

**2011 Summer Mark-Selective Recreational Chinook Fisheries  
In Marine Areas 5, 6, 9, 10, 11, and 13**

**Post-season Report**

**REVISED DRAFT**

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## INTRODUCTION

In recent years, abundant runs of hatchery Chinook salmon (*Oncorhynchus tshawytscha*) have been mixed with depressed runs of wild Chinook salmon in the marine environments of the Puget Sound and Strait of Juan de Fuca. Providing recreational anglers with opportunities to harvest abundant hatchery stocks while simultaneously protecting weaker, wild stocks has proven to be a significant conservation and management challenge. The combination of large-scale hatchery marking (i.e., fin clipping) programs and mark-selective harvest regulations makes it possible for anglers to pursue and harvest hatchery Chinook salmon while minimally impacting wild salmon populations. In such “mark-selective fisheries” (MSFs), anglers are generally allowed to retain adipose-fin clipped (“marked”) hatchery fish and are required to release unharmed any unclipped (“unmarked”, predominantly wild) salmon encountered<sup>1</sup>.

Since the Washington Department of Fish and Wildlife (WDFW) implemented the first marine mark-selective Chinook fishery in Marine Catch Areas 5 and 6 (Strait of Juan de Fuca) in 2003 based on state-tribal agreements (Thiesfeld and Hagen-Breaux 2005a, WDFW 2008a), mark-selective Chinook salmon fishing regulations have been implemented on a pilot basis in multiple Puget Sound Marine Catch Areas during both the summer and winter seasons. As of the close of the summer 2011 fishing season, pilot *summer* selective Chinook seasons have occurred in Areas 5 and 6 for nine years (2003-2011; Thiesfeld and Hagen-Breaux 2005a, Thiesfeld and Hagen-Breaux 2005b, WDFW 2008a, WDFW 2009a, WDFW 2010g, WDFW 2011a) and in Areas 9, 10, 11, and 13 for five years (2007-2011; WDFW 2007a and 2007b, WDFW 2009b and 2009c, WDFW 2010e and 2010f, WDFW 2011a). Additionally, pilot *winter* selective Chinook fisheries have occurred in Areas 8-1 and 8-2 for six complete seasons (2005-06, 2006-07, 2007-08, 2009, 2009-10, and 2010-11; WDFW 2008b, WDFW 2009d, WDFW 2010b, WDFW 2011b), Areas 9 and 10 for four winter seasons (2008, 2008-09, 2009-10, and 2010-11; WDFW 2010c, WDFW 2010d, WDFW 2011b), Area 7 for four winter seasons (2008, 2009, 2009-10, 2010-11; WDFW 2009e, WDFW 2010a, WDFW 2011b), and in Areas 11 and 12 for two winter seasons (February 1 - April 30, 2010 and February 1 - April 30, 2011; WDFW 2011b).

WDFW implemented six pilot mark-selective Chinook fisheries during the 2011 summer season (i.e., May through September 2011 period) in Puget Sound, in Areas 5, 6, 9, 10, 11, and 13. The 2011 summer Chinook MSF seasons in each of the areas were as follows:

- Areas 5 and 6 from July 1 through August 15, 2011;
- Areas 9 and 10 from July 16 through August 31, 2011;
- Area 11 from June 1 through September 30, 2011; and
- Area 13 from May 1 through September 30, 2011.

Consistent with the 2004 (and 2010 update) Puget Sound Chinook Harvest Management Plan (Puget Sound Indian Tribes and WDFW 2004 and 2010), a key goal of implementing each of these mark-selective Chinook fisheries has been to provide meaningful opportunity to the recreational angling public while minimally impacting ESA-listed Puget Sound Chinook salmon.

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<sup>1</sup>The regulations specific to winter mark-selective fisheries in Puget Sound Marine Catch Areas allowed for the retention of up to two legal-sized ( $\geq 22$  inches [56 cm]) marked Chinook salmon per day and required the immediate release of all unmarked or sublegal Chinook. Additionally, anglers were: *i*) required to use single-point, barbless hooks while fishing for salmon, *ii*) held to a combined (all salmon species) two-fish daily limit, and *iii*) held to a handling rule that prevented them from bringing unmarked and/or sublegal Chinook aboard their vessels.

### Comprehensive Sampling and Monitoring Program

Given the pilot nature of the mark-selective Chinook fisheries in Areas 5, 6, 9, 10, 11, and 13, WDFW's Puget Sound Sampling Unit (PSSU) was tasked with implementing a comprehensive sampling and monitoring program to collect the data needed to evaluate each pilot mark-selective Chinook fishery and its impact on unmarked salmon. As per state-tribal agreement (e.g., WDFW and NWIFC 2011), we developed area-specific sampling plans consisting of several comprehensive and complementary sampling components, including dockside creel sampling, test fishing, on-the-water effort surveys, and angler-completed voluntary trip reports (VTRs). We tailored area-specific sampling plans so that we could reliably estimate the following critical parameters needed for evaluating mark-selective fisheries: *i*) the mark rate of the targeted Chinook population, *ii*) the total number of Chinook salmon harvested (by size [legal or sublegal] and mark-status [marked or unmarked] group), *iii*) the total number of Chinook salmon released (by size and mark-status group), *iv*) the coded-wire tag- (CWT) and/or DNA-based stock composition of marked and unmarked Chinook mortalities<sup>2</sup>, and *v*) the total mortality of marked and unmarked double index tag (DIT) CWT stocks. In addition, we acquired and analyzed relevant data characterizing other aspects of the pilot fisheries, including descriptors of fishing effort, fishing success (catch [landed Chinook] per unit effort), the length and age composition of encountered Chinook, and the overall intensity of our sampling efforts.

### Reporting Efficiencies

In July 2010, technical staffs from the WDFW Puget Sound Sampling Unit, Northwest Indian Fisheries Commission (NWIFC), and Puget Sound Treaty Tribes met to discuss potential reporting efficiencies in WDFW's mark-selective Chinook fishery post-season reports. NWIFC and tribal representatives had initiated the idea for such a meeting, considering that we at WDFW had been submitting a separate post-season report for each area and season (since 2003) to the co-managers, resulting in redundancies between individual reports, particularly in the Methods section. Also, over the years we kept adding sections to the selective fishery annual reports, in response to individual tribal co-manager requests, and sustained those additions in each future report, resulting in ever-lengthening post-season reports. From both the WDFW and tribal technical perspectives, we needed to prioritize the most essential reporting elements and achieve efficiencies to streamline the selective fishery reporting work load.

Thus, at the July 2010 meeting the WDFW and tribal staffs worked on prioritizing the most essential elements (i.e., tables, figures, and appendices) needed in WDFW's annual post-season selective fishery reports in an effort to define reporting efficiencies. Based on these decisions (details available in a WDFW memo dated August 16, 2010 summarizing the July 2010 meeting), we began implementing reporting efficiencies starting with the 2009-10 winter mark-selective Chinook fisheries post-season report and continuing thereafter.

At the July 2010 meeting we also agreed that a key efficiency in the annual reporting process would be for WDFW staff to produce a centralized Methods Report. The Methods Report would be a stand-alone document that includes the details of each area's Chinook MSF study design (for both winter

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<sup>2</sup> Though the necessary tissue samples have been collected, DNA-based estimates of stock composition are presently unavailable for Puget Sound/Strait of Juan de Fuca mark-selective fisheries. In the present report, methods for producing CWT-based (unexpanded) estimates of the stock composition of marked Chinook harvest are provided.

and summer fisheries), sampling procedures, data analysis methods, and all equations used to generate estimates and variances. Thus, we refer the reader to our Methods Report (WDFW 2012) for detailed descriptions of the diverse study designs and protocols used to monitor and evaluate the selective Chinook fisheries in Areas 5, 6, 9, 10, 11, and 13 during summer 2011.

In the following pages, we report the results generated through our monitoring activities during the summer 2011 Areas 5, 6, 9, 10, 11, and 13 mark-selective Chinook fisheries. We report results based on our new, more efficient reporting format agreed-to recently between state and tribal technical representatives, in which we focus on presenting data tables and figures rather than interpretive text (unless text is needed to specify noteworthy in-season adjustments or other circumstances unique to the particular season). We present 2011 summer Chinook MSF results in separate chapters (1 through 5) by area, and within each chapter the data are presented in a series of tables and figures generally according to the following sequence: *i*) estimates of fishery characteristics obtained from the dockside creel survey data, including catch and effort estimates, Chinook length-frequency data, and CWT recovery results; *ii*) results from our recreational test fishery (where applicable); *iii*) results from our VTR collection efforts; *iv*) total mortality estimates of marked and unmarked DIT CWT stocks by hatchery and brood year; *v*) total fishery Chinook encounters and impacts—estimated based on creel survey and test fishery or VTR data—which we compare with pre-season expectations (i.e., based on Fishery Regulation Assessment Model [FRAM] predictions); *vi*) sample rate information based on dockside sampling of harvested Chinook; and *vii*) historical Chinook encounters estimates for each area's summer mark-selective Chinook fishery.

## RESULTS

### 1) Marine Area 5 Summer 2011 Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a mark-selective Chinook fishery (MSF) in Marine Area 5 for the ninth summer season from July 1 through August 15, 2011. WDFW's Puget Sound Sampling Unit (PSSU) implemented a comprehensive monitoring program in Area 5 throughout the season in order to collect the data needed to estimate key parameters characterizing the fishery and its impacts on unmarked salmon. Sampling activities in Area 5 included dockside creel sampling (with in-season catch and effort estimates), on-the-water effort surveys (boat surveys), and intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. **Table 1** summarizes the parameters estimated and the sampling activities associated with each parameter. Specific procedures used for collecting these data and estimating critical data parameters are presented in detail in our separate Methods Report (WDFW 2012).

During summer 2011 in Area 5, we once again (each season since 2008) focused considerable effort on our enhanced VTR program to obtain estimates of Chinook encounter rates by size class (legal or sublegal) and mark status (ad-marked or unmarked). For the enhanced VTR program, an additional WDFW technician was hired to work exclusively on distributing and collecting VTRs from the angling public in Area 5. Additionally, the VTR technician and dockside samplers educated anglers about the VTR program and salmon species identification in a focused effort to increase the sample size of VTR-based encounters data.

In the following section we present results from our monitoring activities during the July 1 - August 15, 2011 Area 5 summer selective Chinook fishery season. To generate the estimates of Chinook encounters and mortalities by size/mark group, we used the VTR-based estimates of Chinook encounter rates by size/mark group (legal size-marked [LM], legal size-unmarked [LU], sublegal size-marked [SM], and sublegal size-unmarked [SU]) and applied Conrad and McHugh's (2008) bias-corrected method (see WDFW 2012, Appendix B).

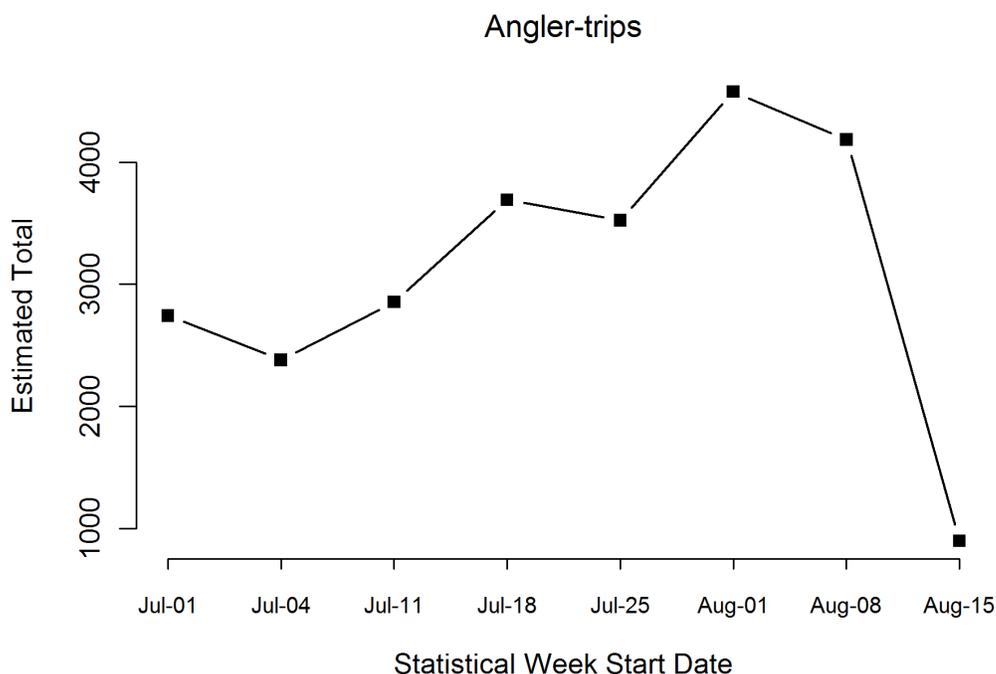
**Table 1.** Sampling/estimation details on target parameters associated with the overall Area 5 mark-selective fishery monitoring program.

Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
Dockside Creel Sampling	Fishing effort (boat & angler trips); kept and released fish	Catch rates (CPUE); length, age, and CWT composition of harvest <sup>1</sup> ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	Two weeks	Creel estimates were produced for two-week estimation periods and stratified into “weekday” (Mon.-Thurs.) and “weekend” (Fri.-Sun.) day-type strata within weeks. For the weekday stratum, we sampled $n=2$ days out of $N=8$ available weekdays per two-week period. For the weekend stratum, we sampled $n=2$ days out of $N=3$ available weekend days per week.
On-the-water Surveys (Boat Surveys)	Proportion of total angler effort accessing fishery via sample-frame sites (i.e., site “size measures”) versus out-of-frame sites. Size measures were used to select sites for dockside creel surveys using a probability proportional to size (PPS) site selection process, and to produce total-fishery creel estimates (see WDFW 2012).	Data on spatial distribution of recreational fishing boats in the area.	Boats and anglers; $n=373$ total boats contacted on the water over the season, with a total of 910 anglers on-board. <u>July surveys:</u> WD=72B, 162 A WE=95B, 239 A <u>Aug surveys:</u> WD =90 B, 219A WE=116B, 290A	Month	Two boat surveys were conducted during July 2011 and two in August 2011 (one weekday and one weekend day each month) to verify that 2010 site size measures had not changed significantly; these 2011 data were used for PPS-based site selections and creel estimates.
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season (46 days)	VTR data were used in the estimation of total Chinook encounters by size/mark group (LM=22.8%, LU=43.6%, SM=8.7%, SU=24.9%; <b>Table 6</b> ) and associated impacts.
Overall Fishery Impacts Estimation	Total Chinook encounters and mortalities, by size/mark-status group	Ratios of encounters and mortalities per kept Chinook	N/A	Season (46 days)	Estimated on a monthly time step but considered at the season-total level.
Coded-wire tag (CWT) Impacts Estimation	Marked/unmarked double-index tag (DIT) encounters and mortalities	N/A	N/A	Season (46 days)	The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

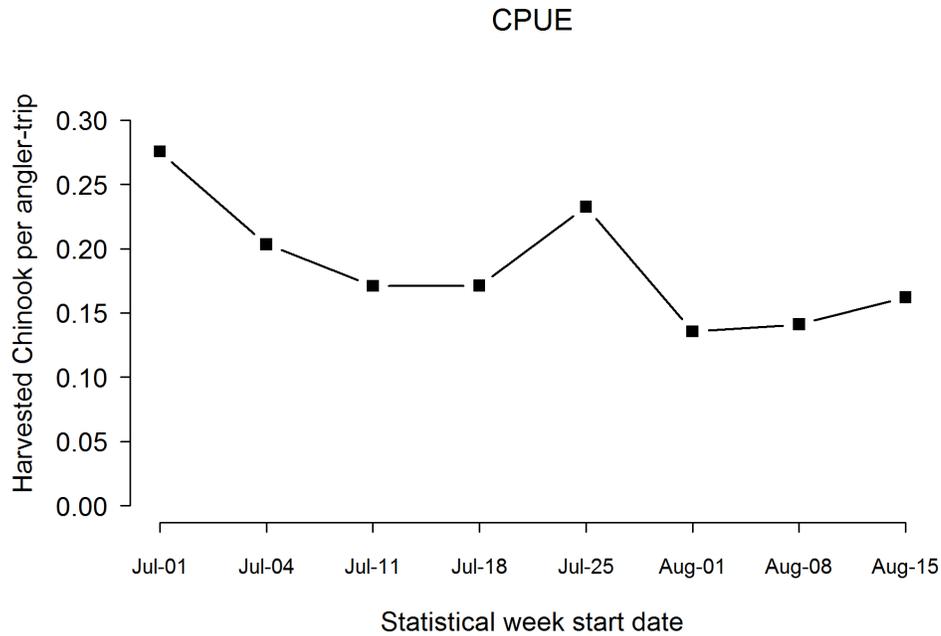
<sup>1</sup> The length and CWT composition of landed catch was assessed on a season-wide basis for impact estimation.

**Table 2.** Estimates of total fishing effort and total salmon catch (harvest and releases) during the July 1 through August 15, 2011 Area 5 selective Chinook fishery. Values may not add exactly due to rounding error. AD = marked (i.e., adipose-clipped), UM = unmarked.

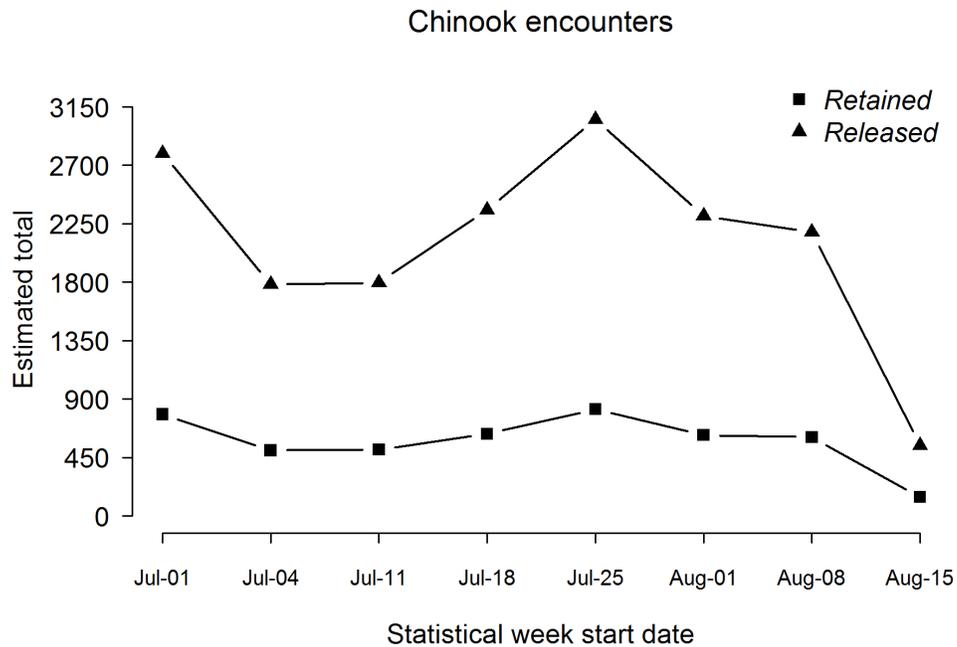
Month	Stat. Week	Start Date	End Date	Est. Effort		Est. Retained Chinook		Est. Released Chinook		Est. Total Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
July	27	Jul-01	Jul-03	1,283	2,743	756	27	372	2,421	3,575
	28	Jul-04	Jul-10	1,020	2,380	484	21	238	1,546	2,289
	29	Jul-11	Jul-17	1,179	2,854	488	23	240	1,557	2,308
	30	Jul-18	Jul-24	1,459	3,690	632	0	311	2,046	2,988
	31	Jul-25	Jul-31	1,442	3,522	819	2	403	2,651	3,876
August	32	Aug-01	Aug-07	1,811	4,577	620	2	305	2,006	2,933
	33	Aug-08	Aug-14	1,702	4,185	590	16	290	1,896	2,793
	34	Aug-15	Aug-15	366	897	145	0	72	471	688
<b>Season Total:</b>				<b>10,263</b>	<b>24,848</b>	<b>4,535</b>	<b>92</b>	<b>2,230</b>	<b>14,594</b>	<b>21,450</b>
<b>Variance:</b>				229,404	1,152,354	167,644	2,084	1,242,027	3,396,318	10,260,123
<b>Standard Error:</b>				479	1,073	409	46	1,114	1,843	3,203
<b>CV (%):</b>				4.7%	4.3%	9.0%	49.7%	50.0%	12.6%	14.9%
<b>95% CI:</b>				9,325-11,202	22,744-26,952	3,732-5,337	2-181	45-4,414	10,982-18,206	15,172-27,728



**Figure 1.** Temporal patterns in weekly fishing effort during the Area 5 mark-selective Chinook fishery from July 1 through August 15, 2011.



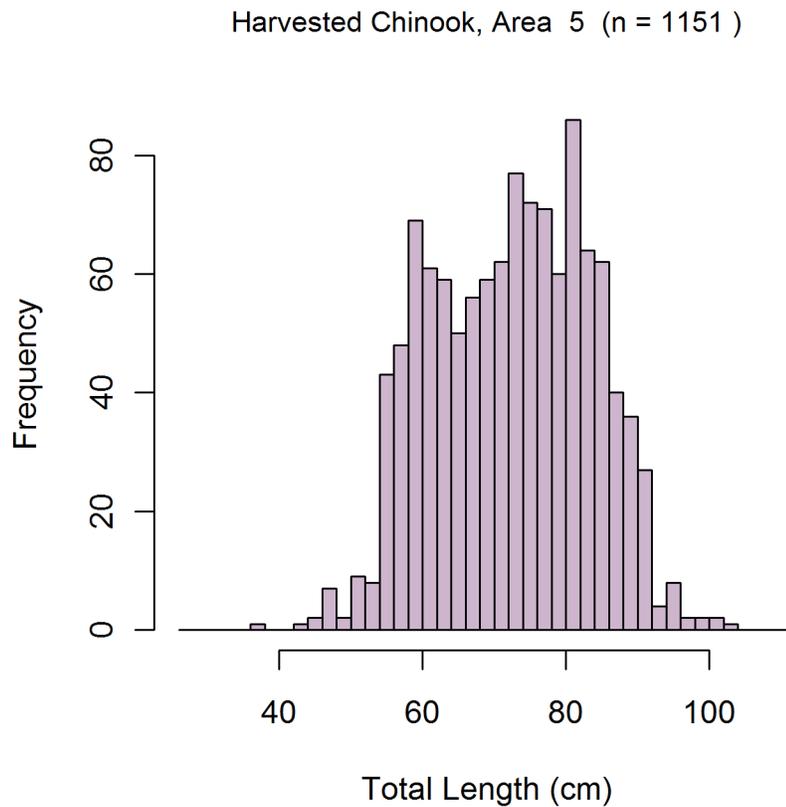
**Figure 2.** Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 5 mark-selective Chinook fishery from July 1 through August 15, 2011.



**Figure 3.** Temporal patterns in Chinook encounters (retained and released) during the Area 5 mark-selective Chinook fishery from July 1 through August 15, 2011.

**Table 3.** Summary of total length samples collected from retained Chinook during dockside angler interviews during the Area 5 mark-selective Chinook fishery from July 1 through August 15, 2011.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	1,081	70	1,151
Unmarked	13	4	17
<b>Total</b>	<b>1,094</b>	<b>74</b>	<b>1,168</b>



**Figure 4.** Length-frequency distribution for *marked* Chinook harvested and then sampled in dockside angler interviews, during the Area 5 July 1 – August 15, 2011 mark-selective Chinook fishery.

**Table 4.** Total number of anglers intercepted in Area 5 during on-the-water surveys conducted between July 1 and August 15, 2011. Rows with gray shading indicate sites that were included in the dockside sample frame.

Site Name	Total Anglers	Season Total (unadjusted) Size Measure
COHO	6	0.007
CURLEYS	91	0.100
OLSON'S EAST	121	0.133
OLSON'S GENERAL	15	0.016
OLSON'S RAMP & DOCKS	322	0.354
OLSON'S WEST	77	0.085
SEKIU BEACH BUOY	1	0.001
SILVER KING	19	0.021
VAN RIPER'S GENERAL	40	0.044
VAN RIPER'S NORTH	90	0.099
VAN RIPER'S SOUTH	128	0.141
<b>Total Anglers</b>	<b>910</b>	<b>1.000</b>

**Table 5.** Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 5 July 1 – August 15, 2011 mark-selective Chinook fishery. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
British Columbia	Fraser River – Thompson River (10%)	R-Shuswap R Low	H-Shuswap River, Middle,	2 (1.2%)	0
		R-Chilliwack R	H-Chilliwack River H	9 (5.6%)	9
		R-Harrison R	H-Chehalis River H	5 (3.1%)	0
	Georgia Strait (0.6%)	R-Cowichan R	H-Cowichan River H	1 (0.6%)	0
Washington	Northern Washington (6.9%)	FRIDAY CR 03.0017	SAMISH HATCHERY	5 (3.1%)	5
		EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	5 (3.1%)	0
		NOOKSACK R -NF 01.0120	KENDALL CR HATCHERY	1 (0.6%)	1
	Northern Washington Coast (2.5%)	SOOES R 20.0015	MAKAH NFH ON SOOES R	2 (1.2%)	0
		SOL DUC R 20.0096	LONESOME CR HATCHERY	2 (1.2%)	0
	Strait of Juan De Fuca (1.9%)	HOKO R 19.0148	HOKO FALLS HATCHERY	1 (0.6%)	0
		HOKO R @ RM 10	HOKO FALLS HATCHERY	2 (1.2%)	0
	Hood Canal (13.8%)	FINCH CR 16.0222	HOODSPORT HATCHERY	9 (5.6%)	0
		JOHN CR 16.0253	RFEG 6 HOOD CANAL	2 (1.2%)	0
		PURDY CR 16.0005	GEORGE ADAMS HATCHRY	11 (6.9%)	11
	Northern Puget Sound (5%)	WHITEHORSE SPRINGS	WHITEHORSE POND	2 (1.2%)	0
		TULALIP CR 07.0001	BERNIE GOBIN HATCH	2 (1.2%)	0
		WALLACE R 07.0940	WALLACE R HATCHERY	4 (2.5%)	3
	Skagit River (3.8%)	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	1 (0.6%)	1
		SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	2 (1.2%)	0
		BAKER R 03.0435	N/A	2 (1.2%)	0
		SKAGIT R 03.0176	N/A	1 (0.6%)	0
	Mid Puget Sound (13.1%)	GORST CR 15.0216	GORST CR REARING PND	3 (1.9%)	0
		VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	1 (0.6%)	0
		GROVERS CR HATCHERY	GROVERS CR HATCHERY	8 (5%)	8
		BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	7 (4.4%)	7
		GREEN R 09.0001	ICY CR HATCHERY	1 (0.6%)	0
		WHITE R 10.0031	WHITE RIVER HATCHERY	1 (0.6%)	0
	Southern Puget Sound (5.6%)	LAKWOOD HATCHERY	LAKWOOD HATCHERY	2 (1.2%)	0
		CHAMBERS CR 12.0007	GARRISON HATCHERY	2 (1.2%)	0
		CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	5 (3.1%)	5

Table 5 continued, next page.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
Columbia River	Upper Columbia R (above McNary Dam; excludes Snake River) (10%)	CHELAN R 47.0052	CHELAN RIVER NP	3 (1.9%)	0
		WENATCHEE R 45.0030	DRYDEN POND	1 (0.6%)	0
		OKANOGAN R 49.0019	CARLTON ACCLIMATION POND	1 (0.6%)	0
		METHOW R 48.0002		1 (0.6%)	0
		COL R @ TURTLE ROCK	TURTLE ROCK HATCHERY	3 (1.9%)	0
		COLUMBIA NEAR WELLS	WELLS HATCHERY	4 (2.5%)	0
		SIMILKAMEEN R 490325	SIMILKAMEEN HATCHERY	3 (1.9%)	0
	Central Columbia River (Bonneville Dam to McNary Dam) (5.6%)	SPRING CR 29.0159	SPRING CR NFH	1 (0.6%)	1
		UMATILLA R	UMATILLA HATCHERY	1 (0.6%)	1
		KLICKITAT HATCHERY (YKFP)	KLICKITAT HATCHERY (YKFP)	1 (0.6%)	0
		UMATILLA R	BONNEVILLE HATCHERY	4 (2.5%)	4
		LTL WHITE SALMON@NFH	LTL WHITE SALMON NFH	2 (1.2%)	0
	Lower Columbia River (mouth to Bonneville Dam) (8.8%)	COWLITZ SALMON HATCH	COWLITZ SALMON HATCH	1 (0.6%)	0
		FALLERT CR 27.0017	FALLERT CR HATCHERY	1 (0.6%)	0
		CLACKAMAS R	CLACKAMAS HATCHERY	1 (0.6%)	0
		BIG CR (LWR COL R)	BIG CR HATCHERY	3 (1.9%)	1
		COWLITZ R 26.0002	COWLITZ SALMON HATCH	3 (1.9%)	0
		DEEP R 25.0071	DEEP R NET PENS	1 (0.6%)	0
		GREEN R 26.0323		1 (0.6%)	0
		SANTIAM R S FK	SOUTH SANTIAM HATCH	1 (0.6%)	0
		TANNER CR (BNVILLE)	BONNEVILLE HATCHERY	2 (1.2%)	0
	Snake River (11.2%)	CAPTAIN JOHNS PD	LYONS FERRY HATCHERY	2 (1.2%)	0
		LYONS FERRY REL.SITE		6 (3.8%)	0
		MAGRUDOR CORRIDOR	NPT HATCHERY	1 (0.6%)	0
		BIG CANYON ACCL POND	LYONS FERRY HATCHERY	1 (0.6%)	0
		SNAKE R @ ASOTIN		2 (1.2%)	0
		SNAKE R@PITT. LNDG		3 (1.9%)	0
		SNAKE R-LOWR 33.0002		2 (1.2%)	0
SNAKE R-UPPR 35.0002		1 (0.6%)		0	
Oregon	Northern Oregon Coast (0.6%)	TRASK R	TRASK R HATCHERY	1 (0.6%)	0
California	Central California Coast (0.6%)	SAN PABLO BAY NET PENS	FEATHER R HATCHERY	1 (0.6%)	0

**Table 6.** Total Chinook encountered (retained and released) by anglers reporting their catch on voluntary trip reports (VTRs) in the Area 5 July 1-August 15, 2011 mark-selective Chinook fishery, with estimates of season-total size/mark group proportions. AD = marked (i.e., adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions are provided in parentheses.

Data source	Effort & Sample Size	Legal		Sublegal		Total	Mark Rates	
		AD	UM	AD	UM		Overall	Legal
Private Boat VTR	92 1-trip VTRs, 239 Angler Trips	55	105	21	60	241	31.5%	34.4%
<b>Size/mark-status composition:</b>		<b>0.228</b>	<b>0.436</b>	<b>0.087</b>	<b>0.249</b>			
Variance:		(0.0007)	(0.0010)	(0.0003)	(0.0008)			

**Table 7.** Summary of season-wide fishery impact estimates for the Area 5 July 1-August 15, 2011 mark-selective Chinook fishery. Values may not add up perfectly due to rounding error.

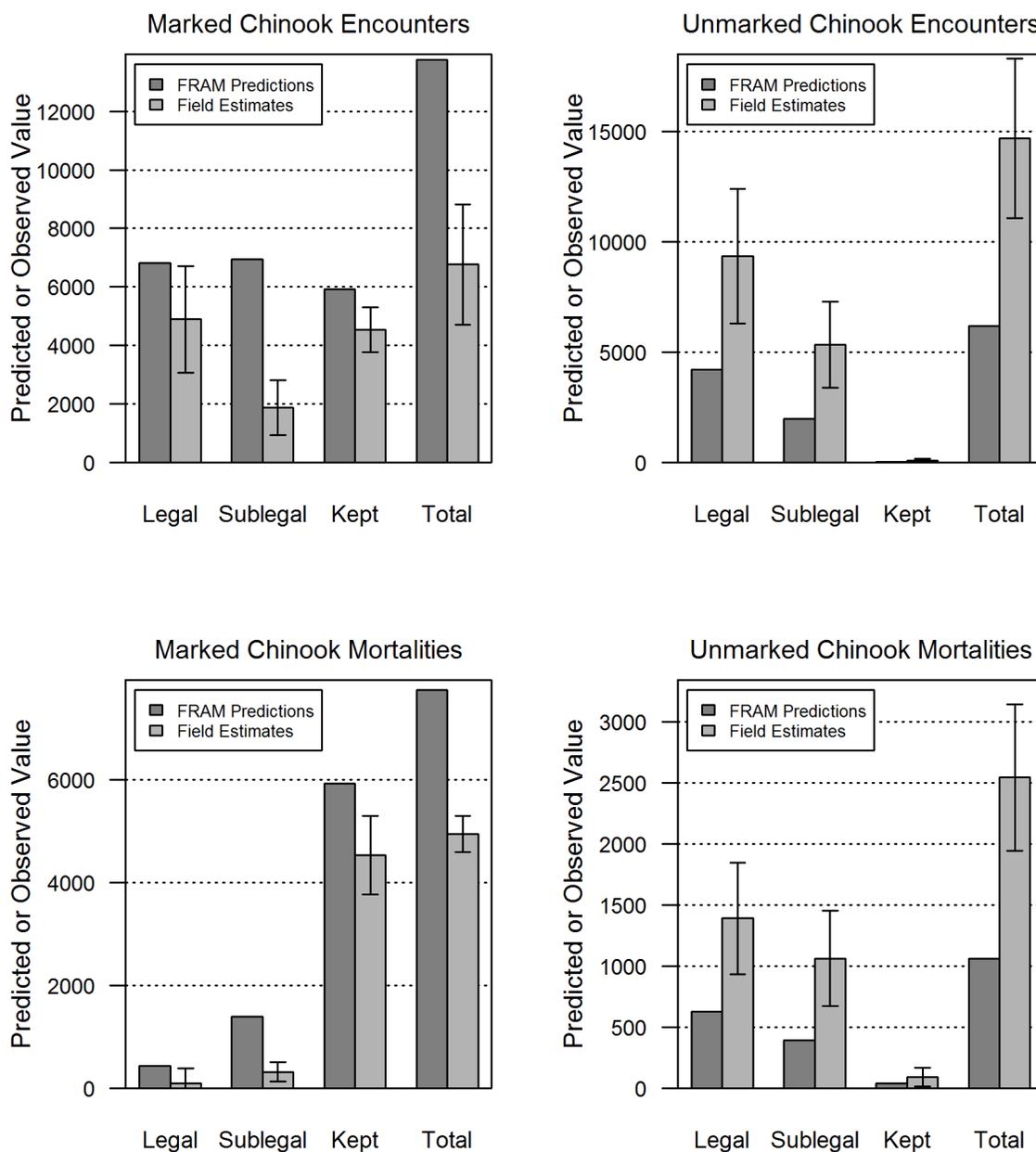
<b>Total Encounters (E): 21,450</b> <b>V(E): 10,260,123</b>										
Size/mark group	Encounters	No. Retained	No. Rel'd	Rel. Mort. Rate	Rel. Mort.	Total Mortality	Var	SE	95% CI	CV (%)
Legal marked	4,895	4,259	636	0.15	95	4,354	171,687	414	3542 - 5166	10
Legal unmarked	9,345	70	9,275	0.15	1,391	1,461	55,508	236	1000 - 1923	16
Sublegal marked	1,869	276	1,593	0.20	319	594	10,778	104	391 - 798	17
Sublegal unmarked	5,340	22	5,319	0.20	1,064	1,085	39,651	199	695 - 1476	18
All groups combined	<b>21,450</b>	<b>4,626</b>	<b>16,824</b>		<b>2,869</b>	<b>7,496</b>	<b>277,624</b>	<b>527</b>	<b>6463 - 8528</b>	<b>7</b>

**Table 8.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters for the Area 5 July 1-August 15, 2011 mark-selective Chinook fishery.

Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
FRAM Encounters	Unmark.	6,170	4,200	1,970	42
	Mark.	13,759	6,809	6,950	5,924
	Total	19,929	11,009	8,920	5,966
	% Mark.	69	62	78	99
Estimated (Creel) Encounters	Unmark.	14,686	9,345	5,340	92
	Mark.	6,764	4,895	1,869	4,535
	Total	21,450	14,241	7,209	4,626
	% Mark.	32	34	26	98

**Table 9.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook mortalities for the Area 5 July 1-August 15, 2011 mark-selective Chinook fishery.

Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
	Unmark.	Mark.	Total	Unmark.	Mark.	Total
Total (Landed + Released)	1,062	7,744	8,806	2,547	4,949	7,496
Released Legal	626	430	1,056	1,391	95	1,487
Released Sublegal	394	1,390	1,784	1,064	319	1,382
Landed Only	42	5,924	5,966	92	4,535	4,626



**Figure 5.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters (*upper panel*) and mortalities (*lower panel*) for the Area 5 July 1 – August 31, 2011 mark-selective Chinook fishery. Error bars represent approximate 95% confidence intervals for field estimates.

**Table 10.** Summary of double-index tagged (DIT) Chinook kept by anglers, and estimated total mortality of unmarked DIT Chinook due to hook-and-release impacts resulting from the Area 5 July 1 – August 15, 2011 mark-selective Chinook fishery. AD = marked (i.e., adipose-clipped), UM = unmarked.

Hatchery	Brood Year	DITs Obs'd	AD DIT Harvest		UM DIT Enc.	UM DIT Mortality		
			Est.	var(Est.)		Est.	var(Est.)	SE(Est.)
Big Creek Hatchery	2007	1	3.8	10.8	3.8	0.4	0.1	0.3
Bonneville Hatchery	2008	4	15.3	43.4	25.4	2.5	1.2	2.2
Clear Creek Hatchery	2007	1	3.8	10.8	3.8	0.4	0.1	0.3
	2008	4	15.3	43.4	15.4	1.5	0.4	1.3
George Adams Hatchery	2007	8	30.7	86.8	30.9	3.1	0.9	2.7
	2008	3	11.5	32.5	11.4	1.1	0.3	1.0
Grovers Cr. Hatchery	2007	5	19.2	54.2	19.2	1.9	0.5	1.6
	2008	3	11.5	32.5	12.8	1.3	0.4	1.1
Chilliwack River Hatchery	2007	3	11.5	32.5	11.5	1.2	0.3	1.0
	2008	5	19.2	54.2	19.3	1.9	0.5	1.7
	2009	1	3.8	10.8	2.0	0.2	0.029	0.2
Kendall Creek Hatchery	2008	1	3.8	10.8	4.0	0.4	0.1	0.3
Marblemount Hatchery	2008	1	3.8	10.8	3.8	0.4	0.1	0.3
Samish Hatchery	2007	1	3.8	10.8	3.9	0.4	0.1	0.3
	2008	4	15.3	43.4	15.4	1.5	0.4	1.3
Soos Creek Hatchery	2007	5	19.2	54.2	19.2	1.9	0.5	1.6
	2008	2	7.7	21.7	8.1	0.8	0.2	0.7
Spring Cr. NFH	2007	1	3.8	10.8	3.8	0.4	0.1	0.3
Umatilla Hatchery	2006	1	3.8	10.8	0.1	0.007	0.0	0.006
Wallace R. Hatchery	2008	3	11.5	32.5	11.5	1.2	0.3	1.0
<b>Total</b>		<b>57</b>	<b>218.4</b>	<b>618.4</b>	<b>225.3</b>	<b>22.5</b>	<b>6.9</b>	<b>19.4</b>

**Table 11.** Monthly sample rates (Total retained Chinook sampled<sup>1/</sup> / Estimated retained Chinook) in the summer 2011 Area 5 mark-selective Chinook fishery, July 1 – August 15, 2011.

Time Period			Estimated Retained Chinook			Number of Retained Chinook Sampled			Sample Rate
Month	Stat. Weeks	Dates	Marked	Un-marked	Total	Marked	Un-marked	Total	
July	27-31	1-31 July	3,179	74	3,253	862	10	872	26.8%
August	32-34	1-15 Aug.	1,356	18	1,374	289	7	296	21.5%
<b>Season Total</b>			<b>4,535</b>	<b>92</b>	<b>4,626</b>	<b>1,151</b>	<b>17</b>	<b>1,168</b>	<b>25.2%</b>

<sup>1/</sup> Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the summer 2011 Area 5 selective Chinook fishery (i.e., creel estimate and baseline sampling sites).

**Table 12.** Fishery-total estimates of retained and released salmon (other than Chinook salmon) in the Area 5 July 1 – August 15, 2011 mark-selective Chinook fishery. Values may not add up perfectly due to rounding error.

Month	Stat. Week	Start Date	End Date	Effort		Other Species Kept				Other Sp. Released						
				Boats	Anglers	AD Coho	UM Coho	Pink	Sockeye	AD Coho	UM Coho	Unk Coho	Pink	Chum	Sockeye	Unk Salmon
July	27	Jul-01	Jul-03	1,283	2,743	680	23	1,013	0	113	1,371	44	344	7	0	117
	28	Jul-04	Jul-10	1,020	2,380	509	11	1,656	0	3	819	0	639	0	0	28
	29	Jul-11	Jul-17	1,179	2,854	312	0	2,398	0	8	537	0	1,092	0	7	45
	30	Jul-18	Jul-24	1,459	3,690	91	4	2,364	0	4	249	0	961	0	0	13
	31	Jul-25	Jul-31	1,442	3,522	105	10	3,662	6	9	253	5	2,337	0	0	38
Aug.	32	Aug-01	Aug-07	1,811	4,577	617	23	7,126	10	38	1,319	43	1,949	2	0	71
	33	Aug-08	Aug-14	1,702	4,185	251	2	4,961	10	26	399	5	1,531	0	0	62
	34	Aug-15	Aug-15	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Season Total:</b>				<b>9,896</b>	<b>23,951</b>	<b>2,565</b>	<b>74</b>	<b>23,180</b>	<b>26</b>	<b>201</b>	<b>4,948</b>	<b>98</b>	<b>8,854</b>	<b>9</b>	<b>7</b>	<b>374</b>
<b>Variance:</b>				217,797	1,117,703	62,036	696	2,636,016	374	2,019	188,114	1,323	1,138,445	36	48	6,365
<b>Standard Error:</b>				467	1,057	249	26	1,624	19	45	434	36	1,067	6	7	80
<b>CV (%):</b>				4.7%	4.4%	9.7%	35.8%	7.0%	75.5%	22.4%	8.8%	37.1%	12.1%	65.9%	92.8%	21.4%
<b>95% CI:</b>				8,981-10,811	21,879-26,023	2,077-3,053	22-125	19,998-26,363	7-64	113-289	4,097-5,798	27-169	6,762-10,945	4-21	1-21	217-530

**Table 13.** Season-total estimates of Chinook encounters by size/mark status, and total estimates of angler effort, summarized for all seasons to date of the Area 5 summer mark-selective Chinook fishery.

Area	Season Dates	Effort (Angler Trips)	Retained Chinook				Released Chinook				Total Encounters
			LM	LU	SM	SU	LM	LU	SM	SU	
5	July 5 - August 3, 2003	19,398	2,251	53	225	0	336	3,435	1,656	5,174	13,131
5	July 1 - August 10, 2004	25,174	2,706	0	194	0	404	4,017	1,167	2,462	10,950
5	July 1 - August 10, 2005	30,115	1,520	23	100	26	227	1,418	1,210	1,459	5,984
5	July 1 - August 14, 18-21, 2006	23,177	3,105	10	196	7	464	3,125	1,010	2,212	10,129
5	July 1 - August 9, 2007	18,830	2,969	23	280	94	444	2,509	1,371	1,118	8,808
5	July 1 - August 10, 2008	13,004	2,773	0	45	0	414	1,869	65	330	5,496
5	July 1 - August 6, 2009	23,662	4,843	78	1,115	362	724	6,210	9,823	14,309	37,463
5	July 1 - August 15, 2010	16,806	5,461	14	242	0	816	4,961	3,163	4,140	18,796
5	July 1 - August 15, 2011	24,848	4,259	70	276	22	636	9,275	1,593	5,319	21,450

## 2) Marine Area 6 Summer 2011 Mark-selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a mark-selective Chinook fishery (MSF) in the western portion of Marine Area 6 (west of Ediz Hook; see map in WDFW 2012) for the ninth summer season from July 1 through August 15, 2011. WDFW's Puget Sound Sampling Unit (PSSU) implemented a comprehensive sampling program consisting of dockside angler interviews with catch sampling ("Baseline Sampling" approach; see WDFW 2012 for details) along with intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. While the Baseline Sampling approach did not provide a means for generating in- or immediately post-season estimates of fishery total catch and effort, the observed catch per angler trip and species composition data obtained from baseline sampling will ultimately be combined with Catch Record Card (CRC) data to produce the fishery-total estimates at a later time (approximately one year following the fishery). **Table 14** summarizes the parameters estimated and the sampling activities associated with each parameter. Specific procedures used for collecting these data and estimating critical data parameters are presented in detail in our separate Methods Report (WDFW 2012).

During summer 2011 in Area 6 we once again (each season since 2008) focused considerable effort on our enhanced VTR program to obtain estimates of Chinook encounter rates by size class (legal or sublegal) and mark status (ad-marked or unmarked). For the enhanced VTR program, a WDFW technician was assigned to work exclusively on distributing and collecting VTRs from the angling public in Area 6. Additionally, the VTR technician and dockside samplers educated anglers about the VTR program and salmon species identification in a focused effort to increase the sample size of VTR-based encounters data.

In the following section we present results from our monitoring activities during the July 1 - August 15, 2011 Area 6 summer selective Chinook fishery season. Note that we will generate estimates of fishery-total Chinook encounters and mortalities by size/mark group for the Area 6 Chinook MSF at a later date, when post-season CRC-based retained Chinook estimates become available (approximately one year after the fishery). We will then apply the proportion of legal-marked Chinook obtained from VTRs in the 2011 Area 6 Chinook MSF to the CRC-based retained Chinook estimate (pending further State-Tribal technical work evaluating methods for estimating encounters based on CRCs and on-water data), to generate estimates of total Chinook encounters and associated mortalities based on Conrad and McHugh's (2008) bias-corrected method (i.e., see WDFW 2012).

**Table 14.** Sampling/estimation details on target parameters associated with the overall Area 6 mark-selective fishery monitoring program.

<b>Activity</b>	<b>Focal Parameter(s)</b>	<b>Secondary Parameter(s)</b>	<b>Sample Unit(s)</b>	<b>Finest Estimation Time Step</b>	<b>Comments</b>
Dockside Angler Interviews (Baseline Sampling)	Observed (in-sample) fishing effort (boat & angler trips); kept and released fish.	Catch rates (CPUE); length, age, and CWT composition of harvest <sup>1</sup> ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	Week	Observed catch per angler trip and species composition data obtained from baseline sampling will ultimately be combined with Catch Record Card (CRC) data to produce fishery-total estimates at a later time (approximately one year following the fishery).
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season (46 days)	VTR data will be used in the estimation of total Chinook encounters by size/mark group (LM=55.0%, LU=26.2%, SM=10.9%, SU=7.9%; <b>Table 19</b> ) and associated impacts, once CRC-based retained Chinook estimates become available, using Conrad and McHugh's (2008) bias-corrected method (pending further State-Tribal technical evaluations on estimation approaches using CRCs).
Overall Fishery Impacts Estimation	Total Chinook encounters and mortalities, by size/mark-status group	Ratios of encounters and mortalities per kept Chinook	N/A	Season (46 days)	Will be estimated at a later date, when post-season CRC-based retained Chinook estimates become available (approximately one year after the fishery). We will then apply the proportion of legal-marked Chinook obtained from VTRs to the CRC-based retained Chinook estimate, enabling an estimate of total Chinook encounters and associated mortalities by size/mark group using Conrad and McHugh's (2008) bias-corrected method (see WDFW 2012, Appendix B).
Coded-wire tag (CWT) Impacts Estimation	Marked/unmarked double-index tag (DIT) encounters and mortalities	N/A	N/A	Season (46 days)	Will be estimated at a later date, when CRC-based fishery total estimates become available (approximately one year after the fishery). The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

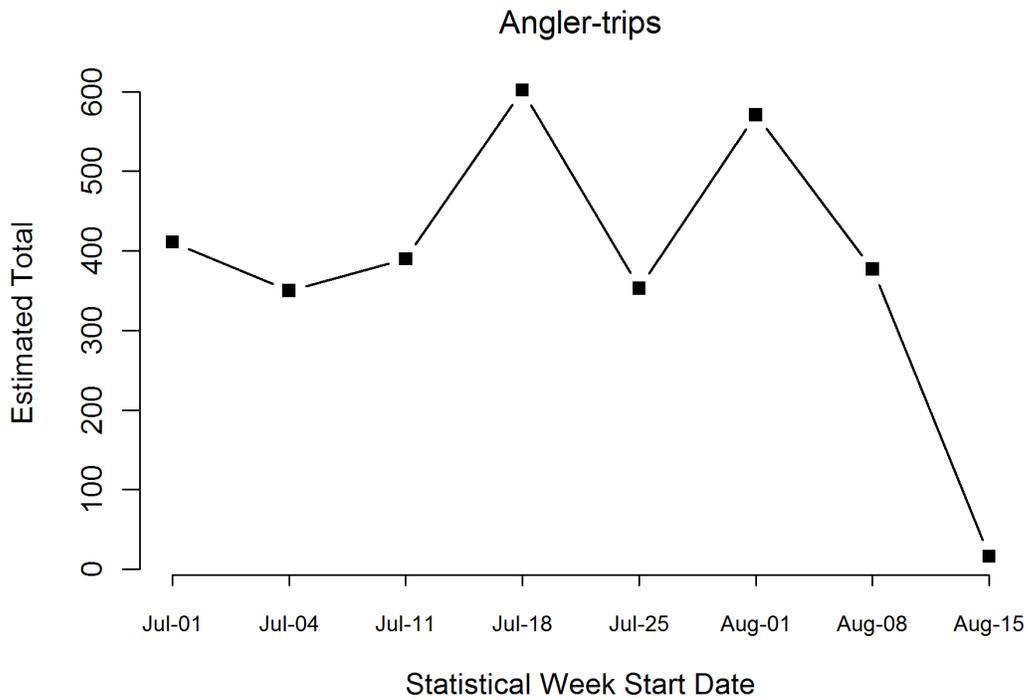
<sup>1</sup> Length data and CWT composition data for landed catch consisted of observed (in-sample) data only –i.e., not expanded to fishery totals.

**Table 15.** List of sites sampled, with the number and proportion of site-days sampled during the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery.

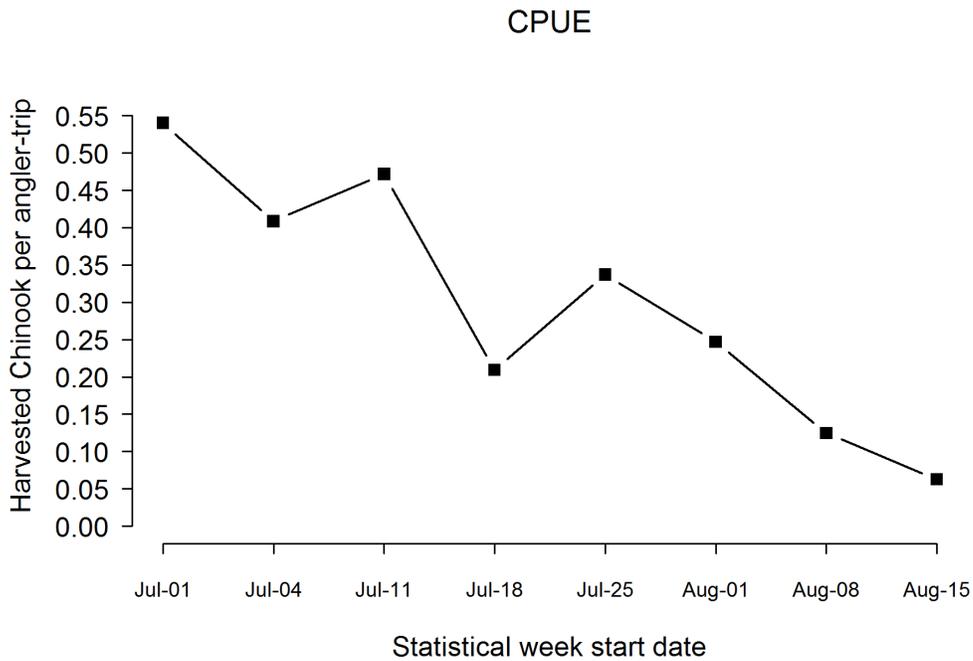
Area 6 Dockside Sampling Sites	Sample Days per Month		Sample Days (Jul. 1-Aug. 15)	% of Total
	July (1-31)	Aug. (1-15)		
Freshwater Bay Ramp	9	2	11	11.3%
Port Angeles Public Ramp - Ediz Hook	24	13	37	38.1%
Port Angeles West Ramp	13	6	19	19.6%
John Wayne Marina	2	0	2	2.1%
Cornet Bay Public Ramp	16	10	26	26.8%
Washington Park Launch Ramp	1	1	2	2.1%
<b>Total</b>	<b>65</b>	<b>32</b>	<b>97</b>	<b>100.0%</b>

**Table 16.** Observations of fishing effort, salmon harvest, and reported salmon releases, by week, for the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates. AD = marked (i.e., adipose-clipped), UM = unmarked; UNK = unknown mark status.

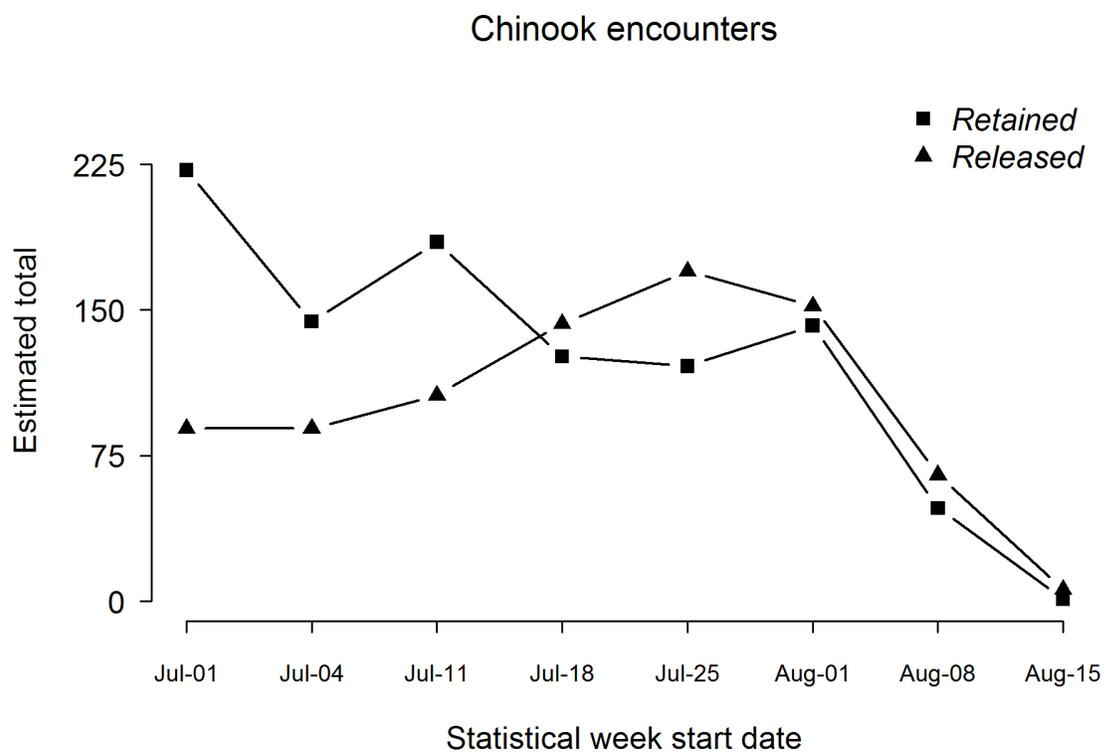
Month	Stat Week	Effort		Retained Chinook		Other Sp. Kept				Released Chinook			Other Sp. Released						
		Boats	Anglers	AD	UM	AD Coho	UM Coho	Pink	Chum	AD	UM	UNK	AD Coho	UM Coho	UNK Coho	Pink	Sock.	Atlantic	Unk. Salmon
July	27	205	411	222	0	1	0	1	0	11	78	10	0	0	0	0	0	0	1
	28	185	350	143	1	3	0	20	0	22	67	83	2	12	2	9	0	0	4
	29	211	390	184	1	0	1	37	0	14	92	13	0	0	0	19	0	0	0
	30	313	602	126	0	2	0	326	12	27	116	13	0	8	0	159	0	0	2
	31	181	353	119	2	0	0	156	0	67	103	70	3	12	3	90	1	0	4
Aug.	32	291	571	141	1	8	1	485	0	59	93	98	0	26	2	304	0	1	3
	33	193	377	47	1	2	0	636	0	15	50	24	0	12	0	294	0	0	0
	34	12	16	1	0	0	0	25	0	5	1	0	0	0	0	3	0	0	0
<b>Grand Total:</b>		<b>1,591</b>	<b>3,070</b>	<b>983</b>	<b>6</b>	<b>16</b>	<b>2</b>	<b>1,686</b>	<b>12</b>	<b>220</b>	<b>600</b>	<b>311</b>	<b>5</b>	<b>70</b>	<b>7</b>	<b>878</b>	<b>1</b>	<b>1</b>	<b>14</b>



**Figure 6.** Temporal patterns in fishing effort (angler trips) during the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.



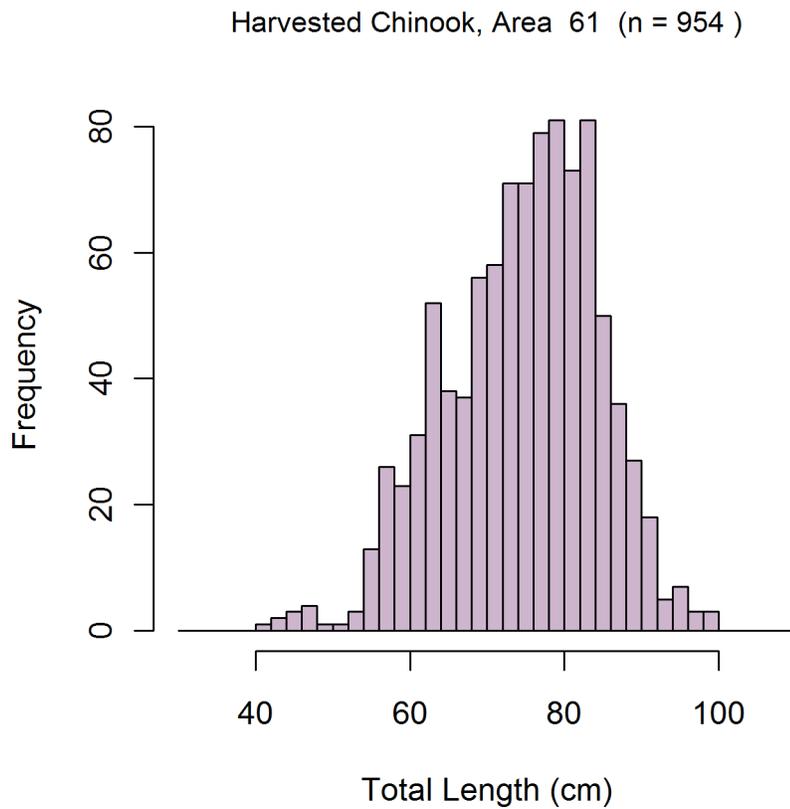
**Figure 7.** Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery.



**Figure 8.** Temporal patterns (by statistical week) in Chinook encounters (retained and released) during the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.

**Table 17.** Summary of length samples collected from retained Chinook salmon during dockside angler interviews, Area 6 July 1 – August 15, 2011 mark-selective Chinook fishery.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	926	28	954
Unmarked	2	4	6
<b>Total</b>	<b>928</b>	<b>32</b>	<b>960</b>



**Figure 9.** Length-frequency distributions of retained marked Chinook sampled at dockside during the Area 6 July 1 -August 15, 2011 mark-selective Chinook fishery.

**Table 18.** Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
British Columbia	Fraser River – Thompson River (9.7%)	R-Chilliwack R	H-Chilliwack River H	2 (6.5%)	2
		R-Harrison R	H-Chehalis River H	1 (3.2%)	0
Washington	Northern Washington (6.5%)	Friday Creek	Samish Hatchery	2 (6.5%)	2
		Hood Canal (29%)	Finch Creek	Hoodsport Hatchery	4 (12.9%)
	Purdy Creek		George Adams Hatchery	4 (12.9%)	4
	John Creek		N/A	1 (3.2%)	0
	Northern Puget Sound (6.5%)	Whitehorse Springs	Whitehorse Pond	1 (3.2%)	0
		Tulalip Creek	Bernie Gobin Hatchery	1 (3.2%)	0
	Skagit River (12.9%)	Baker River	N/A	1 (3.2%)	0
		Cascade River	Marblemount Hatchery	3 (9.7%)	0
	Mid Puget Sound (16.1%)	Grovers Creek Hatchery	Grovers Creek Hatchery	2 (6.5%)	2
		Icy Creek	Icy Creek Hatchery	1 (3.2%)	0
		Voight Creek	Voights Creek Hatchery	2 (6.5%)	0
	Southern Puget Sound (12.9%)	Clear Creek	Clear Creek Hatchery	2 (6.5%)	2
Chambers Creek		Garrison Hatchery	2 (6.5%)	0	
Columbia River	Upper Columbia R (above McNary Dam; excludes Snake River) (3.2%)	Wenatchee River	Dryden Pond	1 (3.2%)	0
	Snake River (3.2%)	Snake R. @ Asotin	Lyons Ferry Hatchery	1 (3.2%)	0
<b>Total</b>				<b>31</b>	<b>12</b>

**Table 19.** Total Chinook encountered (retained and released) by anglers reporting their catch on voluntary trip reports (VTRs) in the Area 6 July 1-August 15, 2011 mark-selective Chinook fishery, with estimates of season-total size/mark group proportions. AD = marked (i.e., adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions are provided in parentheses.

Data Source	Effort & Sample Size	Legal		Sublegal		Total	Mark Rates	
		AD	UM	AD	UM		Overall	Legal
Private Boat VTR	94 1-trip VTRs, 191 Angler Trips	126	60	25	18	229	65.9%	67.7%
<b>Size/mark-status composition:</b>		<b>0.550</b>	<b>0.262</b>	<b>0.109</b>	<b>0.079</b>			
Variance:		(0.0011)	(0.0008)	(0.0004)	(0.0003)			

### 3) Marine Areas 9 and 10 Summer 2011 Mark-selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a mark-selective Chinook fishery (MSF) in Marine Areas 9 and 10 for the fifth summer season from July 16 through August 31, 2011. WDFW's Puget Sound Sampling Unit (PSSU) implemented a comprehensive monitoring program in both areas throughout the season in order to collect the data needed to estimate key parameters characterizing the fishery in each area and associated impacts on unmarked salmon. Sampling activities included intensive dockside creel sampling (with in-season catch and effort estimates), on-the-water effort surveys (boat surveys), test fishing, as well as distributing and collecting voluntary trip reports (VTRs) from the angling public. **Table 20** summarizes the parameters estimated and the sampling activities associated with each parameter. Specific procedures used for collecting these data and estimating critical data parameters are presented in detail in our separate Methods Report (WDFW 2012).

In the following section we present results from our monitoring activities during the July 16 - August 31, 2011 Areas 9 and 10 summer selective Chinook fishery season. To generate the estimates of Chinook encounters and mortalities by size/mark group in each area, we used each area's test fishery-based estimates of Chinook encounter rates by size/mark group (legal size-marked [LM], legal size-unmarked [LU], sublegal size-marked [SM], and sublegal size-unmarked [SU]), as detailed below, and applied Conrad and McHugh's (2008) bias-corrected encounters estimation approach (see WDFW 2012, Appendix B).

**Table 20.** Sampling/estimation details on target parameters associated with the overall summer Areas 9 and 10 mark-selective fishery monitoring program.

Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
Dockside Creel Sampling	Fishing effort (boat & angler trips); kept and released fish	Catch rates (CPUE); length, age, and CWT composition of harvest <sup>1</sup> ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	Week	Within weeks, estimates were also produced by day type strata (weekday/weekend). Each week, we sampled every Friday, Saturday, and Sunday, and we randomly selected $n=2$ out of $N=4$ weekday days (Monday-Thursday) for sampling.
On-the-water Surveys (Boat Surveys)	Proportion of total angler effort accessing fishery via sample-frame sites (i.e., site “size measures”) versus out-of-frame sites. Size measures were used to select sites for dockside creel surveys using a probability proportional to size (PPS) site selection process, and to produce total-fishery creel estimates (see WDFW 2012).	Data on spatial distribution of recreational fishing boats in the area.	Boats and anglers; <u>Ar 9 surveys:</u> WD=624 B, 1,246 A WE=469 B, 1,028 A <u>Ar 10 surveys:</u> WD=406 B, 795 A WE=423 B, 878 A	Month	<b>Area 9:</b> A total of 7 boat surveys (3 weekend and 4 weekday) were conducted during the 1.5 month fishery. <b>Area 10:</b> A total of 8 boat surveys (4 weekend and 4 weekday) were conducted during the 1.5 month fishery.
Test Fishing	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Chinook length, age, and DNA-based <sup>2</sup> stock composition; species composition of non-Chinook encounters	Fish encounter	Season	In Area 9, season-total test fishery data were used in the estimation of total Chinook encounters by size/mark group and associated impacts; <u>Area 9:</u> LM=37.0%, LU=16.3%, SM=31.5%, SU=15.2%. <u>Area 10:</u> See VTR row below.
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	For encounters estimation steps, test fishery only data were used in Area 9 (see row above). In Area 10, VTR data only were used (see <b>Table 28</b> and text following the table for full explanation), with results as follows: LM=44.6%, LU=28.4%, SM=16.2%, SU=10.8%.
Overall Fishery Impacts Estimation	Total Chinook encounters and mortalities, by size/mark-status group	Ratios of encounters and mortalities per kept Chinook	N/A	Season	Estimated on a monthly time step but considered at the season-total level.
Coded-wire tag (CWT) Impacts Estimation	Marked/unmarked double-index tag (DIT) encounters and mortalities	N/A	N/A	Season	The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

<sup>1</sup>The length and CWT composition of landed catch was assessed on a season-wide basis for impact estimation.

<sup>2</sup>Though samples were collected, DNA-based estimates of stock composition are not yet available for this fishery.

**Table 21.** Estimates of total fishing effort and total salmon catch (harvest and reported releases) for the private (non-charter) fleet and charter boats during the July 16 – August 31, 2011 Area 9 mark-selective fishery. Values may not add exactly due to rounding error. AD = marked (i.e., adipose-clipped), UM = unmarked.

Month	Stat. Week	Start Date	End Date	Est. Effort		Est. Retained Chinook		Est. Released Chinook		Total Est. Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
July	29	Jul-16	Jul-17	1,680	3,761	467	3	495	440	1,405
	30	Jul-18	Jul-24	2,440	5,254	476	0	504	451	1,431
	31	Jul-25	Jul-31	1,690	3,310	269	0	285	255	809
August	32	Aug-01	Aug-07	2,538	5,399	445	0	471	422	1,339
	33	Aug-08	Aug-14	2,617	5,582	350	0	371	332	1,053
	34	Aug-15	Aug-21	2,628	5,735	193	6	205	177	581
	35	Aug-22	Aug-28	2,246	5,287	148	16	157	124	444
	36	Aug-29	Aug-31	1,531	3,495	0	0	0	0	0
<b>Total Private Fleet Estimates:</b>				17,370	37,822	2,348	25	2,487	2,201	7,061
<b>Total from Charter Boats<sup>1/2/</sup>:</b>				12	40	15	0	2	12	29
<b>Grand Total</b>				<b>17,382</b>	<b>37,862</b>	<b>2,363</b>	<b>25</b>	<b>2,489</b>	<b>2,213</b>	<b>7,090</b>
<b>Variance:</b>				1,340,320	6,705,556	35,184	187	333,296	94,474	738,707
<b>Standard Error:</b>				1,140	2,590	188	14	577	307	859
<b>CV (%):</b>				6.9%	7.2%	8.6%	54.7%	63.0%	21.9%	19.0%
<b>95% CI:</b>				14,256-18,726	30,704-40,854	1,815-2,551	-2-52	358-2,048	799-2,004	2,842-6,211

<sup>1/</sup> For the private (non-charter) fleet, we estimated boats, anglers, and retained Chinook catch via the Murthy estimator method (see WDFW 2012), whereas we obtained a full count (census) of these data from charter vessels over the season.

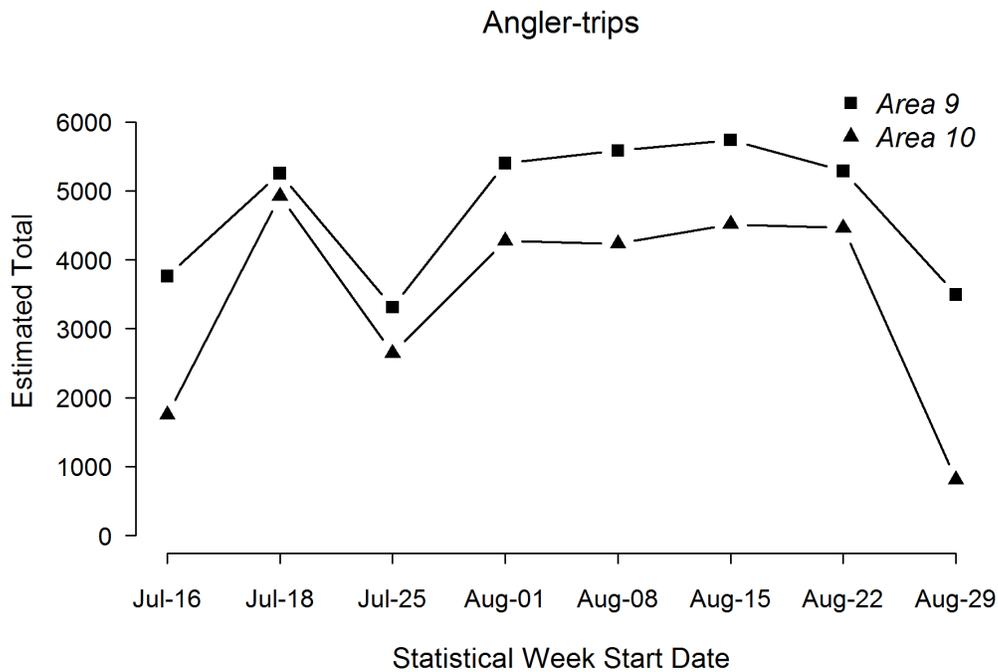
<sup>2/</sup> For both the private fleet and charter boats, we estimated released Chinook as the difference between total Chinook encounters generated using a bias-corrected "Method 2" estimator (see WDFW 2012 and Conrad and McHugh [2008] for additional details) and the creel-estimated (or censused, for charter boats) number of retained Chinook.

**Table 22.** Estimates of total fishing effort and total salmon catch (harvest and reported releases) for the private (non-charter) fleet and charter boats during the July 16 – August 31, 2011 **Area 10** mark-selective fishery. Values may not add exactly due to rounding error. AD = marked (i.e., adipose-clipped), UM = unmarked.

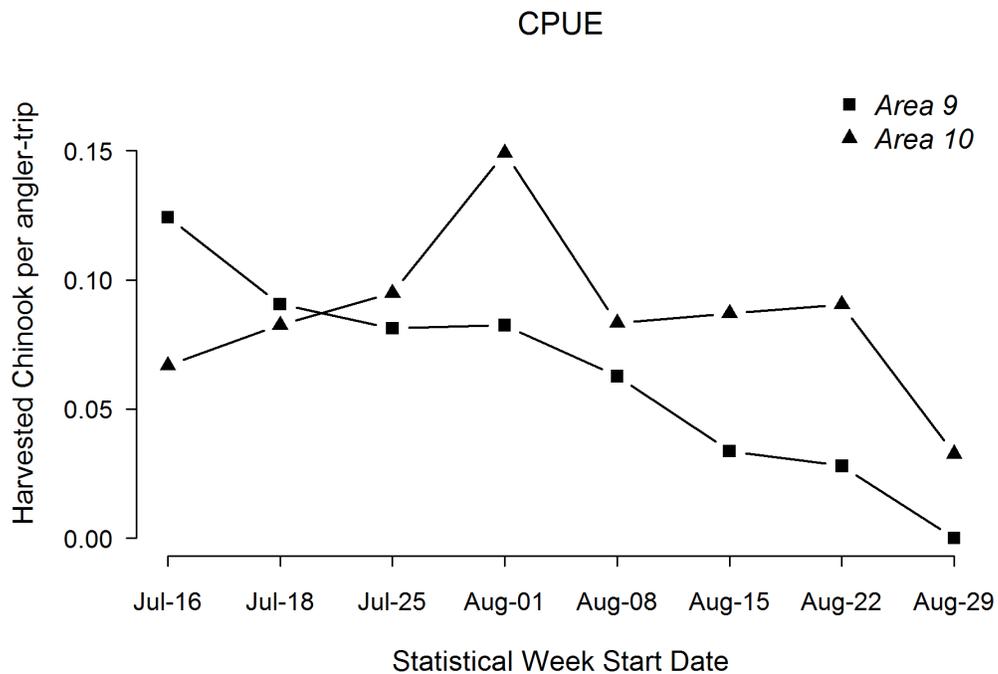
Month	Stat. Week	Start Date	End Date	Effort		Retained Chinook		Released Chinook		Total Est. Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
July	29	Jul-16	Jul-17	831	1,747	117	0	60	114	290
	30	Jul-18	Jul-24	2,933	4,925	406	13	207	382	1,009
	31	Jul-25	Jul-31	1,804	2,640	251	0	128	244	622
August	32	Aug-01	Aug-07	2,125	4,276	638	4	325	616	1,584
	33	Aug-08	Aug-14	2,088	4,230	352	2	180	341	875
	34	Aug-15	Aug-21	2,269	4,516	393	0	201	383	977
	35	Aug-22	Aug-28	2,156	4,460	403	2	206	390	1,002
	36	Aug-29	Aug-31	425	811	26	7	13	19	66
<b>Total Private Fleet Estimates:</b>				14,631	27,604	2,587	29	1,320	2,489	6,424
<b>Total from Charter Boats<sup>1/2/</sup>:</b>				37	149	56	0	16	77	149
<b>Grand Total:</b>				<b>14,668</b>	<b>27,753</b>	<b>2,643</b>	<b>29</b>	<b>1,336</b>	<b>2,566</b>	<b>6,573</b>
<b>Variance:</b>				753,375	2,538,244	71,625	95	535,858	270,553	1,146,383
<b>Standard Error:</b>				868	1,593	268	10	732	520	1,071
<b>CV (%):</b>				5.9%	5.8%	10.3%	34.1%	55.5%	20.9%	16.7%
<b>95% CI:</b>				12,929-16,332	24,482-30,727	2,062-3,111	9-48	-115-2,755	1,470-3,508	4,326-8,523

<sup>1/</sup> For the private (non-charter) fleet, we estimated boats, anglers, and retained Chinook catch via the Murthy estimator method (see WDFW 2012), whereas we obtained a full count (census) of these data from charter vessels over the season.

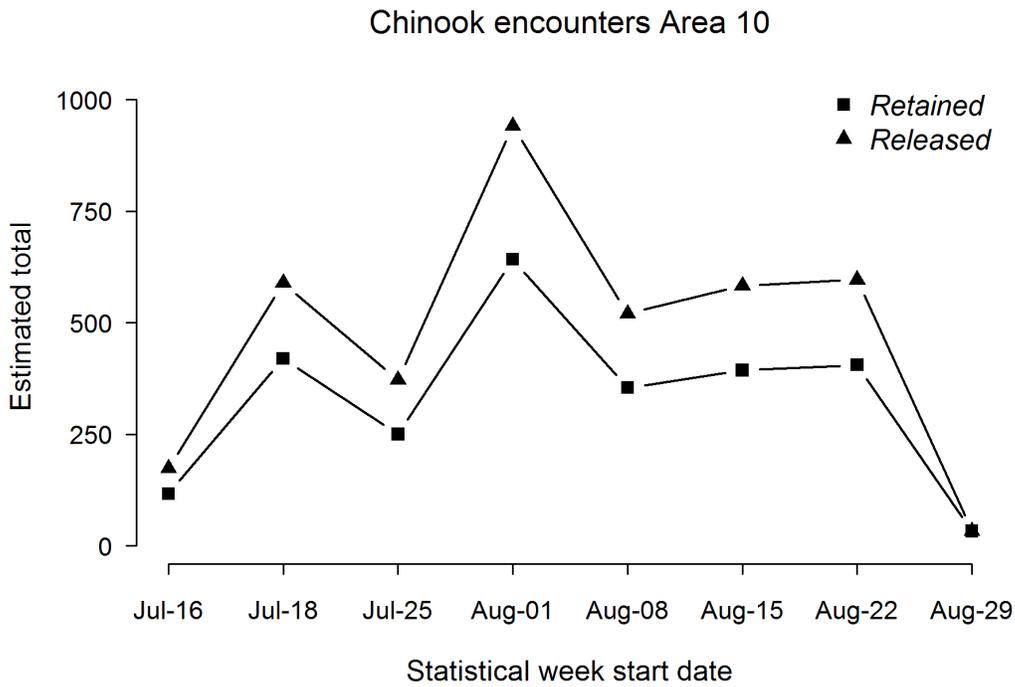
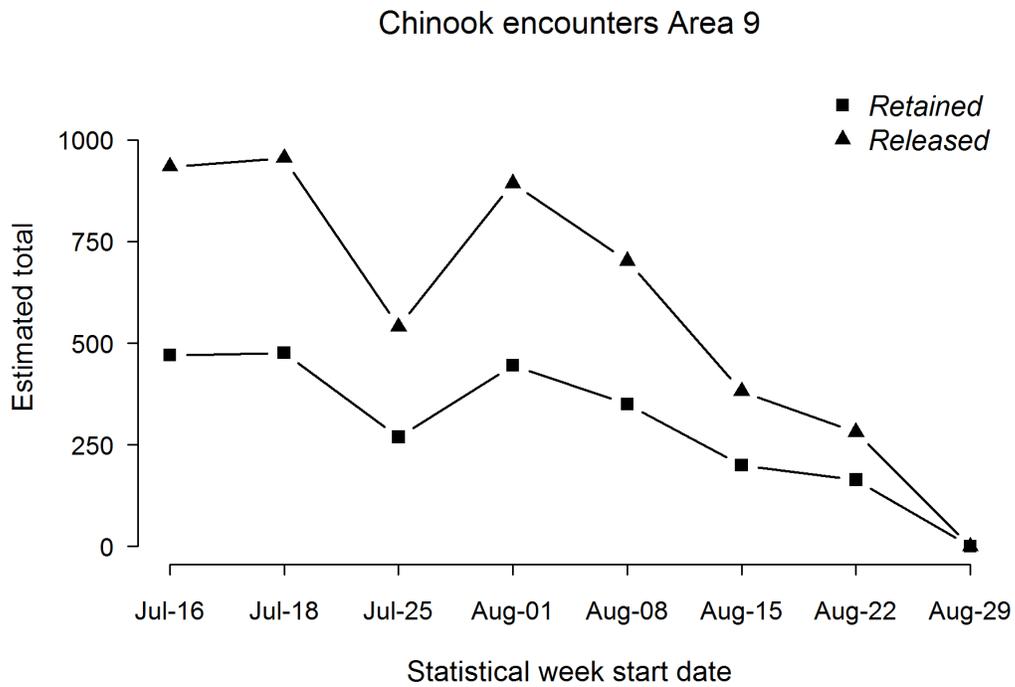
<sup>2/</sup> For both the private fleet and charter boats, we estimated released Chinook as the difference between total Chinook encounters generated using a bias-corrected "Method 2" estimator (see WDFW 2012 and Conrad and McHugh [2008] for additional details) and the creel-estimated (or censused, for charter boats) number of retained Chinook.



**Figure 10.** Temporal patterns in fishing effort for the recreational private boat fleet (i.e., excluding charter boat effort) during the July 16 – August 31, 2011 Areas 9 and 10 mark-selective Chinook fisheries.



**Figure 11.** Temporal patterns in CPUE (landed Chinook per angler trip) during the July 16 – August 31, 2011 Areas 9 and 10 mark-selective Chinook fisheries.

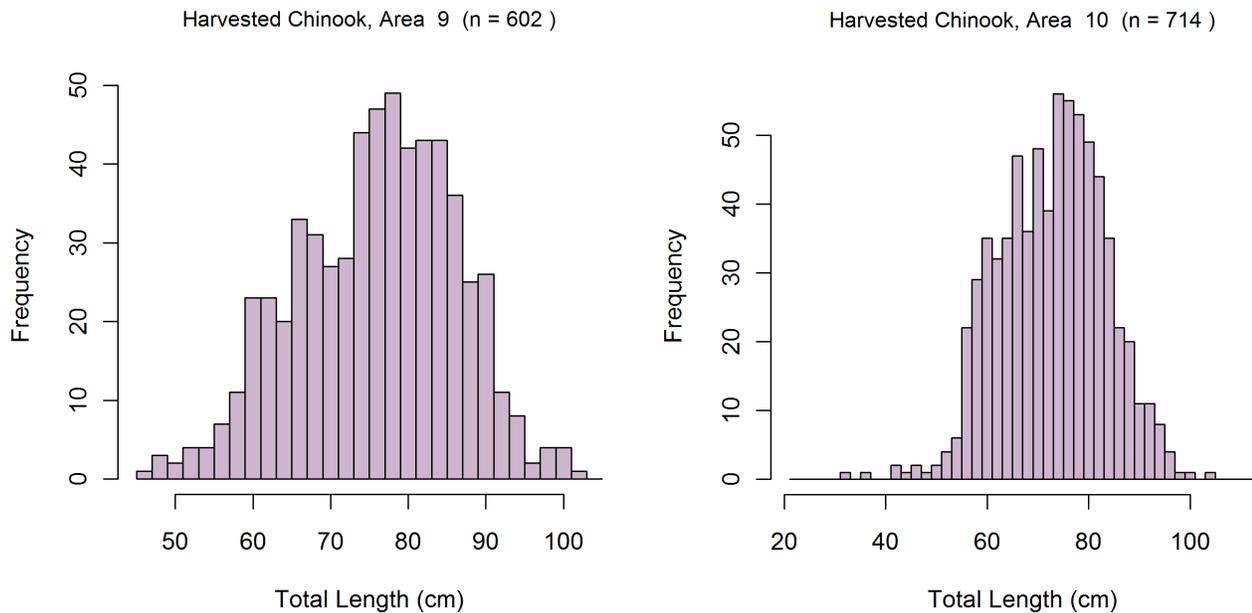


**Figure 12.** Temporal patterns in total estimated Chinook harvest and releases during the Areas 9 (*upper panel*) and 10 (*lower panel*), July 16-August 31, 2011, mark-selective Chinook fisheries.

**Table 23.** Summary of length samples collected from retained Chinook salmon during dockside angler interviews, Areas 9 and 10 mark selective Chinook fisheries, July 16-August 31, 2011.

Area	Mark Type	Number Sampled		Total
		Legal-size	Sublegal-size	
Area 9	Marked	582	20	602
	Unmarked	6	2	8
	<b>Total</b>	<b>588</b>	<b>22</b>	<b>610</b>

Area	Mark Type	Number Sampled		Total
		Legal-size	Sublegal-size	
Area 10	Marked	688	26	714
	Unmarked	3	3	6
	<b>Total</b>	<b>691</b>	<b>29</b>	<b>720</b>



**Figure 13.** Length-frequency distributions of retained marked Chinook sampled at dockside during the Areas 9 (*left panel*) and 10 (*right panel*), July 16 - August 31, 2011, mark-selective Chinook fisheries.

**Table 24.** Summary of coded-wire tags recovered from Chinook salmon harvested during the **Area 9** July 16 – August 31, 2011 mark-selective Chinook fishery. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

Release Domain	Release Region (% Contribution)	Release Site	Rearing Location	CWTs Recovered	Number DITs
British Columbia	Fraser River – Thompson River (4.3%)	R-Harrison R	H-Chehalis River H	1 (1.4%)	0
		R-Chilliwack R	H-Chilliwack River H	2 (2.9%)	2
	Georgia Strait (2.9%)	R-Cowichan R	H-Cowichan River H	2 (2.9%)	0
Washington	Hood Canal (34.3%)	FINCH CR 16.0222	HOODSPORT HATCHERY	15 (21.4%)	0
		PURDY CR 16.0005	N/A	1 (1.4%)	1
			GEORGE ADAMS HATCHRY	8 (11.4%)	8
	Northern Puget Sound (11.4%)	WALLACE R 07.0940	WALLACE R HATCHERY	6 (8.6%)	1
		WHITEHORSE SPRINGS	WHITEHORSE POND	2 (2.9%)	0
	Skagit River (5.7%)	SKAGIT R 03.0176	N/A	1 (1.4%)	0
		CASCADE R 03.1411	MARBLEMOUNT HATCHERY	2 (2.9%)	1
		SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	1 (1.4%)	0
	Mid Puget Sound (22.9%)	GORST CR 15.0216	GORST CR REARING PND	1 (1.4%)	0
		GREEN R 09.0001	ICY CR HATCHERY	2 (2.9%)	0
		BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	6 (8.6%)	6
		ICY CR 09.0125	ICY CR HATCHERY	1 (1.4%)	0
		GROVERS CR HATCHERY	GROVERS CR HATCHERY	6 (8.6%)	6
	Southern Puget Sound (18.6%)	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	1 (1.4%)	0
			GARRISON HATCHERY	1 (1.4%)	0
LAKWOOD HATCHERY		LAKWOOD HATCHERY	2 (2.9%)	0	
CLEAR CR 11.0013C		CLEAR CREEK HATCHERY	8 (11.4%)	8	
KALAMA CR 11.0017		KALAMA CR HATCHERY	1 (1.4%)	0	
<b>TOTAL</b>				<b>70</b>	<b>33</b>

**Table 25.** Summary of coded-wire tags recovered from Chinook salmon harvested during the **Area 10** July 16 – August 31, 2011 mark-selective Chinook fishery. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

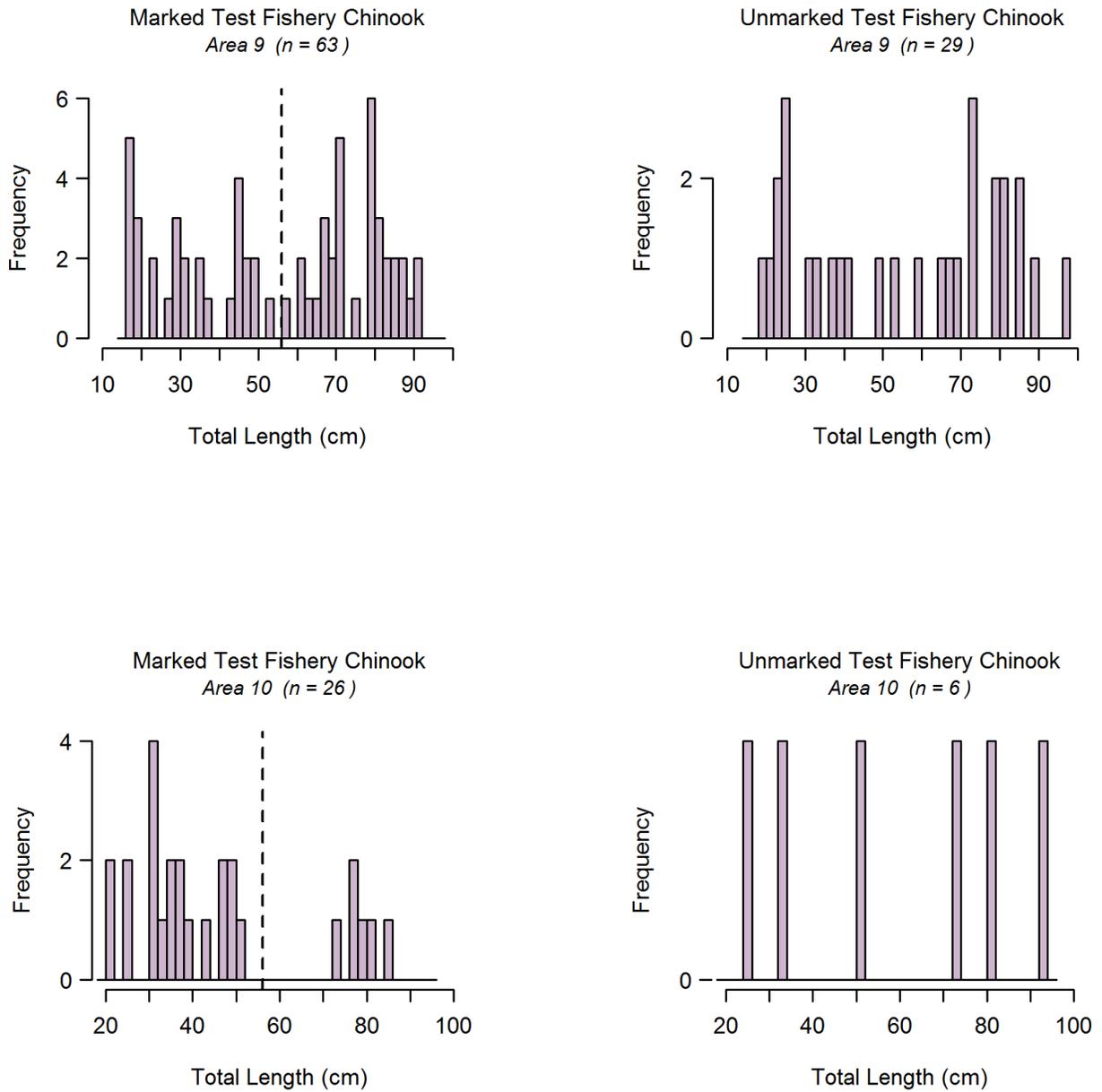
Release Domain	Release Region (% Contribution)	Release Site	Rearing Location	CWTs Recovered	Number DITs	
British Columbia	Fraser River – Thompson River (3.2%)	R-Chilliwack R	H-Chilliwack River H	2 (3.2%)	2	
Washington	Hood Canal (14.3%)	PURDY CR 16.0005	N/A	1 (1.6%)	1	
			GEORGE ADAMS HATCHERY	3 (4.8%)	3	
	Northern Puget Sound (12.7%)	FINCH CR 16.0222	HOODSPORT HATCHERY	5 (7.9%)	0	
			WALLACE R 07.0940	WALLACE R HATCHERY	7 (11.1%)	2
	Skagit River (3.2%)	WHITEHORSE SPRINGS	WHITEHORSE POND	1 (1.6%)	0	
			SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	1 (1.6%)	0
	Mid Puget Sound (28.6%)	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	1 (1.6%)	1	
			BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	5 (7.9%)	5
			GREEN R 09.0001	ICY CR HATCHERY	1 (1.6%)	0
			COWSKULL ACCLIM POND	CLARKS CRK HATCHERY	1 (1.6%)	0
			BIG SOOS CR 09.0072	N/A	2 (3.2%)	2
			GORST CR 15.0216	GORST CR REARING PND	4 (6.3%)	0
			VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	1 (1.6%)	0
			GROVERS CR HATCHERY	GROVERS CR HATCHERY	3 (4.8%)	3
			ICY CR 09.0125	ICY CR HATCHERY	1 (1.6%)	0
			Southern Puget Sound (33.3%)	CHAMBERS CR 12.0007	GARRISON HATCHERY	2 (3.2%)
	CHAMBERS CR HATCHERY	2 (3.2%)			0	
	KALAMA CR 11.0017	KALAMA CR HATCHERY		2 (3.2%)	0	
	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY		5 (7.9%)	5	
	MINTER CR 15.0048	MINTER CR HATCHERY		1 (1.6%)	0	
N/A		1 (1.6%)		0		
LAKWOOD HATCHERY	LAKWOOD HATCHERY	8 (12.7%)	0			
Columbia River	Upper Columbia R (above McNary Dam; excludes Snake River) (1.6%)	CHELAN R 47.0052	CHELAN RIVER NP	1 (1.6%)	0	
	Snake River (1.6%)	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	1 (1.6%)	0	
<b>TOTAL</b>				<b>62</b>	<b>24</b>	

**Table 26.** Composition of test fishery Chinook encounters and associated mark-rate and size/mark-status proportion estimates for the July 16 – August 31, 2011 **Area 9** mark-selective Chinook fishery. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Stat Week	Fishing Effort		Legal		Sublegal		Total
	Days	Hours Fished	AD	UM	AD	UM	
29	1	5.9	2	0	0	0	2
30	5	26.5	0	6	2	4	12
31	4	17.1	3	1	1	0	5
32	5	27.0	12	1	2	1	16
33	5	24.0	4	2	5	1	12
34	5	20.2	6	2	8	1	17
35	5	21.2	6	2	7	2	17
36	3	12.6	1	1	4	5	11
<b>Total</b>	<b>33</b>	<b>154.5</b>	<b>34</b>	<b>15</b>	<b>29</b>	<b>14</b>	<b>92</b>
<b>Size/mark-status composition:</b> 0.370 (0.00256) 0.163 (0.00150) 0.315 (0.00237) 0.152 (0.00142) <b>Legal size mark rate:</b> 0.69 (0.00443) <b>Overall mark rate:</b> 0.68 (0.00237)							

**Table 27.** Composition of test fishery Chinook encounters and associated mark-rate and size/mark-status proportion estimates for the July 16 – August 31, 2011 **Area 10** mark-selective Chinook fishery. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Stat Week	Fishing Effort		Legal		Sublegal		Total
	Days	Hours Fished	AD	UM	AD	UM	
29	0	0.0	0	0	0	0	0
30	5	24.5	0	0	2	0	2
31	5	25.5	2	1	1	0	4
32	5	27.5	0	1	2	0	3
33	5	26.5	1	1	6	3	11
34	5	28.5	3	0	5	0	8
35	5	24.8	0	0	3	0	3
36	2	8.5	0	0	1	0	1
<b>Total</b>	<b>32</b>	<b>165.8</b>	<b>6</b>	<b>3</b>	<b>20</b>	<b>3</b>	<b>32</b>
<b>Size/mark-status composition:</b> 0.188 (0.00491) 0.094 (0.00274) 0.625 (0.00756) 0.094 (0.00274) <b>Legal size mark rate:</b> 0.67 (0.02778) <b>Overall mark rate:</b> 0.81 (0.00491)							



**Figure 14.** Length-frequency distributions of marked (*left panel*) and unmarked (*right panel*) Chinook encountered by test fishers during the Areas 9 (*upper panel*) and 10 (*lower panel*) mark-selective Chinook fisheries, July 16-August 31, 2011. Note that the vertical dashed line in the left panel corresponds to the legal size limit (22 inches or 56 cm.).

**Table 28.** Total Chinook encountered (retained and released) by anglers reporting their catch on voluntary trip reports (VTRs), compared to test fishing encounter data and pooled results (VTRs + test fishery data), in the July 16-August 31, 2011 Areas 9 and 10 mark-selective Chinook fisheries, with estimates of legal, sublegal, and overall mark rates. AD = marked (i.e., adipose-clipped), UM = unmarked.

Marine Area	Data Source		VTRs (n) or Fishing Days (test boat)	Angler Trips	Chinook Encounters					Legal Mark Rate	Overall Mark Rate	
					LM Kept	LM Rel'd	LU	SM	SU			Total
Area 9	Private Boats	Season Total Number	82	173	35	0	39	18	17	109	47.3%	48.6%
		Encounter Rates (LM, LU, SM, SU)			32.1%		35.8%	16.5%	15.6%	100.0%		
	Test Fishing	Season Total Number	33	66	0	34	15	29	14	92	69.4%	68.5%
		Encounter Rates (LM, LU, SM, SU)			37.0%		16.3%	31.5%	15.2%	100.0%		
	Pooled (VTR + TF)	Pooled Total Area 9	115	239	35	34	54	47	31	201	56.1%	57.7%
		Encounter Rates (LM, LU, SM, SU)			34.3%		26.9%	23.4%	15.4%	100.0%		
Area 10	Private Boats	Season Total Number	58	92	33	0	21	12	8	74	61.1%	60.8%
		Encounter Rates (LM, LU, SM, SU)			44.6%		28.4%	16.2%	10.8%	100.0%		
	Test Fishing	Season Total Number	32	64	0	6	3	20	3	32	66.7%	81.3%
		Encounter Rates (LM, LU, SM, SU)			18.8%		9.4%	62.5%	9.4%	100.0%		
	Pooled (VTR + TF)	Pooled Total Area 10	90	156	33	6	24	32	11	106	61.9%	67.0%
		Encounter Rates (LM, LU, SM, SU)			36.8%		22.6%	30.2%	10.4%	100.0%		

Pearson’s chi-square test was used to compare the size/mark status proportions of the test fishery data to the VTR data in Areas 9 and 10. In Area 9, the  $\chi^2$  statistic was significant ( $\chi^2 = 12.1954$ , 3 df;  $P = 0.0067$ ), indicating a significant difference between the two samples. Considering the lack of homogeneity between the two data sets, we did not combine the test fishery and VTR data sets in subsequent analysis steps. Due to the high-level expertise and extensive experience of our veteran test fishery crew in Area 9, we assumed the test fishery data were of higher quality than the Area 9 VTR data. Further, the Area 9 test fishery sample size (n=92 encounters) was sufficient to produce a coefficient of variation (CV) of 13% (indicating an acceptable precision level, below our default threshold of 20%) for the test fishery-based estimate of the proportion of legal-size and marked (pLM) Chinook in the fishery. Thus, considering both data quality and sample size in the Area 9 test fishery, we elected to use only the season-total test fishery data to estimate the size/mark status proportions needed to produce the Area 9 fishery-total encounter estimates.

In Area 10, the  $\chi^2$  statistic was significant ( $\chi^2 = 23.5153$ , 3 df;  $P = 3.153e-05$ ), indicating a significant difference between the VTR and test fishery samples. In deciding whether to use the test fishery or VTR data for subsequent estimation steps, we considered the higher sample size of VTR-based Chinook encounters data (n=74 encounters; CV=13% for the VTR-based pLM estimate) compared to the

relatively low sample size in the Area 10 test fishery (n=32 encounters; CV=37% for the test fishery-based pLM estimate). Also, we considered the in-season issues we had with data quality of this year’s particular test fishing crew in Area 10. Further, we estimated pLM from a third data source – dockside angler interview data collected during the Area 10 MSF – for comparison purposes, and the dockside-based estimate of pLM tracked closely with the VTR-based estimate of pLM. Thus, we elected to use only the VTR data to estimate the size/mark status proportions needed to produce the Area 10 fishery-total encounter estimates.

**Table 29.** Summary of season-wide fishery impact estimates for the Area 9 mark-selective Chinook fishery, July 16-August 31, 2011. Values may not add up perfectly due to rounding error.

<b>Total Encounters (E): 7,090</b> <b>V(E): 1,261,824</b>										
Size/mark group	Encounters	No. Retained	No. Rel'd	Rel. Mort. Rate	Rel. Mort.	Total Mortality	Var	SE	95% CI	CV (%)
Legal marked	2,624	2,285	339	0.15	51	2,336	41,267	203	1938 - 2734	9
Legal unmarked	1,161	19	1,142	0.15	171	190	2,514	50	92 - 288	26
Sublegal marked	2,228	78	2,150	0.20	430	508	9,971	100	312 - 704	20
Sublegal unmarked	1,076	6	1,070	0.20	214	220	3,949	63	97 - 343	29
All groups combined	<b>7,090</b>	<b>2,388</b>	<b>4,701</b>		<b>866</b>	<b>3,255</b>	<b>57,701</b>	<b>240</b>	<b>2784 - 3725</b>	<b>7</b>

**Table 30.** Summary of season-wide fishery impact estimates for the Area 10 mark-selective Chinook fishery, July 16-August 31, 2011. Values may not add up perfectly due to rounding error.

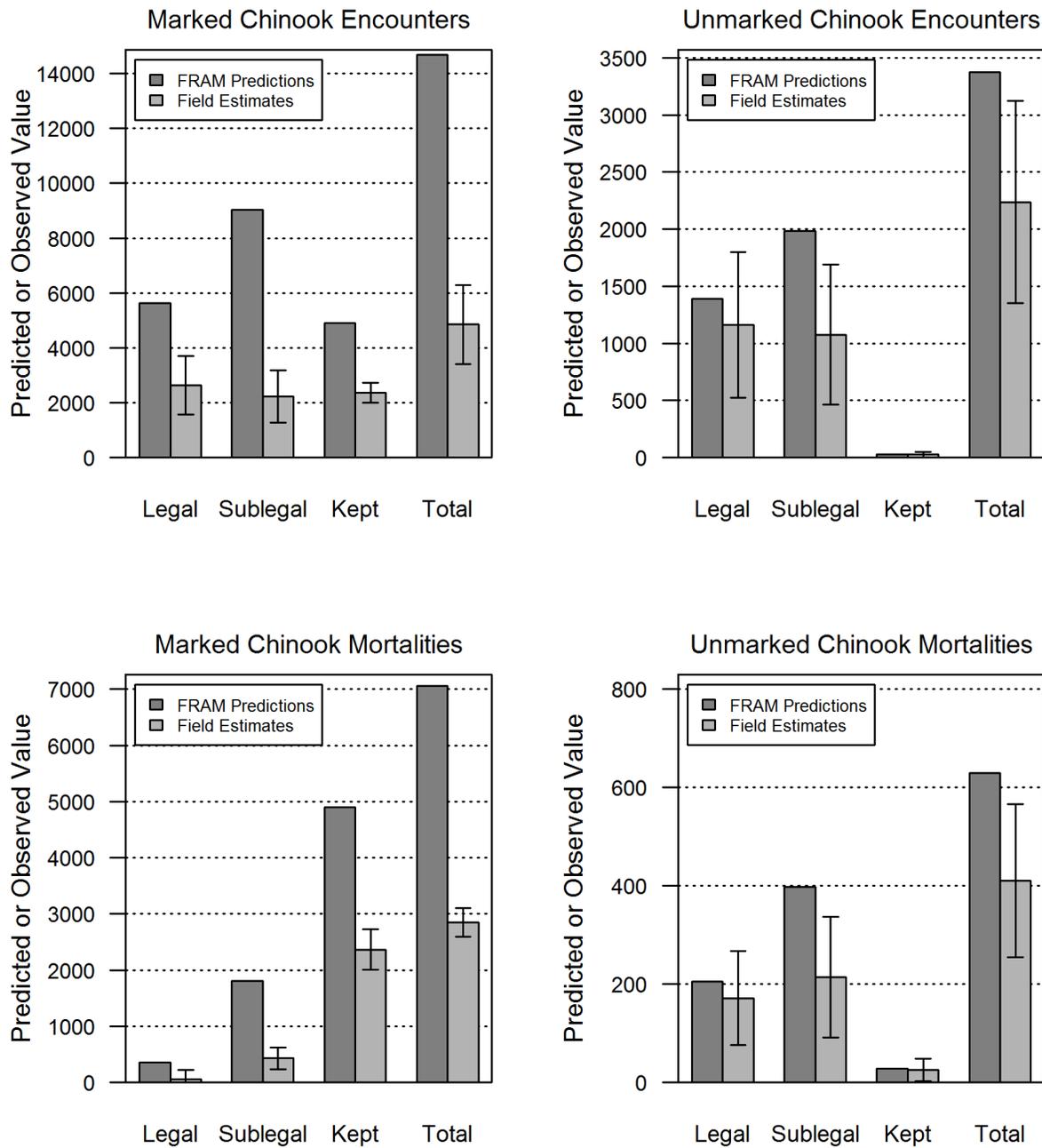
<b>Total Encounters (E): 6,573</b> <b>V(E): 1,146,383</b>										
Size/mark group	Encounters	No. Retained	No. Rel'd	Rel. Mort. Rate	Rel. Mort.	Total Mortality	Var	SE	95% CI	CV (%)
Legal marked	2,921	2,548	372	0.15	56	2,604	76,518	277	2062 - 3146	11
Legal unmarked	1,886	14	1,872	0.15	281	295	4,652	68	161 - 429	23
Sublegal marked	1,058	94	964	0.20	193	287	4,630	68	154 - 420	24
Sublegal unmarked	709	14	694	0.20	139	153	2,718	52	51 - 255	34
All groups combined	<b>6,573</b>	<b>2,671</b>	<b>3,902</b>		<b>668</b>	<b>3,339</b>	<b>88,519</b>	<b>298</b>	<b>2756 - 3923</b>	<b>9</b>

**Table 31.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters for the Areas 9 and 10 July 16-August 31, 2011 mark-selective Chinook fisheries.

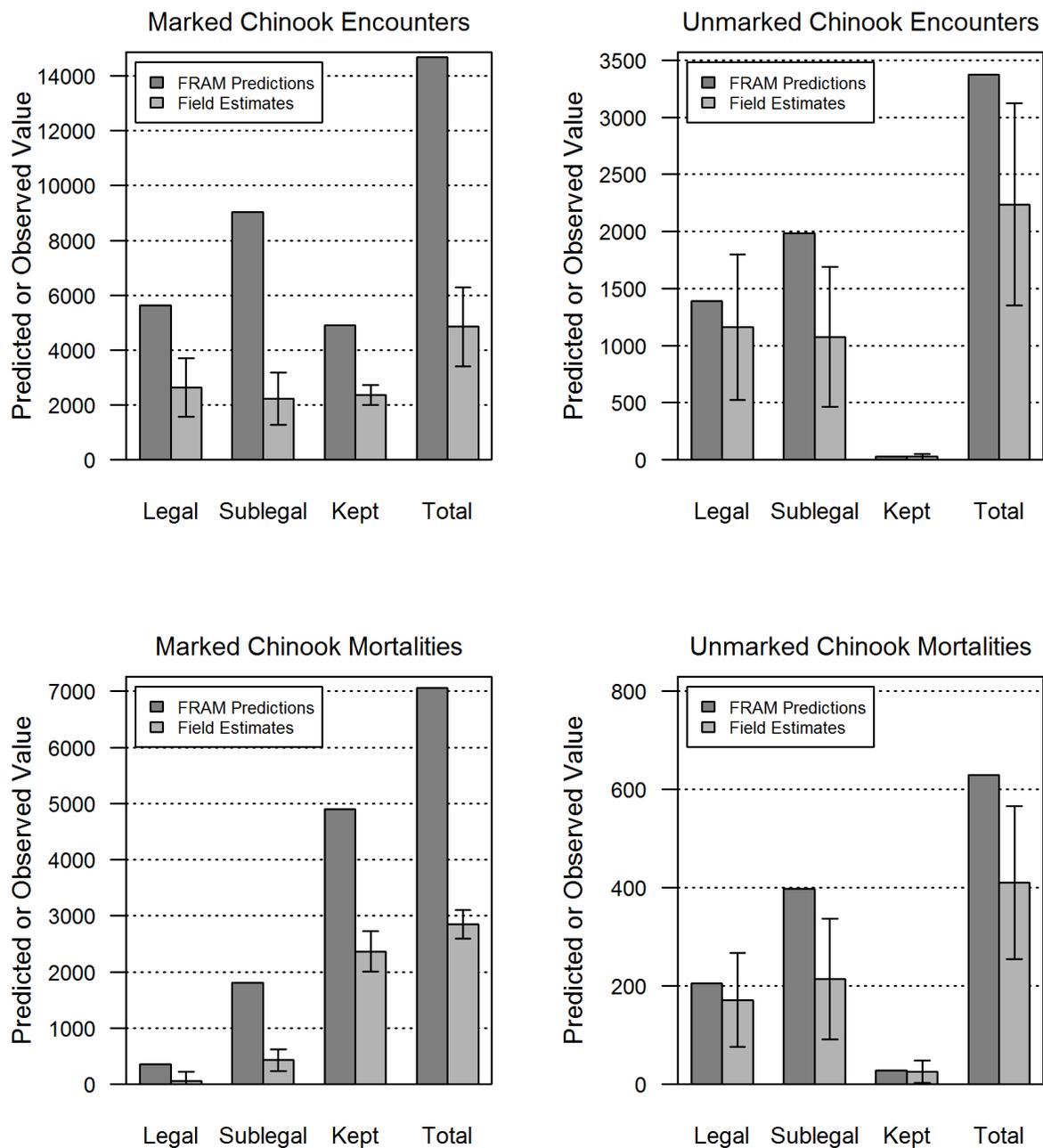
Marine Area	Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
9	FRAM Encounters	Unmark.	3,373	1,388	1,985	28
		Mark.	14,677	5,632	9,045	4,900
		Total	18,050	7,020	11,030	4,928
		% Mark.	81	80	82	99
	Estimated (Creel) Encounters	Unmark.	2,238	1,161	1,076	25
		Mark.	4,852	2,624	2,228	2,363
		Total	7,090	3,786	3,304	2,388
		% Mark.	68	69	67	99
10	FRAM Encounters	Unmark.	2,724	1,104	1,620	88
		Mark.	7,501	2,721	4,780	2,368
		Total	10,225	3,825	6,400	2,456
		% Mark.	73	71	75	96
	Estimated (Creel) Encounters	Unmark.	2,595	1,886	709	29
		Mark.	3,979	2,921	1,058	2,643
		Total	6,573	4,807	1,766	2,671
		% Mark.	61	61	60	99

**Table 32.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook mortalities for the Areas 9 and 10 July 16-August 31, 2011 mark-selective Chinook fisheries.

Marine Area	Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
		Unmark.	Mark.	Total	Unmark.	Mark.	Total
9	Total (Landed + Released)	630	7,064	7,694	411	2,844	3,255
	Released Legal	205	355	560	171	51	222
	Released Sublegal	397	1,809	2,206	214	430	644
	Landed Only	28	4,900	4,928	25	2,363	2,388
10	Total (Landed + Released)	569	3,495	4,064	448	2,891	3,339
	Released Legal	157	171	328	281	56	337
	Released Sublegal	324	956	1,280	139	193	332
	Landed Only	88	2,368	2,456	29	2,643	2,671



**Figure 15.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters (*upper panel*) and mortalities (*lower panel*) for the **Area 9** July 16-August 31, 2011 mark-selective Chinook fishery. Error bars represent approximate 95% confidence intervals for field estimates.



**Figure 16.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters (*upper panel*) and mortalities (*lower panel*) for the **Area 10** July 16-August 31, 2011 mark-selective Chinook fishery. Error bars represent approximate 95% confidence intervals for field estimates.

**Table 33.** Summary of double-index tagged (DIT) Chinook kept by anglers, and estimated total mortality of unmarked DIT Chinook due to hook-and-release impacts resulting from the **Area 9** mark-selective Chinook fishery, from July 16 through August 31, 2011. AD = marked (i.e., adipose-clipped), UM = unmarked.

Hatchery	Brood Year	DITs Obs'd	AD DIT Harvest		UM DIT Enc.	UM DIT Mortality		
			Est.	var(Est.)		Est.	var(Est.)	SE(Est.)
Clear Creek Hatchery	2007	2	7.8	22.5	7.7	0.8	0.2	0.7
	2008	6	23.3	67.5	23.4	2.3	0.7	2.0
George Adams Hatchery	2006	1	3.9	11.2	4.3	0.4	0.1	0.4
	2007	5	19.5	56.2	19.6	2.0	0.6	1.7
	2008	2	7.8	22.5	7.7	0.8	0.2	0.7
Grovers Creek Hatchery	2007	3	11.7	33.7	11.7	1.2	0.3	1.0
	2008	3	11.7	33.7	13.0	1.3	0.4	1.1
Chilliwack River Hatchery	2008	1	3.9	11.2	3.9	0.4	0.1	0.3
	2009	1	3.9	11.2	2.0	0.2	0.0	0.2
Marblemount Hatchery	2008	1	3.9	11.2	3.8	0.4	0.1	0.3
Soos Creek Hatchery	2007	3	11.7	33.7	11.7	1.2	0.3	1.0
	2008	3	11.7	33.7	12.3	1.2	0.4	1.1
Wallace River Hatchery	2008	1	3.9	11.2	3.9	0.4	0.1	0.3
<b>TOTAL</b>		<b>32</b>	<b>124.7</b>	<b>359.5</b>	<b>125</b>	<b>12.6</b>	<b>3.53</b>	<b>10.8</b>

**Table 34.** Summary of double-index tagged (DIT) Chinook kept by anglers, and estimated total mortality of unmarked DIT Chinook due to hook-and-release impacts resulting from the **Area 10** mark-selective Chinook fishery, from July 16 through August 31, 2011. AD = marked (i.e., adipose-clipped), UM = unmarked.

Hatchery	Brood Year	DITs Obs'd	AD DIT Harvest		UM DIT Enc.	UM DIT Mortality		
			Est.	var(Est.)		Est.	var(Est.)	SE(Est.)
Clear Creek Hatchery	2007	2	7.3	19.2	7.2	0.7	0.2	0.6
	2008	3	10.9	28.8	10.9	1.1	0.3	0.9
George Adams Hatchery	2007	2	7.3	19.2	7.3	0.7	0.2	0.6
	2008	1	3.6	9.6	3.6	0.4	0.1	0.3
Grovers Creek Hatchery	2007	3	10.9	28.8	10.9	1.1	0.3	0.9
Chilliwack River Hatchery	2008	2	7.3	19.2	7.3	0.7	0.2	0.6
Marblemount Hatchery	2008	1	3.6	9.6	3.6	0.4	0.1	0.3
Soos Creek Hatchery	2007	4	14.5	38.3	14.5	1.5	0.4	1.2
	2008	1	3.6	9.6	3.8	0.4	0.1	0.3
Wallace River Hatchery	2008	2	7.3	19.2	7.3	0.7	0.2	0.6
<b>TOTAL</b>		<b>21</b>	<b>76.3</b>	<b>201.5</b>	<b>76.4</b>	<b>7.7</b>	<b>2.1</b>	<b>6.3</b>

**Table 35.** Monthly sample rates (Total retained Chinook sampled <sup>1/</sup> / Estimated retained Chinook) in the Areas 9 and 10 July 16-August 31, 2011 mark-selective Chinook fisheries.

Area	Time Period			Estimated Retained Chinook			Number of Retained Chinook Sampled			Sample Rate
	Month	Stat. Weeks	Dates	Marked	Un-marked	Total	Marked	Un-marked	Total	
Area 9	July	29-31	Jul 16 - Jul 31	1,212	3	1,215	347	2	349	28.7%
	August	32-36	Aug 1 - Aug 31	1,136	22	1,158	255	6	261	22.5%
	<b>Season Total</b>			<b>2,348</b>	<b>25</b>	<b>2,373</b>	<b>602</b>	<b>8</b>	<b>610</b>	<b>25.7%</b>
Area 10	July	29-31	Jul 16 - Jul 31	774	13	787	196	2	198	25.2%
	August	32-36	Aug 1 - Aug 31	1,813	15	1,828	518	4	522	28.6%
	<b>Season Total</b>			<b>2,587</b>	<b>28</b>	<b>2,615</b>	<b>714</b>	<b>6</b>	<b>720</b>	<b>27.5%</b>

<sup>1/</sup> Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the 2011 summer Areas 9 and 10 selective Chinook fisheries (i.e., the sample-frame sites included in the creel estimates and the fish sampled as part of baseline sampling in the area).

**Table 36.** Fishery-total estimates of retained and released salmon (other than Chinook salmon) for the **Area 9** July 16 – August 31, 2011 mark-selective Chinook fishery. Values may not add up perfectly due to rounding error. AD = marked (i.e., adipose-clipped), UM = unmarked, UNK = unknown mark status.

Month	Stat. Week	Start Date	End Date	Est. Effort		Est. Other Sp. Retained			Est. Other Sp. Released				
				Boats	Anglers	AD Coho	UM Coho	Pink	AD Coho	UM Coho	Unk. Coho	Pink	Unk. Salmon
July	29	Jul-16	Jul-17	1,680	3,761	146	110	13	36	58	81	32	282
	30	Jul-18	Jul-24	2,440	5,254	97	80	8	57	42	159	21	483
	31	Jul-25	Jul-31	1,690	3,310	65	27	56	34	29	79	30	328
August	32	Aug-01	Aug-07	2,538	5,399	61	118	550	29	41	63	81	209
	33	Aug-08	Aug-14	2,617	5,582	92	113	1,764	52	40	121	110	341
	34	Aug-15	Aug-21	2,628	5,735	65	182	3,648	0	33	28	163	197
	35	Aug-22	Aug-28	2,246	5,287	191	281	6,389	30	78	89	477	246
	36	Aug-29	Aug-31	1,531	3,495	188	74	4,389	0	0	0	488	148
<b>Season Total</b>				<b>17,370</b>	<b>37,822</b>	<b>906</b>	<b>984</b>	<b>16,817</b>	<b>237</b>	<b>320</b>	<b>621</b>	<b>1,403</b>	<b>2,234</b>
<b>Variance</b>				1,340,320	7,008,612	18,613	17,916	4,343,397	1,658	3,935	9,506	44,127	89,596
<b>Standard Error:</b>				1,158	2,647	136	134	2,084	41	63	98	210	299
<b>CV (%):</b>				6.7%	7.0%	15.1%	13.6%	12.4%	17.2%	19.6%	15.7%	15.0%	13.4%
<b>95% CI:</b>				15,101-19,639	32,633-43,011	638-1,173	722-1,247	12,732-20,902	157-317	197-443	430-812	992-1,815	1,647-2,821

**Table 37.** Fishery-total estimates of retained and released salmon (other than Chinook salmon) for the **Area 10** July 16 – August 31, 2011 mark-selective Chinook fishery. Values may not add up perfectly due to rounding error. AD = marked (i.e., adipose-clipped), UM = unmarked, UNK = unknown mark status.

Month	Stat. Week	Start Date	End Date	Est. Effort		Est. Other Sp. Retained				Est. Other Sp. Released					
				Boats	Anglers	AD Coho	UM Coho	Pink	Sockeye	AD Coho	UM Coho	Unk Coho	Pink	Chum	Unk Salmon
July	29	Jul-16	Jul-17	831	1,747	94	46	0	0	9	4	22	2	0	71
	30	Jul-18	Jul-24	2,933	4,925	341	223	23	9	53	70	379	2	0	236
	31	Jul-25	Jul-31	1,804	2,640	310	151	56	0	89	37	100	28	0	299
August	32	Aug-01	Aug-07	2,125	4,276	279	146	741	0	11	24	64	383	20	176
	33	Aug-08	Aug-14	2,088	4,230	539	209	1,197	0	45	38	107	182	0	337
	34	Aug-15	Aug-21	2,269	4,516	289	199	1,769	0	54	86	74	423	0	635
	35	Aug-22	Aug-28	2,156	4,460	471	411	2,930	0	56	77	229	1,049	0	936
	36	Aug-29	Aug-31	425	811	106	86	562	0	7	33	40	99	0	364
<b>Season Total</b>				<b>14,631</b>	<b>27,604</b>	<b>2,430</b>	<b>1,471</b>	<b>7,277</b>	<b>9</b>	<b>323</b>	<b>370</b>	<b>1,015</b>	<b>2,168</b>	<b>20</b>	<b>3,055</b>
<b>Variance</b>				753,375	2,538,244	40,527	28,814	451,529	40	4,287	1,804	58,656	107,947	364	114,827
<b>Standard Error:</b>				868	1,593	201	170	672	6	65	42	242	329	19	339
<b>CV (%):</b>				5.9%	5.8%	8.3%	11.5%	9.2%	67.0%	20.3%	11.5%	23.9%	15.2%	96.1%	11.1%
<b>95% CI:</b>				12,929-16,332	24,482-30,727	2,035-2,824	1,139-1,804	5,960-8,594	2,391-3,719	195-451	287-453	540-1,490	1,524-2,812	1-57	2,391-3,719

**Table 38.** Total number of anglers intercepted in **Area 9** during on-the-water surveys conducted between July 16 and August 31, 2011. Dark gray shaded sites were included in the dockside sample frame.

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Admiralty Bay Beach	2	0.002	0	0.000
Anacortes Moorage	2	0.002	0	0.000
Anchored	0	0.000	3	0.003
Armeni Ramp	5	0.004	0	0.000
Bayside Marina/Dry Stack	14	0.011	1	0.001
Beach Launch	0	0.000	2	0.002
Brownsville Ramp	7	0.006	3	0.003
Bush Point Ramp	14	0.011	7	0.007
Camano State Park	0	0.000	6	0.006
Cape George Marina	2	0.002	0	0.000
Coupeville Ramp	3	0.002	5	0.005
Cultus Bay Marina	2	0.002	0	0.000
Dagmars	23	0.018	14	0.014
Des Moines Moorage	1	0.001	0	0.000
Driftwood Key	35	0.028	29	0.028
Edmonds Beach	2	0.002	0	0.000
Edmonds Dry Storage	24	0.019	35	0.034
Edmonds Guest Moorage	2	0.002	11	0.011
Edmonds Marina	77	0.062	49	0.048
Edmonds Sling	34	0.027	41	0.040
Eglon Ramp	13	0.010	19	0.018
Elger Bay	2	0.002	0	0.000
Elliott Bay Marina	0	0.000	2	0.002
Everett Guest Moorage	1	0.001	4	0.004
Everett Marina	64	0.051	25	0.024
Everett Ramp	313	0.251	310	0.302
Everett Sling	2	0.002	0	0.000
Fort Casey Beach	0	0.000	20	0.019
Fort Casey/Keystone	92	0.074	47	0.046
Fort Flagler	2	0.002	6	0.006
Fort Warden	45	0.036	37	0.036
Hadlock Marina	2	0.002	2	0.002
Hadlock Public Ramp	6	0.005	0	0.000
Hat Island Marina	4	0.003	2	0.002
John Wayne Marina	3	0.002	0	0.000
Kayak Point Ramp	1	0.001	0	0.000
Keyport Marina	2	0.002	2	0.002
Kingston Marina	4	0.003	2	0.002

*Table continued, next page.*

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Kingston Ramp	69	0.055	65	0.063
Lagoon Point	8	0.006	6	0.006
Lagoon Point Dock	0	0.000	1	0.001
Langus Launch	3	0.002	0	0.000
Mats Mats	8	0.006	8	0.008
Max Welton Ramp	4	0.003	0	0.000
Mukilteo Ramp	99	0.079	69	0.067
Mutiny Bay Ramp	10	0.008	12	0.012
Mystery Bay Moorage	1	0.001	0	0.000
PNP Beach	4	0.003	2	0.002
PNP Resort	4	0.003	0	0.000
Point Defiance Ramp	0	0.000	5	0.005
Point Hudson	3	0.002	3	0.003
Port Hadlock Marina (Moorage)	2	0.002	5	0.005
Port Hadlock Ramp	4	0.003	8	0.008
Port Ludlow Moorage	4	0.003	4	0.004
Port Ludlow Ramp	9	0.007	0	0.000
Port Townsend BH	78	0.063	34	0.033
Port Townsend BH Moorage	9	0.007	1	0.001
Possession Ramp	16	0.013	4	0.004
Poulsbo	3	0.002	0	0.000
Private	4	0.003	6	0.006
Private Moorage	26	0.021	23	0.022
Salmon Club Ramp	14	0.011	5	0.005
Salisbury	31	0.025	32	0.031
Sandy Hook Cultus Bay	3	0.002	0	0.000
Shilshole Marina	2	0.002	13	0.013
Shilshole Ramp	20	0.016	26	0.025
Skagit Point	1	0.001	0	0.000
Tulalip Bay Marina	2	0.002	0	0.000
Tulalip Point Buoy	0	0.000	6	0.006
Tulalip Ramp	0	0.000	3	0.003
Useless Bay Moorage	0	0.000	3	0.003
<b>Total Anglers</b>	<b>1,246</b>	<b>1.000</b>	<b>1,028</b>	<b>1.000</b>

**Table 39.** Total number of anglers intercepted in **Area 10** during on-the-water surveys conducted between July 16 and August 31, 2011. Dark gray shaded sites were included in the dockside sample frame.

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Armeni Ramp	126	0.158	115	0.131
Brownsville Marina/Ramp	41	0.052	37	0.042
Beach Launch	2	0.003	3	0.003
Coulon Park	0	0.000	4	0.005
Dagmars Marina	1	0.001	0	0.000
Des Moines Marina	9	0.011	14	0.016
Dockton	2	0.003	0	0.000
Driftwood Keys	4	0.005	0	0.000
Duamish Boat House	1	0.001	0	0.000
Eagle Harbor	15	0.019	10	0.011
Edmonds Marina Dry Storage	18	0.023	34	0.039
Edmonds Marina Guest Dock	1	0.001	2	0.002
Edmonds Marina	29	0.036	55	0.063
Edmonds Marina Sling	25	0.031	51	0.058
Edmonds Ramp	2	0.003	0	0.000
Elliott Bay Marina	6	0.008	11	0.013
Evergreen Park Ramp	0	0.000	3	0.003
Everett Marina	4	0.005	0	0.000
Everett Ramp (Norton)	16	0.020	23	0.026
Foss Landing	3	0.004	0	0.000
Golden Gardens Beach	0	0.000	3	0.003
Harbor Island Marina	2	0.003	6	0.007
Keyport Marina	1	0.001	0	0.000
Kingston Ramp	77	0.097	69	0.079
Kingston Marina	11	0.014	10	0.011
Lake Union Moorage	15	0.019	0	0.000
Lake WA Moorage	2	0.003	0	0.000
Liberty Bay Marina	3	0.004	3	0.003
Manchester Ramp	41	0.052	55	0.063
Mukilteo Ramp	2	0.003	8	0.009
Narrows Marina	0	0.000	2	0.002
Port Orchard Ramp	13	0.016	7	0.008
Port Orchard Marina	0	0.000	8	0.009
Possession Ramp	0	0.000	4	0.005
Poulsbo Ramp	2	0.003	3	0.003
Prvt Launch/Moorage	28	0.035	35	0.040
Redondo	1	0.001	2	0.002
Sandy's Hook	0	0.000	1	0.001
Shilshole Marina (Prvt)	61	0.077	35	0.040
Shilshole Ramp	223	0.281	256	0.292
Stipson Marina	0	0.000	1	0.001
Sinclair Inlet	0	0.000	3	0.003
Winslow Ramp	4	0.005	5	0.006
Yukon Harbor Ramp	4	0.005	0	0.000
<b>Total Anglers</b>	<b>795</b>	<b>1.000</b>	<b>878</b>	<b>1.000</b>

**Table 40.** Season-total estimates of Chinook encounters by size/mark status, and total estimates of angler effort, summarized for all seasons to date of the Areas 9 and 10 summer mark-selective Chinook fisheries.

Area	Season Dates	Year	Effort (Angler-trips)	Retained Chinook				Released Chinook				Total Encounters
				LM	LU	SM	SU	LM	LU	SM	SU	
9	July 16 - July 31	2007	18,160	5,094	13	146	20	711	1,111	1,286	317	8,697
9	July 16 - Aug 15	2008	20,399	4,035	3	10	0	597	1,608	3,212	3,826	13,290
9	July 16 - Aug 31	2009	42,219	3,090	20	139	0	462	1,272	8,256	2,905	16,143
9	July 16 - Aug 31	2010	31,200	5,282	33	10	6	740	2,125	750	249	9,194
9	July 16 - Aug 31	2011	37,862	2,285	19	78	6	339	1,142	2,150	1,070	7,090
10	July 16 - July 28	2007	8,374	1,469	30	70	8	209	497	3,101	723	6,107
10	July 16 - Aug 15	2008	13,808	1,027	3	4	0	128	510	189	385	2,246
10	July 16 - Aug 31	2009	23,179	1,505	22	116	0	220	82	2,488	1,017	5,450
10	July 16 - Aug 31	2010	21,636	2,950	33	37	9	432	1,026	1,024	1,665	7,178
10	July 16 - Aug 31	2011	27,753	2,548	14	94	14	372	1,872	964	694	6,573

#### 4) Marine Area 11 Summer 2011 Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a mark-selective Chinook fishery (MSF) in Marine Area 11 for the fifth summer season from June 1 through September 30, 2011. WDFW's Puget Sound Sampling Unit (PSSU) implemented a comprehensive monitoring program in Area 11 throughout the season in order to collect the data needed to estimate key parameters characterizing the fishery and its impacts on unmarked salmon. Sampling activities in Area 11 included dockside creel sampling (with in-season catch and effort estimates), on-the-water effort surveys (boat surveys), and intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. **Table 41** summarizes the parameters estimated and the sampling activities associated with each parameter. Specific procedures used for collecting these data and estimating critical data parameters are presented in detail in our separate Methods Report (WDFW 2012).

During the 2011 season in Area 11, we continued focusing considerable effort on our enhanced VTR program to obtain estimates of Chinook encounter rates by size class (legal or sublegal) and mark status (ad-marked or unmarked). For the enhanced VTR program, an additional WDFW technician was hired to work exclusively on distributing and collecting VTRs from the angling public in Area 11. Additionally, the VTR technician and dockside samplers educated anglers about the VTR program and salmon species identification in a focused effort to increase the sample size of VTR-based encounters data.

In the following section we present results from our monitoring activities during the June 1 through September 30, 2011 Area 11 summer selective Chinook fishery season. To generate the estimates of Chinook encounters and mortalities by size/mark group, we used the VTR-based estimates of Chinook encounter rates by size/mark group (legal size-marked [LM], legal size-unmarked [LU], sublegal size-marked [SM], and sublegal size-unmarked [SU]) and applied Conrad and McHugh's (2008) bias-corrected method (see WDFW 2012, Appendix B).

**Table 41.** Sampling/estimation details on target parameters associated with the overall Area 11 summer mark-selective fishery monitoring program.

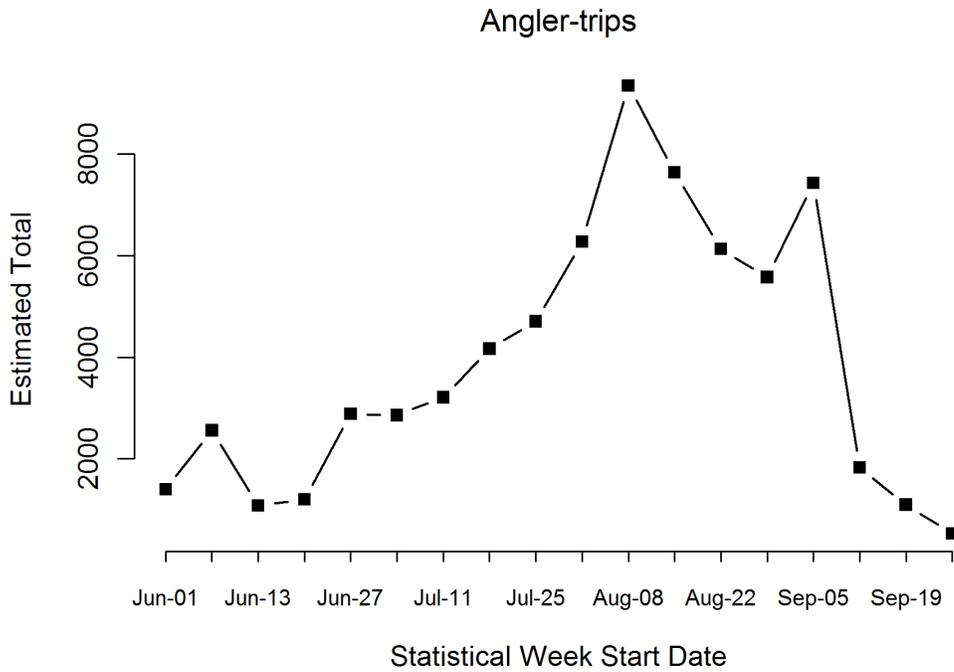
Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
Dockside Creel Sampling	Fishing effort (boat & angler trips); kept and released fish	Catch rates (CPUE); length, age, and CWT composition of harvest <sup>1</sup> ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	Two weeks	Creel estimates were produced for two-week estimation periods and stratified into “weekday” (Mon.-Thurs.) and “weekend” (Fri.-Sun.) day-type strata within weeks. For the weekday stratum, we sampled $n=2$ days out of $N=8$ available weekdays per two-week period. For the weekend stratum, we sampled $n=2$ days out of $N=3$ available weekend days per week.
On-the-water Surveys (Boat Surveys)	Proportion of total angler effort accessing fishery via sample-frame sites (i.e., site “size measures”) versus out-of-frame sites. Size measures were used to select sites for dockside creel surveys using a probability proportional to size (PPS) site selection process, and to produce total-fishery creel estimates (see WDFW 2012).	Data on spatial distribution of recreational fishing boats in the area.	Boats and anglers; A total of 1,390 anglers were contacted on the water over the season (874 in weekend surveys; 516 in weekday surveys).	Month	Eight boat surveys were conducted during the four-month fishery (4 weekdays and 4 weekend days).
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	VTR data were used in the estimation of total Chinook encounters by size/mark group (LM=33.9%, LU=24.6%, SM=23.2%, SU=18.3%; <b>Table 44</b> ) and associated impacts.
Overall Fishery Impacts Estimation	Total Chinook encounters and mortalities, by size/mark-status group	Ratios of encounters and mortalities per kept Chinook	N/A	Season	Estimated on a monthly time step but considered at the season-total level.
Coded-wire tag (CWT) Impacts Estimation	Marked/unmarked double-index tag (DIT) encounters and mortalities	N/A	N/A	Season	The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

<sup>1</sup> The length and CWT composition of landed catch was assessed on a season-wide basis for impact estimation.

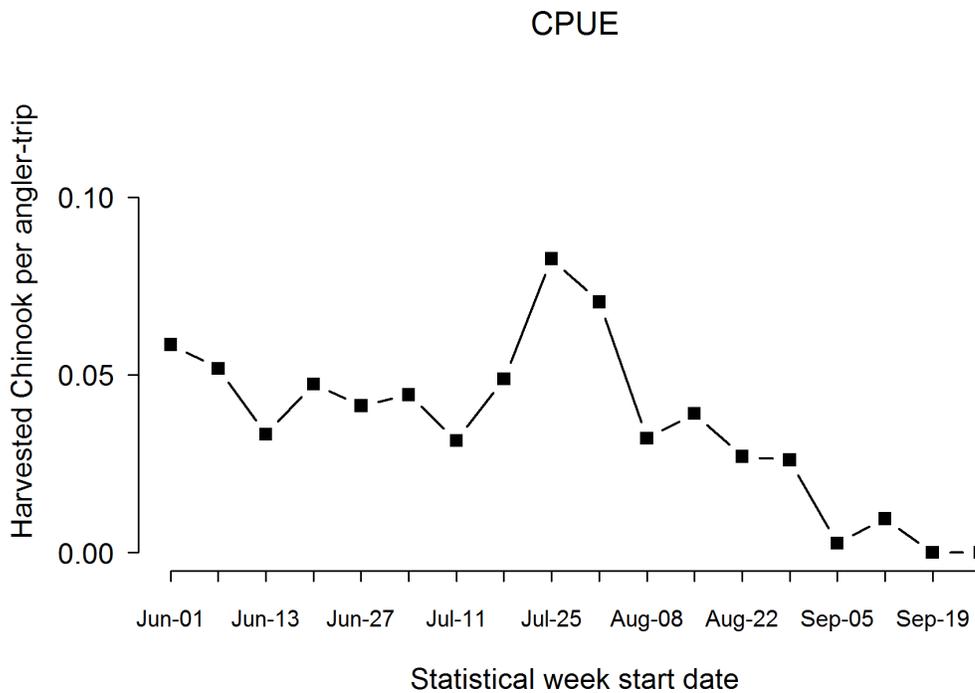
**Table 42.** Estimates of total fishing effort and the total number of salmon kept and released during the Area 11 summer 2011 mark-selective Chinook fishery, from June 1 through September 30, 2011. Values may not add up perfectly due to rounding error.

Month	Stat Week	Start Date	End Date	Est. Effort		Est. Retained Chinook		Est. Released Chinook		Est. Total Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
June	23	Jun-01	Jun-05	811	1,398	82	0	72	115	269
	24	Jun-06	Jun-12	1,331	2,558	132	0	116	187	436
	25	Jun-13	Jun-19	600	1,079	36	0	32	51	118
	26	Jun-20	Jun-26	978	1,198	57	0	50	80	187
July	27	Jun-27	Jul-03	1,572	2,884	119	0	105	168	392
	28	Jul-04	Jul-10	1,524	2,859	127	0	111	179	417
	29	Jul-11	Jul-17	1,679	3,212	101	4	89	138	333
	30	Jul-18	Jul-24	2,263	4,167	204	0	179	287	669
	31	Jul-25	Jul-31	2,555	4,706	389	0	342	549	1,280
Aug.	32	Aug-01	Aug-07	3,255	6,277	443	5	389	619	1,456
	33	Aug-11	Aug-14	4,203	9,350	300	0	263	423	987
	34	Aug-15	Aug-21	3,561	7,640	299	0	262	421	982
	35	Aug-22	Aug-28	2,866	6,132	166	0	145	234	545
Sept. <sup>1/</sup>	36 - 40	Aug-29	Sep-30	7,780	16,458	182	11	160	246	599
<b>Season Total:</b>				<b>34,979</b>	<b>69,919</b>	<b>2,637</b>	<b>20</b>	<b>2,314</b>	<b>3,699</b>	<b>8,670</b>
<b>Variance:</b>				6,385,381	28,357,272	39,574	69	186,351	94,076	633,691
<b>Standard Error:</b>				2,527	5,325	199	8	432	307	796
<b>CV (%):</b>				7.2%	7.6%	7.5%	41.2%	18.7%	8.3%	9.2%
<b>95% CI:</b>				30,026-39,932	59,482-80,356	2,247-3,027	4-36	1,468-3,160	3,098-4,300	7,109-10,230

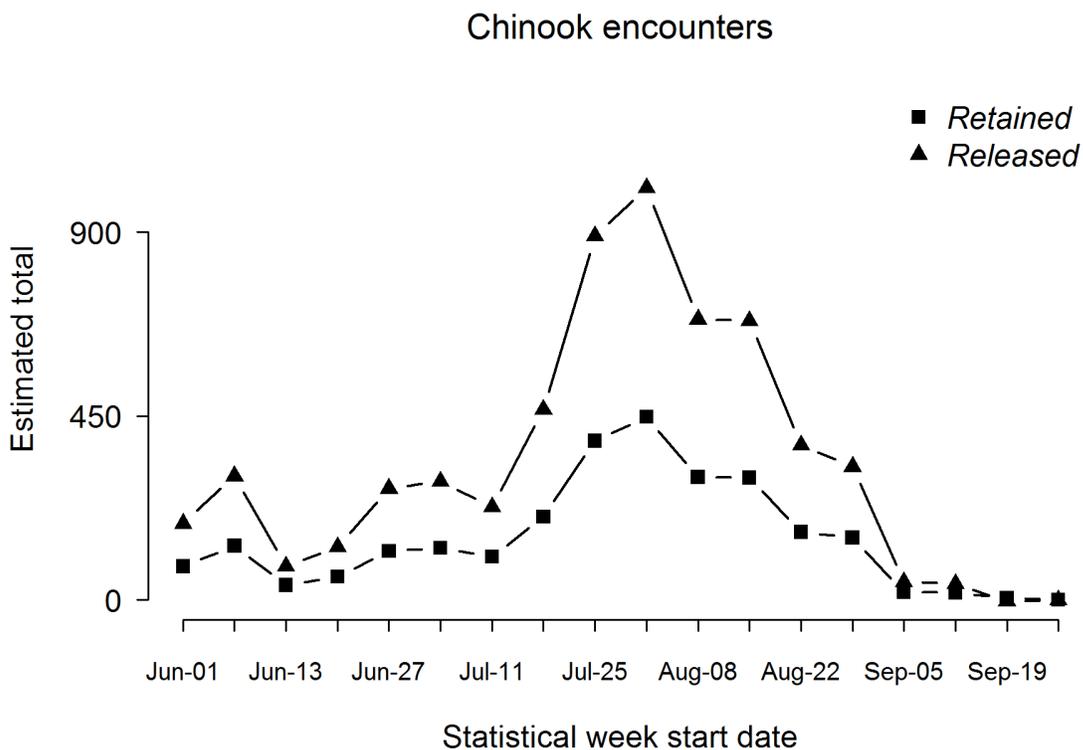
<sup>1/</sup> For the month of September we estimated encounters as a monthly stratum, rather than weekly, due zero or small catches in the latter weeks of September.



**Figure 17.** Temporal patterns in weekly total fishing effort (estimated number of angler trips) during the Area 11 summer 2011 mark-selective Chinook fishery, June 1 through September 30, 2011.



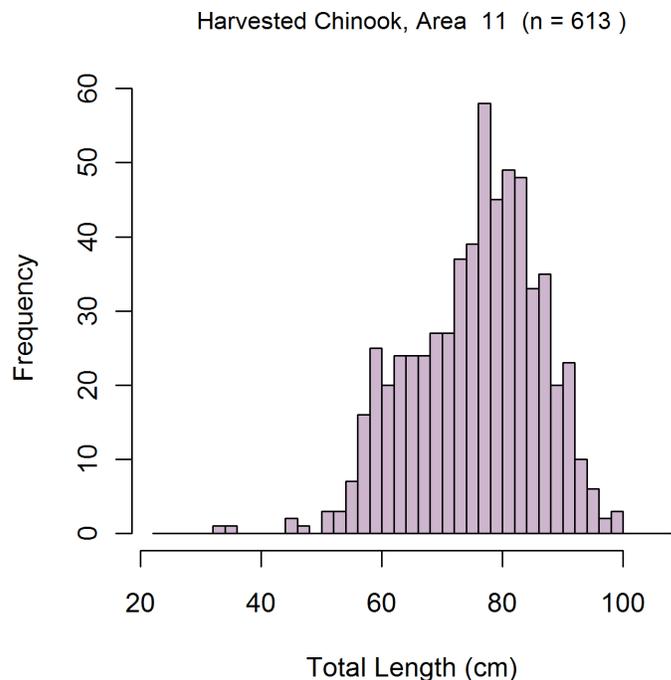
**Figure 18.** Temporal patterns in CPUE (landed marked Chinook per angler trip, weekly estimates) during the Area 11 summer 2011 mark-selective Chinook fishery, June 1 through September 30, 2011.



**Figure 19.** Temporal patterns in weekly total Chinook harvest and releases (ad-marked and unmarked combined) during the Area 11 summer mark-selective Chinook fishery, June 1 through September 30, 2011.

**Table 43.** Summary of length samples collected from retained Chinook salmon during dockside angler interviews in the Area 11 summer mark-selective Chinook fishery, June 1 through September 30, 2011.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	595	18	613
Unmarked	3	4	7
<b>Total</b>	<b>598</b>	<b>22</b>	<b>620</b>



**Figure 20.** Length-frequency distributions of retained marked Chinook sampled at dockside during the Area 11 summer 2011 mark-selective Chinook fishery, June 1 through September 30, 2011.

**Table 44.** Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs), with estimates of legal-size and overall mark rates in the Area 11 mark-selective Chinook fishery, June 1 through September 30, 2011.

Month	Stat. Wk	VTRs (n)	Angler Trips	Chinook Encounters						Legal Mark Rate	Overall Mark Rate
				Released Chinook					TOTAL		
				LM Kept	LM Rel'd	LU	SM	SU			
June	23	34	58	23	0	21	1	1	46	52.3%	52.2%
	24	28	51	16	0	12	8	9	45	57.1%	53.3%
	25	18	26	9	0	6	5	3	23	60.0%	60.9%
	26	23	34	18	0	16	0	4	38	52.9%	47.4%
July	27	18	30	7	0	10	5	3	25	41.2%	48.0%
	28	41	65	19	0	15	7	10	51	55.9%	51.0%
	29	25	45	17	0	13	1	6	37	56.7%	48.6%
	30	49	84	30	0	22	24	12	88	57.7%	61.4%
	31	54	98	30	1	28	27	8	94	52.5%	61.7%
Aug.	32	39	66	22	3	16	13	6	60	61.0%	63.3%
	33	19	40	5	0	6	13	10	34	45.5%	52.9%
	34	19	34	20	1	4	7	3	35	84.0%	80.0%
	35	19	36	10	0	4	4	5	23	71.4%	60.9%
Sept.	36	10	18	8	0	2	7	4	21	80.0%	71.4%
	37	23	44	6	0	3	22	29	60	66.7%	46.7%
	38	6	8	1	0	0	6	10	17	100.0%	41.2%
	39	3	8	0	0	0	8	1	9	-	88.9%
	40	1	1	0	0	0	10	9	19	-	52.6%
<b>Season Total</b>		<b>429</b>	<b>746</b>	<b>246</b>		<b>178</b>	<b>168</b>	<b>133</b>	<b>725</b>	<b>58.0%</b>	<b>57.1%</b>
<b>Size/mark status composition:</b>				<b>0.339</b>	<b>0.246</b>	<b>0.232</b>	<b>0.183</b>				
<b>Variance:</b>				<b>(0.00031)</b>	<b>(0.00026)</b>	<b>(0.00025)</b>	<b>(0.00021)</b>				

**Table 45.** Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 11 summer mark-selective Chinook fishery, June 1 through September 30, 2011. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs	
British Columbia	Fraser River – Thompson River (7.5%)	R-Chilliwack R	H-Chilliwack River H	3 (5.7%)	3	
		R-Harrison R	H-Chehalis River H	1 (1.9%)	0	
Washington	Hood Canal (20.8%)	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	1 (1.9%)	1	
			N/A	1 (1.9%)	1	
		FINCH CR 16.0222	HOODSPORT HATCHERY	9 (17%)	0	
	Northern Puget Sound (11.3%)	WALLACE R 07.0940	WALLACE R HATCHERY	5 (9.4%)	1	
		WHITEHORSE SPRINGS	WHITEHORSE POND	1 (1.9%)	0	
	Skagit River (3.8%)	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	2 (3.8%)	2	
	Mid Puget Sound (20.8%)		BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	3 (5.7%)	3
			GREEN R 09.0001	ICY CR HATCHERY	2 (3.8%)	0
			GROVERS CR HATCHERY	GROVERS CR HATCHERY	2 (3.8%)	2
			ICY CR 09.0125	ICY CR HATCHERY	1 (1.9%)	0
			VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	3 (5.7%)	0
	Southern Puget Sound (34%)		CHAMBERS CR 12.0007	GARRISON HATCHERY	5 (9.4%)	0
				CHAMBERS CR HATCHERY	2 (3.8%)	0
			KALAMA CR 11.0017	KALAMA CR HATCHERY	1 (1.9%)	0
			LAKWOOD HATCHERY	LAKWOOD HATCHERY	7 (13.2%)	0
CLEAR CR 11.0013C			CLEAR CREEK HATCHERY	3 (5.7%)	3	
Columbia River	Snake River (1.9%)	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	1 (1.9%)	0	
<b>Total</b>				<b>53</b>	<b>16</b>	

**Table 46.** Summary of season-wide fishery impact estimates for the summer 2011 Area 11 mark-selective Chinook fishery, June 1-September 30, 2011. Values may not add up perfectly due to rounding error.

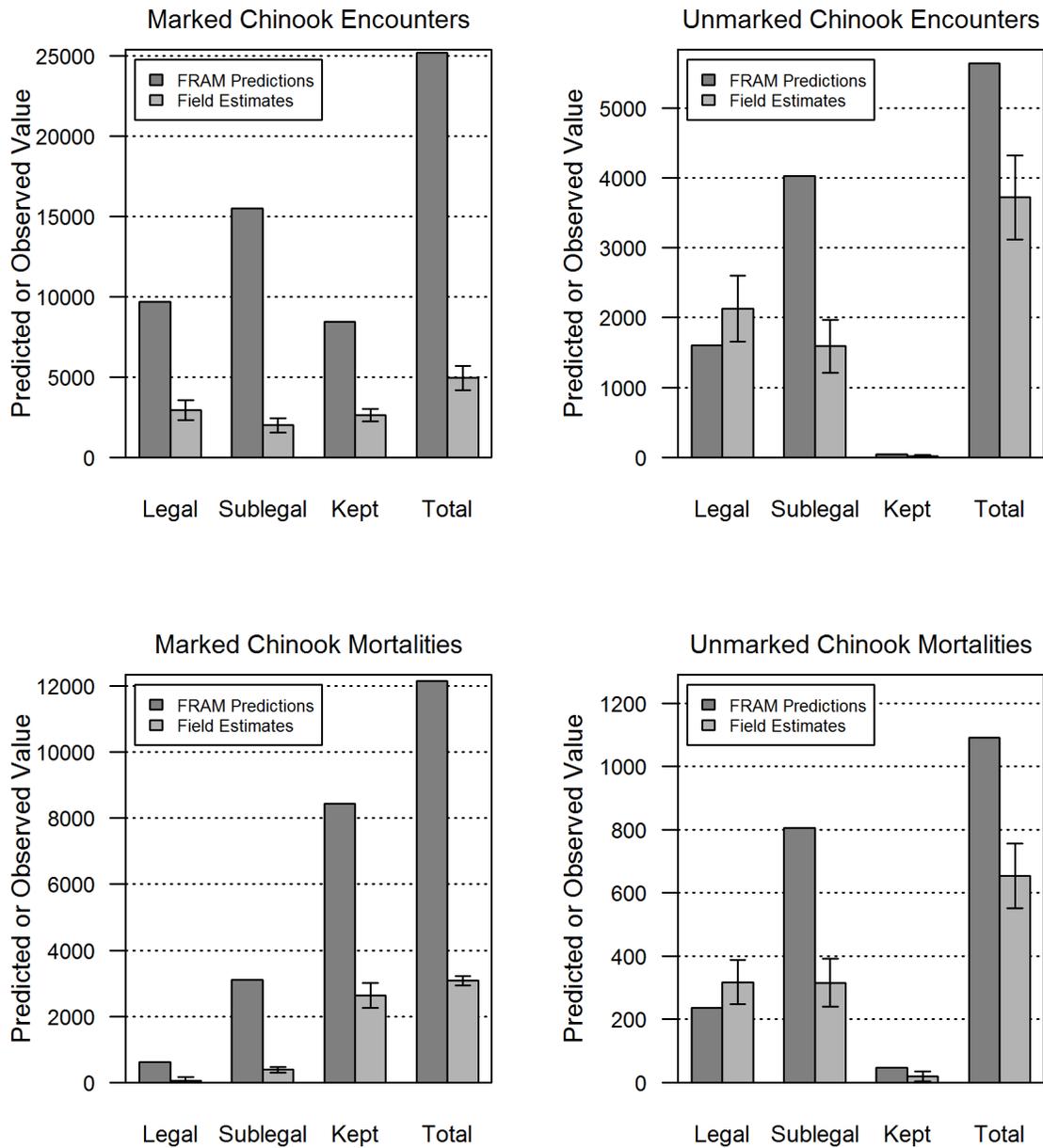
<b>Total</b> <b>Encounters (E): 8,670</b> <b>V(E): 633,691</b>										
<b>Size/mark group</b>	<b>Encounters</b>	<b>No. Retained</b>	<b>No. Rel'd</b>	<b>Rel. Mort. Rate</b>	<b>Rel. Mort.</b>	<b>Total Mortality</b>	<b>Var</b>	<b>SE</b>	<b>95% CI</b>	<b>CV (%)</b>
Legal marked	2,942	2,559	382	0.15	57	2,617	40,613	202	2222 - 3012	8
Legal unmarked	2,129	9	2,120	0.15	318	327	1,315	36	256 - 398	11
Sublegal marked	2,009	77	1,932	0.20	386	464	2,464	50	366 - 561	11
Sublegal unmarked	1,590	12	1,579	0.20	316	327	1,508	39	251 - 403	12
<b>All groups combined</b>	<b>8,670</b>	<b>2,657</b>	<b>6,013</b>		<b>1,077</b>	<b>3,734</b>	<b>45,900</b>	<b>214</b>	<b>3314 - 4154</b>	<b>6</b>

**Table 47.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook encounters for the Area 11 summer 2011 mark-selective Chinook fishery, June 1-September 30, 2011.

<b>Data Source</b>	<b>Group</b>	<b>Total Encounters</b>	<b>Legal</b>	<b>Sublegal</b>	<b>Landed Only</b>
FRAM Encounters	Unmark.	5,637	1,607	4,030	48
	Mark.	25,190	9,690	15,500	8,431
	Total	30,827	11,297	19,530	8,479
	% Mark.	82	86	79	99
Estimated (Creel) Encounters	Unmark.	3,719	2,129	1,590	20
	Mark.	4,951	2,942	2,009	2,637
	Total	8,670	5,070	3,599	2,657
	% Mark.	57	58	56	99

**Table 48.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total Chinook mortalities for the Area 11 summer 2011 mark-selective Chinook fishery, June 1-September 30, 2011.

<b>Mortality Category</b>	<b>FRAM Chinook Mortalities</b>			<b>Estimated Chinook Mortalities</b>		
	<b>Unmark.</b>	<b>Mark.</b>	<b>Total</b>	<b>Unmark.</b>	<b>Mark.</b>	<b>Total</b>
Total (Landed + Released)	1,091	12,142	13,233	654	3,080	3,734
Released Legal	237	611	848	318	57	375
Released Sublegal	806	3,100	3,906	316	386	702
Landed Only	48	8,431	8,479	20	2,637	2,657



**Figure 21.** Comparison of modeled (i.e., using FRAM, model run 1811) and estimated total marked (*left column*) and unmarked (*right column*) Chinook encounters (*upper row*) and mortalities (*lower row*) in the Area 11 summer 2011 mark-selective Chinook fishery, June 1-September 30, 2011. Error bars represent approximate 95% confidence intervals for field estimates.

**Table 49.** Summary of double-index tagged (DIT) Chinook kept by anglers, and estimated total mortality of unmarked DIT Chinook due to hook-and-release impacts resulting from the Area 11 mark-selective Chinook fishery from June 1 through September 30, 2011. AD = marked (i.e., adipose-clipped), UM = unmarked.

Hatchery	Brood Year	DITs Obs'd	AD DIT Harvest		UM DIT Enc.	UM DIT Mortality		
			Est.	var(Est.)		Est.	var(Est.)	SE(Est.)
Clear Creek Hatchery	2008	3	8.6	28.3	12.9	5.2	14.4	4.5
George Adams Hatchery	2008	1	4.3	14.1	4.3	0.4	0.1	0.4
	2009	1	0	0	4.3	4.3	14.1	3.8
Grovers Creek Hatchery	2008	2	8.6	28.3	9.6	1	0.4	0.8
Chilliwack River Hatchery	2008	3	12.9	42.4	12.9	1.3	0.4	1.1
Marblemount Hatchery	2008	2	8.6	28.3	8.5	0.8	0.3	0.7
Soos Creek Hatchery	2007	1	4.3	14.1	4.3	0.4	0.1	0.4
	2008	2	8.6	28.3	9	0.9	0.3	0.8
Wallace River Hatchery	2008	1	4.3	14.1	4.3	0.4	0.1	0.4
<b>Total</b>		<b>16</b>	<b>60.1</b>	<b>197.8</b>	<b>70.1</b>	<b>14.7</b>	<b>30.3</b>	<b>12.9</b>

**Table 50.** Sample rates (Retained Chinook Sampled <sup>1/</sup>/Total Estimated Retained Chinook) for the Area 11 mark-selective Chinook fishery from June 1 through September 30, 2011.

Time Period			Estimated Retained Chinook			Number of Retained Chinook Sampled			Sample Rate
Month	Stat. Weeks	Dates	Marked	Un-marked	Total	Marked	Un-marked	Total	
June	23-26	June 1-June 27	307	0	307	94	0	94	30.6%
July	27-31	June 28-Aug. 1	940	4	944	202	1	203	21.5%
August	32-35	Aug. 2-Aug. 29	1208	5	1,213	266	3	269	22.2%
September	36-40	Aug. 30-Sep. 30	182	11	193	51	3	54	28.0%
<b>Season Total</b>			<b>2,637</b>	<b>20</b>	<b>2,657</b>	<b>613</b>	<b>7</b>	<b>620</b>	<b>23.3%</b>

<sup>1/</sup> Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the 2011 summer Area 11 selective Chinook fishery (i.e., the sample-frame sites included in the creel estimates and the fish sampled as part of baseline sampling in the area).

**Table 51.** Total number of anglers intercepted in Area 11 during on-the-water surveys conducted between June 1 through September 30, 2011. (Dark gray shaded sites were included in the dockside sample frame.)

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Armeni Ramp	14	0.027	40	0.046
Gig Harbor Ramp	63	0.122	60	0.069
Narrows Marina/Ramp	21	0.041	28	0.032
Point Defiance BH	60	0.116	52	0.059
Point Defiance Ramp	100	0.194	275	0.315
Redondo Ramp	70	0.136	142	0.162
Out of Frame	188	0.364	277	0.317
<b>Total Anglers</b>	<b>516</b>	<b>1.000</b>	<b>874</b>	<b>1.000</b>

**Table 52.** Fishery-total estimates of retained and released salmon (other than Chinook) catch for the Area 11 June 1 through September 30, 2011 mark-selective Chinook fishery.

Month	Stat Week	Start Date	End Date	Est. Effort		Est. Other Species Kept				Est. Other Species Released						
				Boats	Anglers	AD Coho	UM Coho	Pink	Chum	Ad Coho	UM Coho	UK Coho	Chum	Pink	Trout	Unk. Salmon
June	23	1-Jun	7-Jun	811	1,398	0	0	0	0	0	0	0	0	0	0	0
	24	8-Jun	14-Jun	1,331	2,558	0	0	0	0	0	0	0	0	0	0	0
	25	15-Jun	21-Jun	600	1,079	0	0	0	0	0	0	0	0	0	0	0
	26	22-Jun	28-Jun	978	1,198	0	0	0	0	0	0	0	0	0	0	0
July	27	29-Jun	5-Jul	1,572	2,884	0	0	0	0	0	0	0	0	0	40	12
	28	6-Jul	12-Jul	455	713	0	0	0	0	0	0	0	0	0	0	0
	29	13-Jul	19-Jul	1,679	3,212	25	56	0	0	0	0	3	0	7	0	10
	30	20-Jul	26-Jul	2,263	4,167	39	75	3	0	7	17	30	0	0	0	51
	31	27-Jul	2-Aug	2,555	4,706	33	8	114	0	29	9	11	0	32	0	52
Aug.	32	3-Aug	9-Aug	3,255	6,277	33	10	2,302	0	48	9	22	0	797	0	70
	33	10-Aug	16-Aug	4,203	9,350	11	16	7,137	0	35	13	14	0	2,011	0	45
	34	17-Aug	23-Aug	3,561	7,640	36	32	4,190	0	9	18	24	0	1,147	0	57
	35	24-Aug	30-Aug	2,866	6,132	124	170	3,029	0	5	29	35	0	1,294	5	113
Sept.	36	31-Aug	7-Sep	2,635	5,579	162	56	1,116	0	13	32	61	5	1,004	5	116
	37	8-Sep	13-Sep	3,402	7,430	114	19	164	0	9	14	150	0	37	0	375
	38	14-Sep	20-Sep	871	1,828	82	21	116	5	38	57	72	0	7	0	183
	39	21-Sep	27-Sep	326	613	41	44	9	0	19	15	75	0	15	0	151
	40	28-Sep	30-Sep	344	527	65	52	6	0	17	13	63	0	13	0	100
<b>Season Total:</b>				<b>33,709</b>	<b>67,293</b>	<b>763</b>	<b>558</b>	<b>18,187</b>	<b>5</b>	<b>229</b>	<b>225</b>	<b>560</b>	<b>5</b>	<b>6,365</b>	<b>50</b>	<b>1,334</b>
<b>Variance</b>				6,330,454	28,030,176	26,023	21,986	18,637,892	14	3,691	3,125	10,690	13	2,793,923	384	34,118
<b>Standard Error:</b>				2,516	5,294	161	148	4,317	4	61	56	103	4	1,672	20	185
<b>CV (%):</b>				7.5%	7.9%	21.1%	26.6%	23.7%	77.0%	26.6%	24.8%	18.5%	76.6%	26.3%	39.0%	13.8%
<b>95% CI:</b>				28,777-38,640	56,916-77,670	447-1,080	267-849	9,725-26,649	2-12	110-348	116-335	357-763	2-12	3,088-9,641	12-89	972-1,696

**Table 53.** Season-total estimates of Chinook encounters by size/mark status, and total estimates of angler effort, summarized for the previous and current seasons of the Area 11 summer mark-selective Chinook fisheries.

Area	Season Dates	Effort (Angler Trips)	Retained Chinook				Released Chinook				Total Encounters
			LM	LU	SM	SU	LM	LU	SM	SU	
11	June 1 - September 30, 2007	78,958	10,192	74	354	21	1,511	3,015	8,033	2,357	25,558
11	June 1 - September 30, 2008	65,728	7,277	18	100	5	1,087	1,999	1,969	248	12,703
11	June 1 - September 30, 2009	80,157	3,149	20	117	17	470	1,269	3,820	3,302	12,164
11	June 1 - September 30, 2010	54,594	3,883	64	27	0	580	1,105	900	405	6,965
11	June 1 - September 30, 2011	69,919	2,559	9	77	12	382	2,120	1,932	1,579	8,670

## 5) Marine Area 13 Summer 2011 Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a mark-selective Chinook fishery (MSF) in Marine Area 13 for the fifth summer season from May 1 through September 30, 2011. WDFW's Puget Sound Sampling Unit (PSSU) implemented a comprehensive sampling program consisting of dockside angler interviews with catch sampling ("Baseline Sampling" approach; see WDFW 2012 for details) along with intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. While the Baseline Sampling approach did not provide a means for generating in- or immediately post-season estimates of fishery total catch and effort, the observed catch per angler trip and species composition data obtained from baseline sampling will ultimately be combined with Catch Record Card (CRC) data to produce the fishery-total estimates at a later time (approximately one year following the fishery). **Table 54** summarizes the parameters estimated and the sampling activities associated with each parameter. Specific procedures used for collecting these data and estimating critical data parameters are presented in detail in our separate Methods Report (WDFW 2012).

In the following section we present results from our monitoring activities during the May 1 through September 30, 2011 Area 13 summer selective Chinook fishery season. Note that we will generate estimates of fishery-total Chinook encounters and mortalities by size/mark group for the Area 13 Chinook MSF at a later date, when post-season CRC-based retained Chinook estimates become available for the 2011 Area 13 Chinook MSF season (approximately one year after the fishery). We will then apply the proportion of legal-marked Chinook obtained from VTRs in the 2011 Area 13 Chinook MSF to the CRC-based retained Chinook estimate (pending upcoming State-Tribal technical evaluations of encounters estimation approaches using CRCs), enabling an estimate of total Chinook encounters and associated mortalities using Conrad and McHugh's (2008) bias-corrected method (see WDFW 2012, Appendix B).

**Table 54.** Sampling/estimation details on target parameters associated with the overall Area 13 summer mark-selective fishery monitoring program.

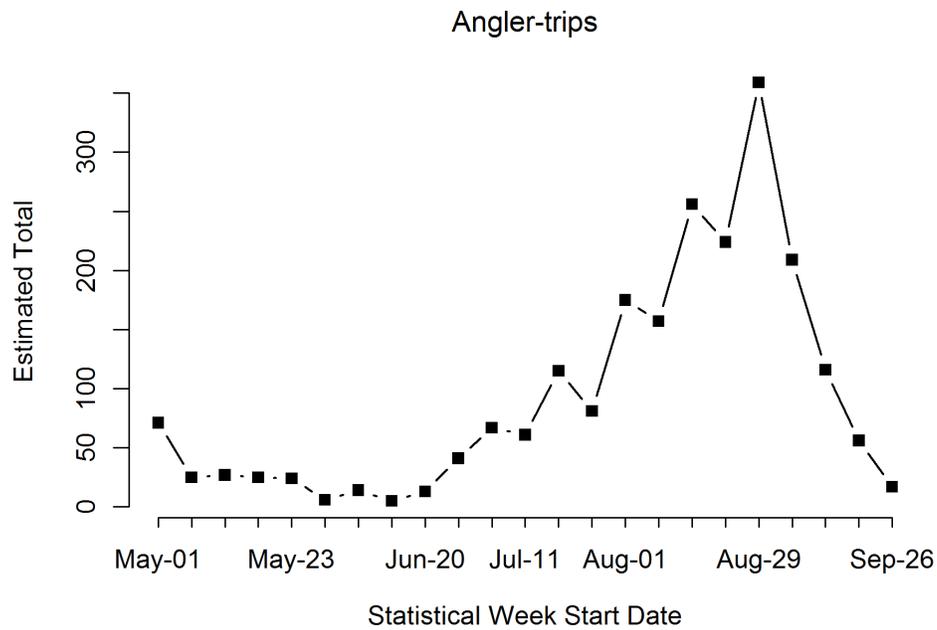
<b>Activity</b>	<b>Focal Parameter(s)</b>	<b>Secondary Parameter(s)</b>	<b>Sample Unit(s)</b>	<b>Finest Estimation Time Step</b>	<b>Comments</b>
Dockside Angler Interviews (Baseline Sampling)	Observed (in-sample) fishing effort (boat & angler trips); kept and released fish.	Catch rates (CPUE); length, age, and CWT composition of harvest; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	Week	Observed catch per angler trip and species composition data obtained from baseline sampling will ultimately be combined with Catch Record Card (CRC) data to produce fishery-total estimates at a later time (approximately one year following the fishery).
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status composition (marked, unmarked) of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	VTR data will be used in the estimation of total Chinook encounters by size/mark group (LM=57.1%, LU=38.1%, SM=0%, SU=4.8%; <b>Table 59</b> ) and associated impacts, once CRC-based retained Chinook estimates become available, using Conrad and McHugh's (2008) bias-corrected method (pending upcoming State-Tribal technical evaluations of encounters estimation approaches using CRCs).
Overall Fishery Impacts Estimation	Total Chinook encounters and mortalities, by size/mark-status group	Ratios of encounters and mortalities per kept Chinook	N/A	Season	Will be estimated at a later date, when post-season CRC-based retained Chinook estimates become available (approximately one year after the fishery). We will then apply the proportion of legal-marked Chinook obtained from VTRs to the CRC-based retained Chinook estimate, enabling an estimate of total Chinook encounters and associated mortalities by size/mark group using Conrad and McHugh's (2008) bias-corrected method (pending upcoming State-Tribal technical evaluations of encounters estimation approaches using CRCs).
Coded-wire tag (CWT) Impacts Estimation	Marked/unmarked double-index tag (DIT) encounters and mortalities	N/A	N/A	Season	Will be estimated at a later date, when CRC-based fishery total estimates become available (approximately one year after the fishery). The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

**Table 55.** List of sites sampled, with the number of sampling events (site-days) during the Area 13 summer 2011 mark-selective Chinook fishery, May 1 through September 30, 2011.

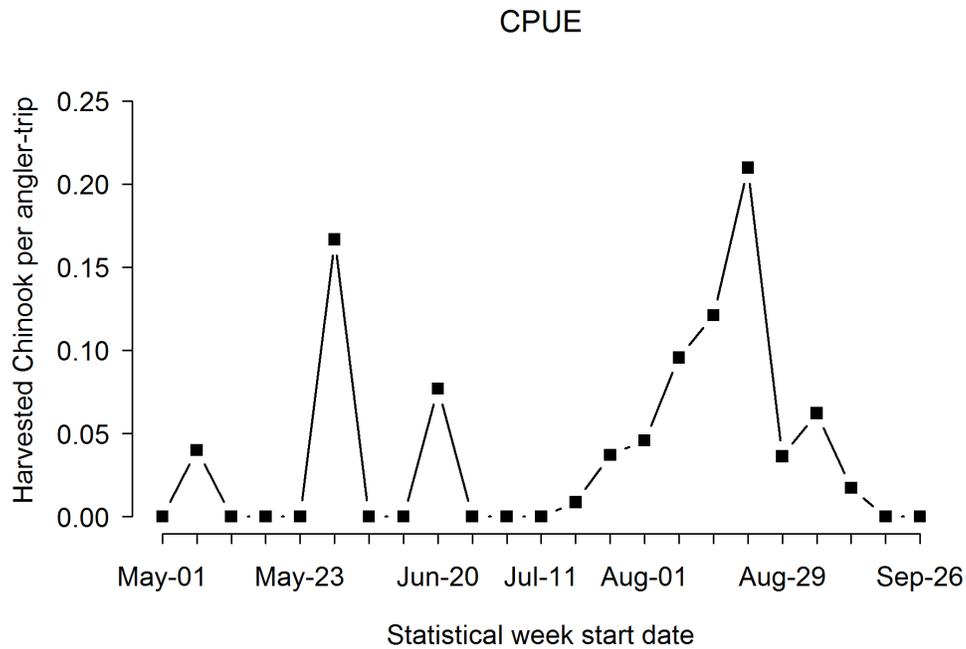
Location	Number Site-Days Sampled per Month					Total Site-Days	% of Total
	May	June	July	August	Sept		
Allyn Public Ramp		1	3	2	6	12	2.7%
Arcadia Ramp		1				1	0.2%
Boston Harbor Ramp	3	4	5	26	16	54	12.4%
Concrete Dock		1	2	1		4	0.9%
Dash Point Dock				2		2	0.5%
Day Island Yacht Club		1				1	0.2%
Dupont Shore					1	1	0.2%
East Bay Marina/Ramp		1				1	0.2%
Fox Island Public Ramp		2	5	1		8	1.8%
Gig Harbor Ramp		1	3	1	2	7	1.6%
Grapeview Public Ramp		1	2	2	3	8	1.8%
Harstene Is Ramp	2	1	10	7	9	29	6.6%
Home Ramp	1	1	2		2	6	1.4%
Joemma Beach Ramp					1	1	0.2%
Johns Creek					2	2	0.5%
Longbranch Ramp	1		1		4	6	1.4%
Luhr Beach Ramp	6	6	12	9	11	44	10.1%
Manchester Ramp			1			1	0.2%
Narrows Marina	15	19	19	14	13	80	18.3%
Narrows Properties Park	2	2			1	5	1.1%
Point Defiance Boat House	1		1			2	0.5%
Point Defiance Ramp	2		2	4	7	15	3.4%
Redondo Ramp			1			1	0.2%
Solo Point Ramp	7	2	10	15	19	53	12.1%
Solo Point Shore			1			1	0.2%
Steilacoom Public Ramp	1	1	4	3	3	12	2.7%
Vaughn Public Ramp		4	2	1	6	13	3.0%
Wallochet Bay Public Ramp		3				3	0.7%
Wauna Ramp/Shore					8	8	1.8%
Zittels Marina	15	9	14	8	10	56	12.8%
<b>Grand Total</b>	<b>56</b>	<b>61</b>	<b>100</b>	<b>96</b>	<b>124</b>	<b>437</b>	<b>100.0%</b>

**Table 56.** Observations of fishing effort, salmon harvest, and reported salmon releases, by week, for the Area 13, May 1-Sept. 30, 2011 mark-selective Chinook fishery. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery totals.

Month	Stat Week	Effort		Retained Chin.		Other Sp. Kept.			Rel'd Chin.			Other Sp. Released					
		Boats	Anglers	AD	UM	AD Coho	UM Coho	Pink	AD	UM	UNK	AD Coho	UM Coho	UNK Coho	Pink	Cutthroat Trout	Unk Salmon
May	18	28	71	0	0	0	0	0	1	0	0	0	0	0	0	3	0
	19	15	25	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	16	27	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	21	14	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	22	13	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
June	23	5	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	24	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25	3	5	0	0	0	0	0	3	2	0	0	0	0	0	0	0
	26	6	13	1	1	0	0	0	0	0	0	0	0	0	0	0	0
July	27	19	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	39	67	0	0	0	0	0	1	0	1	0	0	0	0	0	0
	29	27	61	0	0	0	0	0	1	0	0	0	0	0	0	1	0
	30	56	115	1	0	2	0	0	6	0	0	1	0	2	0	9	0
	31	46	81	3	3	0	0	0	0	0	2	0	0	0	0	0	0
Aug.	32	110	175	8	8	0	0	4	2	3	1	0	0	3	3	4	0
	33	77	157	15	15	0	0	2	3	3	8	0	0	1	0	0	0
	34	127	256	31	31	0	0	1	5	6	19	0	0	0	0	0	0
	35	109	224	47	47	0	0	5	6	4	3	0	0	2	2	2	1
Sept.	36	181	359	13	13	1	1	128	4	2	9	0	2	1	43	16	1
	37	105	209	13	13	19	19	175	3	1	0	1	5	4	157	0	0
	38	64	116	2	2	5	5	27	0	1	0	0	2	0	29	0	0
	39	26	56	0	0	2	2	4	0	0	0	0	0	0	0	4	0
	40	8	17	0	0	2	2	0	0	0	2	0	0	1	0	2	0
<b>Grand Total:</b>		<b>1,102</b>	<b>2,144</b>	<b>136</b>	<b>134</b>	<b>31</b>	<b>29</b>	<b>346</b>	<b>35</b>	<b>22</b>	<b>45</b>	<b>2</b>	<b>9</b>	<b>14</b>	<b>234</b>	<b>42</b>	<b>2</b>



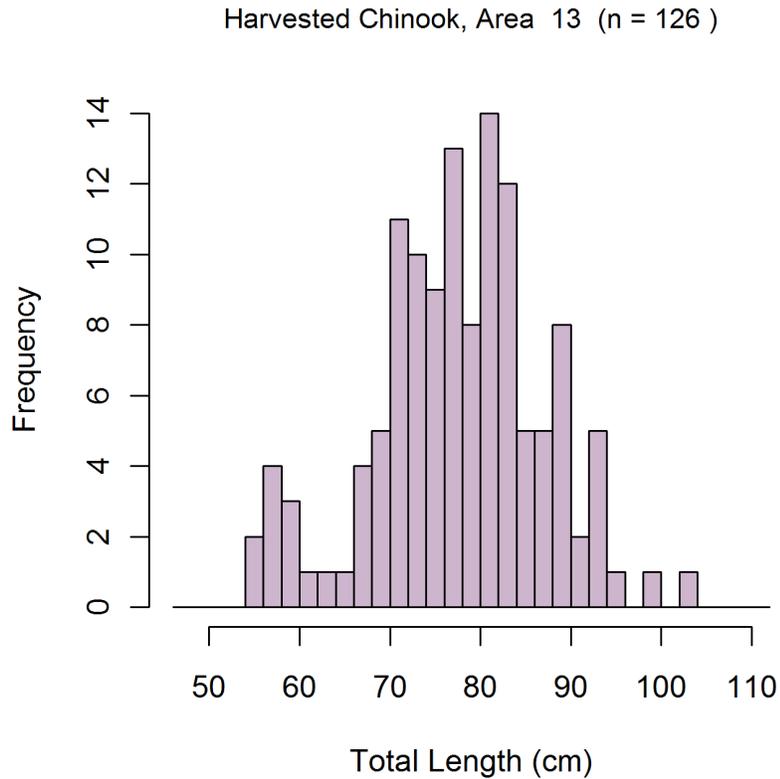
**Figure 22.** Temporal patterns in weekly total fishing effort (*observed* angler trips) during the Area 13 summer mark-selective Chinook fishery, May 1-September 30, 2011. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.



**Figure 23.** Temporal patterns in *observed* weekly Chinook harvest and releases during the Area 13 summer mark-selective Chinook fishery, May 1-September 31, 2011. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.

**Table 57.** Summary of length samples collected from retained Chinook salmon during dockside angler interviews in the Area 13 mark-selective Chinook fishery, May 1-September 30, 2011.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	125	1	126
Unmarked	1	0	1
<b>Total</b>	<b>126</b>	<b>1</b>	<b>127</b>



**Figure 24.** Length-frequency distributions of retained marked Chinook sampled at dockside during the Area 13 summer 2011 mark-selective Chinook fishery, May 1 through September 30, 2011.

**Table 58.** Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 13 summer mark-selective Chinook fishery from May 1 through September 30, 2011. The field “Number DITs” corresponds to the number of tags that belonged to double-index tag groups.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
Washington	Hood Canal (20%)	FINCH CR 16.0222	HOODSPORT HATCHERY	1 (20%)	0
	Skagit River (20%)	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	1 (20%)	1
	Southern Puget Sound (60%)	CHAMBERS CR 12.0007	GARRISON HATCHERY	1 (20%)	0
		LAKWOOD HATCHERY	LAKWOOD HATCHERY	2 (40%)	0
<b>Total</b>				<b>5</b>	<b>1</b>

**Table 59.** Total Chinook encountered (retained and released) by private anglers logging their trips on voluntary trip reports (VTRs), with estimates of legal-size and overall mark rates, in the Area 13 summer mark-selective Chinook fishery, May 1-September 30, 2011.

Data source	Effort & Sample Size	Legal		Sublegal		Total	Mark Rates	
		AD	UM	AD	UM		Overall	Legal
<b>Private Boat VTR</b>	10 1-trip VTRs, 21 Angler Trips	<b>12</b>	<b>8</b>	<b>0</b>	<b>1</b>	<b>21</b>	<b>57.1%</b>	<b>60.0%</b>
Size/mark status composition:		<b>0.571</b>	<b>0.381</b>	<b>0.000</b>	<b>0.048</b>			
Variance:		(0.0122)	(0.0118)	(0.0000)	(0.0023)			

## ACKNOWLEDGEMENTS

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**APPENDICES**

**Appendix A-1.** Size measures by sample date, for sites sampled during dockside creel surveys in the Area 5 mark-selective Chinook fishery from July 1 through August 15, 2011.

SAMPLE DATE	WEEK	SITE SIZE	LOCATION	SAMPLE DATE	WEEK	SITE SIZE	LOCATION
7/1	27	0.358	Olsons Ramp	7/24	30	0.219	Olsons East Docks
7/1	27	0.196	Van Riper's South	7/24	30	0.358	Olsons Ramp
7/2	27	0.358	Olsons Ramp	7/27	31	0.301	Olsons Ramp
7/2	27	0.056	Van Riper's North	7/27	31	0.237	Van Riper's South
7/5	28	0.078	Curleys Resort	7/29	31	0.219	Olsons East Docks
7/5	28	0.301	Olsons Ramp	7/29	31	0.358	Olsons Ramp
7/9	28	0.086	Olsons West Docks	7/30	31	0.358	Olsons Ramp
7/9	28	0.358	Olsons Ramp	7/30	31	0.196	Van Riper's South
7/10	28	0.219	Olsons East Docks	8/3	32	0.237	Olsons East Docks
7/10	28	0.196	Van Riper's South	8/3	32	0.190	Van Riper's South
7/13	29	0.179	Olsons East Docks	8/6	32	0.135	Olsons East Docks
7/13	29	0.301	Olsons Ramp	8/6	32	0.420	Olsons Ramp
7/16	29	0.358	Olsons Ramp	8/7	32	0.135	Olsons East Docks
7/16	29	0.056	Van Riper's North	8/7	32	0.420	Olsons Ramp
7/17	29	0.086	Olsons West Docks	8/10	33	0.103	Olsons West Docks
7/17	29	0.358	Olsons Ramp	8/10	33	0.120	Van Riper's North
7/18	30	0.179	Olsons East Docks	8/13	33	0.420	Olsons Ramp
7/18	30	0.301	Olsons Ramp	8/13	33	0.111	Van Riper's North
7/23	30	0.085	Curleys Resort	8/14	33	0.135	Olsons East Docks
7/23	30	0.219	Olsons East Docks	8/14	33	0.420	Olsons Ramp

**Appendix A-2.** Size measures by sample date, for sites sampled during dockside creel surveys in the Area 9 summer mark-selective Chinook fishery from July 16 through August 31, 2011.

SAMPLE DATE	WEEK	SITE SIZE	LOCATION	SAMPLE DATE	WEEK	SITE SIZE	LOCATION
07/16/2011	29	0.333	Everett	08/07/2011	32	0.333	Everett
07/16/2011	29	0.264	Pt Townsend BH	08/09/2011	33	0.133	Mukilteo
07/17/2011	29	0.264	Pt Townsend BH	08/09/2011	33	0.187	Pt Townsend BH
07/17/2011	29	0.333	Everett	08/10/2011	33	0.156	Ft Casey
07/18/2011	30	0.121	Pt Townsend BH	08/10/2011	33	0.387	Everett
07/18/2011	30	0.434	Everett	08/12/2011	33	0.264	Everett
07/19/2011	30	0.434	Everett	08/12/2011	33	0.333	Pt Townsend BH
07/19/2011	30	0.121	Pt Townsend BH	08/13/2011	33	0.115	Mukilteo
07/22/2011	30	0.264	Pt Townsend BH	08/13/2011	33	0.333	Pt Townsend BH
07/22/2011	30	0.333	Everett	08/14/2011	33	0.333	Pt Townsend BH
07/23/2011	30	0.264	Pt Townsend BH	08/14/2011	33	0.264	Everett
07/23/2011	30	0.333	Everett	08/15/2011	34	0.121	Everett
07/24/2011	30	0.264	Pt Townsend BH	08/15/2011	34	0.135	Pt Townsend BH
07/24/2011	30	0.333	Everett	08/16/2011	34	0.121	Everett
07/25/2011	31	0.133	Mukilteo	08/16/2011	34	0.135	Port Townsend Boat Haven Ramp
07/25/2011	31	0.211	Ft Casey	08/19/2011	34	0.532	Everett
07/27/2011	31	0.204	Pt Townsend BH	08/19/2011	34	0.116	Kingston
07/27/2011	31	0.408	Everett	08/20/2011	34	0.142	Mukilteo
07/29/2011	31	0.322	Everett	08/20/2011	34	0.061	Port Townsend Boat Haven Ramp
07/29/2011	31	0.256	Pt Townsend BH	08/21/2011	34	0.532	Norton Street (Everett) Ramp
07/30/2011	31	0.322	Everett	08/21/2011	34	0.061	Port Townsend Boat Haven Ramp
07/30/2011	31	0.256	Pt Townsend BH	08/22/2011	35	0.476	Everett
07/31/2011	31	0.256	Pt Townsend BH	08/22/2011	35	0.121	Port Townsend Boat Haven Ramp
07/31/2011	31	0.322	Everett	08/25/2011	35	0.476	Everett
08/03/2011	32	0.156	Ft Casey	08/25/2011	35	0.107	Kingston
08/03/2011	32	0.387	Everett	08/26/2011	35	0.061	Port Townsend Boat Haven Ramp
08/04/2011	32	0.387	Everett	08/26/2011	35	0.554	Everett
08/04/2011	32	0.187	Pt Townsend BH	08/27/2011	35	0.123	Mukilteo
08/05/2011	32	0.333	Everett	08/27/2011	35	0.061	Port Townsend Boat Haven Ramp
08/05/2011	32	0.264	Pt Townsend BH	08/28/2011	35	0.554	Everett
08/06/2011	32	0.288	Ft Casey	08/28/2011	35	0.061	Port Townsend Boat Haven Ramp
08/06/2011	32	0.115	Mukilteo	08/30/2011	36	0.163	Mukilteo
08/07/2011	32	0.264	Pt Townsend BH	08/30/2011	36	0.099	Ft Casey

**Appendix A-3.** Size measures by sample date, for sites sampled during dockside creel surveys in the Area 10 summer mark-selective Chinook fishery from July 16 through August 31, 2011.

SAMPLE DATE	WEEK	SITE SIZE	LOCATION	SAMPLE DATE	WEEK	SITE SIZE	LOCATION
07/16/2011	29	0.543	Shilshole	08/07/2011	32	0.147	Armeni
07/16/2011	29	0.035	Manchester	08/09/2011	33	0.176	Armeni
07/17/2011	29	0.121	Armeni	08/09/2011	33	0.365	Shilshole
07/17/2011	29	0.543	Shilshole	08/10/2011	33	0.103	Manchester
07/18/2011	30	0.182	Armeni	08/10/2011	33	0.365	Shilshole
07/18/2011	30	0.073	Manchester	08/12/2011	33	0.222	Armeni
07/19/2011	30	0.045	Shilshole	08/12/2011	33	0.469	Shilshole
07/19/2011	30	0.182	Armeni	08/13/2011	33	0.222	Armeni
07/22/2011	30	0.035	Manchester	08/13/2011	33	0.469	Shilshole
07/22/2011	30	0.543	Shilshole	08/14/2011	33	0.134	Kingston
07/23/2011	30	0.121	Armeni	08/14/2011	33	0.279	Armeni
07/23/2011	30	0.216	Kingston	08/15/2011	34	0.087	Manchester
07/24/2011	30	0.035	Manchester	08/15/2011	34	0.425	Shilshole
07/24/2011	30	0.543	Shilshole	08/16/2011	34	0.194	Armeni
07/25/2011	31	0.345	Kingston	08/16/2011	34	0.425	Shilshole
07/25/2011	31	0.238	Shilshole	08/19/2011	34	0.221	Armeni
07/27/2011	31	0.238	Shilshole	08/19/2011	34	0.466	Shilshole
07/27/2011	31	0.214	Manchester	08/20/2011	34	0.221	Armeni
07/29/2011	31	0.147	Armeni	08/20/2011	34	0.466	Shilshole
07/29/2011	31	0.477	Shilshole	08/21/2011	34	0.466	Shilshole
07/30/2011	31	0.477	Shilshole	08/21/2011	34	0.134	Kingston
07/30/2011	31	0.165	Kingston	08/22/2011	35	0.194	Armeni
07/31/2011	31	0.477	Shilshole	08/22/2011	35	0.087	Manchester
07/31/2011	31	0.147	Armeni	08/25/2011	35	0.194	Armeni
08/03/2011	32	0.176	Armeni	08/25/2011	35	0.194	Kingston
08/03/2011	32	0.365	Shilshole	08/26/2011	35	0.466	Shilshole
08/04/2011	32	0.176	Armeni	08/26/2011	35	0.221	Armeni
08/04/2011	32	0.073	Brownsville Marina & Ramp	08/27/2011	35	0.106	Manchester
08/05/2011	32	0.147	Armeni	08/27/2011	35	0.466	Shilshole
08/05/2011	32	0.477	Shilshole	08/28/2011	35	0.221	Armeni
08/06/2011	32	0.138	Manchester	08/28/2011	35	0.466	Shilshole
08/06/2011	32	0.477	Shilshole	08/30/2011	36	0.425	Shilshole
08/07/2011	32	0.477	Shilshole	08/30/2011	36	0.087	Manchester

**Appendix A-4.** Size measures by sample date, for sites sampled during dockside creel surveys in the Area 11 mark-selective Chinook fishery from June 1 through August 31, 2011.

SAMPLE DATE	WEEK	SITE SIZE	LOCATION	SAMPLE DATE	WEEK	SITE SIZE	LOCATION
6/1/2011	23	0.478	Point Defiance Ramp	7/5/2011	28	0.211	Point Defiance BH
6/1/2011	23	0.215	Point Defiance BH	7/5/2011	28	0.433	Point Defiance Ramp
6/3/2011	23	0.098	Gig Harbor	7/9/2011	28	0.433	Point Defiance Ramp
6/3/2011	23	0.451	Point Defiance Ramp	7/9/2011	28	0.133	Redondo Ramp
6/4/2011	23	0.143	Point Defiance BH	7/10/2011	28	0.143	Point Defiance BH
6/4/2011	23	0.451	Point Defiance Ramp	7/10/2011	28	0.433	Point Defiance Ramp
6/8/2011	24	0.075	Armeni Ramp	7/11/2011	29	0.524	Point Defiance Ramp
6/8/2011	24	0.448	Point Defiance Ramp	7/11/2011	29	0.108	Redondo Ramp
6/11/2011	24	0.143	Point Defiance BH	7/16/2011	29	0.151	Point Defiance BH
6/11/2011	24	0.451	Point Defiance Ramp	7/16/2011	29	0.431	Point Defiance Ramp
6/12/2011	24	0.451	Point Defiance Ramp	7/17/2011	29	0.236	Redondo Ramp
6/12/2011	24	0.147	Redondo Ramp	7/17/2011	29	0.431	Point Defiance Ramp
6/14/2011	25	0.215	Point Defiance BH	7/18/2011	30	0.135	Point Defiance BH
6/14/2011	25	0.478	Point Defiance Ramp	7/18/2011	30	0.524	Point Defiance Ramp
6/17/2011	25	0.451	Point Defiance Ramp	7/23/2011	30	0.151	Point Defiance BH
6/17/2011	25	0.090	Narrows Marina/Ramp	7/23/2011	30	0.431	Point Defiance Ramp
6/19/2011	25	0.451	Point Defiance Ramp	7/24/2011	30	0.151	Point Defiance BH
6/19/2011	25	0.147	Redondo Ramp	7/24/2011	30	0.431	Point Defiance Ramp
6/23/2011	26	0.075	Armeni Ramp	7/27/2011	31	0.104	Gig Harbor
6/23/2011	26	0.478	Point Defiance Ramp	7/27/2011	31	0.524	Point Defiance Ramp
6/24/2011	26	0.143	Point Defiance BH	7/29/2011	31	0.434	Point Defiance Ramp
6/24/2011	26	0.451	Point Defiance Ramp	7/29/2011	31	0.239	Redondo Ramp
6/25/2011	26	0.147	Point Defiance BH	7/30/2011	31	0.434	Point Defiance Ramp
6/25/2011	26	0.451	Point Defiance Ramp	7/30/2011	31	0.146	Point Defiance BH
6/28/2011	27	0.411	Point Defiance Ramp	8/3/2011	32	0.135	Point Defiance BH
6/28/2011	27	0.211	Point Defiance BH	8/3/2011	32	0.524	Point Defiance Ramp
7/1/2011	27	0.433	Point Defiance Ramp	8/6/2011	32	0.435	Point Defiance Ramp
7/1/2011	27	0.106	Gig Harbor	8/6/2011	32	0.239	Redondo Ramp
7/2/2011	27	0.088	Narrows Marina/Ramp	8/7/2011	32	0.146	Point Defiance BH
7/2/2011	27	0.433	Point Defiance Ramp	8/7/2011	32	0.435	Point Defiance Ramp

Table continued, next page

SAMPLE DATE	WEEK	SITE SIZE	LOCATION	SAMPLE DATE	WEEK	SITE SIZE	LOCATION
8/10/2011	33	0.433	Point Defiance Ramp	9/15/2011	38	0.352	Point Defiance Ramp
8/10/2011	33	0.188	Redondo Ramp	9/15/2011	38	0.121	Gig Harbor
8/13/2011	33	0.503	Point Defiance Ramp	9/17/2011	38	0.117	Gig Harbor
8/13/2011	33	0.226	Redondo Ramp	9/17/2011	38	0.352	Point Defiance Ramp
8/14/2011	33	0.503	Point Defiance Ramp	9/18/2011	38	0.352	Point Defiance Ramp
8/14/2011	33	0.074	Gig Harbor	9/18/2011	38	0.298	Redondo Ramp
8/16/2011	34	0.123	Point Defiance BH	9/19/2011	39	0.320	Point Defiance Ramp
8/16/2011	34	0.433	Point Defiance Ramp	9/19/2011	39	0.276	Redondo Ramp
8/19/2011	34	0.503	Point Defiance Ramp	9/24/2011	39	0.030	Armeni Ramp
8/19/2011	34	0.226	Redondo Ramp	9/24/2011	39	0.423	Point Defiance Ramp
8/21/2011	34	0.074	Gig Harbor	9/25/2011	39	0.423	Point Defiance Ramp
8/21/2011	34	0.503	Point Defiance Ramp	9/25/2011	39	0.298	Redondo Ramp
8/25/2011	35	0.120	Gig Harbor	9/28/2011	40	0.320	Point Defiance Ramp
8/25/2011	35	0.433	Point Defiance Ramp	9/28/2011	40	0.276	Redondo Ramp
8/27/2011	35	0.503	Point Defiance Ramp	9/30/2011	40	0.423	Point Defiance Ramp
8/27/2011	35	0.226	Redondo Ramp	9/30/2011	40	0.092	Point Defiance BH
8/28/2011	35	0.116	Point Defiance BH				
8/28/2011	35	0.503	Point Defiance Ramp				
9/1/2011	36	0.047	Narrows Marina/Ramp				
9/1/2011	36	0.433	Point Defiance Ramp				
9/3/2011	36	0.043	Narrows Marina/Ramp				
9/3/2011	36	0.503	Point Defiance Ramp				
9/4/2011	36	0.503	Point Defiance Ramp				
9/4/2011	36	0.226	Redondo Ramp				
9/8/2011	37	0.352	Point Defiance Ramp				
9/8/2011	37	0.243	Redondo Ramp				
9/10/2011	37	0.352	Point Defiance Ramp				
9/10/2011	37	0.298	Redondo Ramp				
9/11/2011	37	0.031	Armeni Ramp				
9/11/2011	37	0.352	Point Defiance Ramp				

**Appendix B-1.** Coded Wire Tag (CWT) recoveries in the Area 5 summer mark-selective Chinook fishery, July 1 – August 15, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
5	02-Aug-11	68022	2008	SAN PABLO BAY NET PENS	FEATHER R HATCHERY	CDWR		65	45405	AD Fin Clp
5	22-Jul-11	94529	2007	SANTIAM R S FK	SOUTH SANTIAM HATCH	ODFW		80	45406	AD Fin Clp
5	06-Jul-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	80	45407	AD Fin Clp
5	07-Aug-11	90271	2008	CLACKAMAS R	CLACKAMAS HATCHERY	ODFW			45410	AD Fin Clp
5	07-Aug-11	634583	2007	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	WDFW		80	45412	AD Fin Clp
5	07-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		61	45413	AD Fin Clp
5	08-Aug-11	180487	2008	R-Harrison R	H-Chehalis River H	CDFO		61	45414	AD Fin Clp
5	08-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	66	45415	AD Fin Clp
5	25-Jul-11	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		48	45419	AD Fin Clp
5	23-Jul-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		67	45420	AD Fin Clp
5	01-Aug-11	210827	2008	SOL DUC R 20.0096	LONESOME CR HATCHERY	QUIL		55	45423	AD Fin Clp
5	30-Jul-11	210278	2007	BAKER R 03.0435		WDFW		78	45424	AD Fin Clp
5	23-Jul-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277		45425	AD Fin Clp
5	13-Aug-11	634841	2008	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634842	71	45427	AD Fin Clp
5	08-Aug-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	76	45428	AD Fin Clp
5	27-Jul-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		75	45429	AD Fin Clp
5	09-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	77	45457	AD Fin Clp
5	06-Jul-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	58	45458	AD Fin Clp
5	06-Jul-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	77	45461	AD Fin Clp
5	09-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	74	45464	AD Fin Clp
5	23-Jul-11	220305	2008	CAPTAIN JOHNS PD	LYONS FERRY HATCHERY	NEZP		61	45467	AD Fin Clp
5	16-Jul-11	186242	2007	R-Chilliwack R	H-Chilliwack River H	CDFO	186243, 186240, 186000	60	45468	AD Fin Clp
5	11-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	70	45470	AD Fin Clp
5	11-Jul-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		62	45473	AD Fin Clp
5	03-Jul-11	210842	2008	SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	WDFW		56	60417	AD Fin Clp
5	05-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	78	60420	AD Fin Clp
5	05-Jul-11	210850	2008	WHITE R 10.0031	WHITE RIVER HATCHERY	MUCK		50	60421	Unmarked
5	03-Jul-11	635097	2008	WENATCHEE R 45.0030	DRYDEN POND	WDFW		56	60422	AD Fin Clp
5	02-Jul-11	634776	2008	COWLITZ R 26.0002	COWLITZ SALMON HATCH	WDFW		55	60424	AD Fin Clp
5	02-Jul-11	90199	2008	BIG CR (LWR COL R)	BIG CR HATCHERY	ODFW		76	60425	AD Fin Clp
5	02-Jul-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	59	60426	AD Fin Clp
5	01-Jul-11	90199	2008	BIG CR (LWR COL R)	BIG CR HATCHERY	ODFW		69	60427	AD Fin Clp
5	07-Jul-11	635092	2008	COLUMBIA NEAR WELLS	WELLS HATCHERY	WDFW		50	60431	AD Fin Clp
5	07-Jul-11	634691	2007	OKANOGAN R 49.0019	CARLTON ACCLIMATION POND	WDFW		56	60432	AD Fin Clp
5	06-Jul-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180000	60	60433	AD Fin Clp
5	10-Aug-11	180896	2009	R-Chilliwack R	H-Chilliwack River H	CDFO	180898, 180895	55	60435	AD Fin Clp
5	11-Aug-11	634671	2007	SNAKE R-UPPR 35.0002	LYONS FERRY HATCHERY	WDFW		81	60436	AD Fin Clp
5	12-Aug-11	634772	2008	DEEP R 25.0071	DEEP R NET PENS	WDFW		82	60437	AD Fin Clp
5	12-Aug-11	210842	2008	SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	WDFW		59	60439	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
5	12-Aug-11	180385	2008	R-Shuswap R Low	H-Shuswap River, Middle,	CDFO		64	60440	AD Fin Clp
5	06-Aug-11	210856	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		58	60441	AD Fin Clp
5	06-Jul-11	633886	2006	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		77	60462	AD Fin Clp
5	06-Jul-11	210777	2007	TULALIP CR 07.0001	BERNIE GOBIN HATCH	TULA		72	60466	AD Fin Clp
5	10-Jul-11	94646	2007	BIG CR (LWR COL R)	BIG CR HATCHERY	ODFW	94662	60	60467	AD Fin Clp
5	15-Jul-11	612761	2008	MAGRUDOR CORRIDOR	NPT HATCHERY	NEZP		56	60469	AD Fin Clp
5	15-Jul-11	90245	2008	UMATILLA R	BONNEVILLE HATCHERY	ODFW	90246	55	60470	AD Fin Clp
5	15-Jul-11	634779	2008	KLICKITAT HATCHERY (YKFP)	KLICKITAT HATCHERY (YKFP)	YAKA		61	60471	AD Fin Clp
5	15-Jul-11	185707	2007	R-Harrison R	H-Chehalis River H	CDFO		71	60472	AD Fin Clp
5	14-Aug-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		74	60474	AD Fin Clp
5	19-Jul-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	68	60479	AD Fin Clp
5	19-Jul-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180000	56	60480	AD Fin Clp
5	29-Jul-11	90245	2008	UMATILLA R	BONNEVILLE HATCHERY	ODFW	90246	51	60482	AD Fin Clp
5	26-Jul-11	634797	2008	NOOKSACK R -NF 01.0120	KENDALL CR HATCHERY	WDFW	634798	58	60483	AD Fin Clp
5	26-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	76	60484	AD Fin Clp
5	27-Jul-11	53480	2008	LTL WHITE SALMON@NFH	LTL WHITE SALMON NFH	FWS		94	60485	AD Fin Clp
5	29-Jul-11	634299	2007	LAKWOOD HATCHERY	LAKWOOD HATCHERY	WDFW		68	60486	AD Fin Clp
5	29-Jul-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	56	60487	AD Fin Clp
5	13-Aug-11	54375	2007	SOOES R 20.0015	MAKAH NFH ON SOOES R	FWS		79	60488	AD Fin Clp
5	31-Jul-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	52	60491	AD Fin Clp
5	03-Aug-11	634384	2007	JOHN CR 16.0253	RFEG 6 HOOD CANAL	WDFW		55	60492	AD Fin Clp
5	03-Aug-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		56	60494	AD Fin Clp
5	03-Aug-11	634841	2008	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634842	65	60495	AD Fin Clp
5	04-Aug-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		81	60497	AD Fin Clp
5	04-Aug-11	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		55	60498	AD Fin Clp
5	06-Aug-11	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	WDFW		56	60499	AD Fin Clp
5	14-Aug-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180000	63	61588	AD Fin Clp
5	15-Aug-11	94505	2006	UMATILLA R	UMATILLA HATCHERY	ODFW		89	61591	AD Fin Clp
5	15-Aug-11	210739	2006	HOKO R 19.0148	HOKO FALLS HATCHERY	MAKA		86	61592	AD Fin Clp
5	15-Aug-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		55	61595	AD Fin Clp
5	14-Aug-11	634680	2007	SNAKE R @ ASOTIN	LYONS FERRY HATCHERY	WDFW		72	61600	AD Fin Clp
5	09-Aug-11	90245	2008	UMATILLA R	BONNEVILLE HATCHERY	ODFW	90246		61601	AD Fin Clp
5	09-Aug-11	635178	2008	CHELAN R 47.0052	CHELAN RIVER NP	WDFW		53	61603	AD Fin Clp
5	13-Aug-11	634841	2008	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634842	52	61605	AD Fin Clp
5	14-Aug-11	210789	2007	SKAGIT R 03.0176		WDFW		87	61606	AD Fin Clp
5	14-Aug-11	210826	2008	SOL DUC R 20.0096	LONESOME CR HATCHERY	QUIL		57	61612	AD Fin Clp
5	14-Aug-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	57	61725	AD Fin Clp
5	14-Aug-11	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		49	61726	AD Fin Clp
5	14-Aug-11	634778	2008	COL R @ TURTLE ROCK	TURTLE ROCK HATCHERY	WDFW		52	61727	AD Fin Clp
5	02-Jul-11	634272	2007	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634273	75	63601	AD Fin Clp
5	05-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	74	63604	AD Fin Clp
5	01-Jul-11	180485	2008	R-Harrison R	H-Chehalis River H	CDFO		54	63605	AD Fin Clp
5	11-Jul-11	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN HATCHERY	WDFW		53	63611	AD Fin Clp
5	14-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		64	63613	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
5	14-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180000	65	63615	AD Fin Clp
5	15-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		51	63616	AD Fin Clp
5	21-Jul-11	634672	2007	SNAKE R-LOWR 33.0002	LYONS FERRY HATCHERY	WDFW		81	63617	AD Fin Clp
5	17-Jul-11	210777	2007	TULALIP CR 07.0001	BERNIE GOBIN HATCH	TULA		65	63618	AD Fin Clp
5	17-Jul-11	220305	2008	CAPTAIN JOHNS PD	LYONS FERRY HATCHERY	NEZP		51	63619	AD Fin Clp
5	23-Jul-11	634283	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		75	63620	AD Fin Clp
5	23-Jul-11	634672	2007	SNAKE R-LOWR 33.0002	LYONS FERRY HATCHERY	WDFW		70	63621	AD Fin Clp
5	28-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	55	63622	AD Fin Clp
5	30-Jul-11	180484	2008	R-Harrison R	H-Chehalis River H	CDFO		68	63624	AD Fin Clp
5	30-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	75	63625	AD Fin Clp
5	31-Jul-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		75	63626	AD Fin Clp
5	02-Aug-11	635095	2008	METHOW R 48.0002	CARLTON ACCLIMATION POND	WDFW		46	63629	AD Fin Clp
5	30-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180000	58	63633	AD Fin Clp
5	30-Jul-11	186312	2008	R-Cowichan R	H-Cowichan River H	CDFO		55	63634	AD Fin Clp
5	30-Jul-11	634796	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	210822	55	63635	AD Fin Clp
5	29-Jul-11	634384	2007	JOHN CR 16.0253	RFEG 6 HOOD CANAL	WDFW		67	63636	AD Fin Clp
5	04-Aug-11	634995	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		65	63638	AD Fin Clp
5	04-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	57	63639	AD Fin Clp
5	05-Aug-11	634680	2007	SNAKE R @ ASOTIN	LYONS FERRY HATCHERY	WDFW		78	63640	AD Fin Clp
5	05-Aug-11	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN HATCHERY	WDFW		52	63641	AD Fin Clp
5	05-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		76	63642	AD Fin Clp
5	07-Aug-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	55	63644	AD Fin Clp
5	12-Aug-11	210278	2007	BAKER R 03.0435		WDFW		61	63647	AD Fin Clp
5	14-Aug-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	64	63649	AD Fin Clp
5	14-Aug-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		71	63650	AD Fin Clp
5	06-Jul-11	635165	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		52	63656	Unmarked
5	17-Jul-11	634776	2008	COWLITZ R 26.0002	COWLITZ SALMON HATCH	WDFW		60	63665	AD Fin Clp
5	17-Jul-11	220304	2008	SNAKE R@PITT. LNDG	LYONS FERRY HATCHERY	NEZP		53	63666	AD Fin Clp
5	18-Jul-11	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	WDFW		52	63667	AD Fin Clp
5	06-Aug-11	90198	2008	TANNER CR (BNVILLE)	BONNEVILLE HATCHERY	ODFW		74	63668	AD Fin Clp
5	06-Aug-11	186356	2007	R-Shuswap R Low	H-Shuswap River, Middle,	CDFO		80	63669	AD Fin Clp
5	07-Aug-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	66	63670	AD Fin Clp
5	10-Aug-11	210786	2007	HOKO R @ RM 10	HOKO FALLS HATCHERY	MAKA		83	63672	AD Fin Clp
5	12-Aug-11	634386	2007	GREEN R 26.0323		WDFW		79	63675	AD Fin Clp
5	14-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	74	63676	AD Fin Clp
5	23-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	78	63701	AD Fin Clp
5	23-Jul-11	93935	2007	TRASK R	TRASK R HATCHERY	ODFW		76	63702	AD Fin Clp
5	27-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	78	63703	AD Fin Clp
5	27-Jul-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		62	63704	AD Fin Clp
5	30-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	85	63706	AD Fin Clp
5	31-Jul-11	220304	2008	SNAKE R@PITT. LNDG	LYONS FERRY HATCHERY	NEZP		55	63707	AD Fin Clp
5	31-Jul-11	635179	2008	COL R @ TURTLE ROCK	TURTLE ROCK HATCHERY	WDFW		54	63708	AD Fin Clp
5	03-Aug-11	634776	2008	COWLITZ R 26.0002	COWLITZ SALMON HATCH	WDFW		46	63709	AD Fin Clp
5	04-Aug-11	54376	2007	SOOES R 20.0015	MAKAH NFH ON SOOES R	FWS		81	63710	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
5	01-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	68	63774	AD Fin Clp
5	15-Jul-11	635093	2008	COLUMBIA NEAR WELLS	WELLS HATCHERY	WDFW		61	63778	AD Fin Clp
5	27-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	64	63779	AD Fin Clp
5	15-Jul-11	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	WDFW		64	63780	AD Fin Clp
5	30-Jul-11	635177	2008	CHELAN R 47.0052	CHELAN RIVER NP	WDFW		53	63782	AD Fin Clp
5	29-Jul-11	53480	2008	LTL WHITE SALMON@NFH	LTL WHITE SALMON NFH	FWS			63784	AD Fin Clp
5	08-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	75	63786	AD Fin Clp
5	09-Jul-11	186240	2007	R-Chilliwack R	H-Chilliwack River H	CDFO	186243, 186242, 186000	68	63787	AD Fin Clp
5	28-Jul-11	186240	2007	R-Chilliwack R	H-Chilliwack River H	CDFO	186243, 186242, 186000	74	63788	AD Fin Clp
5	28-Jul-11	50685	2007	SPRING CR 29.0159	SPRING CR NFH	FWS	053766, 050686, 053700	84	63789	AD Fin Clp
5	28-Jul-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	52	63790	AD Fin Clp
5	03-Aug-11	90245	2008	UMATILLA R	BONNEVILLE HATCHERY	ODFW	90246		63792	AD Fin Clp
5	31-Jul-11	634583	2007	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	WDFW		79	63794	AD Fin Clp
5	31-Jul-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	69	63795	AD Fin Clp
5	13-Aug-11	635178	2008	CHELAN R 47.0052	CHELAN RIVER NP	WDFW		53	63800	AD Fin Clp
5	11-Aug-11	210786	2007	HOKO R @ RM 10	HOKO FALLS HATCHERY	MAKA		82	63803	AD Fin Clp
5	11-Aug-11	635093	2008	COLUMBIA NEAR WELLS	WELLS HATCHERY	WDFW		52	63804	AD Fin Clp
5	12-Aug-11	634299	2007	LAKWOOD HATCHERY	LAKWOOD HATCHERY	WDFW		75	63805	AD Fin Clp
5	13-Aug-11	220303	2008	BIG CANYON ACCL POND	LYONS FERRY HATCHERY	NEZP		55	63806	AD Fin Clp
5	13-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		61	63807	AD Fin Clp
5	13-Aug-11	635093	2008	COLUMBIA NEAR WELLS	WELLS HATCHERY	WDFW		55	63808	AD Fin Clp
5	14-Aug-11	635179	2008	COL R @ TURTLE ROCK	TURTLE ROCK HATCHERY	WDFW		54	63809	AD Fin Clp
5	04-Aug-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865		63840	AD Fin Clp
5	10-Jul-11	220304	2008	SNAKE R@PITT. LNDG	LYONS FERRY HATCHERY	NEZP		58	63843	AD Fin Clp
5	11-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		74	63847	AD Fin Clp
5	22-Jul-11	90198	2008	TANNER CR (BNVILLE)	BONNEVILLE HATCHERY	ODFW		62	63848	AD Fin Clp
5	01-Jul-11	634787	2008	FALLERT CR 27.0017	FALLERT CR HATCHERY	WDFW		53	63850	AD Fin Clp
5	03-Jul-11	634841	2008	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634842	75	63852	AD Fin Clp
5	05-Jul-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	89	63854	AD Fin Clp
5	10-Jul-11	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		54	63860	AD Fin Clp
5	15-Jul-11	185556	2007	R-Harrison R	H-Chehalis River H	CDFO		79	63863	AD Fin Clp
5	16-Jul-11	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN HATCHERY	WDFW		53	63864	AD Fin Clp
5	16-Jul-11	633974	2007	COWLITZ SALMON HATCH	COWLITZ SALMON HATCH	WDFW		56	63865	AD Fin Clp

**Appendix B-2.** Coded-wire tag (CWT) recoveries in the Area 6 summer mark-selective Chinook fishery, July 1–August 15, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
6	16-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180000	71	45351	AD Fin Clp
6	16-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		70	63531	AD Fin Clp
6	17-Jul-11	180484	2008	R-Harrison R	H-Chehalis River H	CDFO		70	63532	AD Fin Clp
6	18-Jul-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	67	63533	AD Fin Clp
6	22-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	74	63555	AD Fin Clp
6	22-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	74	63556	AD Fin Clp
6	23-Jul-11	634395	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW		64	63557	AD Fin Clp
6	23-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180000	83	63535	AD Fin Clp
6	24-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		85	63558	AD Fin Clp
6	25-Jul-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		59	63536	AD Fin Clp
6	28-Jul-11	634680	2007	SNAKE R @ ASOTIN	LYONS FERRY HATCHERY	WDFW		68	63560	AD Fin Clp
6	28-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	85	63537	AD Fin Clp
6	28-Jul-11	635097	2008	WENATCHEE R 45.0030	DRYDEN POND	WDFW		52	63538	AD Fin Clp
6	31-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		56	63539	AD Fin Clp
6	31-Jul-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		74	63540	AD Fin Clp
6	31-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	81	63541	AD Fin Clp
6	01-Aug-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		63	45356	AD Fin Clp
6	02-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		70	45432	AD Fin Clp
6	06-Aug-11	210861	2008	TULALIP CR 07.0001	BERNIE GOBIN HATCH	TULA		53	63542	AD Fin Clp
6	06-Aug-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	85	65900	AD Fin Clp
6	06-Aug-11	634780	2008	ICY CR 09.0125	ICY CR HATCHERY	WDFW		51	65906	AD Fin Clp
6	07-Aug-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	69	63543	AD Fin Clp
6	07-Aug-11	634272	2007	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634273	77	65905	AD Fin Clp
6	08-Aug-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	68	63544	AD Fin Clp
6	11-Aug-11	635264	2009	JOHN CR 16.0253		WDFW		45	63545	Unmarked
6	12-Aug-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		70	63561	AD Fin Clp
6	12-Aug-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		74	63562	AD Fin Clp
6	12-Aug-11	634395	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW		54	45353	AD Fin Clp
6	13-Aug-11	634395	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW		62	65902	AD Fin Clp
6	13-Aug-11	210278	2007	BAKER R 03.0435		WDFW		68	45434	AD Fin Clp
6	26-Aug-11	634841	2008	FRIDAY CR 03.0017	SAMISH HATCHERY	WDFW	634842	66	60744	AD Fin Clp

**Appendix B-3.** Coded-wire tag (CWT) recoveries in the Area 9 summer mark-selective Chinook fishery, July 16 – August 31, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
9	13-Aug-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	70	51292	AD Fin Clp
9	14-Aug-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		72	51293	AD Fin Clp
9	19-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	81	51295	AD Fin Clp
9	20-Aug-11	634285	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634286	83	51296	AD Fin Clp
9	24-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	76	58279	AD Fin Clp
9	06-Aug-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		74	58287	AD Fin Clp
9	23-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	63	58412	AD Fin Clp
9	31-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		53	58413	AD Fin Clp
9	27-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	62	58414	AD Fin Clp
9	06-Aug-11	180967	2009	R-Cowichan R	H-Cowichan River H	CDFO		52	58415	AD Fin Clp
9	30-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		75	58418	AD Fin Clp
9	29-Jul-11	635366	2009	PURDY CR 16.0005		WDFW	635367	49	58420	AD Fin Clp
9	16-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		66	58422	AD Fin Clp
9	17-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		52	58424	AD Fin Clp
9	17-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	56	58425	AD Fin Clp
9	19-Jul-11	634296	2007	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		81	58427	AD Fin Clp
9	22-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		64	58428	AD Fin Clp
9	24-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		72	58429	AD Fin Clp
9	16-Jul-11	180469	2008	R-Cowichan R	H-Cowichan River H	CDFO		75	58431	AD Fin Clp
9	16-Jul-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		56	58432	AD Fin Clp
9	16-Jul-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		66	58433	AD Fin Clp
9	16-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		91	58434	AD Fin Clp
9	16-Jul-11	210856	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		76	58435	AD Fin Clp
9	18-Jul-11	634296	2007	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		74	58437	Unkn Marks
9	18-Jul-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	64	58438	AD Fin Clp
9	16-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	70	58448	AD Fin Clp
9	16-Jul-11	634283	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		61	58449	AD Fin Clp
9	16-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	67	60260	AD Fin Clp
9	16-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		85	60261	AD Fin Clp
9	16-Jul-11	634283	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		74	60262	AD Fin Clp
9	17-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	75	60263	AD Fin Clp
9	19-Jul-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		59	60265	AD Fin Clp
9	22-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		77	60266	AD Fin Clp
9	06-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	81	60268	AD Fin Clp
9	09-Aug-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	57	60270	AD Fin Clp
9	08-Aug-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	61	63714	AD Fin Clp
9	08-Aug-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	67	63715	AD Fin Clp
9	13-Aug-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	72	63716	AD Fin Clp
9	14-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		64	63717	AD Fin Clp
9	10-Aug-11	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	WDFW		55	66527	AD Fin Clp
9	16-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	92	66638	AD Fin Clp
9	13-Aug-11	634780	2008	ICY CR 09.0125	ICY CR HATCHERY	WDFW		55	66652	AD Fin Clp
9	27-Jul-11	634395	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW		67	66691	AD Fin Clp
9	24-Jul-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	75	66692	AD Fin Clp
9	25-Jul-11	210789	2007	SKAGIT R 03.0176		WDFW		79	66696	AD Fin Clp
9	31-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		73	66697	AD Fin Clp
9	06-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	66	66700	AD Fin Clp
9	28-Aug-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	59	66703	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
9	24-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	50	66710	AD Fin Clp
9	30-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		58	66711	AD Fin Clp
9	31-Jul-11	180484	2008	R-Harrison R	H-Chehalis River H	CDFO		86	66712	AD Fin Clp
9	04-Aug-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	72	66713	AD Fin Clp
9	05-Aug-11	210860	2008	KALAMA CR 11.0017	KALAMA CR HATCHERY	NISQ		59	66714	AD Fin Clp
9	06-Aug-11	634299	2007	LAKWOOD HATCHERY	LAKWOOD HATCHERY	WDFW		75	66715	AD Fin Clp
9	06-Aug-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	58	66716	AD Fin Clp
9	07-Aug-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	72	66717	AD Fin Clp
9	07-Aug-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		68	66718	AD Fin Clp
9	07-Aug-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	83	66719	AD Fin Clp
9	07-Aug-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	86	66720	AD Fin Clp
9	31-Aug-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		63	66745	AD Fin Clp
9	22-Jul-11	634283	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		71	66816	AD Fin Clp
9	31-Jul-11	180898	2009	R-Chilliwack R	H-Chilliwack River H	CDFO	180896, 180895	52	67065	AD Fin Clp
9	16-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	79	51283	AD Fin Clp
9	17-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		84	51284	AD Fin Clp
9	17-Jul-11	633875	2006	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	633876	86	51285	AD Fin Clp
9	18-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180000	79	51287	AD Fin Clp
9	19-Jul-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	69	51288	AD Fin Clp
9	19-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		76	51289	AD Fin Clp
9	22-Jul-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	76	51290	AD Fin Clp
9	23-Jul-11	210842	2008	SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	WDFW		65	51291	AD Fin Clp

**Appendix B-4.** Coded-wire tag (CWT) recoveries in the Area 10 summer mark-selective Chinook fishery, July 16 – August 31, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
10	16-Jul-11	634296	2007	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		82	58276	AD Fin Clp
10	16-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		78	58446	AD Fin Clp
10	17-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		59	66512	AD Fin Clp
10	17-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		54	66805	AD Fin Clp
10	17-Jul-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		80	66806	AD Fin Clp
10	22-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		62	58440	AD Fin Clp
10	23-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		53	66514	AD Fin Clp
10	23-Jul-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	82	66809	AD Fin Clp
10	24-Jul-11	210797	2007	COWSKULL ACCLIM POND	CLARKS CRK HATCHERY	PUYA		78	58408	AD Fin Clp
10	24-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		70	62856	AD Fin Clp
10	28-Jul-11	634299	2007	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		80	58280	AD Fin Clp
10	30-Jul-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	68	66517	AD Fin Clp
10	30-Jul-11	634299	2007	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		69	66820	AD Fin Clp
10	30-Jul-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180483	76	58281	AD Fin Clp
10	31-Jul-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	74	66821	AD Fin Clp
10	31-Jul-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	92	67067	AD Fin Clp
10	31-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		63	58282	AD Fin Clp
10	01-Aug-11	635177	2008	CHELAN R 47.0052	CHELAN RIVER NP	WDFW		54	66521	AD Fin Clp
10	03-Aug-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		74	66523	AD Fin Clp
10	03-Aug-11	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634277	75	67068	AD Fin Clp
10	03-Aug-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	84	58401	AD Fin Clp
10	04-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		69	66524	AD Fin Clp
10	04-Aug-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		75	67086	Unkn Marks
10	05-Aug-11	210842	2008	SKAGIT R 03.0176	MARBLEMOUNT HATCHERY	WDFW		58	67080	AD Fin Clp
10	05-Aug-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		65	67089	AD Fin Clp
10	05-Aug-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	75	67090	AD Fin Clp
10	05-Aug-11	634393	2008	MINTER CR 15.0048	MINTER CR HATCHERY	WDFW		57	58283	Unmarked
10	06-Aug-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		76	67082	AD Fin Clp
10	06-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	82	67091	AD Fin Clp
10	06-Aug-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		57	58285	AD Fin Clp
10	06-Aug-11	635298	2009	BIG SOOS CR 09.0072		WDFW	635297	35	58286	Unmarked
10	07-Aug-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180483	74	67083	AD Fin Clp
10	07-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	69	67084	AD Fin Clp
10	07-Aug-11	634780	2008	ICY CR 09.0125	ICY CR HATCHERY	WDFW		52	67085	AD Fin Clp
10	07-Aug-11	635366	2009	PURDY CR 16.0005		WDFW	635367	52	67101	AD Fin Clp
10	08-Aug-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		58	66526	AD Fin Clp
10	08-Aug-11	210790	2007	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634276	75	58284	AD Fin Clp
10	12-Aug-11	635291	2009	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		61	66823	AD Fin Clp
10	12-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	87	66824	AD Fin Clp
10	13-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	73	66529	AD Fin Clp
10	13-Aug-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		59	66640	AD Fin Clp
10	13-Aug-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		72	66825	AD Fin Clp
10	13-Aug-11	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634285	84	66829	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
10	14-Aug-11	210860	2008	KALAMA CR 11.0017	KALAMA CR HATCHERY	NISQ		68	66830	AD Fin Clp
10	14-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	65	67104	AD Fin Clp
10	14-Aug-11	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	WDFW		43	67107	AD Fin Clp
10	14-Aug-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		67	67108	AD Fin Clp
10	16-Aug-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	62	67078	AD Fin Clp
10	16-Aug-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	61	67079	AD Fin Clp
10	18-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	73	67132	AD Fin Clp
10	19-Aug-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		61	67133	AD Fin Clp
10	19-Aug-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		63	67134	AD Fin Clp
10	21-Aug-11	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		64	67112	AD Fin Clp
10	21-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		57	67136	AD Fin Clp
10	25-Aug-11	634271	2007	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634270	81	66532	AD Fin Clp
10	26-Aug-11	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	WDFW		44	67062	AD Fin Clp
10	26-Aug-11	634995	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		63	67121	AD Fin Clp
10	27-Aug-11	635297	2009	BIG SOOS CR 09.0072		WDFW	635298	53	67139	AD Fin Clp
10	27-Aug-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	53	67140	AD Fin Clp
10	28-Aug-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		64	58294	AD Fin Clp
10	28-Aug-11	210860	2008	KALAMA CR 11.0017	KALAMA CR HATCHERY	NISQ		76	67145	AD Fin Clp
10	30-Aug-11	635090	2009	MINTER CR 15.0048		WDFW		47	67129	Unmarked

**Appendix B-5.** Coded-wire tag (CWT) recoveries in the Area 11 summer mark-selective Chinook fishery, June 1 – September 30, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
11	30-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		83	42025	AD Fin Clp
11	30-Jul-11	180482	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180480, 180483	67	42026	AD Fin Clp
11	07-Aug-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		59	42027	AD Fin Clp
11	11-Aug-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		71	42028	AD Fin Clp
11	11-Aug-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		57	42029	AD Fin Clp
11	17-Aug-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		70	42030	AD Fin Clp
11	26-Aug-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	62	42032	AD Fin Clp
11	10-Jul-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	74	51824	AD Fin Clp
11	12-Jun-11	210840	2008	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		74	51825	AD Fin Clp
11	17-Jul-11	634873	2008	PURDY CR 16.0005	GEORGE ADAMS HATCHRY	WDFW	634872	63	51826	AD Fin Clp
11	11-Jul-11	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634865	57	51827	AD Fin Clp
11	01-Jun-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		64	51917	AD Fin Clp
11	10-Aug-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		71	51918	AD Fin Clp
11	11-Sep-11	210801	2007	KALAMA CR 11.0017	KALAMA CR HATCHERY	NISQ		82	56636	AD Fin Clp
11	01-Jun-11	634285	2007	BIG SOOS CR 09.0072	SOOS CREEK HATCHERY	WDFW	634286	76	56788	AD Fin Clp
11	11-Jun-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		78	56789	AD Fin Clp
11	25-Jun-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	76	56790	AD Fin Clp
11	09-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		54	56792	AD Fin Clp
11	24-Jul-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180483	74	56794	AD Fin Clp
11	24-Jul-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	54	56795	AD Fin Clp
11	27-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		75	56796	AD Fin Clp
11	29-Jul-11	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	634795	55	56797	AD Fin Clp
11	19-Aug-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW			56798	AD Fin Clp
11	02-Jun-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		74	62559	Unkn Marks
11	03-Jun-11	210822	2008	GROVERS CR HATCHERY	GROVERS CR HATCHERY	SUQ	634796	67	62560	AD Fin Clp
11	09-Jun-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		86	62561	AD Fin Clp
11	22-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		68	62564	AD Fin Clp
11	25-Jul-11	634278	2008	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		79	62565	AD Fin Clp
11	31-Jul-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		78	62567	AD Fin Clp
11	06-Aug-11	635367	2009	PURDY CR 16.0005		WDFW	635366	40	62569	Unmarked
11	08-Aug-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		63	62570	AD Fin Clp
11	18-Aug-11	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	WDFW		53	62572	AD Fin Clp
11	28-Aug-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		74	62573	AD Fin Clp
11	03-Sep-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		58	62575	AD Fin Clp
11	04-Jun-11	634297	2007	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		79	62606	AD Fin Clp
11	02-Jul-11	634780	2008	ICY CR 09.0125	ICY CR HATCHERY	WDFW		67	62608	AD Fin Clp
11	30-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		58	62609	AD Fin Clp
11	29-Jul-11	634298	2007	GREEN R 09.0001	ICY CR HATCHERY	WDFW		79	62610	AD Fin Clp
11	05-Jul-11	634782	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW		50	62611	AD Fin Clp
11	16-Aug-11	633466	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		83	62672	AD Fin Clp
11	04-Sep-11	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR HATCHERY	WDFW		57	62673	AD Fin Clp

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
11	14-Aug-11	634844	2008	WALLACE R 07.0940	WALLACE R HATCHERY	WDFW	634845	64	62710	AD Fin Clp
11	09-Jul-11	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR HATCHERY	WDFW		79	62711	AD Fin Clp
11	18-Jul-11	185556	2007	R-Harrison R	H-Chehalis River H	CDFO		76	62712	AD Fin Clp
11	24-Jul-11	634299	2007	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		84	62714	AD Fin Clp
11	03-Aug-11	180480	2008	R-Chilliwack R	H-Chilliwack River H	CDFO	180481, 180482, 180483	84	65058	AD Fin Clp
11	06-Aug-11	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY HATCHERY	WDFW		76	65059	AD Fin Clp
11	04-Sep-11	634795	2008	CLEAR CR 11.0013C	CLEAR CREEK HATCHERY	NISQ	210824	62	65062	Unmarked
11	29-Jul-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		54	66516	AD Fin Clp
11	30-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		57	66518	AD Fin Clp
11	31-Jul-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	57	66520	AD Fin Clp
11	28-Aug-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		72	66535	AD Fin Clp
11	13-Jul-11	634781	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		67	66803	AD Fin Clp

**Appendix B-6.** Coded-wire tag (CWT) recoveries in the Area 13 summer mark-selective Chinook fishery, May 1 – September 30, 2011.

Area	Recov. Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Rel. Agency	DIT Codes	FKL (cm)	Label	Mark
13	07-May-11	634299	2007	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		78	62529	
13	18-Aug-11	634364	2007	CHAMBERS CR 12.0007	GARRISON HATCHERY	WDFW		82	42031	AD Fin Clp
13	01-Sep-11	631427	2008	LAKEWOOD HATCHERY	LAKEWOOD HATCHERY	WDFW		69	62718	AD Fin Clp
13	03-Sep-11	634867	2008	FINCH CR 16.0222	HOODSPORT HATCHERY	WDFW		57	42033	AD Fin Clp
13	03-Sep-11	634769	2008	CASCADE R 03.1411	MARBLEMOUNT HATCHERY	WDFW	635082	64	42034	AD Fin Clp