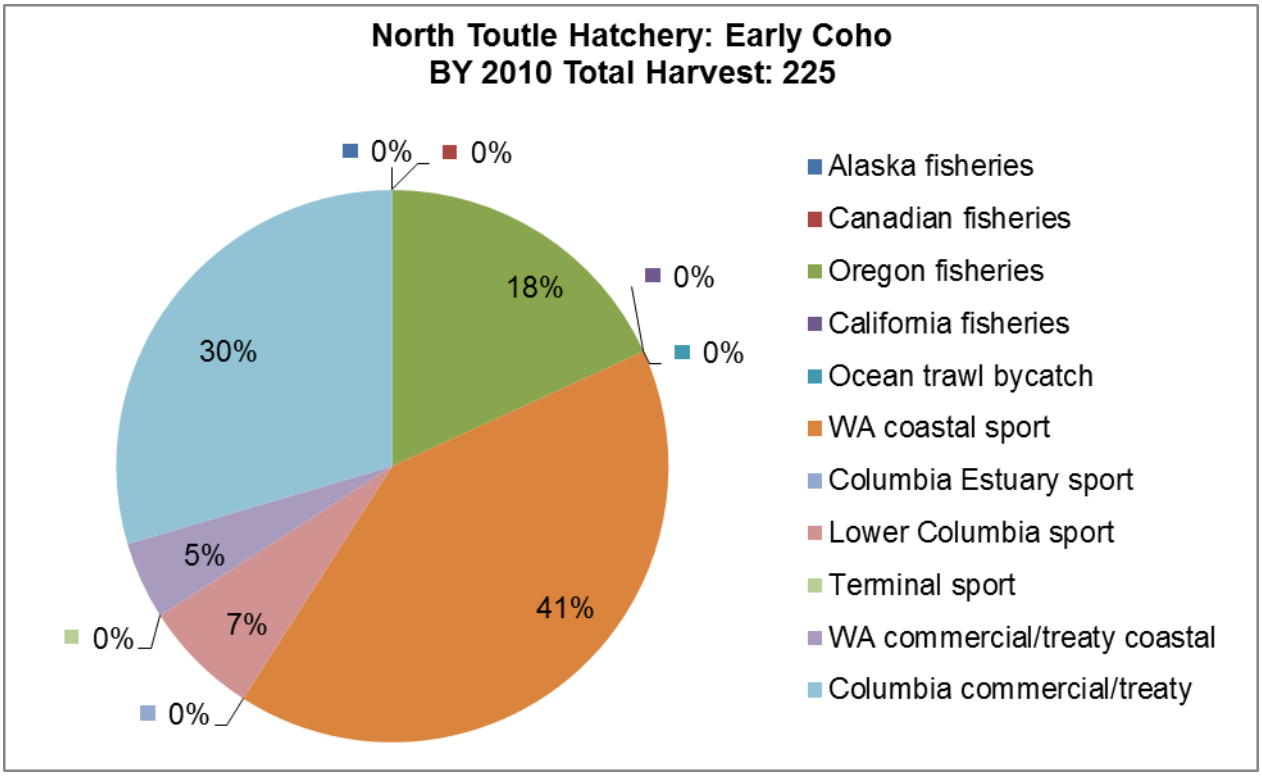

Figure 68. Types of CWT recoveries for brood year 2010 for Lewis Hatchery late Coho.

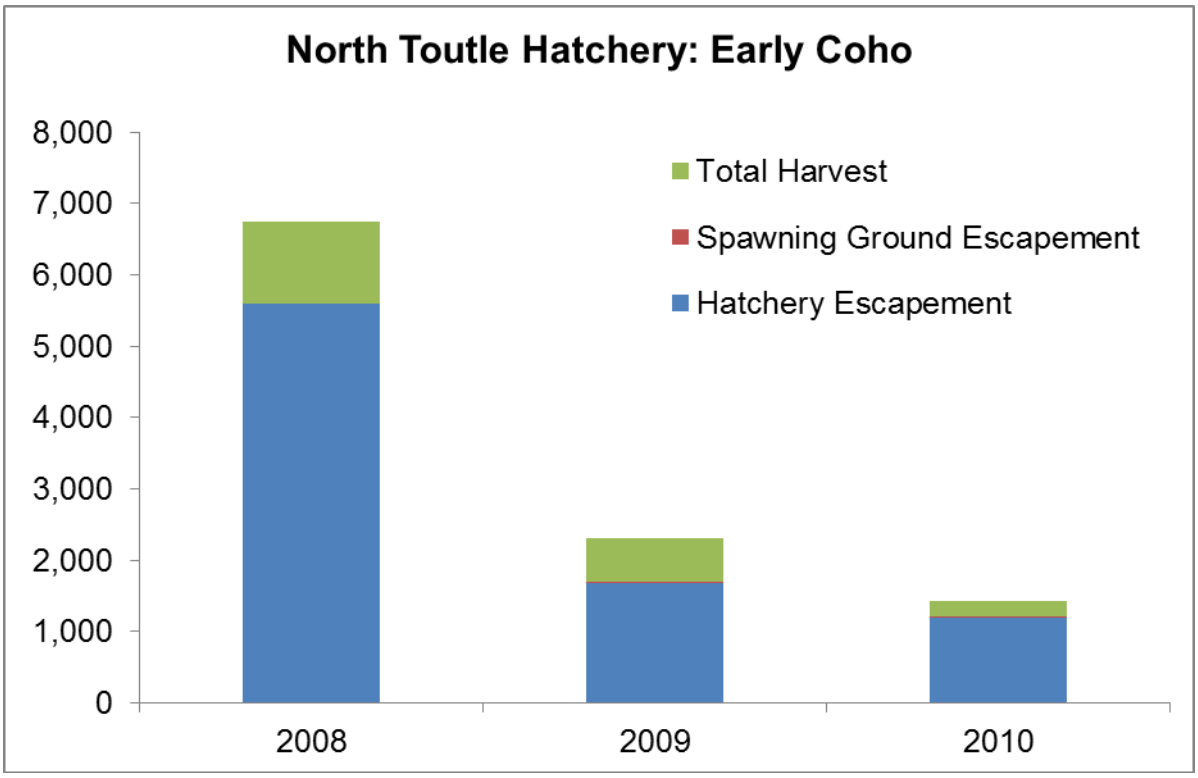

Figure 69. Escapement and Total Harvest for N Toutle Hatchery early Coho for Brood Years 2008-2010.

Priest Rapids Hatchery

Table 83. Types of CWT recoveries by brood year for Priest Rapids Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	310	6,961	14	467	302	10,412
Canadian fisheries	196	4,401	10	334	237	8,171
Oregon fisheries	15	337	0	0	9	310
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	27	606	4	134	23	793
Columbia Estuary sport	15	337	3	100	12	414
Lower Columbia sport	122	2,739	0	0	81	2,793
Terminal sport	80	1,796	6	200	71	2,448
WA coast commercial/treaty	46	1,033	0	0	14	483
Columbia commercial/treaty	574	12,888	30	1,001	409	14,101
Hatchery escapement	867	19,467	19	634	496	17,101
Spawning escapement	132	2,964	11	367	119	4,103

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	22	726	57	973	86	1,640
Canadian fisheries	8	264	32	546	93	1,774
Oregon fisheries	1	33	0	0	6	114
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	2	66	0	0	0	0
WA coastal sport	0	0	4	68	13	248
Columbia Estuary sport	0	0	1	17	2	38
Lower Columbia sport	0	0	11	188	25	477
Terminal sport	0	0	28	478	71	1,354
WA coast commercial/treaty	0	0	2	34	1	19
Columbia commercial/treaty	34	1,122	42	717	95	1,812
Hatchery escapement	34	1,122	119	2,032	199	3,795
Spawning escapement	0	0	59	1,007	78	1,488

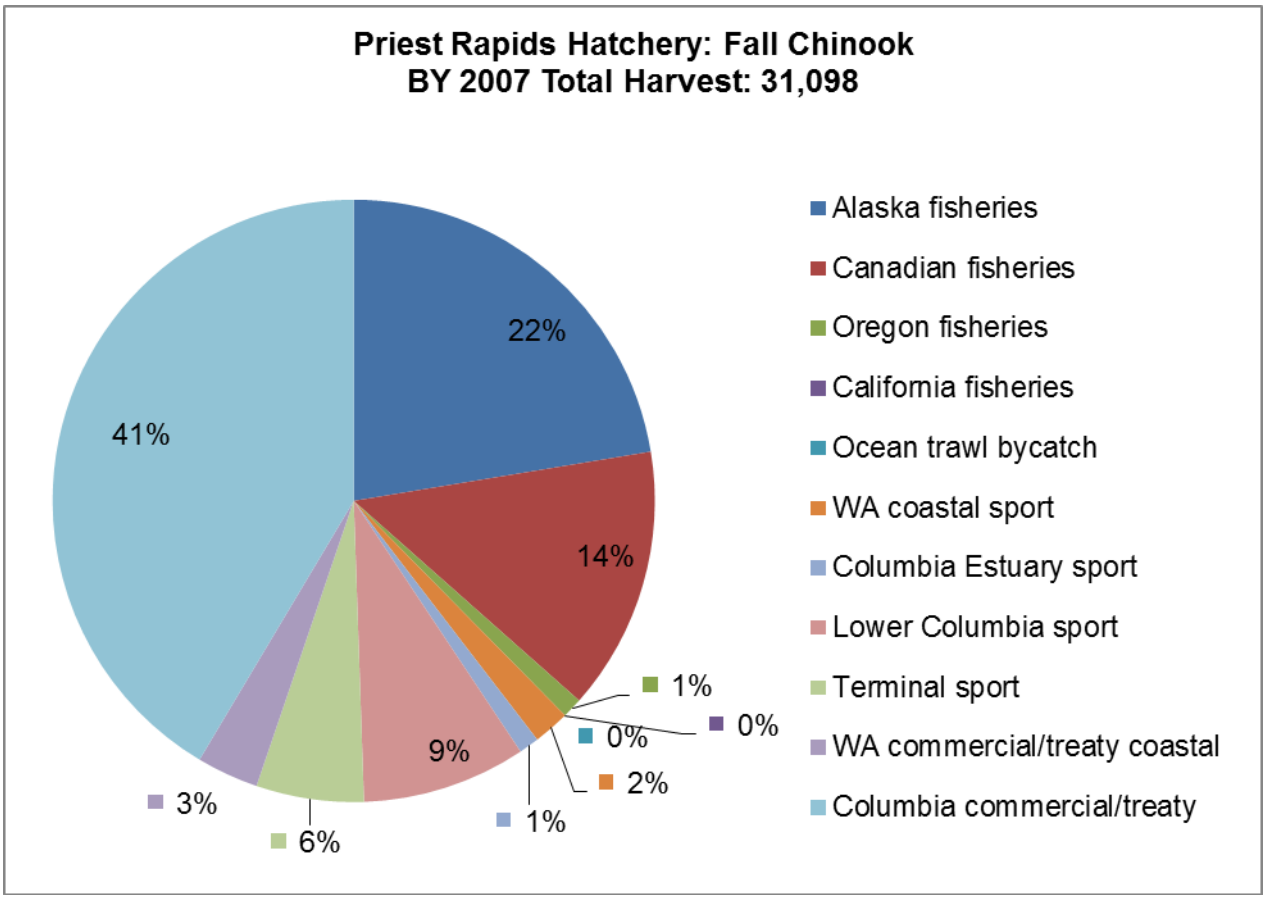

Figure 70. Types of CWT recoveries for brood year 2007 for Priest Rapids Hatchery fall Chinook.

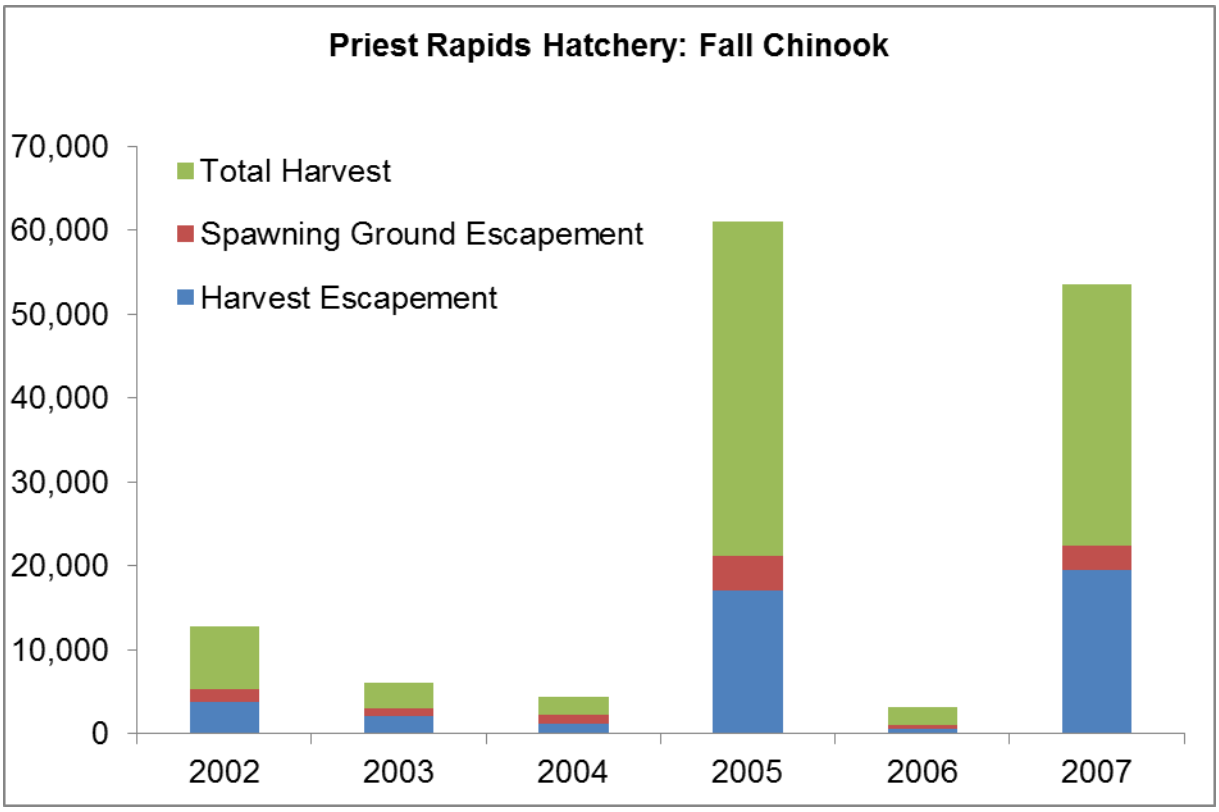

Figure 71. Escapement and Total Harvest for Priest Rapids Hatchery fall Chinook for Brood Years 2002-2007.

Ringold Hatchery

Table 84. Types of CWT recoveries by brood year for Ringold Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	No Tags Recovered	
Alaska fisheries	126	1,758	8	122	0	0
Canadian fisheries	169	2,358	9	138	0	0
Oregon fisheries	7	98	0	0	0	0
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	32	447	4	61	0	0
Columbia Estuary sport	12	167	0	0	0	0
Lower Columbia sport	80	1,116	0	0	0	0
Terminal sport	38	530	13	199	0	0
WA coast commercial/treaty	25	349	0	0	0	0
Columbia commercial/treaty	413	5,764	16	244	0	0
Hatchery escapement	327	4,563	8	122	0	0
Spawning escapement	200	2,791	25	382	0	0

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	3	38	17	242	29	470
Canadian fisheries	0	0	10	142	60	973
Oregon fisheries	0	0	0	0	0	0
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	2	25	1	14	1	16
Columbia Estuary sport	0	0	0	0	4	65
Lower Columbia sport	0	0	0	0	4	65
Terminal sport	0	0	10	142	37	600
WA coast commercial/treaty	2	25	0	0	11	178
Columbia commercial/treaty	4	50	11	157	48	779
Hatchery escapement	2	25	6	85	34	552
Spawning escapement	0	0	9	128	8	130

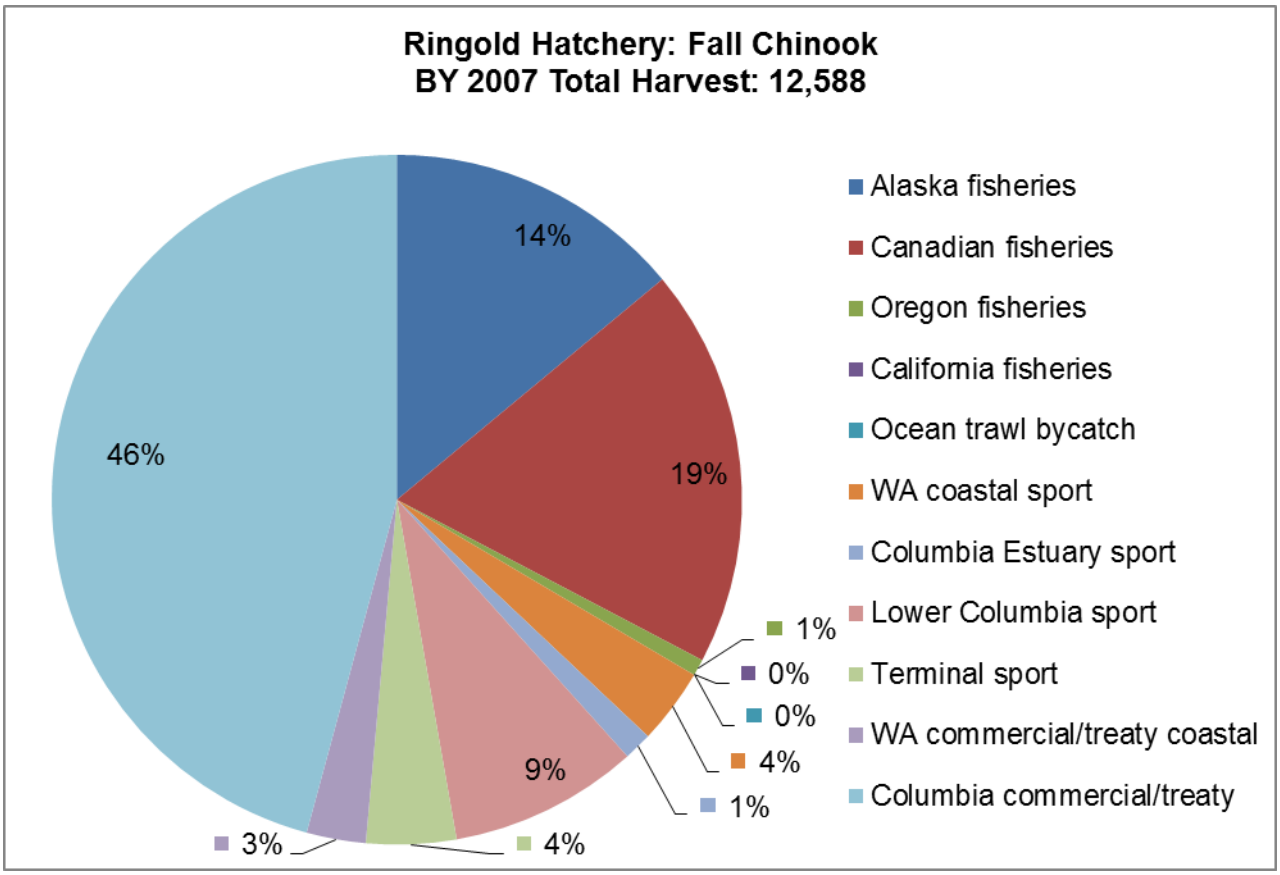

Figure 72. Types of CWT recoveries for brood year 2007 for Ringold Hatchery fall Chinook.

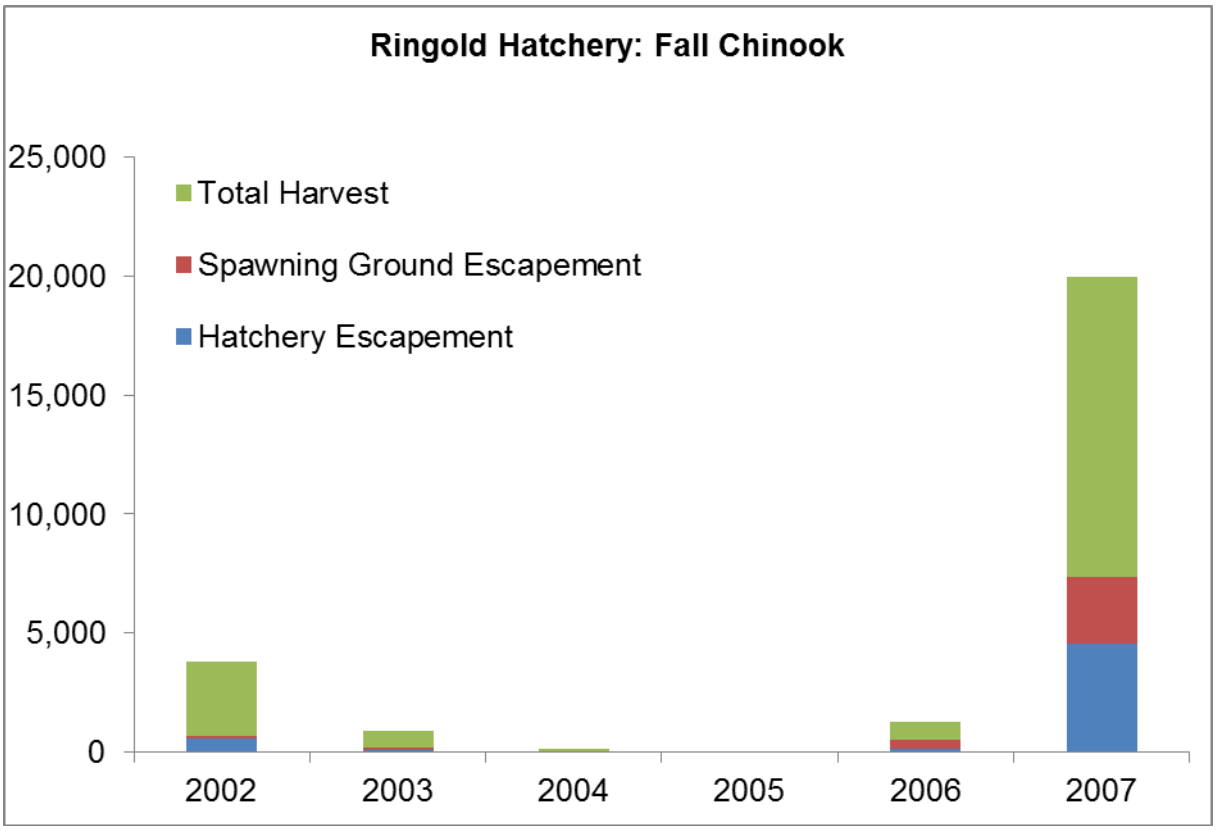

Figure 73. Escapement and Total Harvest for Ringold Hatchery fall Chinook for Brood Years 2002-2007.

Tucannon Hatchery

Table 85. Types of CWT recoveries by brood year for Tucannon Hatchery spring Chinook.

Spring Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	0	0	8	8	3	3
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	0	0	0	0	0	0
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	0	0	0	0	0	0
Columbia commercial/treaty	5	5	56	56	0	0
Hatchery escapement	63	68	168	169	100	101
Spawning escapement	155	168	1,226	1,235	792	798

Spring Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	0	0
Canadian fisheries	1	1	0	0	0	0
Oregon fisheries	0	0	0	0	0	0
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	0	0	0	0	0	0
Columbia Estuary sport	0	0	0	0	0	0
Lower Columbia sport	4	4	0	0	0	0
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	0	0	0	0	0	0
Columbia commercial/treaty	14	14	0	0	0	0
Hatchery escapement	80	81	24	25	58	80
Spawning escapement	175	176	42	43	47	65

*These fish are double-index-tagged (DIT) and would not be recovered in mark selective fisheries.

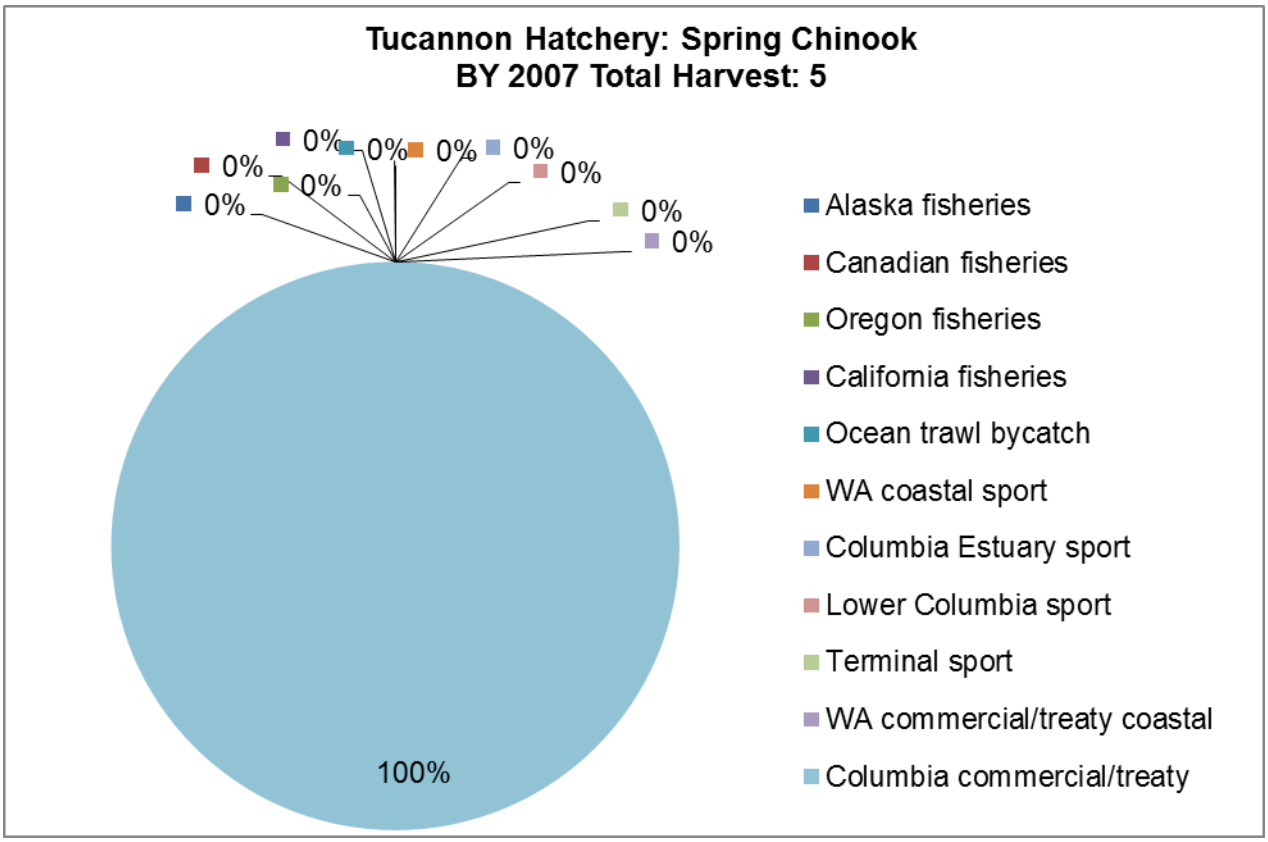

Figure 74. Types of CWT recoveries for brood year 2007 for Tucannon Hatchery spring Chinook.

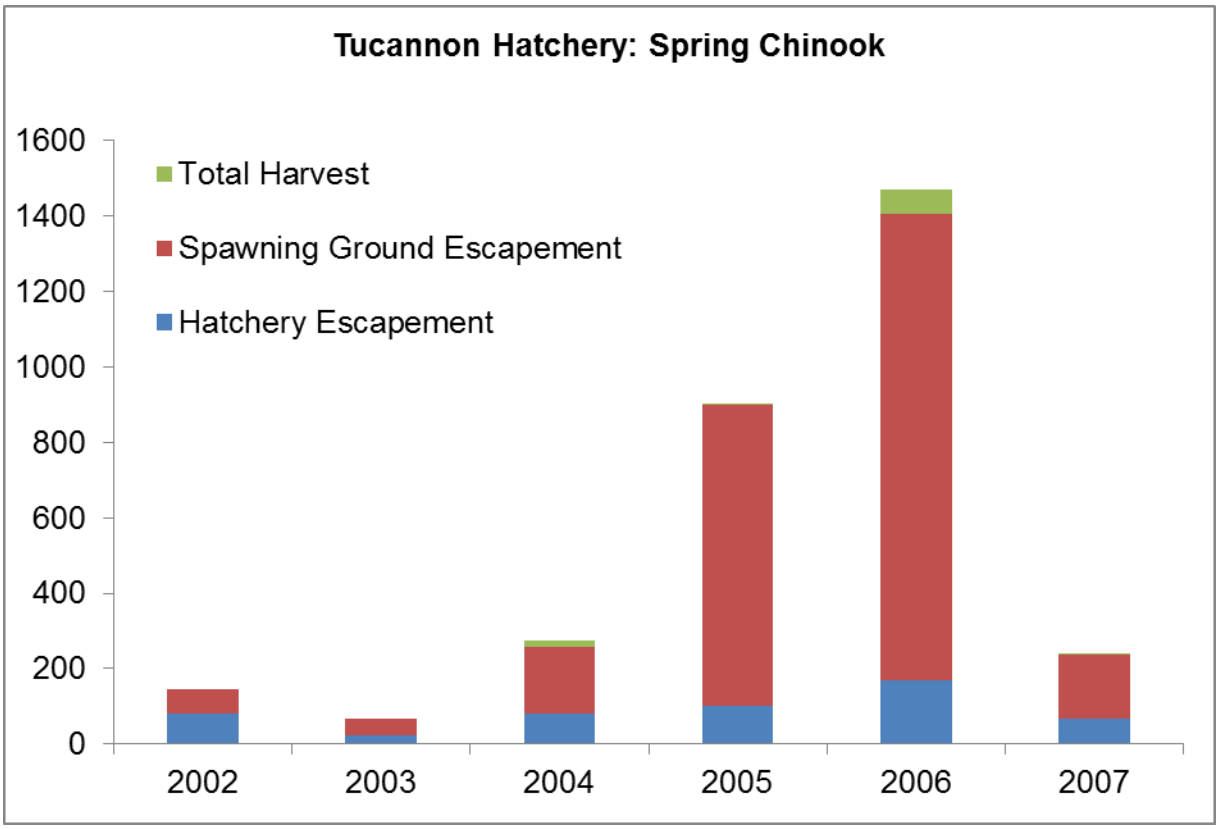

Figure 75. Escapement and Total Harvest for Tucannon Hatchery spring Chinook for Brood Years 2002-2007.

Turtle Rock Hatchery

Table 86. Types of CWT recoveries by brood year for Turtle Rock Hatchery summer Chinook.

Summer Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	177	357	486	965	23	65
Canadian fisheries	161	325	548	1,088	39	110
Oregon fisheries	52	105	125	248	0	0
California fisheries	9	18	6	12	0	0
Ocean trawl bycatch	0	0	0	0	1	3
WA coastal sport	14	28	33	66	0	0
Columbia Estuary sport	3	6	6	12	0	0
Lower Columbia sport	117	236	292	580	5	14
Terminal sport	80	162	453	899	16	45
WA coast commercial/treaty	46	93	122	242	4	11
Columbia commercial/treaty	282	570	1,296	2,573	67	190
Hatchery escapement	201	406	529	1,050	60	170
Spawning escapement	96	194	675	1,340	11	31

Summer Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	461	750	0	0	403	718
Canadian fisheries	308	501	3	6	593	1,056
Oregon fisheries	19	31	1	2	70	125
California fisheries	0	0	0	0	10	18
Ocean trawl bycatch	1	2	0	0	0	0
WA coastal sport	19	31	0	0	17	30
Columbia Estuary sport	3	5	0	0	4	7
Lower Columbia sport	198	322	10	20	164	292
Terminal sport	434	706	0	0	471	839
WA coast commercial/treaty	49	80	0	0	70	125
Columbia commercial/treaty	738	1,201	25	50	641	1,142
Hatchery escapement	367	597	13	26	335	597
Spawning escapement	229	373	0	0	254	452

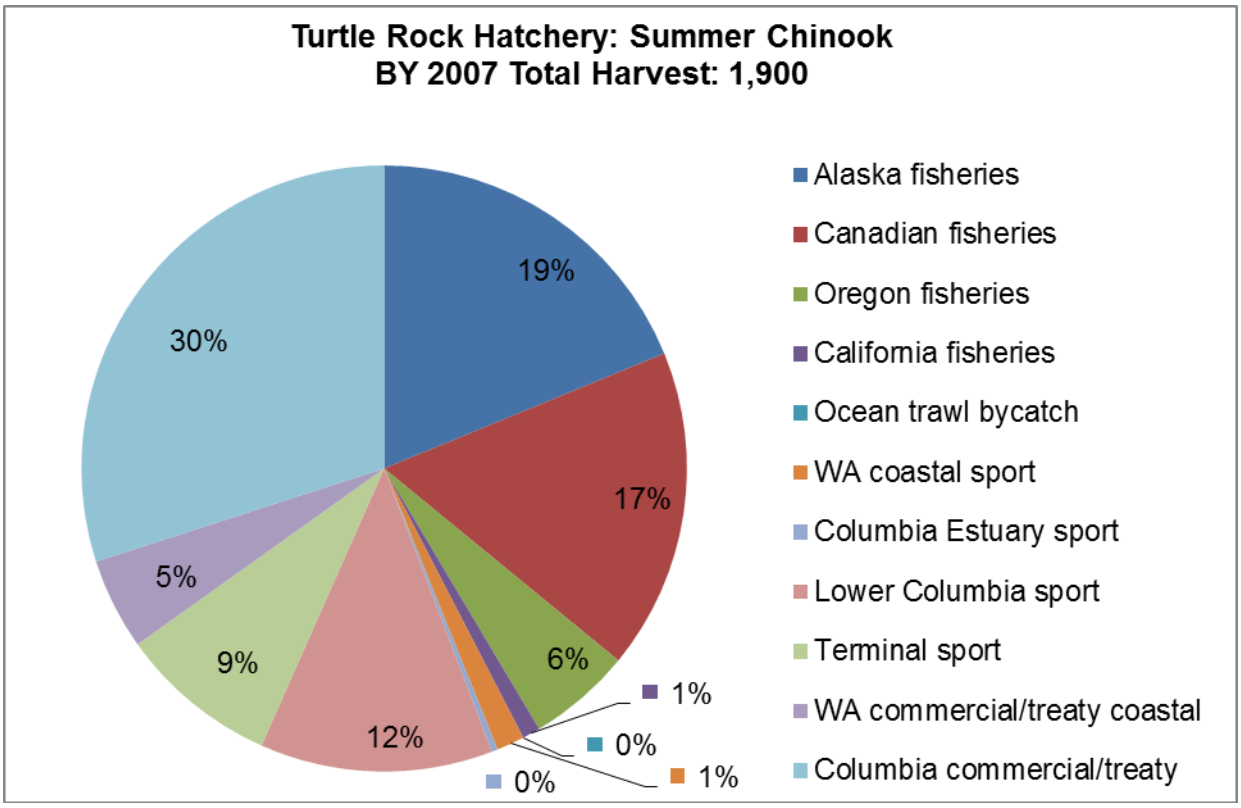

Figure 76. Types of CWT recoveries for brood year 2007 for Turtle Rock Hatchery summer Chinook.

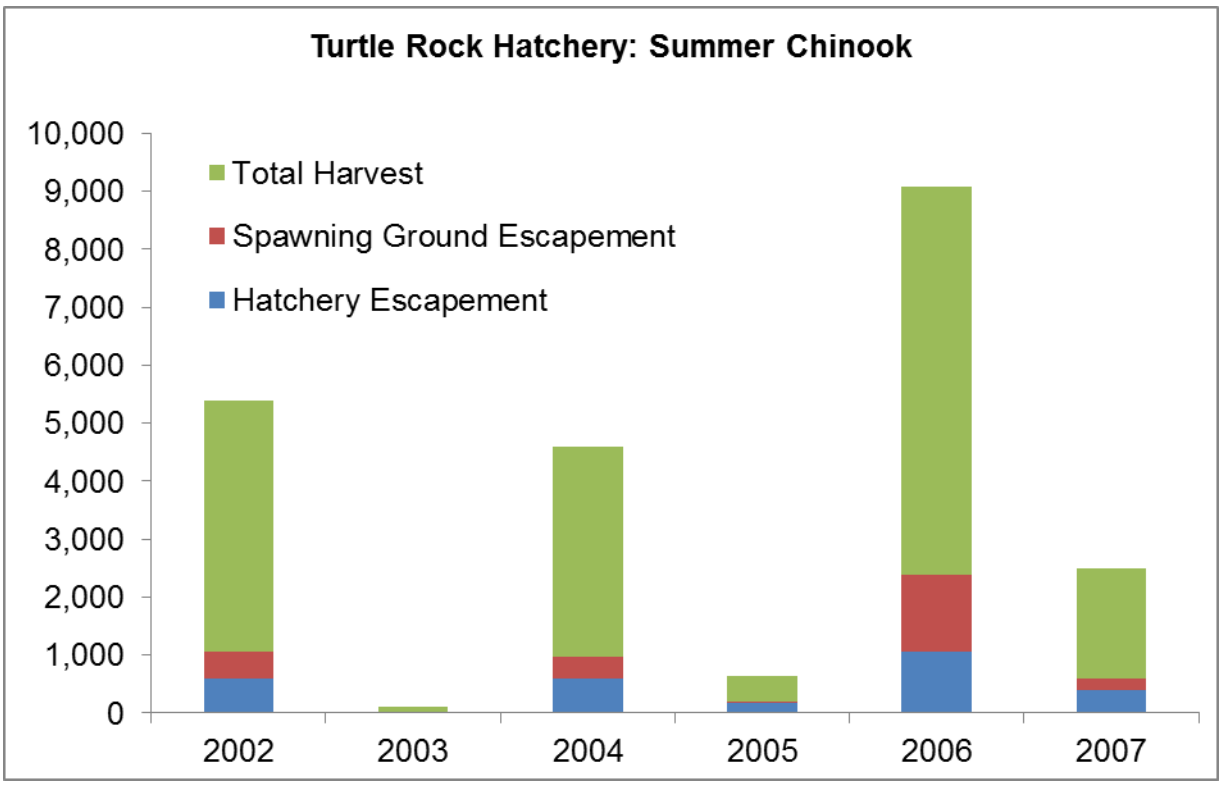

Figure 77. Escapement and Total Harvest for Turtle Rock Hatchery summer Chinook for Brood Years 2002-2007.

Washougal Hatchery

Table 87. Types of CWT recoveries by brood year for Washougal Hatchery fall Chinook.

Fall Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	35	1,494	5	230	11	525
Canadian fisheries	108	4,611	39	1,796	89	4,248
Oregon fisheries	5	213	0	0	5	239
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	26	1,110	0	0	13	620
Columbia Estuary sport	5	213	3	138	3	143
Lower Columbia sport	32	1,366	8	368	6	286
Terminal sport	31	1,323	32	1,473	0	0
WA coast commercial/treaty	16	683	2	92	5	239
Columbia commercial/treaty	73	3,116	17	783	22	1,050
Hatchery escapement	282	12,039	163	7,505	146	6,968
Spawning escapement	59	2,519	65	2,993	23	1,098

Fall Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	28	1,186	8	324	31	1,263
Canadian fisheries	49	2,076	23	930	33	1,345
Oregon fisheries	0	0	0	0	3	122
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	11	466	0	0	15	611
Columbia Estuary sport	9	381	0	0	0	0
Lower Columbia sport	4	169	4	162	8	326
Terminal sport	0	0	0	0	0	0
WA coast commercial/treaty	7	297	3	121	5	204
Columbia commercial/treaty	7	297	2	81	20	815
Hatchery escapement	87	3,687	60	2,427	120	4,890
Spawning escapement	17	720	15	607	41	1,671

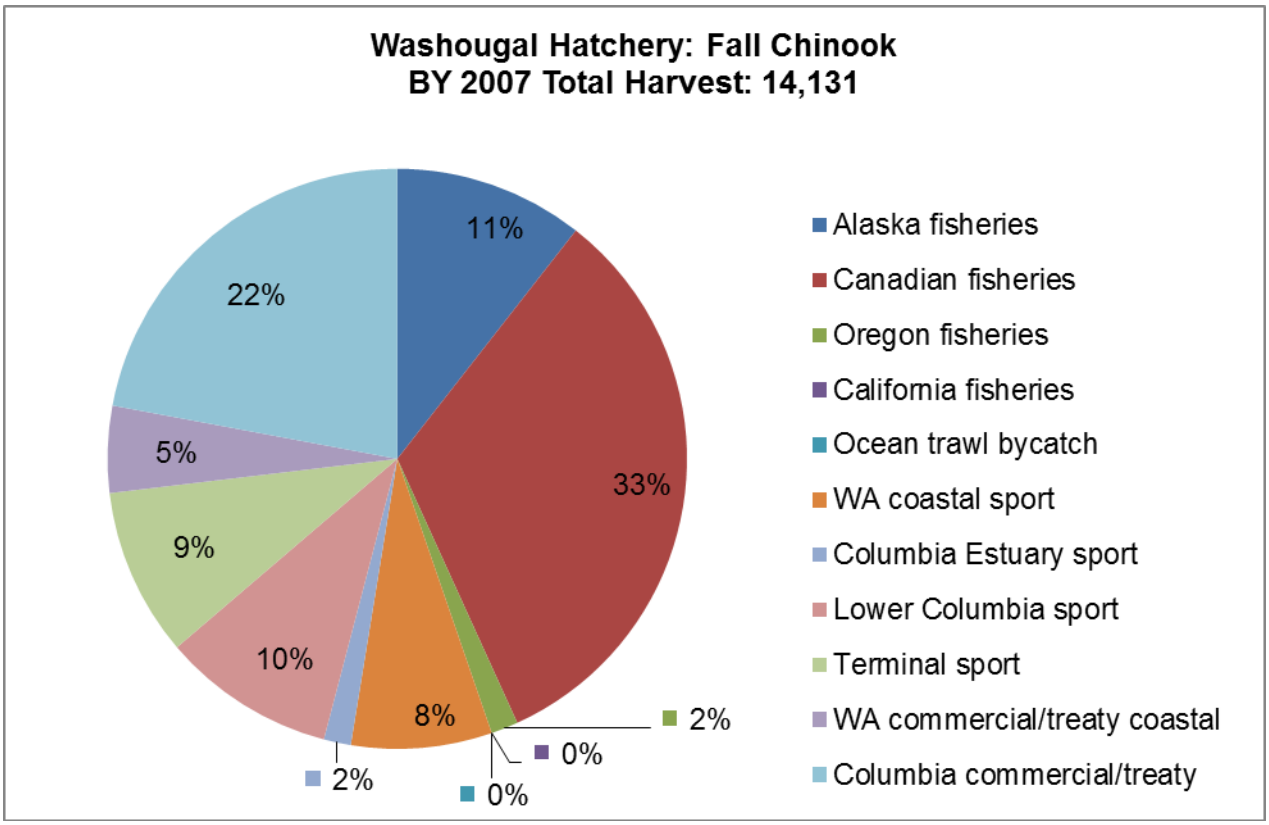

Figure 78. Types of CWT recoveries for brood year 2007 for Washougal Hatchery fall Chinook.

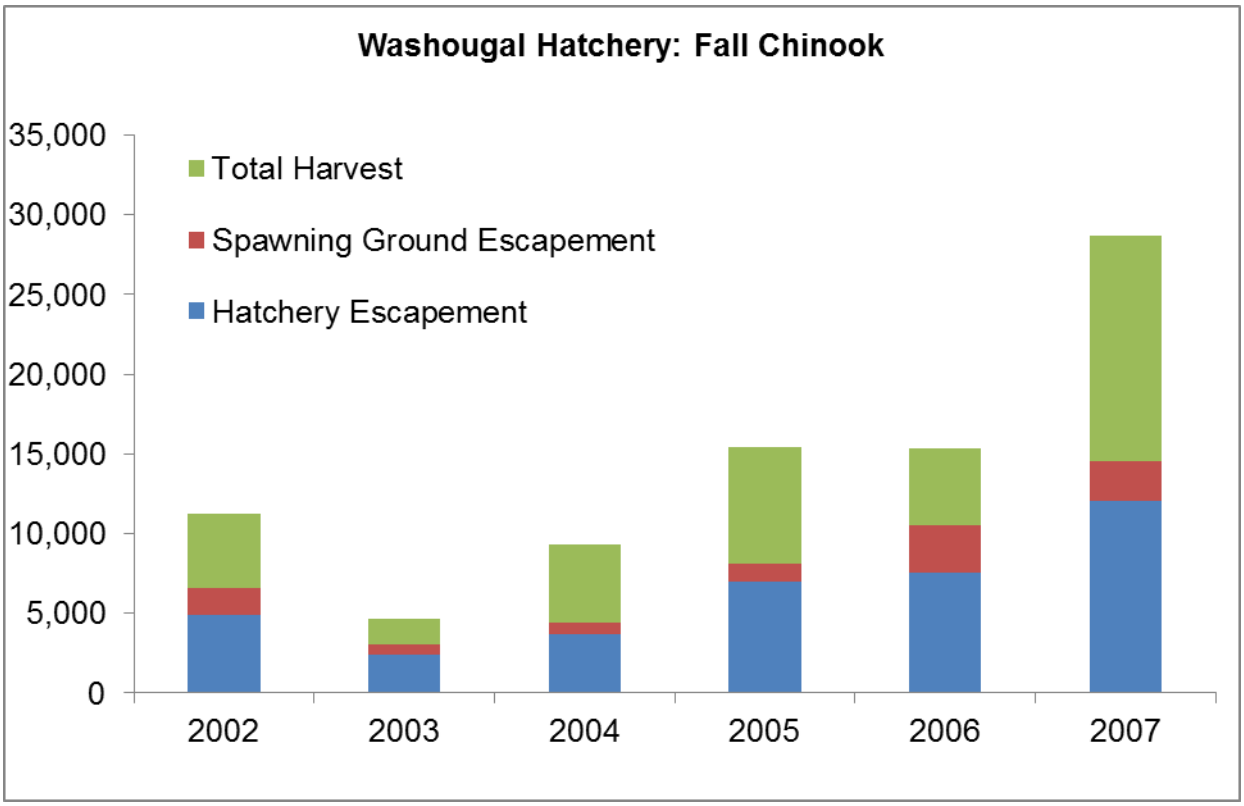

Figure 79. Escapement and Total Harvest for Washougal Hatchery fall Chinook for Brood Years 2002-2007.

Table 88. Types of CWT recoveries by brood year for Washougal Hatchery late Coho.

Late Coho	2010		2009		2008	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	0	0	0	0	13	218
Canadian fisheries	0	0	0	0	0	0
Oregon fisheries	70	2,244	49	1,448	43	721
California fisheries	0	0	0	0	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	167	5,353	96	2,837	113	1,895
Columbia Estuary sport	25	801	13	384	5	84
Lower Columbia sport	5	160	9	266	20	335
Terminal sport	2	64	0	0	0	0
WA coast commercial/treaty	24	769	0	0	11	184
Columbia commercial/treaty	74	2,372	31	916	27	453
Hatchery escapement	244	7,821	193	5,703	161	2,699
Spawning escapement	2	64	0	0	0	0

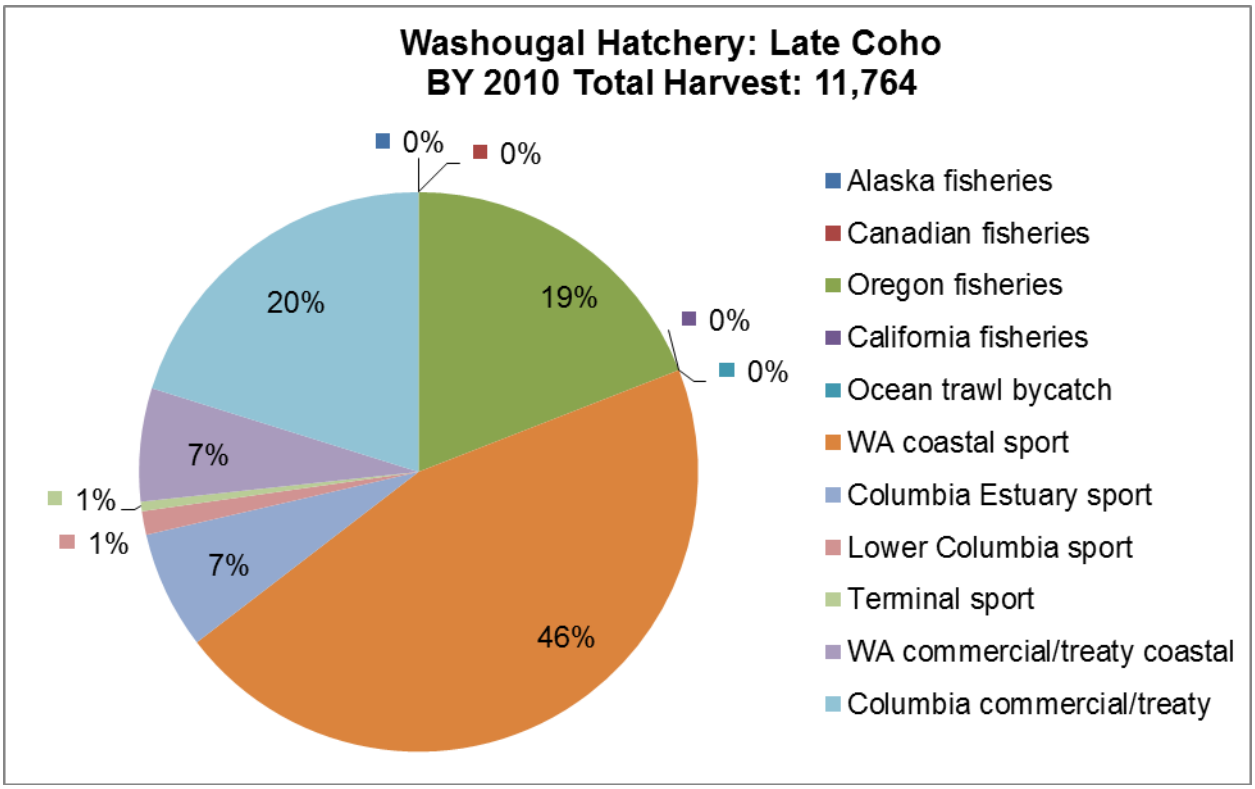

Figure 80. Escapement and Total Harvest for Washougal Hatchery late Coho for Brood Years 2008-2010.

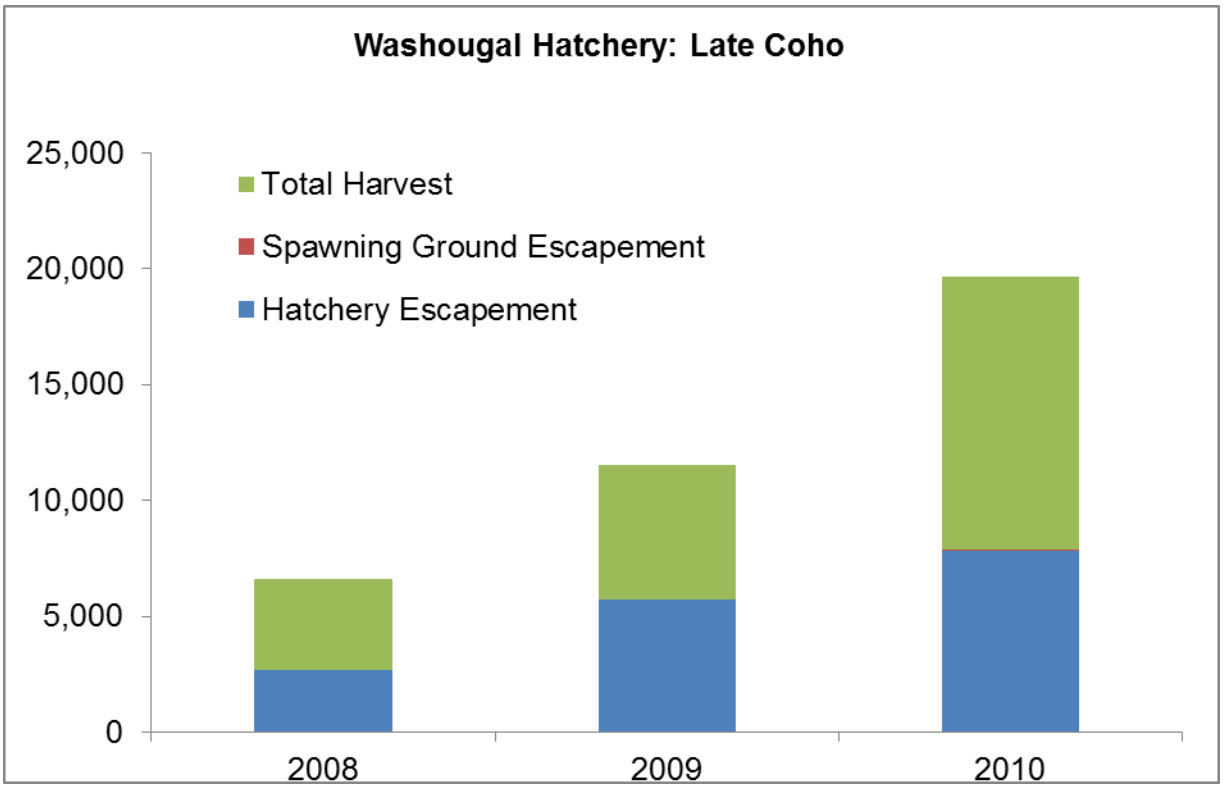

Figure 81. Escapement and Total Harvest for Washougal Hatchery late Coho for Brood Years 2008-2010.

Wells Hatchery

Table 89. Types of CWT recoveries by brood year for Wells Hatchery summer Chinook.

Summer Chinook	2007		2006		2005	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	303	307	598	602	366	378
Canadian fisheries	289	291	871	877	708	732
Oregon fisheries	108	109	221	223	68	70
California fisheries	14	14	10	10	0	0
Ocean trawl bycatch	0	0	0	0	0	0
WA coastal sport	32	32	45	45	19	20
Columbia Estuary sport	0	0	18	18	3	3
Lower Columbia sport	120	121	249	251	106	110
Terminal sport	192	193	464	467	330	341
WA coast commercial/treaty	69	70	207	209	90	93
Columbia commercial/treaty	593	597	1,774	1,787	838	866
Hatchery escapement	653	658	2,715	2,735	1,194	1,235
Spawning escapement	73	74	191	192	293	303

Summer Chinook	2004		2003		2002	
Type of Recovery	Tag Rec	Expanded	Tag Rec	Expanded	Tag Rec	Expanded
Alaska fisheries	385	401	663	700	536	543
Canadian fisheries	474	493	559	590	659	668
Oregon fisheries	33	34	50	53	94	95
California fisheries	0	0	4	4	9	9
Ocean trawl bycatch	1	1	0	0	0	0
WA coastal sport	19	20	21	22	16	16
Columbia Estuary sport	25	26	17	18	0	0
Lower Columbia sport	96	100	166	175	203	206
Terminal sport	469	488	414	437	380	385
WA coast commercial/treaty	103	107	140	148	83	84
Columbia commercial/treaty	751	781	840	887	583	591
Hatchery escapement	1,579	1,643	958	1,012	1,323	1,341
Spawning escapement	201	209	250	264	74	75

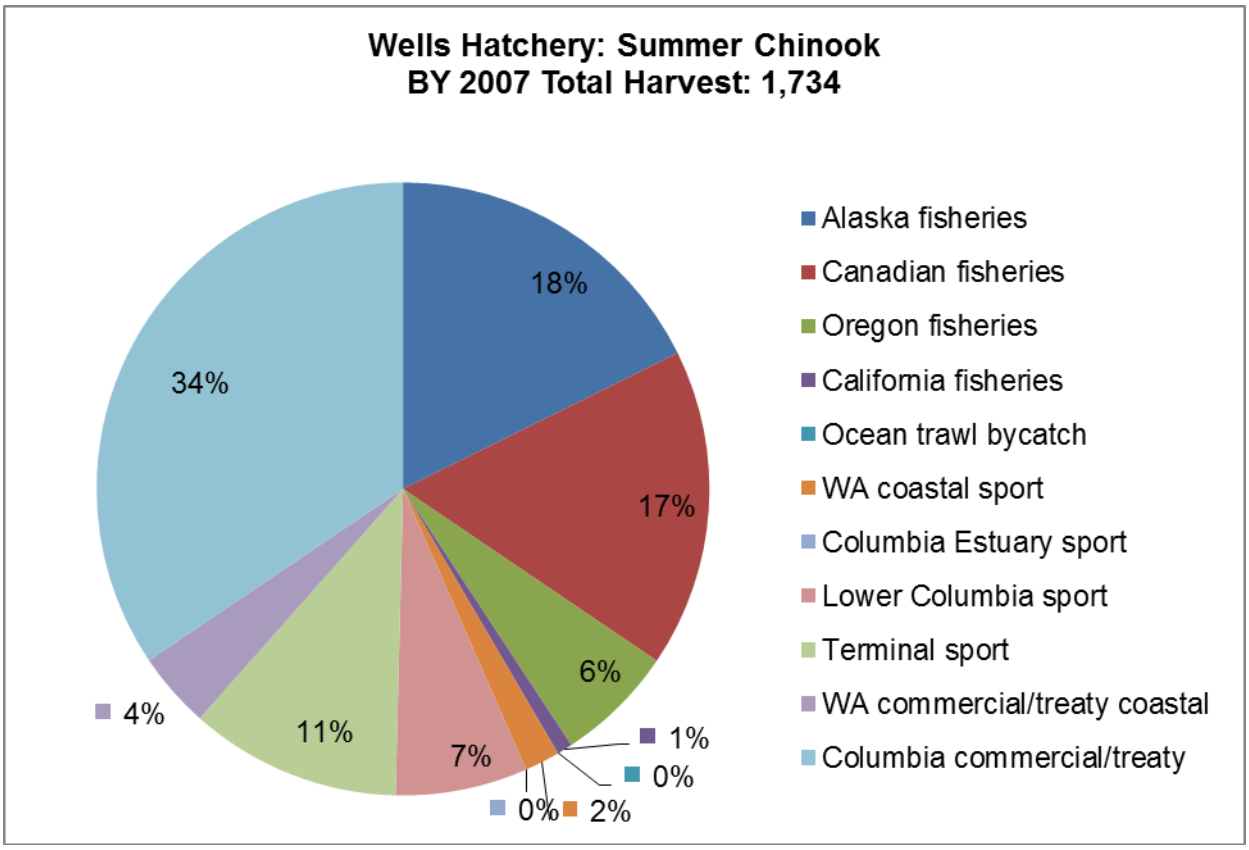

Figure 82. Types of CWT recoveries for brood year 2007 for Wells Hatchery summer Chinook.

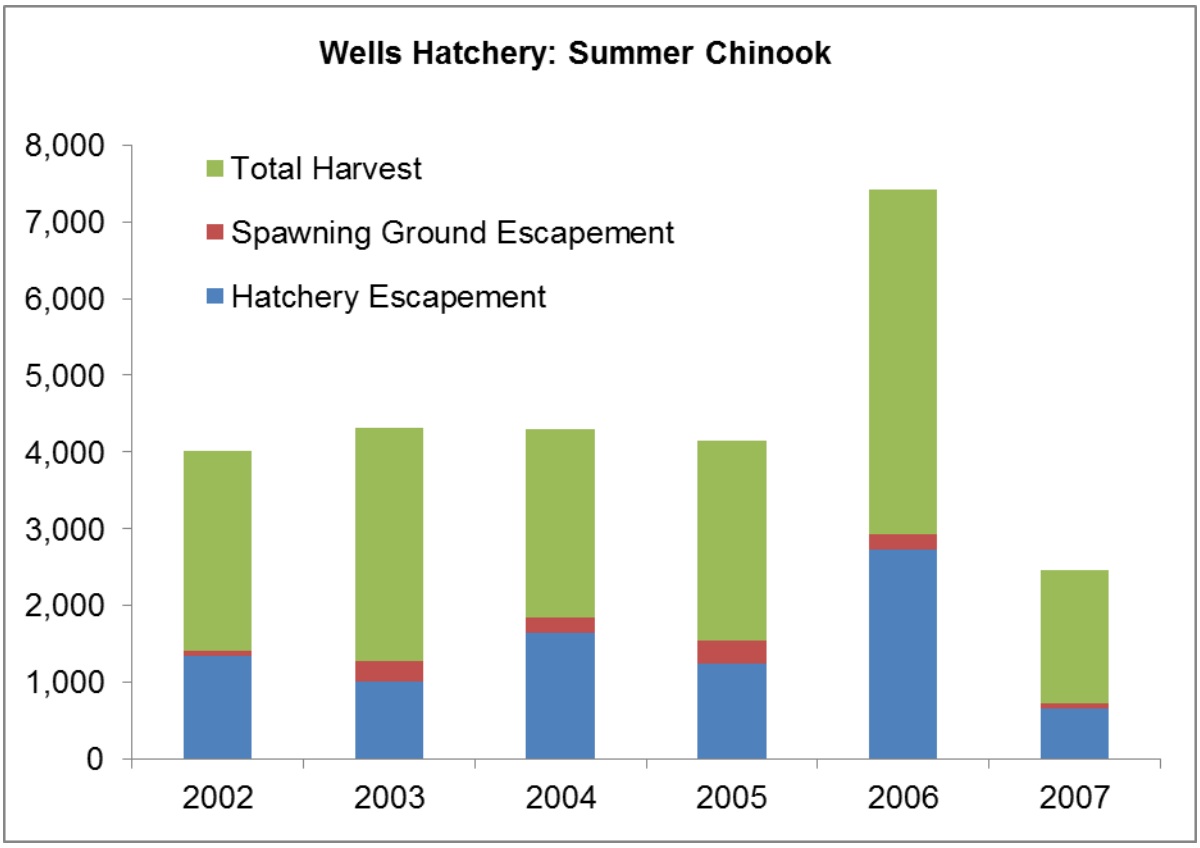

Figure 83. Escapement and Total Harvest for Wells Hatchery summer Chinook for Brood Years 2002-2007.

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