

**2012 Summer Mark-Selective Recreational Chinook Fisheries
In Marine Areas 5, 6, 9, 10, 11, 12 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 Strait of Juan de Fuca and Puget Sound. 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 encountered¹.

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 2012 fishing season, pilot *summer* selective Chinook fisheries have occurred in Areas 5 and 6 for ten years (Thiesfeld and Hagen-Breaux 2005a, Thiesfeld and Hagen-Breaux 2005b, WDFW 2008a, WDFW 2009a, WDFW 2010g, WDFW 2011a, WDFW 2012c) and in Areas 9, 10, 11, and 13 for six years (WDFW 2007a and 2007b, WDFW 2009b and 2009c, WDFW 2010e and 2010f, WDFW 2011a, WDFW 2012c). For the first time, a summer selective Chinook fishery was conducted in Area 12 this year. Additionally, pilot *winter* selective Chinook fisheries have occurred in Areas 8-1 and 8-2 for seven consecutive seasons beginning in the winter of 2005/2006 (WDFW 2008b, WDFW 2009d, WDFW 2010b, WDFW 2011b, WDFW 2012b, WDFW 2012d), Areas 7, 9 and 10 for five consecutive seasons beginning in the winter of 2007/2008 (WDFW 2009e, WDFW 2010a, WDFW 2010c, WDFW 2010d, WDFW 2011b, WDFW 2012b, WDFW 2012d), and in Areas 11 and 12 for three consecutive seasons beginning in the winter of 2009/2010 (WDFW 2011b, WDFW 2012b, WDFW 2012d).

During the 2012 summer season (May through September), WDFW implemented seven pilot mark-selective Chinook fisheries in Areas 5, 6, 9, 10, 11, 12 and 13. The 2012 summer Chinook MSF seasons in each of the areas were as follows:

- Areas 5 and 6 from July 1 through August 15, 2012;
- Areas 9 and 10 from July 16 through August 31, 2012;
- Area 11 from June 1 through September 30, 2012;
- Area 12 from July 1 through September 30, 2012; and
- Area 13 from May 1 through September 30, 2012.

¹The regulations specific to winter mark-selective fisheries in Puget Sound Marine Catch Areas allowed for the retention of up to two legal-sized (≥ 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.

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.

Comprehensive Sampling and Monitoring Program

WDFW's Puget Sound Sampling Unit (PSSU) was tasked with implementing a comprehensive sampling and monitoring program in Areas 5, 6, 9, 10, 11, 12 and 13 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-water or aerial 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 mortalities²
- 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.

² 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.

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 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 2012a) 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, 12 and 13 during summer 2012.

In the following pages, we report the results generated through our monitoring activities during the 2012 summer mark-selective Chinook fisheries. We report results based on our more efficient reporting format agreed-to 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 2012 summer Chinook MSF results in separate chapters (1 through 7) 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 total 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 (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 Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a tenth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 5 from July 1 through August 15, 2012. WDFW's Puget Sound Sampling Unit (PSSU) implemented an intensive 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 included dockside creel sampling and intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. During the summer 2012 mark-selective Chinook fishery in Area 5 we maintained our enhanced VTR program in an effort to improve the return rate of voluntary trip reports, which provide estimates of Chinook encounter rates by size class (legal or sublegal) and mark status (ad-marked or unmarked). An additional WDFW technician was hired to work exclusively on distributing and collecting VTRs from the angling public in Area 5. This technician, along with the dockside samplers, also educated anglers about the VTR program and salmon species identification in a focused effort to increase the sample size of VTR-based encounter data. **Table 1.1** 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 2012a). In this section we present results from our monitoring activities during the Area 5 summer mark-selective Chinook fishery.

Table 1.1 Sampling/estimation details on target parameters associated with the overall Area 5 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 ¹	Catch rates (CPUE); length, age, and CWT composition of harvest ¹ ; 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	Proportion of total angler effort that uses sample-frame sites (i.e., site “size measures”) versus out-of-frame sites.	Total on-water boat and angler counts at assumed peak effort time interval (instantaneous count); spatial distribution of recreational fishing boats in the area.	Boats and anglers	Month	We did not conduct new boat surveys during the 2012 Area 5 summer mark-selective Chinook fishery. We applied the recent three-year average site weights to compute catch and effort estimates. The average site weights were used because in-season observations suggested that sites and effort patterns did not change substantially in 2012 compared to recent past years.
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status (marked/unmarked) composition of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	We used VTR data to estimate the size/mark-status proportions (LM = 33%, LU = 24%, SM = 18%, SU = 25%; Table 1.5) needed to produce encounter and mortality estimates.
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.

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

Table 1.2 Estimates of total fishing effort and total salmon catch (harvest and releases) during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012. Values may not add exactly due to rounding error. AD = marked (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	27	1-Jul	1-Jul	177	432	231	0	160	383	774
	28	2-Jul	8-Jul	1,218	2,967	1,070	2	738	1,769	3,579
	29	9-Jul	15-Jul	1,213	2,909	812	0	560	1,344	2,716
	30	16-Jul	22-Jul	1,376	3,370	648	9	447	1,064	2,167
	31	23-Jul	29-Jul	1,314	3,252	911	4	628	1,504	3,046
August	32	30-Jul	5-Aug	1,195	2,886	680	0	469	1,125	2,274
	33	6-Aug	12-Aug	1,658	4,131	847	2	584	1,400	2,834
	34	13-Aug	15-Aug	505	1,126	480	0	331	795	1,606
Area 5 Season Total:				8,655	21,074	5,679	17	3,917	9,382	18,996
Variance:				286,277	2,173,572	237,244	57	1,195,287	904,875	4,575,115
SE:				535	1,474	487	8	1,093	951	2,139
CV (%):				6%	7%	9%	44%	28%	10%	11%
95% CI:				7,606-9,704	18,184-23,963	4,724-6,634	2-32	1,774-6,060	7,518-11,247	14,803-23,188

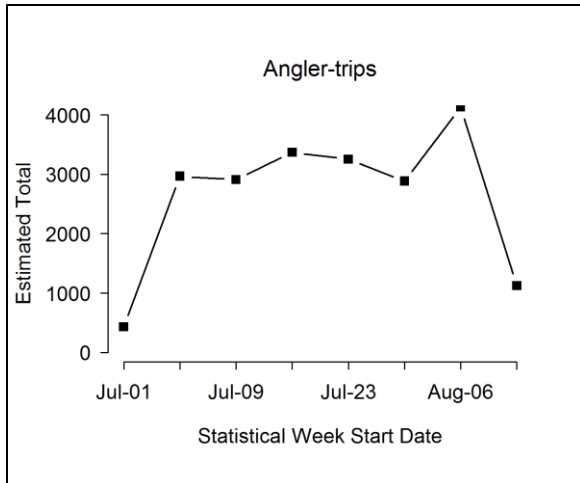


Figure 1.1 Temporal patterns in fishing effort during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

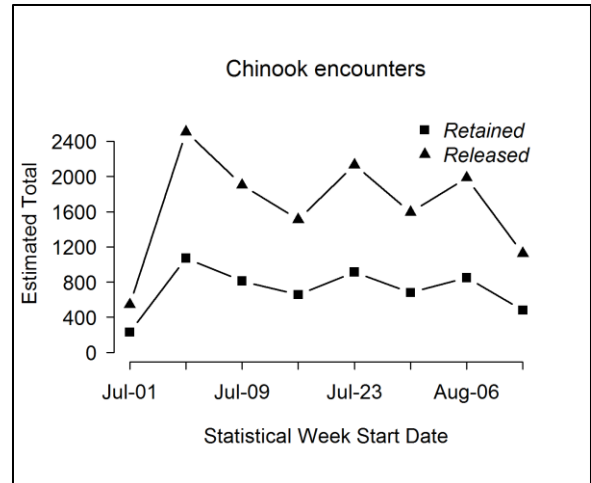


Figure 1.3 Temporal patterns in Chinook encounters (retained and released) during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

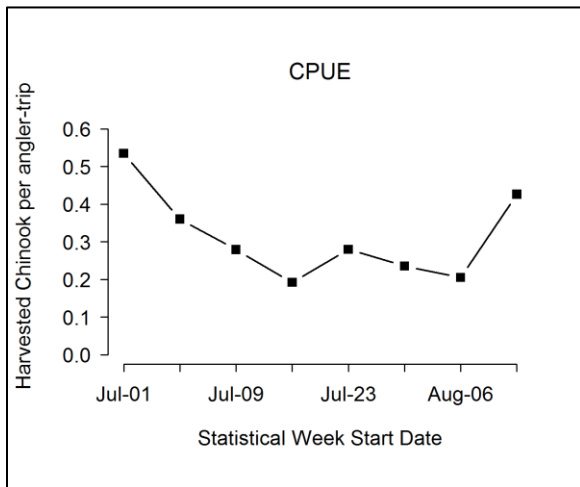


Figure 1.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

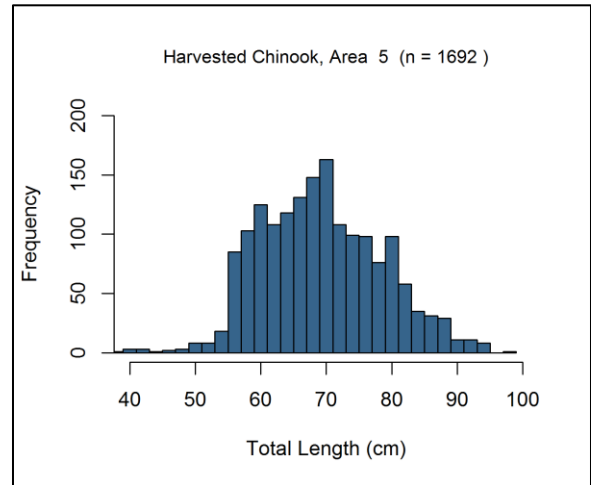


Figure 1.4 Length-frequency distributions of retained marked Chinook sampled in dockside angler interviews during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

Table 1.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	1,620	72	1,692
Unmarked	2	2	4
Total	1,622	74	1,696

Table 1.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012. 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 (20.4%)	Fraser River – Thompson River (15.3%)	Harrison River	Chehalis River Hatchery	6 (3.8%)	0	
		Shuswap River Low	Shuswap River, Middle	2 (1.3%)	0	
		Chilliwack River	Chilliwack River Hatchery	16 (10.2%)	16	
	Georgia Strait (5.1%)	Cowichan River	Cowichan River Hatchery	6 (3.8%)	0	
		Big Qualicum River	Big Qualicum River Hat.	1 (0.6%)	0	
		Chemainus River	Seaspring Salmon Farm	1 (0.6%)	0	
Washington (48.4%)	Northern Washington (5.1%)	Samish River 03.0005	Samish Hatchery	2 (1.3%)	2	
		East Sound Bay (SAN)	Glenwood Springs	3 (1.9%)	0	
		Friday Creek 03.0017	Samish Hatchery	3 (1.9%)	3	
	Strait of Juan De Fuca (1.3%)	Hoko River @ RM 10	Hoko Falls Hatchery	1 (0.6%)	0	
		Hoko River 19.0148	Hoko Falls Hatchery	1 (0.6%)	0	
	Hood Canal (17.8%)	Purdy Creek 16.0005	George Adams Hatchery	21 (13.4%)	21	
		Finch Creek 16.0222	Hoodsport Hatchery	7 (4.5%)	0	
	Northern Puget Sound (5.7%)	Whitehorse Springs	Whitehorse Pond	2 (1.3%)	0	
		Wallace River 07.0940	Wallace Hatchery	6 (3.8%)	4	
		Tulalip Creek 07.0001	Bernie Gobin Hatchery	1 (0.6%)	0	
	Skagit River (1.9%)	Cascade River 03.1411	Marblemount Hatchery	3 (1.9%)	0	
	Mid Puget Sound (12.1%)	Gorst Creek 15.0216	Gorst Creek Rearing Pond	3 (1.9%)	0	
		Big Soos Creek 09.0072	Soos Creek Hatchery	3 (1.9%)	3	
		Voight Creek Tr 10.0428	Voights Creek Hatchery	2 (1.3%)	0	
		Grovers Creek Hatchery	Grovers Creek Hatchery	11 (7%)	11	
	Southern Puget Sound (4.5%)	Chambers Creek 12.0007	Chambers Creek Hatchery	3 (1.9%)	0	
		Chambers Creek 12.0007	Garrison Hatchery	1 (0.6%)	0	
		Kalama Creek 11.0017	Kalama Creek Hatchery	1 (0.6%)	0	
		Clear Creek 11.0013C	Clear Creek Hatchery	2 (1.3%)	2	
	Columbia River (28.1%)	Upper Columbia R (above McNary Dam; excludes Snake River) (6.4%)	Col. River @ Turtle Rock	Turtle Rock Hatchery	1 (0.6%)	0
			Columbia Near Wells	Wells Hatchery	3 (1.9%)	0
Col. River @ Priest Rapids			Priest Rapids Hatchery	1 (0.6%)	1	
Wenatchee River 45.0030			Dryden Pond	1 (0.6%)	0	
Similkamaan River 490325			Similkameen Hatchery	3 (1.9%)	0	
Chelan River 47.0052			Chelan River NP	1 (0.6%)	0	
Central Columbia River (Bonneville Dam to McNary Dam) (4.5%)		Umatilla River	Umatilla Hatchery	1 (0.6%)	0	
		Little White Salmon @ NFH	Little White Salmon NFH	2 (1.3%)	0	
		Klickitat Hatchery (YKFP)	Klickitat Hatchery (YKFP)	1 (0.6%)	0	
		Spring Creek 29.0159	Spring Creek NFH	3 (1.9%)	3	
Snake River (10.2%)		Big Canyon Accl Pond	Lyons Ferry Hatchery	2 (1.3%)	0	
		Snake River @ Pitt. Landing	Lyons Ferry Hatchery	2 (1.3%)	0	
		Grand Ronde R35.2192	Irrigation Hatchery	1 (0.6%)	0	
		Captain Johns Pd	Lyons Ferry Hatchery	4 (2.5%)	0	
		Snake River (Hells Canyon)	Umatilla Hatchery	2 (1.3%)	0	
		Lyons Ferry Rel.Site	Lyons Ferry Hatchery	3 (1.9%)	0	
		Snake L.Mon-Ltl Goos	Lyons Ferry Hatchery	2 (1.3%)	0	

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
Columbia River (28.1%)	Lower Columbia River (mouth to Bonneville Dam) (7%)	Blind Sl (Lower Col. River)	CEDC Youngs Bay Net	1 (0.6%)	0
		Big Creek (Low Col. River)	Big Creek Hatchery	1 (0.6%)	1
		Cowlitz River 26.0002	Cowlitz Salmon Hatchery	2 (1.3%)	0
		Washougal River 28.0159	Washougal Hatchery	1 (0.6%)	0
		Tanner Creek (Bonneville)	Bonneville Hatchery	2 (1.3%)	0
		Deep River 25.0071	Deep River Net Pens	2 (1.3%)	0
		Cedar Creek 1 (Sandy River)	Sandy Hatchery	1 (0.6%)	0
		Willamette River M FK-1	Dexter Ponds	1 (0.6%)	0
Oregon (1.9%)	Northern Oregon Coast (0.6%)	Salmon River	Salmon River Hatchery	1 (0.6%)	0
	Southern Oregon Coast (1.3%)	Elk River	Elk River Hatchery	2 (1.3%)	0
California (1.2%)	Klamath River – Trinity River (0.6%)	Iron Gate Hatchery	Iron Gate Hatchery	1 (0.6%)	0
	San Joaquin River (0.6%)	San Joaq Shrm Isl Net Pen	Mok. River Fish Ins	1 (0.6%)	0
Total				157	67

Table 1.5 Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs) during the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012, with estimates of legal-size and overall (legal and sublegal) mark rates. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Private VTR	119 1-trip VTRs, 294 Angler Trips	127	94	68	97	386	0.51	0.57
Test fishery size/mark-status composition:		0.33	0.24	0.18	0.25			
Variance:		(0.0006)	(0.0005)	(0.0004)	(0.0005)			

As no test fishery was conducted in the Area 5 summer mark-selective fishery, we focused our efforts on increasing the return rate of VTRs and thus, the sample size of fish encountered by recreational fishers. This year we received 119 VTRs, accounting for 294 angler trips during the 1.5 month fishery. We used these data to estimate the size/mark-status proportions needed to produce Chinook encounter and mortality estimates for the Area 5 summer mark-selective fishery.

Table 1.6 Summary of season-wide fishery impact estimates for the Area 5 mark-selective Chinook fishery from July 1, 2012 – August 15, 2012. Release mortality rate = 0.15 for legal fish and 0.20 for sublegal fish. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Size/mark group	Encounters	Retained	Released	Release Mortality	Total Mortality	Var	SE	95% CI	CV (%)
Legal AD	6,250	5,437	812	122	5,559	238,905	489	4601 - 6517	9
Legal UM	4,626	9	4,617	693	701	9,975	100	8 - 35	14
Sublegal AD	3,346	242	3,105	621	863	12,300	111	645 - 1080	13
Sublegal UM	4,774	9	4,765	953	962	18,556	136	695 - 1229	14
Total	18,996	5,696	13,300	2,388	8,085	279,736	529	7048 - 9121	7

Table 1.7 Comparison of modeled (FRAM model run 1512) and estimated total Chinook encounters for the Area 5 mark-selective Chinook fishery from July 1, 2012 – August 15, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
FRAM Encounters	UM	5,081	3,486	1,595	35
	AD	11,428	5,453	5,975	4,744
	Total	16,509	8,939	7,570	4,779
	% Marked	69	61	79	99
Estimated (Creel) Encounters	UM	9,399	4,626	4,774	17
	AD	9,596	6,250	3,346	5,679
	Total	18,996	10,876	8,120	5,696
	% Marked	51	58	41	100

Table 1.8 Comparison of modeled (FRAM model run 1512) and estimated total Chinook mortalities for the Area 5 mark-selective Chinook fishery from July 1, 2012 – August 15, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
	UM	AD	Total	UM	AD	Total
Total (Landed + Released)	873	6,283	7,156	1,663	6,422	8,085
Released Legal	519	344	863	693	122	814
Released Sublegal	319	1,195	1,514	953	621	1,574
Landed Only	35	4,744	4,779	17	5,679	5,696

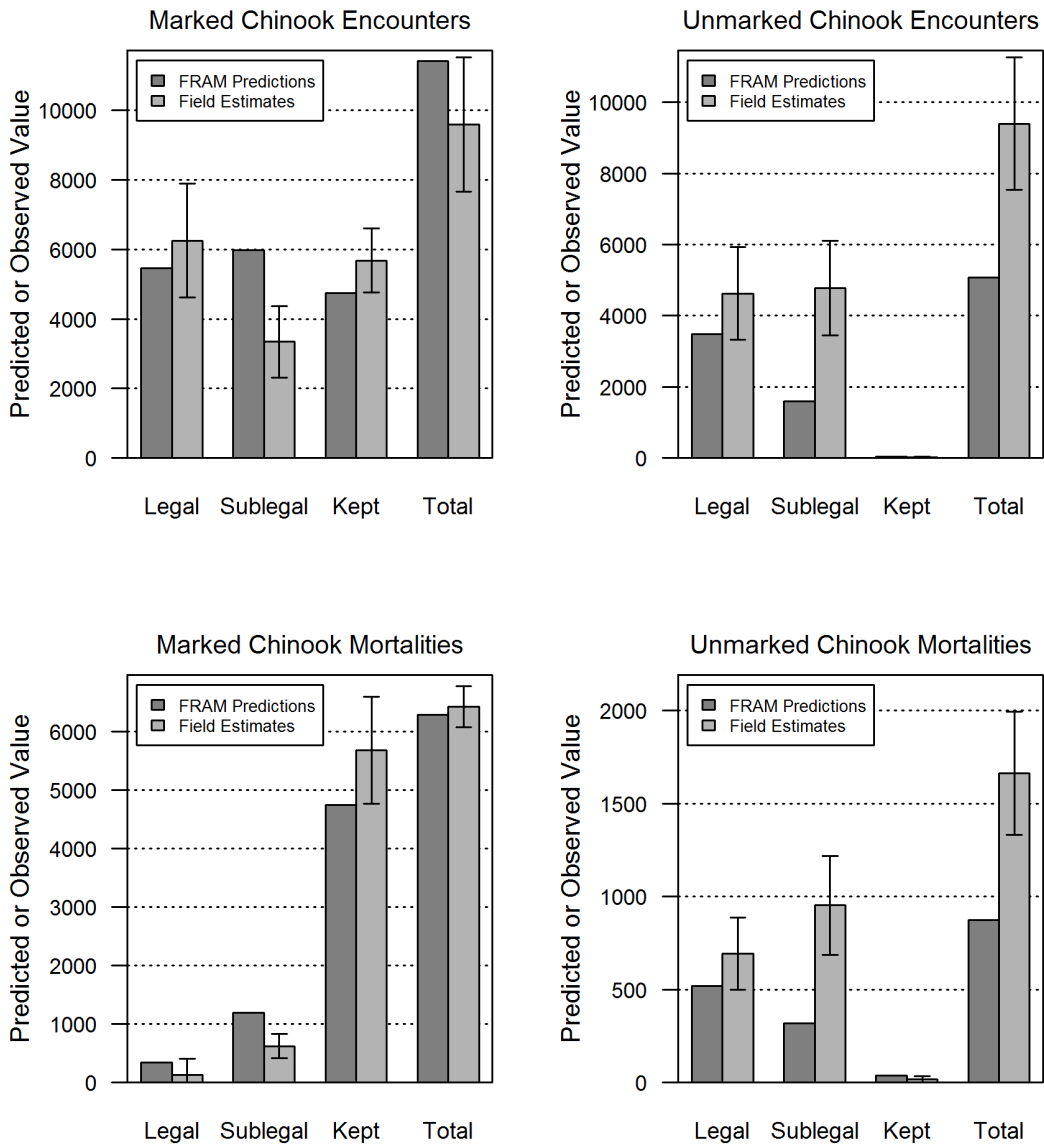


Figure 1.5 Comparison of modeled (using FRAM, model run 1512) and estimated total Chinook encounters and mortalities for the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012. Error bars represent approximate 95% confidence intervals for field estimates.

Table 1.9 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 mark-selective Chinook fishery from July 1 - August, 2012. AD = marked (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	2009	1	3.4	7.9	3.3	0.3	0.1	0.3
Clear Creek Hatchery	2008	2	6.7	15.8	6.7	0.7	0.2	0.6
George Adams Hatchery	2007	1	0	0	3.4	3.4	7.9	2.8
George Adams Hatchery	2008	4	13.4	31.7	13.4	1.3	0.3	1.1
George Adams Hatchery	2009	16	53.7	126.7	53.8	5.4	1.3	4.5
Grovers Creek Hatchery	2008	3	10.1	23.8	11.2	1.1	0.3	0.9
Grovers Creek Hatchery	2009	8	26.9	63.4	25.9	2.6	0.6	2.2
Chilliwack River Hatchery	2008	1	3.4	7.9	3.4	0.3	0.1	0.3
Chilliwack River Hatchery	2009	14	47	110.9	24.2	2.4	0.3	2
Chilliwack River Hatchery	2010	1	3.4	7.9	1.6	0.2	0.019	0.1
Priest Rapids Hatchery	2009	1	3.4	7.9	5.6	0.6	0.2	0.5
Samish Hatchery	2008	3	10.1	23.8	10.1	1	0.2	0.8
Samish Hatchery	2009	2	6.7	15.8	6.8	0.7	0.2	0.6
Soos Creek Hatchery	2009	3	10.1	23.8	10.6	1.1	0.3	0.9
Spring Creek NFH	2009	3	10.1	23.8	10.1	1	0.2	0.8
Wallace Hatchery	2008	4	13.4	31.7	13.5	1.3	0.3	1.1
Total		67	221.7	522.8	203.7	23.4	12.5	19.6

Table 1.10 Monthly sample rates (Total retained Chinook sampled¹ / Estimated retained Chinook) in the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012. AD = marked (adipose-clipped), UM = unmarked.

Time period			Estimated Retained Chinook			Number of Chinook sampled			Sample Rate
Month	Stat Weeks	Dates	AD	UM	Total	AD	UM	Total	
July	27-31	1 Jul - 29 Jul	3672	15	3687	1145	4	1149	31.2%
August	32-34	30 Jul - 15 Aug	2007	2	2010	547	0	547	27.2%
Season Total			5679	17	5696	1692	4	1696	29.8%

^{1/} Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the summer 2012 Area 5 mark-selective Chinook fishery (creel estimates and fish sampled as part of baseline sampling).

Table 1.11 Fishery-total estimates of retained and released salmon (*other than Chinook*) for the Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012. Values may not add exactly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Stat Week	Start Date	End Date	Retained Salmon				Released Salmon					
			Coho AD	Coho UM	Pink	Sockeye	Coho AD	Coho UM	Coho UK	Pink	Steelhead	Unk Salmon
27	1-Jul	1-Jul	128	8	0	0	27	146	123	0	0	23
28	2-Jul	8-Jul	945	16	0	0	118	1406	471	0	3	217
29	9-Jul	15-Jul	469	8	0	0	77	702	293	0	0	95
30	16-Jul	22-Jul	1356	15	0	9	123	3480	51	0	0	75
31	23-Jul	29-Jul	649	9	0	9	53	1579	27	0	0	92
32	30-Jul	5-Aug	717	0	2	0	59	1535	115	0	0	117
33	6-Aug	12-Aug	1383	2	0	0	42	3199	150	4	0	125
34	13-Aug	15-Aug	143	0	0	0	5	292	38	0	0	81
Area 10 Season Total:			5,791	58	2	18	505	12,338	1,268	4	3	823
Variance:			579,183	436	3	243	7,670	1,376,149	123,514	14	7	21,658
Standard Error:			761	21	2	16	88	1,173	351	4	3	147
CV (%):			13%	36%	74%	87%	17%	10%	28%	87%	82%	18%
95% CI:			4,299-7,282	17-99	0-6	0-48	333-677	10,039-14,637	579-1,957	0-12	0-8	535-1,112

In-season observations suggested that sites and effort patterns did not change substantially in 2012 compared to recent past years. Therefore, we did not conduct new boat surveys during the 2012 Area 5 summer mark-selective Chinook fishery. Sites in the summer 2012 sample frame remained the same and included: Olson’s East Docks, Olson’s West Docks, Olson’s Ramp & Docks, Van Riper’s North, Van Riper’s South and Curley’s Resort. We used the average of the previous three years’ site weights (same values that were used for the 2011 Area 5 summer mark-selective Chinook fishery) to determine site selections and to compute catch and effort estimates. All sites in the sample frame were sampled at some point during the fishery, with the exception of Curley’s Resort, likely due to its small site weight.

Table 1.12 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. Values may not add exactly due to rounding error.

Season Dates	Effort (Angler-trips)	Retained Chinook				Released Chinook				Total Encounters
		LM	LU	SM	SU	LM	LU	SM	SU	
Jul 5 - Aug 3, 2003	19,398	2,251	53	225	0	336	3,435	1,656	5,174	13,131
Jul 1 - Aug 10, 2004	25,174	2,706	0	194	0	404	4,017	1,167	2,462	10,950
Jul 1 - Aug 10, 2005	30,115	1,520	23	100	26	227	1,418	1,210	1,459	5,984
Jul 1 - Aug 14, 18-21, 2006	23,177	3,105	10	196	7	464	3,125	1,010	2,212	10,129
Jul 1 - Aug 9, 2007	18,830	2,969	23	280	94	444	2,509	1,371	1,118	8,808
Jul 1 - Aug 10, 2008	13,004	2,773	0	45	0	414	1,869	65	330	5,496
Jul 1 - Aug 6, 2009	23,662	4,843	78	1,115	362	724	6,210	9,823	14,309	37,463
Jul 1 - Aug 15, 2010	16,806	5,461	14	242	0	816	4,961	3,163	4,140	18,796
Jul 1 - Aug 15, 2011	24,848	4,259	70	276	22	636	9,275	1,593	5,319	21,450
Jul 1 - Aug 15, 2012	21,074	5,437	9	242	9	812	4,617	3,105	4,765	18,996

2) Marine Area 6 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a tenth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 6 from July 1 through August 15 2012. 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 2012a for details) along with intensive efforts to distribute and collect voluntary trip reports (VTRs) from the angling public. We maintained our enhanced VTR program in an effort to improve the return rate of voluntary trip reports, which provide estimates of Chinook encounter rates by size class (legal or sublegal) and mark status (ad-marked or unmarked). An additional WDFW technician was hired to work exclusively on distributing and collecting VTRs from the angling public in Area 6. This technician, along with the dockside samplers, also educated anglers about the VTR program and salmon species identification in a focused effort to increase the sample size of VTR-based encounter data.

Table 2.1 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 2012a). In this section we present results from our monitoring activities during the Area 6 summer mark-selective Chinook fishery from July 1 through August 15, 2012. Note that the Baseline Sampling approach does not provide a means for generating in-season or immediate post-season estimates of fishery total catch and effort. We will generate estimates of fishery-total Chinook encounters and mortalities by size/mark-status 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 2012 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.

Table 2.1 Sampling/estimation details on target parameters associated with the overall Area 6 summer mark-selective fishery monitoring program.

Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
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 ¹ ; 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 may be used in the estimation of total Chinook encounters by size/mark group (LM = 69%, LU = 16%, SM = 7%, SU = 7%; Table 2.5) and associated impacts, once CRC-based retained Chinook estimates become available, using Conrad and McHugh's (2008) bias-corrected method.
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 using the CRC-based retained Chinook estimate, when it becomes available.
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 using the CRC-based retained Chinook estimate, when it becomes available. The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

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

Table 2.2 Observations of fishing effort, salmon harvest, and reported salmon releases, by week, for the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark status.

Month	Stat Week	Effort		Retained Fish				Released Fish									
		Boats	Anglers	Chinook		Coho		Chinook			Coho			Chum	Pink	Sockeye	Unknown Salmon
				AD	UM	AD	UM	AD	UM	UK	AD	UM	UK				
July	27	97	236	128	0	0	0	11	47	0	0	0	0	0	0	0	0
	28	271	692	270	1	6	0	57	179	25	2	1	1	0	0	0	0
	29	224	549	125	0	12	2	37	109	20	0	10	1	0	3	0	17
	30	299	732	111	3	20	0	19	95	21	5	44	7	0	0	0	0
	31	302	761	223	0	17	0	18	86	18	1	43	9	0	0	1	1
August	32	240	597	139	0	73	2	66	130	25	7	123	39	0	0	0	15
	33	350	885	139	1	66	2	75	173	127	22	109	31	3	1	0	27
	34	168	415	80	0	8	0	179	85	75	6	18	11	0	0	0	3
Area 6 Season Total:		1951	4867	1215	5	202	6	462	904	311	43	348	99	3	4	1	63

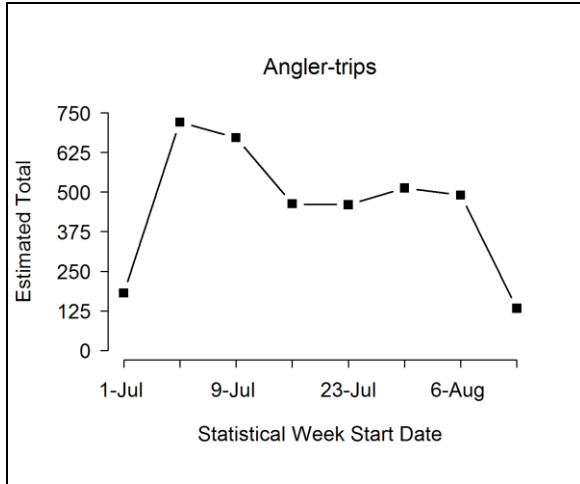


Figure 2.1 Temporal patterns in fishing effort during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.

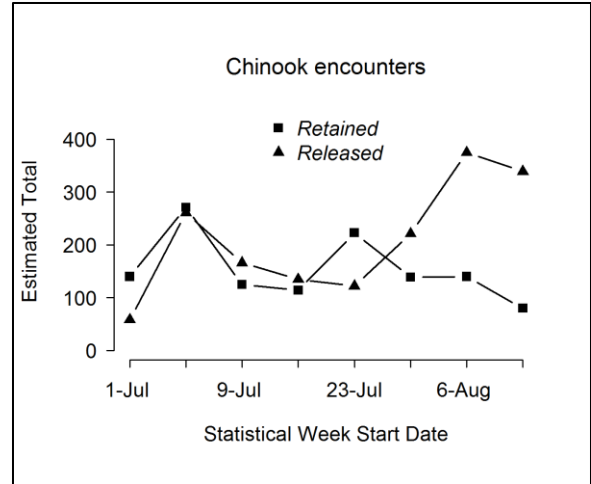


Figure 2.3 Temporal patterns in Chinook encounters (retained and released) during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.

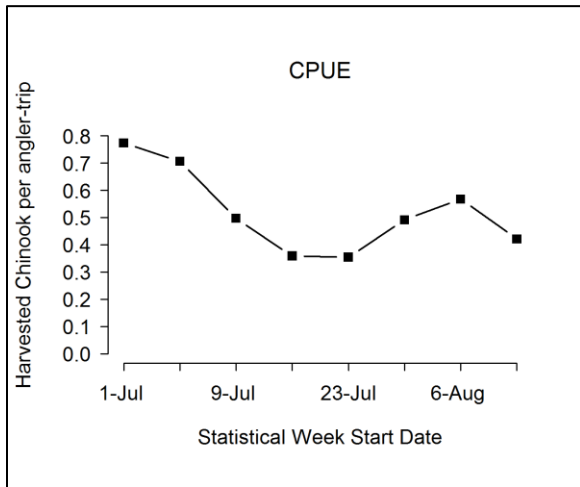


Figure 2.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012. Note: displayed values are sample observations (i.e., summed across sampled sites) and not fishery-total estimates.

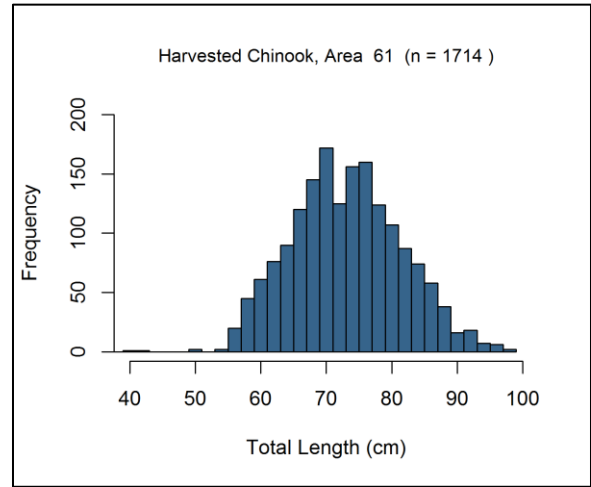


Figure 2.4 Length-frequency distributions of retained marked Chinook sampled in dockside angler interviews during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012.

Table 2.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	1701	13	1714
Unmarked	4	0	4
Total	1705	13	1718

Table 2.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012. 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 (5.6%)	Fraser River – Thompson River (1.9%)	Chilliwack River	Chilliwack River Hatch	1 (0.9%)	1
		Harrison River	Chehalis River Hatchery	1 (0.9%)	0
	Georgia Strait (3.7%)	Cowichan River	Cowichan River Hatch	3 (2.8%)	0
		Chemainus River	Seaspring Salmon Farm	1 (0.9%)	0
Washington (76.6%)	Northern Washington (10.3%)	Friday Creek 03.0017	Samish Hatchery	1 (0.9%)	1
		East Sound Bay (SAN)	Glenwood Springs	4 (3.7%)	0
		Samish River 03.0005	Samish Hatchery	6 (5.6%)	6
	Hood Canal (32.7%)	Finch Creek 16.0222	Hoodsport Hatchery	16 (15%)	0
		Purdy Creek 16.0005	George Adams Hatchery	19 (17.8%)	19
	N. Puget Sound (2.8%)	Wallace River 07.0940	Wallace River Hatchery	3 (2.8%)	2
	Skagit River (3.7%)	Baker River 03.0435	Marblemount Hatchery	3 (2.8%)	0
		Cascade River 03.1411	Marblemount Hatchery	1 (0.9%)	0
	Mid Puget Sound (16.8%)	Icy Creek 09.0125	Icy Creek Hatchery	1 (0.9%)	0
		Grovers Creek Hatchery	Grovers Creek Hatchery	10 (9.3%)	10
		Big Soos Creek 09.0072	Soos Creek Hatchery	2 (1.9%)	2
		Voight Creek Tr 10.0428	Voights Creek Hatchery	1 (0.9%)	0
		Gorst Creek 15.0216	Gorst Creek Rearing Pnd	4 (3.7%)	0
	Southern Puget Sound (10.3%)	Chambers Creek 12.0007	Chambers Creek Hatch	4 (3.7%)	0
Clear Creek 11.0013C		Clear Creek Hatchery	3 (2.8%)	3	
Lakewood Hatchery		Lakewood Hatchery	1 (0.9%)	0	
	Kalama Creek 11.0017	Kalama Creek Hatchery	3 (2.8%)	0	
Columbia River (16.9%)	Upper Columbia River (2.8%)	Hanford Reach (36)	NA	1 (0.9%)	1
		Col. River @ Turtle Rock	Turtle Rock Hatchery	2 (1.9%)	0
	Central Columbia River (7.5%)	Spring Creek 29.0159	Spring Creek NFH	6 (5.6%)	6
		Klickitat Hatchery (YKFP)	Klickitat Hatchery	2 (1.9%)	0
	Lower Columbia River (4.7%)	Big Creek (Lower Col)	Big Creek Hatchery	4 (3.7%)	3
Mckenzie River 1		Mckenzie Hatchery	1 (0.9%)	1	
Snake River (1.9%)	Snake R-1 (Hells Canyon)	Umatilla Hatchery	2 (1.9%)	0	
CA (0.9%)	Central CA (0.9%)	San Pablo Bay Net Pens	Feather R Hatchery	1 (0.9%)	0
Total				107	55

Table 2.5 Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs) during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012, with estimates of legal-size and overall (legal and sublegal) mark rates. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Private VTR	62 1-trip VTRs, 119 Angler Trips	126	30	13	13	182	0.76	0.81
Combined size/mark-status composition:		0.69	0.16	0.07	0.07			
Variance:		(0.0012)	(0.0008)	(0.0004)	(0.0004)			

Table 2.6 List of sites sampled with the number of sampling events (site-days) during the Area 6 mark-selective Chinook fishery from July 1 - August 15, 2012.

Location	Site-Days Sampled per Month		Total Site-Days	% of Total
	July (1-31)	August (1-15)		
Coronet Bay Public Ramp	13	8	21	23.6%
Freshwater Bay Ramp	12	6	18	20.2%
John Wayne Marina	1	0	1	1.1%
Ediz Hook Port Angeles Public Ramp	27	13	40	44.9%
Port Angeles West Ramp	7	2	9	10.1%
Grand Total	60	29	89	100%

3) Marine Area 9 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a sixth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 9 from July 16 through August 19, 2012. Originally scheduled to close on August 31, 2012, the fishery was closed early on August 20, based on a joint decision between WDFW and the tribes, due to in-season total Chinook encounters estimates exceeding preseason modeled expectations. WDFW's Puget Sound Sampling Unit (PSSU) implemented an intensive monitoring program in Area 9 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 included intensive dockside creel sampling, on-the-water effort surveys, test fishing and collection of voluntary trip reports (VTRs) from the angling public. **Table 3.1** 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 2012a). In this section we present results from our monitoring activities during the Area 9 summer mark-selective Chinook fishery from July 16 through August 19, 2012.

Table 3.1 Sampling/estimation details on target parameters associated with the overall Area 9 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 ¹ ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release	One week	Within weeks, estimates were produced by day-type strata (weekday/weekend). Each week we sampled every Friday, Saturday and Sunday, and we randomly selected $n=2$ out of $N=4$ weekdays (Monday-Thursday) for sampling.
On-the-water Surveys	Proportion of total angler effort that uses sample-frame sites (i.e., site “size measures”) versus out-of-frame sites.	Total on-water boat and angler counts at assumed peak effort time interval (instantaneous count); spatial distribution of recreational fishing boats in the area.	Boats and anglers	Month	A total of 6 boat surveys (2 weekday and 4 weekend) were conducted during the 1.5 month fishery.
Test Fishing	Size (legal/sublegal) and mark-status (marked/unmarked) composition of encountered Chinook	Chinook length, age, and DNA-based ² stock composition; species composition of non-Chinook encounters	Fish encounter	Season	Given sufficient sample size ($n=112$) of fish caught in the test fishery, we used the test fishery data only to estimate the size/mark-status proportions (LM = 39%, LU = 12%, SM = 26%, SU = 23%; Table 3.5) needed to produce encounter and mortality estimates.
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status (marked/unmarked) composition of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	The size/mark-status proportions of VTR data (LM = 40%, LU = 12.5%, SM = 27.5%, SU = 20%; Table 3.6) were very similar to those of the test fishery data. However, VTR data were not used in impact estimation due to the assumed higher data quality and sufficient sample sizes of the test fishery data.
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.

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

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

Table 3.2 Estimates of total fishing effort and total salmon catch (harvest and releases) during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add exactly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Month	Stat Week	Start Date	End Date	Estimated Effort		Est. Retained Chinook		Est. Released Chinook		Total Est. Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
Jul	30	16-Jul	22-Jul	3,309	7,219	2,418	0	2,127	2,428	6,972
	31	23-Jul	29-Jul	2,422	5,046	1,298	3	1,142	1,301	3,744
Aug	32	30-Jul	5-Aug	2,255	4,599	1,771	5	1,558	1,774	5,108
	33	6-Aug	12-Aug	2,059	4,179	826	0	727	830	2,383
	34	13-Aug	19-Aug	1,854	3,818	742	7	653	739	2,141
Private Fleet Estimates:				11,898	24,861	7,056	14	6,207	7,071	20,348
Charter Fleet:				6	25	17	1	0	0	18
Area 9 Season Total Estimates:				11,904	24,886	7,073	15	6,207	7,071	20,366
Variance:				461,737	2,228,475	1,491,907	40	7,010,316	2,226,217	18,178,409
Standard Error:				680	1,493	1,221	6	2,648	1,492	4,264
CV (%):				6%	6%	17%	44%	43%	21%	21%
95% CI:				10,572-13,236	21,960-27,812	4,678-9,467	3-28	1,018-11,397	4,147-9,995	12,010-28,723

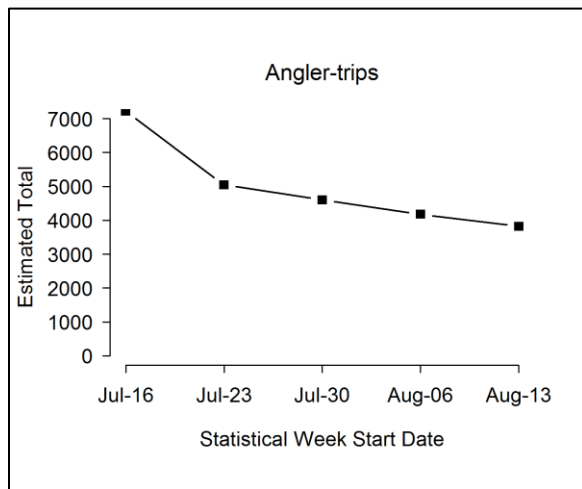


Figure 3.1 Temporal patterns in fishing effort during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

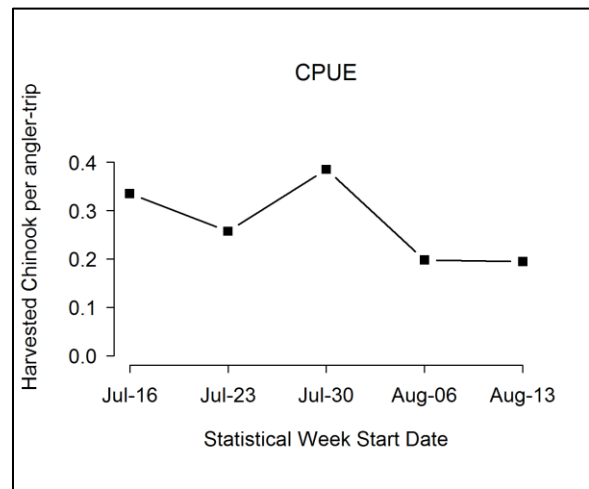


Figure 3.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

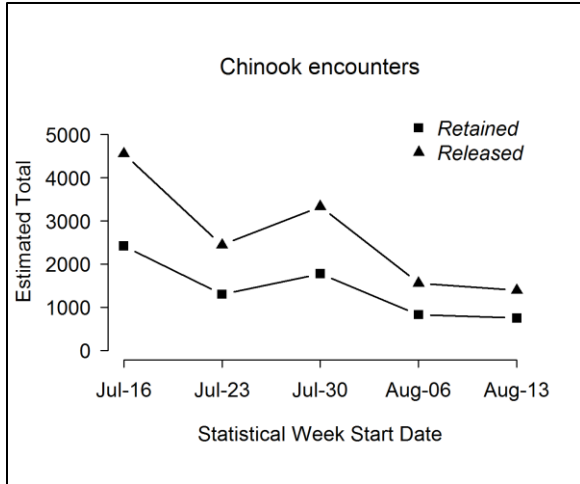


Figure 3.3 Temporal patterns in Chinook encounters (retained and released) during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

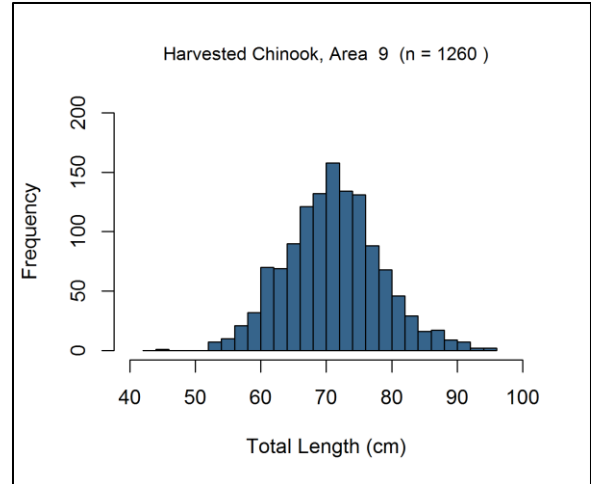


Figure 3.4 Length-frequency distribution of retained marked Chinook sampled in dockside angler interviews during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

Table 3.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	1242	18	1260
Unmarked	5	1	6
Total	1247	19	1266

Table 3.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. The field “Number DITs” corresponds to the number of recovered CWTs that belonged to double-index tag groups.

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
British Columbia (3.5%)	Fraser River – Thompson River (2.3%)	Chilliwack River	Chilliwack R Hatchery	2 (2.3%)	2
	Georgia Strait (1.2%)	Cowichan River	Cowichan R Hatchery	1 (1.2%)	0
Washington (94.2%)	N Washington (5.8%)	East Sound Bay (SAN)	Glenwood Springs	2 (2.3%)	0
		Samish River 03.0005	Samish Hatchery	3 (3.5%)	3
	Hood Canal (30.2%)	Purdy Creek 16.0005	George Adams Hatchery	16 (18.6%)	16
		Finch Creek 16.0222	Hoodsport Hatchery	10 (11.6%)	0
	N Puget Sound (1.2%)	Wallace River 07.0940	Wallace Hatchery	1 (1.2%)	1
	Skagit River (3.5%)	Cascade River 03.1411	Marblemount Hatchery	2 (2.3%)	2
		Baker River 03.0435	Marblemount Hatchery	1 (1.2%)	0
	Mid Puget Sound (39.5%)	Clarks Creek Hatchery	Clarks Creek Hatchery	2 (2.3%)	0
		Gorst Creek 15.0216	Gorst Cr Rearing Pnd	5 (5.8%)	0
		Big Soos Creek 09.0072	Soos Creek Hatchery	5 (5.8%)	5
		Icy Creek 09.0125	Icy Creek Hatchery	2 (2.3%)	0
		Voight Creek Tr 10.0428	Voights Creek Hatchery	5 (5.8%)	0
		Grovers Creek Hatchery	Grovers Creek Hatchery	14 (16.3%)	14
	Southern Puget Sound (14%)	Voight Creek 10.0414	Voights Creek Hatchery	1 (1.2%)	0
		Clear Creek 11.0013C	Clear Creek Hatchery	3 (3.5%)	3
		Chambers Cr 12.0007	Chambers Cr Hatchery	2 (2.3%)	0
		Kalama Creek 11.0017	Kalama Creek Hatchery	3 (3.5%)	0
		Lakewood Hatchery	Lakewood Hatchery	4 (4.7%)	0
Columbia R (1.2%)	Central Columbia River (1.2%)	Spring Creek 29.0159	Spring Creek NFH	1 (1.2%)	1
CA (1.2%)	Central CA Coast (1.2%)	San Pablo Bay Net Pens	Feather R Hatchery	1 (1.2%)	0
Total				86	47

Table 3.5 Composition of test fishery Chinook encounters and associated mark-rate and size/mark-status proportion estimates for the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (adipose-clipped), UM = unmarked. 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	
30	4	27.5	12	2	3	0	17
31	4	25.5	5	3	1	1	10
32	4	28.0	9	5	2	3	19
33	5	25.0	10	2	3	12	27
34	5	29.7	8	1	20	10	39
Total	22	135.7	44	13	29	26	112
Size/mark-status composition:			0.39 (0.0021)	0.12 (0.0009)	0.26 (0.0017)	0.23 (0.0016)	
Legal size mark rate:			0.77 (0.0031)				
Overall mark rate:			0.65 (0.0020)				

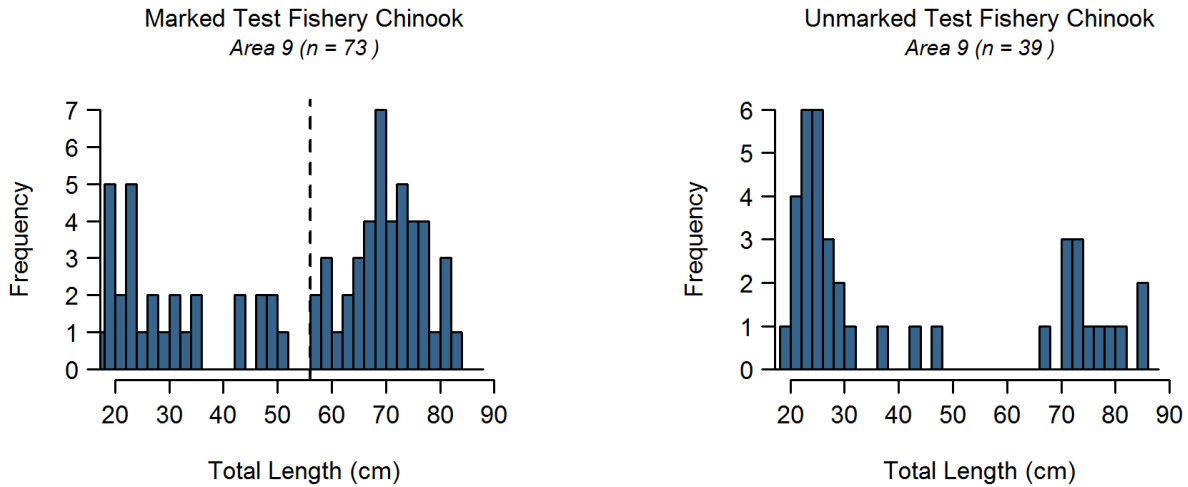


Figure 3.5 Length-frequency distributions of marked (left panel) and unmarked (right panel) Chinook encountered by test fishers during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. The vertical dashed line in the left panel corresponds to the legal size limit (22 in or 56 cm).

Table 3.6 Total Chinook encountered (retained and released) by private-boat and charter boat anglers logging their trips on voluntary trip reports (VTRs), with estimates of legal-size and overall (legal and sublegal) mark rates during the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Charter Boat VTR	6 1-trip VTRs, 25 Angler Trips	17	1	0	0	18	0.94	0.94
Private Boat VTR	25 1-trip VTRs, 53 Angler Trips	16	5	11	8	40	0.66	0.76
Pooled VTR	31 Days, 78 Angler Trips	33	6	11	8	58	0.76	0.85
Size/mark-status composition:		0.57	0.10	0.19	0.14			
Variance:		(0.0043)	(0.0016)	(0.0027)	(0.0021)			

While size and mark-status proportions differed between Charter and Private boat VTR data, they were very similar between Private boat VTR and test fishery data ($\chi^2=0.04$, $df=3$, p -value=0.979). However, based on sufficient sample size and assumed higher data quality, we used only test fishery data to estimate the size/mark-status proportions needed to produce Chinook encounter and mortality estimates for the Area 9 summer mark-selective fishery.

Table 3.7 Summary of season-wide fishery impact estimates for the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Release mortality rate = 0.15 for legal fish and 0.20 for sublegal fish. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Size/mark group	Encounters	Retained	Released	Release Mortality	Total Mortality	Var	SE	95% CI	CV (%)
Legal AD	8,011	6,972	1,039	156	7,128	1,565,019	1251	4676 - 9580	18
Legal UM	2,363	12	2,351	353	365	13,777	117	6 - 58	32
Sublegal AD	5,269	101	5,168	1,034	1,134	77,002	277	590 - 1678	24
Sublegal UM	4,724	2	4,721	944	947	64,620	254	448 - 1445	27
Total	20,366	7,087	13,279	2,486	9,573	1,720,418	1312	7003 - 12144	14

Table 3.8 Comparison of modeled (FRAM model run 1512) and estimated total Chinook encounters for the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped) and UM = unmarked.

Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
FRAM Encounters	UM	2,765	1,050	1,715	21
	AD	13,635	5,100	8,535	4,437
	Total	16,400	6,150	10,250	4,458
	% Marked	83	83	83	100
Estimated (Creel) Encounters	UM	7,087	2,363	4,724	14
	AD	13,280	8,011	5,269	7,073
	Total	20,366	10,374	9,992	7,087
	% Marked	65	77	53	100

Table 3.9 Comparison of modeled (FRAM model run 1512) and estimated total Chinook mortalities for the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped) and UM = unmarked.

Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
	UM	AD	Total	UM	AD	Total
Total (Landed + Released)	519	6,465	6,984	1,311	8,262	9,573
Released Legal	155	321	476	353	156	508
Released Sublegal	343	1,707	2,050	944	1,034	1,978
Landed Only	21	4,437	4,458	14	7,073	7,087

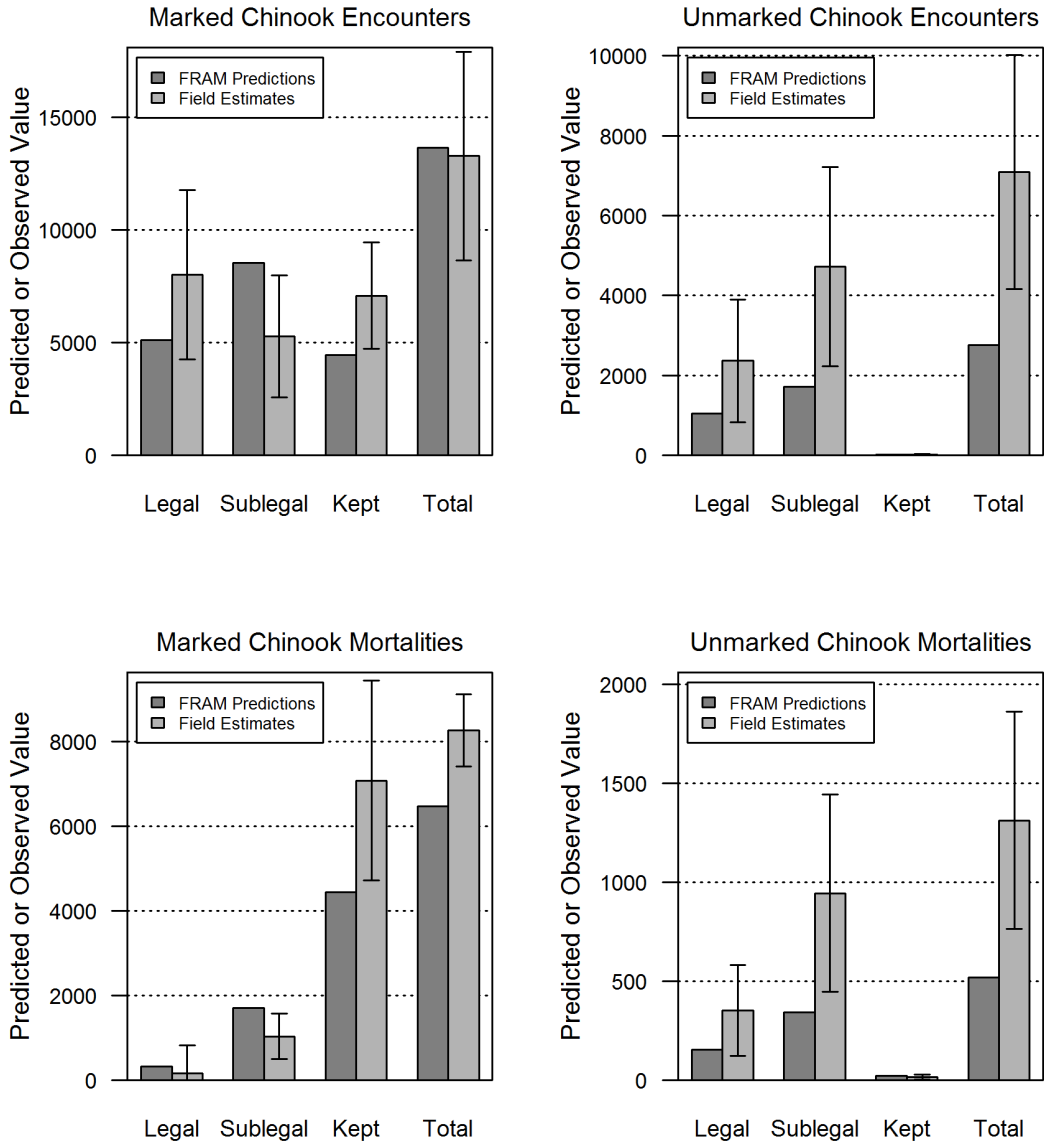


Figure 3.6 Comparison of modeled (using FRAM, model run 1512) and estimated total Chinook encounters and mortalities for the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Error bars represent approximate 95% confidence intervals for field estimates.

Table 3.10 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 9 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (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	1	5.6	25.6	5.6	0.6	0.3	0.5
Clear Creek Hatchery	2009	2	11.2	51.2	11.2	1.1	0.5	1
George Adams Hatchery	2009	16	89.4	409.8	89.5	9	4.1	8.1
Grovers Creek Hatchery	2008	2	11.2	51.2	12.4	1.2	0.6	1.1
Grovers Creek Hatchery	2009	12	67	307.3	64.7	6.5	2.9	5.9
Chilliwack River Hatchery	2009	1	5.6	25.6	2.9	0.3	0.1	0.3
Chilliwack River Hatchery	2010	1	5.6	25.6	2.7	0.3	0.1	0.2
Marblemount Hatchery	2008	2	11.2	51.2	11	1.1	0.5	1
Samish Hatchery	2009	3	16.8	76.8	17	1.7	0.8	1.5
Soos Creek Hatchery	2008	1	5.6	25.6	5.9	0.6	0.3	0.5
Soos Creek Hatchery	2009	4	16.8	76.8	23.1	7.3	26.5	6.7
Spring Creek NFH	2009	1	5.6	25.6	5.6	0.6	0.3	0.5
Wallace Hatchery	2008	1	5.6	25.6	5.6	0.6	0.3	0.5
Total		47	256.9	1178.1	257.3	30.8	37.1	27.9

Table 3.11 Monthly sample rates (Total retained Chinook sampled¹ / Estimated retained Chinook) in the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

Time period			Estimated Retained Chinook			Number of Chinook sampled			Sample Rate
Month	Stat Weeks	Dates	AD	UM	Total	AD	UM	Total	
July	30-31	16 Jul - 29 Jul	3,716	3	3,719	691	2	693	18.6%
August	32-34	30 Jul - 19 Aug	3,340	12	3,352	569	4	573	17.1%
Season Total			7,056	15	7,071	1,260	6	1,266	17.9%

^{1/} Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the summer 2012 Area 9 mark-selective Chinook fishery (creel estimates and the fish sampled as part of baseline sampling).

Table 3.12 Fishery-total estimates of retained and released salmon (*other than Chinook*) in the Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add exactly due to rounding error. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark-status.

Week	Start Date	End Date	Retained Salmon				Released Salmon				
			Coho AD	Coho UM	Coho UK	Chum	Coho AD	Coho UM	Coho UK	Cutthroat Trout	Unk Salmon
30	16-Jul	22-Jul	42	36	0	0	109	16	310	0	530
31	23-Jul	29-Jul	17	9	0	0	15	12	37	0	514
32	30-Jul	5-Aug	17	12	0	0	61	20	69	2	471
33	6-Aug	12-Aug	94	48	0	8	190	42	114	0	1044
34	13-Aug	19-Aug	185	183	29	0	85	46	126	0	783
Area 9 Season Total:			356	287	29	8	459	137	656	2	3,342
Variance:			2,294	2,187	665	44	15,380	1,026	14,201	1	201,185
Standard Error:			48	47	26	7	124	32	119	1	449
CV (%):			13%	16%	89%	87%	27%	23%	18%	46%	13%
95% CI:			262-449	195-379	0-79	0-21	216-702	74-200	423-890	0-5	2,462-4,221

Table 3.13 Summary of the total number of anglers intercepted in Area 9 during on-the-water surveys conducted from July 16 - August 19, 2012. Sites in bold represent those included in the dockside sample frame.

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Armeni Ramp	0	0.000	4	0.004
Bayside Marina/Drystack	6	0.012	5	0.005
Becket Point Ramp	0	0.000	2	0.002
Brownsville Ramp	0	0.000	2	0.002
Bush Point Ramp	2	0.004	7	0.007
Camano Isl State Park	5	0.010	2	0.002
Cavalero County Park	0	0.000	3	0.003
Cornet Bay Public Ramp	0	0.000	2	0.002
Couville Public Ramp	5	0.010	8	0.008
Dagmars Landing	13	0.026	12	0.012
Driftwood Key Marina	27	0.055	18	0.017
Edmonds Dry Storage	7	0.014	18	0.017
Edmonds Guest Moorage	1	0.002	4	0.004
Edmonds Marina	27	0.055	46	0.044
Edmonds Sling	7	0.014	47	0.045
Eglon Ramp	5	0.010	13	0.013
Everett Marina	37	0.075	42	0.041
Everett Ramp	70	0.142	240	0.232
Fort Casey Ramp/Keystone	30	0.061	113	0.109
Fort Flagler	1	0.002	7	0.007
Fort Warden	24	0.049	35	0.034
Hat Island Marina	2	0.004	2	0.002
John Wayne Marina	4	0.008	0	0.000
Keypoint Ramp	0	0.000	3	0.003

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Kingston Marina	1	0.002	0	0.000
Kingston Ramp	27	0.055	50	0.048
Lagoon Point Moorage	5	0.010	0	0.000
Lagoon Point Ramp	8	0.016	8	0.008
Marysville Public Ramp	0	0.000	5	0.005
Mats Mats	4	0.008	0	0.000
Max Welton Ramp	4	0.008	0	0.000
Max Welton Ramp Moored	0	0.000	2	0.002
Mukilteo Ramp	26	0.053	102	0.099
Mutiny Bay Public Ramp	3	0.006	8	0.008
Mystery Bay Dock	3	0.006	0	0.000
Orcas Island	0	0.000	1	0.001
Point Andsen Marina	0	0.000	3	0.003
Port Hadlock	11	0.022	8	0.008
Port Hadlock Moorage	4	0.008	0	0.000
Port Ludlow	5	0.010	7	0.007
Port of Everett	0	0.000	2	0.002
Port Townsend Boat Haven (Dock)	4	0.008	2	0.002
Port Townsend Boat Haven Ramp	51	0.103	86	0.083
Port Townsend Salmon Club Ramp	2	0.004	5	0.005
Possession Park	0	0.000	1	0.001
Possession Point	11	0.022	2	0.002
Possession Pt Ramp	0	0.000	1	0.001
Private	9	0.018	29	0.028
Private - Browns Point	0	0.000	2	0.002
Private - Driftwood Keys	0	0.000	2	0.002
Salsbury County Park Ramp	20	0.040	57	0.055
Sandy Hook Ramp	0	0.000	1	0.001
Shilshole Marina	10	0.020	3	0.003
Shilshole Ramp	13	0.026	8	0.008
Skyline Marina	0	0.000	2	0.002
Tulalip Marina & Ramp	0	0.000	2	0.002
Area 9 Total Anglers	494	1.000	1034	1.000

Table 3.14 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 9 summer mark-selective Chinook fishery. Values may not add exactly due to rounding error.

Season Dates	Effort (Angler-trips)	Retained Chinook				Released Chinook				Total Encounters
		LM	LU	SM	SU	LM	LU	SM	SU	
Jul 16 - Jul 31, 2007	18,160	5,094	13	146	20	711	1,111	1,286	317	8,697
Jul 16 - Aug 15, 2008	20,399	4,035	3	10	0	597	1,608	3,212	3,826	13,290
Jul 16 - Aug 31, 2009	42,219	3,090	20	139	0	462	1,272	8,256	2,905	16,143
Jul 16 - Aug 31, 2010	31,200	5,282	33	10	6	740	2,125	750	249	9,194
Jul 16 - Aug 31, 2011	37,862	2,285	19	78	6	339	1,142	2,150	1,070	7,090
Jul 16 - Aug 19, 2012	24,886	6,972	12	101	2	1,039	2,351	5,168	4,721	20,366

4) Marine Area 10 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a sixth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 10 from July 16 through August 19, 2012. Originally scheduled to close on August 31, 2012, the fishery was closed early on August 20, based on a joint decision between WDFW and the tribes, due to in-season total Chinook encounters estimates exceeding preseason modeled expectations. WDFW's Puget Sound Sampling Unit (PSSU) implemented an intensive monitoring program in Area 10 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 included intensive dockside creel sampling, on-the-water effort surveys, test fishing and collection of voluntary trip reports (VTRs) from the angling public. **Table 4.1** 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 2012a). In this section we present results from our monitoring activities during the Area 10 summer mark-selective Chinook fishery from July 16 through August 19, 2012.

Table 4.1 Sampling/estimation details on target parameters associated with the overall Area 10 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 ¹ ; collection of angler fishing methods.	Angler trip; kept fish; reported fish release.	One week	Within weeks, estimates were produced by day-type strata (weekday/weekend). Each week we sampled every Friday, Saturday and Sunday, and we randomly selected $n=2$ out of $N=4$ weekdays (Monday-Thursday) for sampling.
On-the-water Surveys	Proportion of total angler effort that uses sample-frame sites (i.e., site “size measures”) versus out-of-frame sites.	Total on-water boat and angler counts at assumed peak effort time interval (instantaneous count); spatial distribution of recreational fishing boats in the area.	Boats and anglers	Month	A total of 5 boat surveys (1 weekday and 4 weekend) 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 ² stock composition; species composition of non-Chinook encounters	Fish encounter	Season	Given sufficient sample size ($n=94$) of fish caught in the test fishery, we used the test fishery data only to estimate the size/mark-status proportions (LM = 28%, LU = 3%, SM = 53%, SU = 16%; Table 4.5) needed to produce encounter and mortality 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	VTR data were not included in the proportions used to produce encounter and mortality estimates, as data quality is assumed to be higher and sample size was sufficient in test fishery data.
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.

¹The length and CWT composition of landed catch was assessed on a season-wide basis for impact estimation.²Though samples were collected, DNA-based estimates of stock composition are not yet available for this fishery.

Table 4.2 Estimates of total fishing effort and total salmon catch (harvest and releases) during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add exactly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Month	Stat Week	Start Date	End Date	Estimated Effort		Est. Retained Chinook		Est. Released Chinook		Total Est. Chinook Encounters
				Boats	Anglers	AD	UM	AD	UM	
Jul	30	16-Jul	22-Jul	1,374	2,835	260	7	577	193	1,037
	31	23-Jul	29-Jul	1,496	2,994	335	22	744	236	1,338
Aug	32	30-Jul	5-Aug	1,668	3,452	553	0	1,229	428	2,210
	33	6-Aug	12-Aug	1,948	3,934	1,174	0	2,607	908	4,689
	34	13-Aug	19-Aug	2,394	4,573	731	4	1,623	561	2,918
Private Fleet Estimates:				8,881	17,789	3,054	34	6,779	2,326	12,193
Charter Fleet:				7	34	10	1	7	1	19
Area 10 Season Total Estimates:				8,888	17,823	3,064	35	6,786	2,327	12,212
Variance:				98,698	375,588	38,163	103	2,440,866	389,784	4,776,918
Standard Error:				314	613	195	10	1,562	624	2,186
CV (%):				4%	3%	6%	30%	23%	27%	18%
95% CI:				8,272-9,504	16,621-19,024	2,681-3,447	15-55	3,724-9,848	1,103-3,550	7,928-16,495

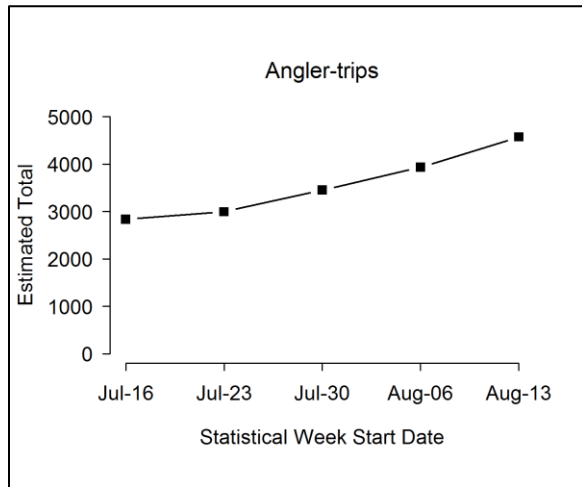


Figure 4.1 Temporal patterns in fishing effort during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

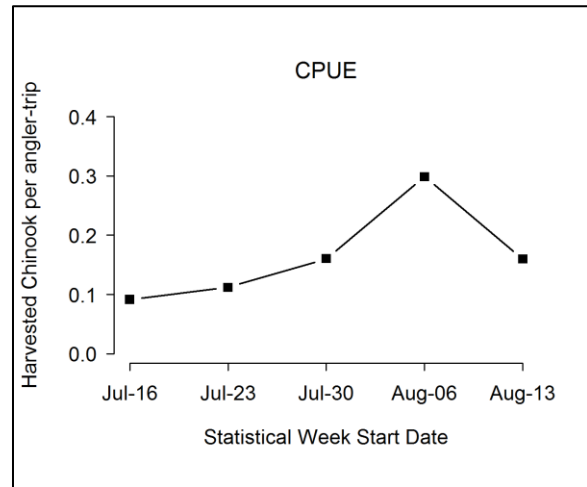


Figure 4.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

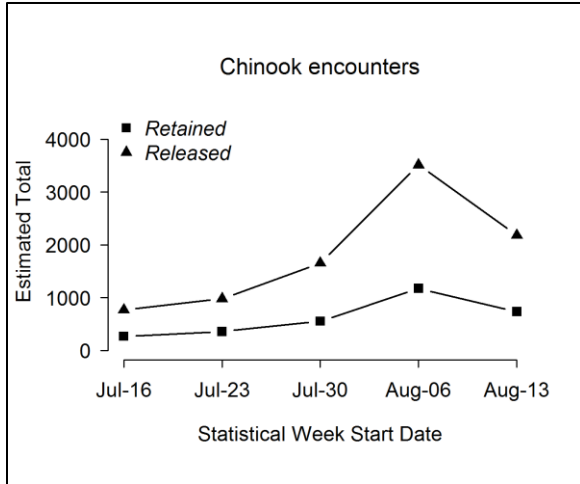


Figure 4.3 Temporal patterns in Chinook encounters (retained and released) during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

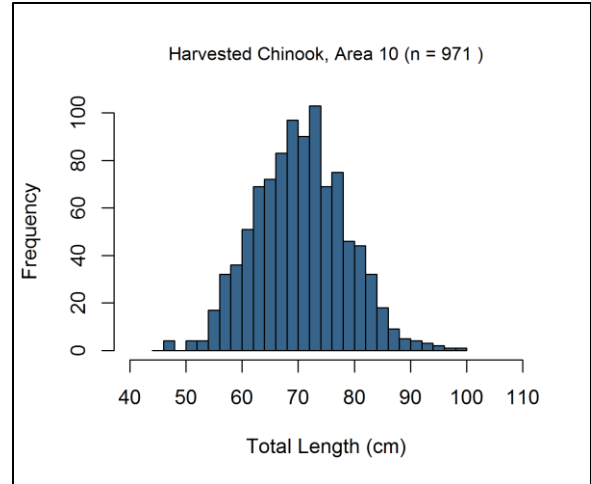


Figure 4.4 Length-frequency distribution of retained marked Chinook sampled in dockside angler interviews during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

Table 4.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	943	28	971
Unmarked	3	3	6
Total	946	31	977

Table 4.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. The field “Number DITs” corresponds to the number of recovered CWTs that belonged to double-index tag

Release Domain	Release Region	Release Site	Rearing Location	CWTs Recovered	Number DITs
British Columbia (5.7%)	Fraser River – Thompson River (5.7%)	Harrison River	Chehalis River Hatchery	1 (1.4%)	0
		Chilliwack River	Chilliwack River Hatch	3 (4.3%)	3
Washington (94.3%)	Hood Canal (11.4%)	Purdy Creek 16.0005	George Adams Hatch	4 (5.7%)	4
		Finch Creek 16.0222	Hoodsport Hatchery	4 (5.7%)	0
	N Puget Sound (5.7%)	Wallace River 07.0940	Wallace Hatchery	4 (5.7%)	1
	Skagit River (1.4%)	Cascade River 03.1411	Marblemount Hatchery	1 (1.4%)	0
	Mid Puget Sound (50%)	Gorst Creek 15.0216	Gorst Cr Rearing Pond	8 (11.4%)	0
		Voight Creek Tr 10.0428	Voights Creek Hatchery	7 (10%)	0
		Grovers Creek Hatchery	Grovers Creek Hatchery	16 (22.9%)	16
		Big Soos Creek 09.0072	Soos Creek Hatchery	4 (5.7%)	4
	S Puget Sound (25.7%)	Clear Creek 11.0013C	Clear Creek Hatchery	8 (11.4%)	8
		Chambers Creek 12.0007	Chambers Creek Hatchery	2 (2.9%)	0
		Kalama Creek 11.0017	Kalama Creek Hatchery	2 (2.9%)	0
		Lakewood Hatchery	Lakewood Hatchery	5 (7.1%)	0
		Minter Creek 15.0048	Minter Creek Hatchery	1 (1.4%)	0
	Total				70

Table 4.5 Composition of test fishery Chinook encounters and associated mark-rate and size/mark-status proportion estimates for the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (adipose-clipped), UM = unmarked. 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	
30	4	22.3	7	0	3	1	11
31	4	25.0	3	0	6	1	10
32	5	30.2	7	2	6	6	21
33	4	25.1	6	0	11	1	18
34	5	29.6	3	1	23	6	33
Total	22	132.1	26	3	49	15	93
Size/mark-status composition:			0.28 (0.0022)	0.03 (0.0003)	0.53 (0.0027)	0.16 (0.0015)	
Legal size mark rate:			0.90 (0.0033)				
Overall mark rate:			0.81 (0.0017)				

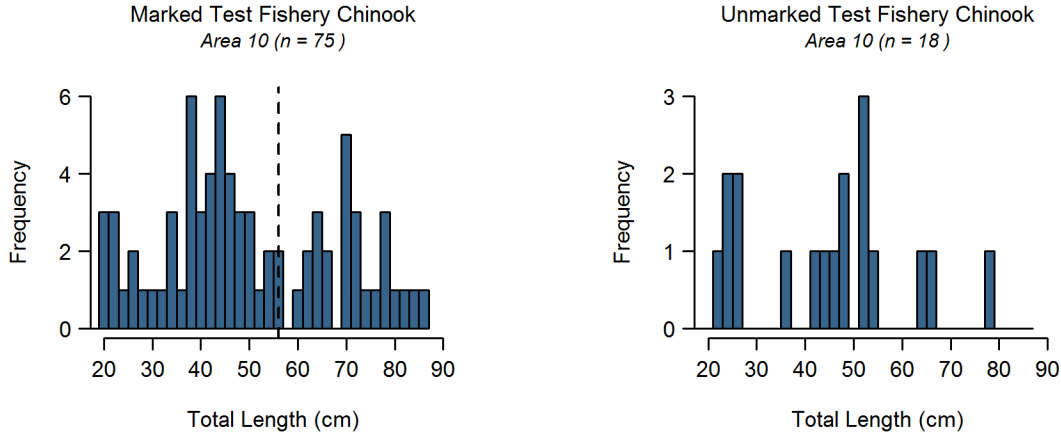


Figure 4.5 Length-frequency distributions of marked (left panel) and unmarked (right panel) Chinook encountered by test fishers during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. The vertical dashed line in the left panel corresponds to the legal size limit (22 in or 56 cm).

Table 4.6 Total Chinook encountered (retained and released) by private-boat and charter boat anglers logging their trips on voluntary trip reports (VTRs) compared to test fishing encounter data, with estimates of legal-size and overall (legal and sublegal) mark rates during the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Charter VTR	7 1-trip VTRs, 34 Angler Trips	10	1	7	1	19	0.89	0.91
Private VTR	70 1-trip VTRs, 113 Angler Trips	52	16	45	31	144	0.67	0.76
Pooled VTR	77 Days, 147 Angler Trips	62	17	52	32	163	0.70	0.78
Size/mark-status composition:		0.38	0.10	0.32	0.20			
Variance:		(0.0015)	(0.0006)	(0.0013)	(0.0010)			

In comparing size/mark-status proportions between Charter and Private VTR data, no significant differences were detected (Fisher Exact test; $p=0.249$), allowing the combination of the two datasets. Proportions from the resulting pooled VTR data were compared to test fishery proportions using a chi-square analysis. Results indicated a significant difference between the two data sets ($\chi^2=12.56$, $df=3$, $p=0.006$). Based on these results, and assuming higher data quality in test fishery data and sufficient sample size, we elected to use test fishery data only to estimate the size/mark-status proportions needed to produce Chinook encounter and mortality estimates for the Area 10 summer mark-selective fishery.

Table 4.7 Summary of season-wide fishery impact estimates for the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Release mortality rate = 0.15 for legal fish and 0.20 for sublegal fish. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Size/mark group	Encounters	Retained	Released	Release Mortality	Total Mortality	Var	SE	95% CI	CV (%)
Legal AD	3,419	2,976	443	66	3,042	52,566	229	2593 - 3491	8
Legal UM	394	17	377	57	74	1,291	36	6 - 58	49
Sublegal AD	6,431	88	6,343	1,269	1,357	68,950	263	842 - 1871	19
Sublegal UM	1,968	17	1,950	390	407	13,515	116	179 - 635	29
Total	12,212	3,098	9,114	1,782	4,879	136,321	369	4156 - 5603	8

Table 4.8 Comparison of modeled (FRAM model run 1512) and estimated total Chinook encounters for the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped) and UM = unmarked.

Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
FRAM Encounters	UM	3,066	1,171	1,895	82
	AD	8,677	2,792	5,885	2,429
	Total	11,743	3,963	7,780	2,511
	% Marked	74	71	76	97
Estimated (Creel) Encounters	UM	2,362	394	1,968	34
	AD	9,850	3,419	6,431	3,064
	Total	12,212	3,813	8,399	3,098
	% Marked	81	90	77	99

Table 4.9 Comparison of modeled (FRAM model run 1512) and estimated total Chinook mortalities for the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped) and UM = unmarked.

Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
	UM	AD	Total	UM	AD	Total
Total (Landed + Released)	629	3,782	4,411	481	4,399	4,879
Released Legal	168	176	344	57	66	123
Released Sublegal	379	1,177	1,556	390	1,269	1,659
Landed Only	82	2,429	2,511	34	3,064	3,098

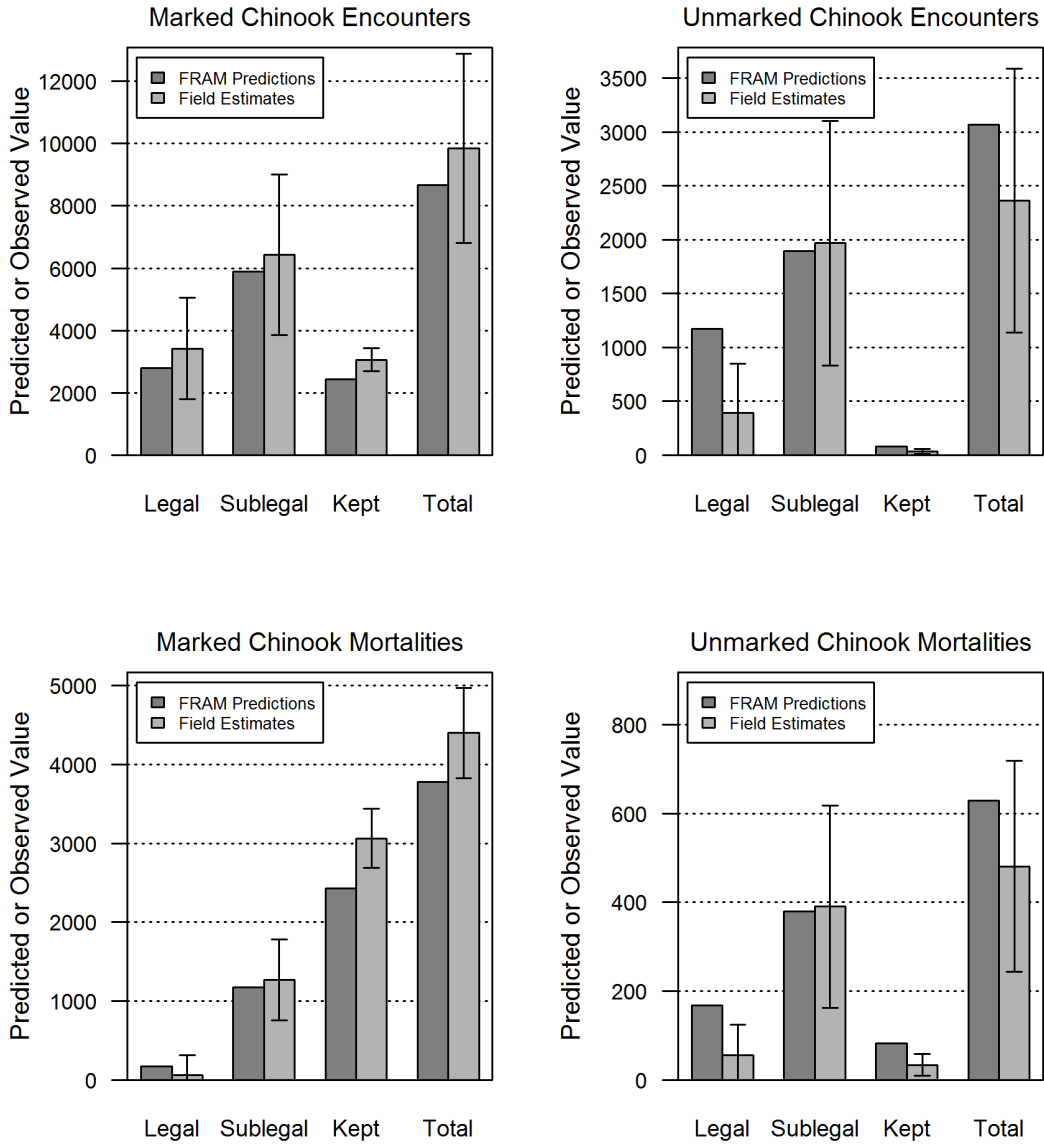


Figure 4.6 Comparison of modeled (using FRAM model run 1512) and estimated total Chinook encounters and mortalities for the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Error bars represent approximate 95% confidence intervals for field estimates.

Table 4.10 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 10 mark-selective Chinook fishery from July 16 - August 19, 2012. AD = marked (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	6.3	13.7	6.3	0.6	0.1	0.5
Clear Creek Hatchery	2008	1	3.2	6.8	3.2	0.3	0.1	0.3
Clear Creek Hatchery	2009	5	15.8	34.1	15.9	1.6	0.3	1.3
George Adams Hatchery	2008	1	3.2	6.8	3.1	0.3	0.1	0.3
George Adams Hatchery	2009	3	9.5	20.5	9.5	0.9	0.2	0.8
Grovers Creek Hatchery	2007	1	3.2	6.8	3.2	0.3	0.1	0.3
Grovers Creek Hatchery	2008	4	12.6	27.3	14.1	1.4	0.3	1.2
Grovers Creek Hatchery	2009	11	34.8	75.1	33.6	3.4	0.7	2.8
Chilliwack River Hatchery	2009	1	3.2	6.8	1.6	0.2	0.0	0.1
Chilliwack River Hatchery	2010	2	6.3	13.7	3.1	0.3	0.0	0.3
Soos Creek Hatchery	2008	1	3.2	6.8	3.3	0.3	0.1	0.3
Soos Creek Hatchery	2009	3	9.5	20.5	9.9	1.0	0.2	0.8
Wallace River Hatchery	2009	1	3.2	6.8	3.1	0.3	0.1	0.3
Total		36	113.8	245.8	109.9	11.0	2.3	9.1

Table 4.11 Monthly sample rates (Total retained Chinook sampled¹ / Estimated retained Chinook) in the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012.

Time period			Estimated Retained Chinook			Number of Chinook sampled			Sample Rate
Month	Stat Weeks	Dates	AD	UM	Total	AD	UM	Total	
July	30-31	16 Jul - 29 Jul	595	30	625	199	5	204	32.6%
August	32-34	30 Jul - 19 Aug	2459	4	2463	772	1	773	31.4%
Season Total			3054	34	3088	971	6	977	31.6%

^{1/} Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the summer 2012 Area 10 mark-selective Chinook fishery (creel estimates and the fish sampled as part of baseline sampling).

Table 4.12 Fishery-total estimates of retained and released salmon (*other than Chinook*) in the Area 10 mark-selective Chinook fishery from July 16 - August 19, 2012. Values may not add exactly due to rounding error. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark-status.

Stat Week	Start Date	End Date	Retained Salmon				Released Salmon					
			Coho AD	Coho UM	Chum	Sockeye	Coho AD	Coho UM	Coho UK	Pink	Cutthroat Trout	Unk Salmon
30	16-Jul	22-Jul	102	90	9	4	75	65	102	0	0	217
31	23-Jul	29-Jul	83	72	3	0	35	35	32	0	0	453
32	30-Jul	5-Aug	130	59	0	0	25	24	125	4	4	537
33	6-Aug	12-Aug	145	123	2	0	89	113	354	0	0	2603
34	13-Aug	19-Aug	232	250	4	0	80	78	229	0	2	2443
Area 10 Season Total:			692	594	18	4	305	314	842	4	6	6,253
Variance:			3,001	1,687	56	13	2,138	1914	11281	11	11	328,612
Standard Error:			55	41	7	4	46	44	106	3	3	573
CV (%):			8%	7%	41%	80%	15%	14%	13%	79%	52%	9%
95% CI:			585-800	513-674	3-33	0-11	214-396	229-400	634-1,051	0-11	0-13	5,129-7,377

Table 4.13 Summary of the total number of anglers intercepted in Area 10 during on-the-water surveys conducted from July 16 - August 19, 2012. Sites in bold represent those included in the dockside sample frame.

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Armeni Ramp	36	0.222	120	0.152
Ballard	0	0.000	1	0.001
Bayside Marina	0	0.000	2	0.003
Blake Island Marina	0	0.000	2	0.003
Breakwater Marina	0	0.000	2	0.003
Brownsville	2	0.012	42	0.053
Canal Marina	0	0.000	3	0.004
Des Moines Marina	2	0.012	9	0.011
Eagle Harbor	2	0.012	8	0.010
Edmonds Dry Storage	4	0.025	38	0.048
Edmonds Guest Moorage	2	0.012	12	0.015
Edmonds Marina	8	0.049	43	0.054
Edmonds Sling	0	0.000	36	0.046
Elliot Bay Marine	4	0.025	12	0.015
Everett Ramp	7	0.043	16	0.020
Gasworks Park Marina	0	0.000	4	0.005
Gig Harbor Ramp	0	0.000	2	0.003
Goldentides Marina	0	0.000	2	0.003
Harbor Island Marina	0	0.000	4	0.005
Harper Ramp	0	0.000	4	0.005
Keypoint	3	0.019	2	0.003
Kingston Marina	0	0.000	15	0.019
Kingston Moorage	0	0.000	2	0.003
Kingston Ramp	3	0.019	69	0.087
Liberty Bay Marina	0	0.000	2	0.003
Manchester	5	0.031	25	0.032
Mukilteo Ramp	0	0.000	3	0.004
Port Orchard Ramp	0	0.000	2	0.003
Possession Park	0	0.000	3	0.004
Private	13	0.080	15	0.019
Redondo	0	0.000	10	0.013
Salmon Bay Marina	0	0.000	3	0.004
Shilshole Marina	4	0.025	22	0.028
Shilshole Ramp	67	0.414	239	0.303
Simpson Marina	0	0.000	2	0.003
South Park Marina	0	0.000	2	0.003
Suitser Spit	0	0.000	2	0.003
Winslow Marina	0	0.000	10	0.013
Area 10 Total Anglers	162	1.000	790	1.000

Table 4.14 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 10 summer mark-selective Chinook fishery. Values may not add exactly due to rounding error.

Season Dates	Effort (Angler-trips)	Retained Chinook				Released Chinook				Total Encounters
		LM	LU	SM	SU	LM	LU	SM	SU	
Jul 16 - Jul 28, 2007	8,374	1,469	30	70	8	209	497	3,101	723	6,107
Jul 16 - Aug 15, 2008	13,808	1,027	3	4	0	128	510	189	385	2,246
Jul 16 - Aug 31, 2009	23,179	1,505	22	116	0	220	82	2,488	1,017	5,450
Jul 16 - Aug 31, 2010	21,636	2,950	33	37	9	432	1,026	1,024	1,665	7,178
Jul 16 - Aug 31, 2011	27,753	2,548	14	94	14	372	1,872	964	694	6,573
Jul 16 - Aug 19, 2012	17,823	2,976	17	88	17	443	377	6,343	1,950	12,212

5) Marine Area 11 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a sixth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 11 from June 1 through September 30, 2012. WDFW's Puget Sound Sampling Unit (PSSU) implemented an intensive 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 included dockside creel sampling and collection of voluntary trip reports (VTRs) from the angling public. **Table 5.1** 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 2012a). In this section we present results from our monitoring activities during the Area 11 summer mark-selective Chinook fishery.

Table 5.1 Sampling/estimation details on target parameters associated with the overall Area 11 winter 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 ¹ ; 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	Proportion of total angler effort that uses sample-frame sites (i.e., site “size measures”) versus out-of-frame sites.	Total on-water boat and angler counts at assumed peak effort time interval (instantaneous count); spatial distribution of recreational fishing boats in the area.	Boats and anglers	Month	A total of 8 boat surveys (5 weekday and 3 weekend) were conducted during the four month fishery.
Voluntary Trip Reports (VTRs)	Size (legal/sublegal) and mark-status (marked/unmarked) composition of encountered Chinook	Encounter data for non-Chinook species (e.g., coho) that the angler may record on the VTR form	Fish encounter	Season	We used VTR data to estimate the size/mark-status proportions (LM = 46%, LU = 22%, SM = 22%, SU = 10%; Table 5.5) needed to produce encounter and mortality estimates.
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.

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

Table 5.2 Estimates of total fishing effort and total salmon catch (harvest and releases) during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. Values may not add exactly due to rounding error. AD = marked (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	
Jun	23	1-Jun	3-Jun	545	893	25	0	17	19	61
	24	4-Jun	10-Jun	641	1,126	54	0	37	42	133
	25	11-Jun	17-Jun	751	1,246	93	0	63	73	229
	26	18-Jun	24-Jun	1,039	1,648	226	0	154	177	558
	27	25-Jun	1-Jul	1,179	2,257	181	0	123	142	445
Jul	28	2-Jul	8-Jul	1,824	3,081	254	4	173	195	626
	29	9-Jul	15-Jul	1,857	3,096	303	0	206	237	746
	30	16-Jul	22-Jul	1,386	2,459	114	11	78	78	282
	31	23-Jul	29-Jul	1,425	2,673	120	11	81	82	295
Aug	32	30-Jul	5-Aug	1,737	3,417	230	0	157	181	568
	33	6-Aug	12-Aug	2,261	4,175	748	0	509	587	1,845
	34	13-Aug	19-Aug	2,934	5,424	867	20	590	660	2,137
	35	20-Aug	26-Aug	3,041	5,386	1,040	25	708	791	2,563
Sept	36	27-Aug	2-Sep	2,812	5,327	465	0	316	364	1,145
	37	3-Sep	9-Sep	1,720	2,885	170	0	116	134	420
	38	10-Sep	16-Sep	2,125	4,369	31	0	21	25	77
	39	17-Sep	23-Sep	2,038	4,095	35	0	24	28	87
	40	24-Sep	30-Sep	1,323	2,509	11	0	7	8	26
Area 11 Season Total:				30,638	56,065	4,966	72	3,381	3,822	12,240
Variance:				1,891,620	5,065,258	232,800	1,943	742,004	150,376	1,653,746
SE:				1,375	2,251	482	44	861	388	1,286
CV (%):				4%	4%	10%	62%	25%	10%	11%
95% CI:				27,943-33,334	51,654-60,476	4,021-5,912	0-158	1,692-5,069	3,061-4,582	9,720-14,761

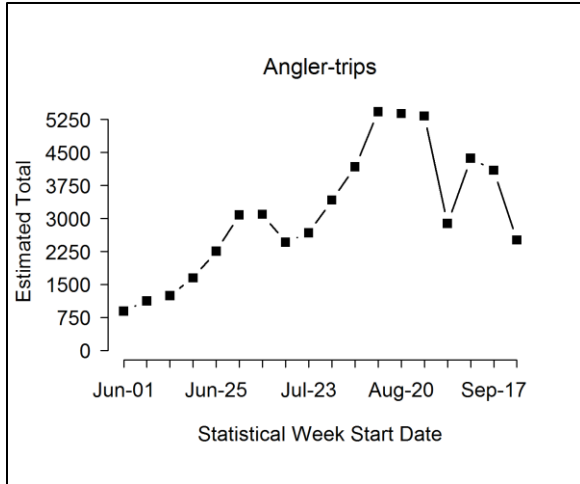


Figure 5.1 Temporal patterns in fishing effort during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

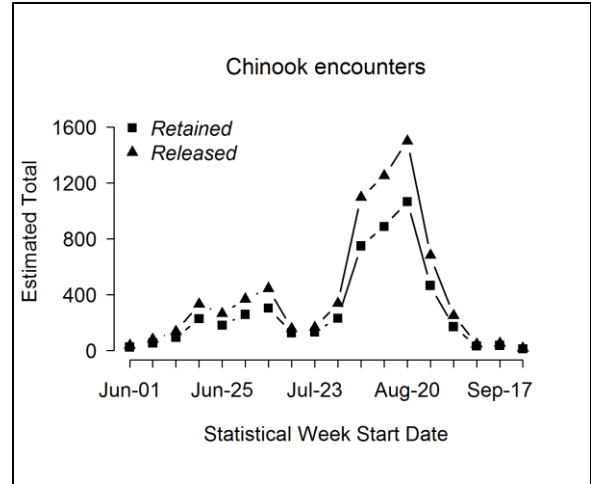


Figure 5.3 Temporal patterns in Chinook encounters (retained and released) during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

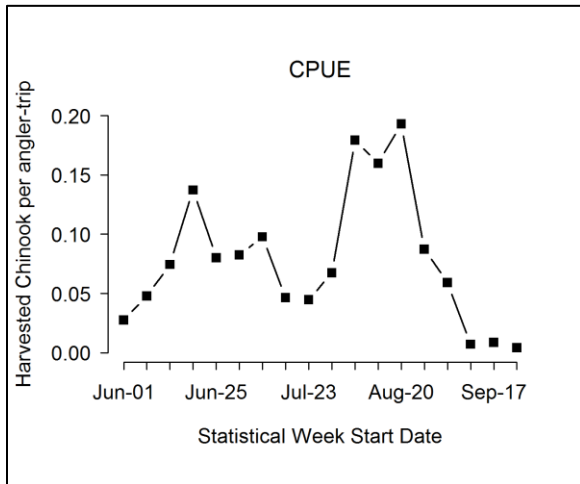


Figure 5.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

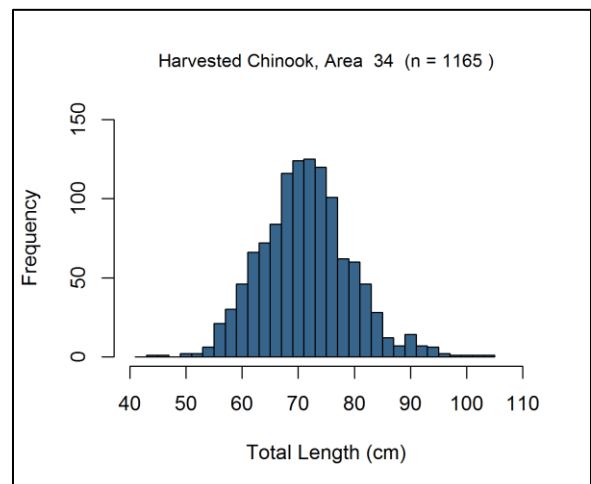


Figure 5.4 Length-frequency distributions of retained marked Chinook sampled in dockside angler interviews during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

Table 5.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	1148	17	1165
Unmarked	4	1	5
Total	1152	18	1170

Table 5.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. 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 (2.7%)	Chilliwack River	H-Chilliwack River H	2 (2.7%)	2
Washington	Hood Canal (13.5%)	Purdy Creek 16.0005	George Adams Hatchery	5 (6.8%)	5
		Finch Creek 16.0222	Hoodsport Hatchery	5 (6.8%)	0
	Northern Puget Sound (4.1%)	Wallace River 07.0940	Wallace Hatchery	2 (2.7%)	1
		Whitehorse Springs	Stillaguamish Hatchery	1 (1.4%)	0
	Skagit River (1.4%)	Cascade River 03.1411	Marblemount Hatchery	1 (1.4%)	1
	Mid Puget Sound (33.8%)	Gorst Creek 15.0216	Gorst Creek Rearing Pond	3 (4.1%)	0
		Big Soos Creek 09.0072	Soos Creek Hatchery	6 (8.1%)	6
		Icy Creek 09.0125	Icy Creek Hatchery	3 (4.1%)	0
		Voight Creek Tr 10.0428	Voights Creek Hatchery	6 (8.1%)	0
		Clarks Creek Hatchery	Clarks Creek Hatchery	2 (2.7%)	0
		Grovers Creek Hatchery	Grovers Creek Hatchery	5 (6.8%)	5
	Southern Puget Sound (43.2%)	Chambers Creek 12.0007	Chambers Creek Hatchery	12 (16.2%)	0
		Kalama Creek 11.0017	Kalama Creek Hatchery	3 (4.1%)	0
		Chambers Creek 12.0007	Garrison Hatchery	1 (1.4%)	0
		Clear Creek 11.0013C	Clear Creek Hatchery	12 (16.2%)	12
Lakewood Hatchery		Lakewood Hatchery	4 (5.4%)	0	
Columbia River	Central Columbia River (1.4%)	Spring Creek 29.0159	Spring Creek NFH	1 (1.4%)	1
Total				74	33

Table 5.5 Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs) during the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012, with estimates of legal-size and overall (legal and sublegal) mark rates. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Private VTR	448 1-trip VTRs, 718 Angler Trips	341	165	165	71	742	0.68	0.67
Size/mark-status composition:		0.46	0.22	0.22	0.10			
Variance:		(0.0003)	(0.0002)	(0.0002)	(0.0001)			

Table 5.6 Summary of season-wide fishery impact estimates for the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. Release mortality rate = 0.15 for legal fish and 0.20 for sublegal fish. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Size/mark group	Encounters	Retained	Released	Release Mortality	Total Mortality	Var	SE	95% CI	CV (%)
Legal AD	5,625	4,894	731	110	5,004	240,427	490	4043 - 5965	10
Legal UM	2,722	57	2,665	400	457	4,020	63	8 - 35	14
Sublegal AD	2,722	72	2,649	530	602	5,020	71	463 - 741	12
Sublegal UM	1,171	14	1,157	231	246	1,511	39	170 - 322	16
Total	12,240	5,038	7,202	1,271	6,309	250,978	501	5327 - 7291	8

Table 5.7 Comparison of modeled (FRAM model run 1512) and estimated total Chinook encounters for the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Data Source	Group	Total Encounters	Legal	Sublegal	Landed Only
FRAM Encounters	UM	5,182	1,362	3,820	41
	AD	24,280	8,765	15,515	7,626
	Total	29,462	10,127	19,335	7,667
	% Marked	82	87	80	100
Estimated (Creel) Encounters	UM	3,893	2,722	1,171	72
	AD	8,347	5,625	2,722	4,966
	Total	12,240	8,347	3,893	5,038
	% Marked	68	67	70	99

Table 5.8 Comparison of modeled (FRAM model run 1512) and estimated total Chinook mortalities for the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. Values may not add up perfectly due to rounding error. AD = marked (adipose-clipped), UM = unmarked.

Mortality Category	FRAM Chinook Mortalities			Estimated Chinook Mortalities		
	UM	AD	Total	UM	AD	Total
Total (Landed + Released)	1,005	11,282	12,287	703	5,606	6,309
Released Legal	200	553	753	400	110	509
Released Sublegal	764	3,103	3,867	231	530	761
Landed Only	41	7,626	7,667	72	4,966	5,038

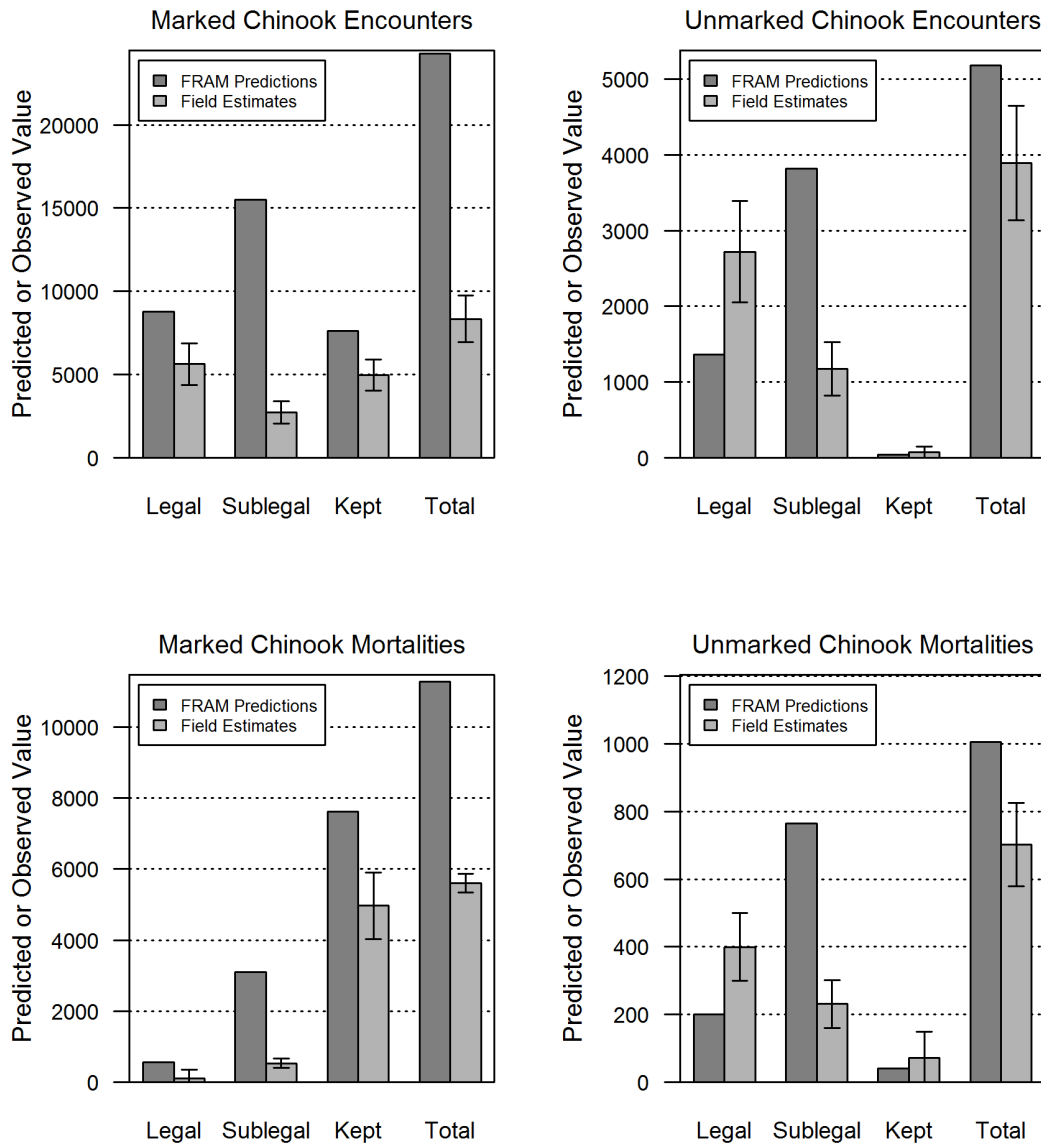


Figure 5.5 Comparison of modeled (FRAM model run 1512) and estimated total Chinook encounters and mortalities for the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. Error bars represent approximate 95% confidence intervals for field estimates.

Table 5.9 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 - September 30, 2012. AD = marked (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	1	4.3	14.2	4.3	0.4	0.1	0.4
Clear Creek Hatchery	2009	11	43.1	142.3	47.5	8.6	15.7	7.6
George Adams Hatchery	2009	5	21.5	71.2	21.6	2.2	0.7	1.9
Grovers Creek Hatchery	2009	5	21.5	71.2	20.8	2.1	0.7	1.8
Chilliwack River Hatchery	2009	1	4.3	14.2	2.2	0.2	0.0	0.2
Chilliwack River Hatchery	2010	1	4.3	14.2	2.1	0.2	0.0	0.2
Marblemount Hatchery	2009	1	4.3	14.2	4.3	0.4	0.1	0.4
Soos Creek Hatchery	2007	1	0.0	0.0	0.0	0.0	0.0	0.0
Soos Creek Hatchery	2009	5	21.5	71.2	22.6	2.3	0.8	2.0
Spring Creek NFH	2009	1	4.3	14.2	4.3	0.4	0.1	0.4
Wallace River Hatchery	2009	1	4.3	14.2	4.3	0.4	0.1	0.4
Total		33	133.5	441.3	134.0	17.3	18.5	15.1

Table 5.10 Monthly sample rates (Total retained Chinook sampled¹ / Estimated retained Chinook) in the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. AD = marked (adipose-clipped), UM = unmarked.

Time period			Estimated Retained Chinook			Number of Chinook sampled			Sample Rate
Month	Stat Weeks	Dates	AD	UM	Total	AD	UM	Total	
June	23-27	1 Jun - 1 Jul	578	0	578	150	0	150	25.9%
July	28-31	2 Jul - 29 Jul	790	27	818	180	2	182	22.3%
August	32-35	30 Jul - 26 Aug	2886	44	2930	684	1	685	23.4%
September	36-40	27 Aug - 30 Sept	712	0	712	151	2	153	21.5%
Season Total			4966	72	5038	1165	5	1170	23.2%

^{1/} Number of retained Chinook sampled includes all retained Chinook inspected for CWT's, from all sites sampled during the summer 2012 Area 11 mark-selective Chinook fishery (creel estimates and the fish sampled as part of baseline sampling).

Table 5.11 Fishery-total estimates of retained and released salmon (other than Chinook) for the Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark-status. Values may not add exactly due to rounding error.

Stat Week	Start Date	End Date	Retained Salmon		Released Salmon							
			Coho AD	Coho UM	Coho AD	Coho UM	Coho UK	Chum	Pink	Atlantic Salmon	Cutthroat Trout	Unknown Salmon
23	1-Jun	3-Jun	0	0	0	0	0	0	0	0	0	0
24	4-Jun	10-Jun	0	0	0	0	0	0	0	0	0	0
25	11-Jun	17-Jun	0	0	0	0	0	0	0	0	0	0
26	18-Jun	24-Jun	0	0	0	0	0	0	0	0	0	3
27	25-Jun	1-Jul	15	3	0	0	0	0	0	0	0	3
28	2-Jul	8-Jul	4	16	0	17	0	0	0	0	36	24
29	9-Jul	15-Jul	3	10	3	7	17	0	0	0	23	13
30	16-Jul	22-Jul	5	0	0	18	18	0	0	0	0	11
31	23-Jul	29-Jul	11	0	33	15	47	0	0	0	0	68
32	30-Jul	5-Aug	20	13	10	12	17	0	0	10	0	125
33	6-Aug	12-Aug	15	37	12	0	45	0	0	10	0	126
34	13-Aug	19-Aug	72	59	10	34	74	0	0	0	36	147
35	20-Aug	26-Aug	213	173	44	41	153	0	0	0	36	181
36	27-Aug	2-Sep	589	519	46	29	287	0	0	0	21	468
37	3-Sep	9-Sep	452	276	42	33	171	0	0	0	76	476
38	10-Sep	16-Sep	1,376	935	135	108	507	0	0	0	7	1,095
39	17-Sep	23-Sep	685	421	178	160	496	4	4	0	0	1,059
40	24-Sep	30-Sep	328	310	124	15	270	3	0	0	4	813
Area 11 Season Total:			3,789	2,772	637	489	2,101	7	4	20	239	4,612
Variance:			124,305	80,564	16,305	8,508	49,172	13	9	357	9,950	230,677
Standard Error:			55	353	284	128	92	222	4	3	19	100
CV (%):			9%	10%	20%	19%	11%	50%	73%	95%	42%	10%
95% CI:			3,098-4,480	2,216-3,328	387-887	308-670	1,666-2,536	0-14	0-10	0-57	43-435	3,671-5,554

Table 5.12 Summary of the total number of anglers intercepted in Area 11 during on-the-water surveys conducted from June 1 – September 30, 2012. Sites in bold represent those included in the dockside sample frame.

Site Name	Weekday Anglers	Season Total (unadjusted) Size Measure	Weekend Anglers	Season Total (unadjusted) Size Measure
Armeni Ramp	38	0.052	39	0.046
Bainbridge Island Marina	0	0.000	2	0.002
Blake Island	2	0.003	0	0.000
Breakwater Marina	16	0.022	11	0.013
Browns Point Ramp	0	0.000	8	0.009
Brownsville Marina/Dock/Ramp	2	0.003	6	0.007
Chinook Landing Marina	2	0.003	3	0.004
Commencement Bay Marina Services	22	0.030	28	0.033
Day Island Marina	1	0.001	1	0.001
Des Moines Marina	90	0.124	115	0.136
Des Moines Marina (Slings)	27	0.037	37	0.044
Dockton Ramp	11	0.015	10	0.012
Eagle Harbor Marina	4	0.006	4	0.005
Elliot Bay Marina	2	0.003	0	0.000
Foss Harbor Marina	3	0.004	6	0.007
Fox Island Ramp	1	0.001	2	0.002
Gig Harbor Marina	11	0.015	20	0.024
Gig Harbor Ramp	33	0.046	37	0.044
Harsteine Ramp	3	0.004	0	0.000
Hilapost Boathouse	0	0.000	3	0.004
Horsehead Bay	0	0.000	2	0.002
Hylebos Boat Haven	4	0.006	0	0.000
Jim Clark Marina	1	0.001	1	0.001
Kingston Marina	4	0.006	0	0.000
Manchester Ramp	9	0.012	30	0.035
Narrows Marina	12	0.017	21	0.025
Olalla Public Ramp	7	0.010	4	0.005
Ole & Charlie's Marina	0	0.000	1	0.001
Point Defiance Boathouse	96	0.133	42	0.050
Point Defiance Public Ramp	149	0.206	220	0.260
Private	31	0.043	30	0.035
Puget Marina	0	0.000	4	0.005
Quartermaster Marina (Vashon Is)	2	0.003	0	0.000
Redondo Ramp	104	0.144	136	0.161
Shilshole Marina	2	0.003	0	0.000
Shilshole Ramp	3	0.004	2	0.002
Solo Point Ramp	4	0.006	0	0.000
Tacoma Outboard Association	16	0.022	11	0.013
Tacoma Yacht Club	1	0.001	0	0.000
Tyee Marina/Ramp	11	0.015	9	0.011
Wollochet Bay Ramp	0	0.000	1	0.001
Area 11 Total Anglers	724	1.000	846	1.000

Table 5.13 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 11 summer mark-selective Chinook fishery. Values may not add exactly due to rounding error.

Season Dates	Effort (Angler-trips)	Retained Chinook				Released Chinook				Total Encounters
		LM	LU	SM	SU	LM	LU	SM	SU	
Jun 1 - Sept 30, 2007	78,958	10,192	74	354	21	1,511	3,015	8,033	2,357	25,558
Jun 1 - Sept 30, 2008	65,728	7,277	18	100	5	1,087	1,999	1,969	248	12,703
Jun 1 - Sept 30, 2009	80,157	3,149	20	117	17	470	1,269	3,820	3,302	12,164
Jun 1 - Sept 30, 2010	54,594	3,833	64	27	0	580	1,105	900	405	6,965
Jun 1 - Sept 30, 2011	69,919	2,559	9	77	12	382	2,120	1,932	1,579	8,670
Jun 1 - Sept 30, 2012	56,065	4,894	57	72	14	731	2,665	2,649	1,157	12,240

6) Marine Area 12 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a summer mark-selective Chinook fishery (MSF) in Marine Area 12 from July 1 through September 30, 2012 for the first time. 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 2012a for details) along with efforts to distribute and collect voluntary trip reports (VTRs) from the angling public.

Baseline Sampling is opportunistic in nature, with overall sampling effort allocated across space and time in a manner that maximizes the number of angler interviews obtained per sample effort. Site visits ranged from short (e.g., "no effort" samples) to full-day (8+ hours) sampling events. When present, samplers interviewed all anglers exiting the Area 12 fishery at the selected access site. The interview and catch-sampling procedures employed in Area 12 were identical to those used in other mark-selective fisheries. In contrast to the intensive survey design (i.e., the "Murthy" design) employed in other areas, Area 12 sampling results could not be used to produce fishery-total estimates of effort, encounters (retained catch + releases), and unmarked-DIT Chinook impacts. It should be noted, however, that Area 12 baseline sampling observations will ultimately (one to two years from the close of the fishery) be combined with Catch Record Card (CRC) data to estimate catch and effort at the fishery-total level, by month. Thus, while these descriptors of MSF impacts are not presented in the present document, they will be available at a future time.

Table 6.1 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 2012a). In this section we present results from our monitoring activities during the Area 12 summer mark-selective Chinook fishery from July 1 through September 30, 2012, including relative catch and effort patterns over the three-month season based on the assumption that baseline-sampling observations of these parameters are good indicators of associated fishery-wide trends.

Table 6.1 Sampling/estimation details on target parameters associated with the overall Area 12 mark-selective fishery monitoring program.

Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
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 ¹ ; 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 may be used in the estimation of total Chinook encounters by size/mark group (LM = 100%, LU = 0%, SM = 0%, SU = 0%; Table 6.5) and associated impacts, once CRC-based retained Chinook estimates become available, using Conrad and McHugh's (2008) bias-corrected method.
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 using the CRC-based retained Chinook estimate, when it becomes available.
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 using the CRC-based retained Chinook estimate, when it becomes available. The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

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

Table 6.2 Observations of fishing effort, salmon harvest, and reported salmon releases, by week, for the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark status.

Month	Stat Week	Effort		Retained Fish				Released Fish									
		Boats	Anglers	Chinook		Coho		Chinook			Coho			Chum	Trout General	Atlantic Salmon	Cutthroat Trout
				AD	UM	AD	UM	AD	UM	UK	AD	UM	UK				
Jul	27	5	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	14	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	29	29	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	30	26	57	0	0	0	0	0	0	1	0	0	0	0	0	0	9
	31	50	97	10	0	0	0	0	0	1	0	0	0	0	0	0	0
Aug	32	70	137	21	0	0	0	1	2	2	0	0	0	0	0	1	2
	33	86	163	12	0	0	0	1	6	7	0	0	0	0	0	0	1
	34	69	124	23	1	2	0	7	8	8	0	0	2	0	0	0	5
	35	97	192	25	0	18	3	26	21	21	0	1	6	0	0	0	33
Sept	36	96	170	14	0	1	1	25	1	42	9	4	11	2	6	0	8
	37	42	62	8	0	1	3	7	3	3	2	3	8	0	0	0	8
	38	28	44	9	0	6	4	4	35	5	0	0	1	1	0	0	8
	39	17	28	0	0	7	5	8	3	1	4	0	0	0	0	0	0
	40	9	16	0	0	0	2	0	0	6	5	1	5	0	0	0	0
Area 12 Season Total:		638	1177	122	1	35	18	79	79	97	20	9	33	3	6	1	78

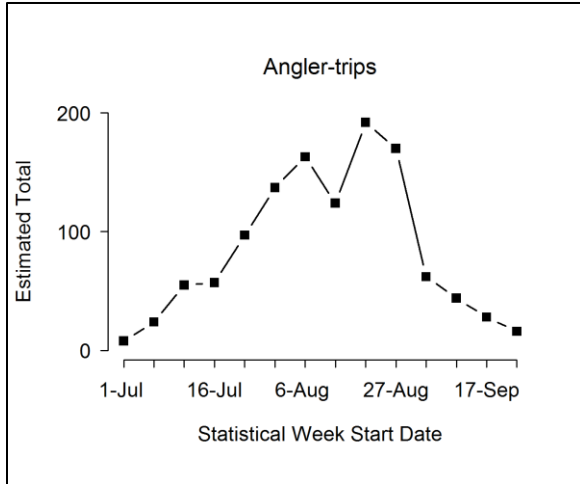


Figure 6.1 Temporal patterns in fishing effort during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

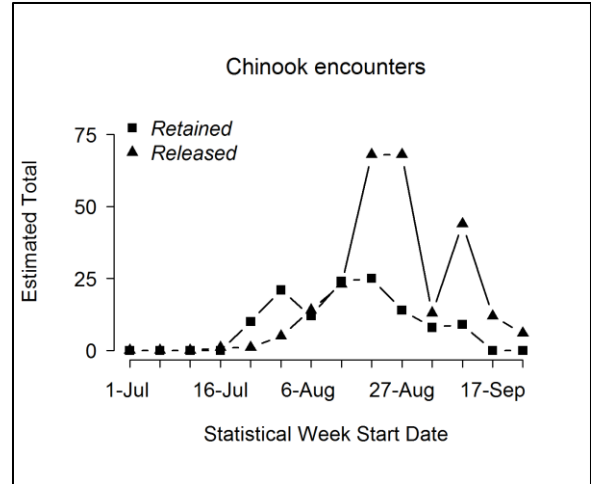


Figure 6.3 Temporal patterns in Chinook encounters (retained and released) during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

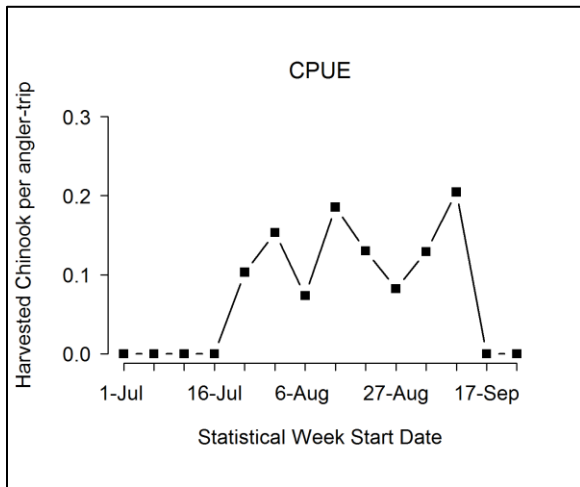


Figure 6.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

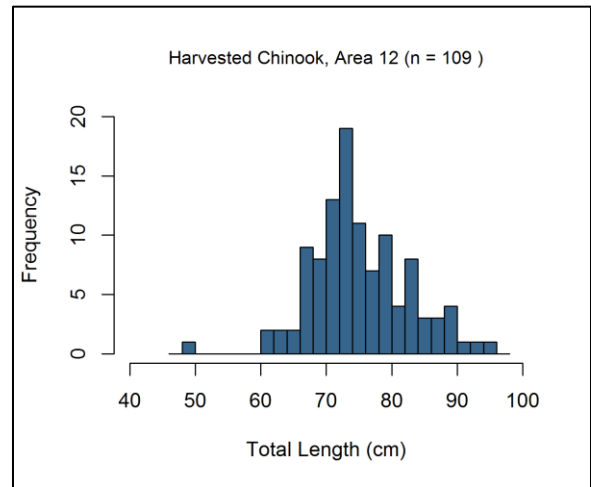


Figure 6.4 Length-frequency distributions of retained marked Chinook sampled in dockside angler interviews during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012.

Table 6.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	108	1	109
Unmarked	1	0	1
Total	109	1	110

Table 6.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012. 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 (100%)	Hood Canal (100%)	Purdy Creek 16.0005	George Adams Hatchery	1 (100%)	1
Total				1	1

Table 6.5 Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs) during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012, with estimates of legal-size and overall (legal and sublegal) mark rates. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Private VTR	1 1-trip VTRs, 2 Angler Trips	4	0	0	0	4	1.00	1.00
Size/mark-status composition:		1.00	0.00	0.00	0.00			
Variance:		(0.000)	(0.000)	(0.000)	(0.000)			

Table 6.6 List of sites sampled with the number of sampling events (site-days) during the Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012

Location	Number of Site-Days Sampled per Month			Total Site-Days	% of Total
	Jul	Aug	Sept		
Harbor Marina	0	0	1	1	0.6%
Hood Canal Public Ramp (Tacoma Light)	21	26	12	59	38.3%
Misery Point Ramp	2	2	11	15	9.7%
General - Area 9	0	1	2	3	1.9%
Point Whitney Ramp	0	0	1	1	0.6%
Quilcene Bay Ramp	0	3	0	3	1.9%
Salsbury County Park Ramp	0	1	2	3	1.9%
Tahuya Ramp	0	0	1	1	0.6%
Twanoh State Park	2	4	5	11	7.1%
Union Ramp	8	10	4	22	14.3%
Hood Canal Marina (Union)	1	1	2	4	2.6%
Rest-A-While Resort	0	2	2	4	2.6%
Triton Cove	2	5	4	11	7.1%
Hoodsport Shore	0	6	4	10	6.5%
Lingerlonger Ramp	0	0	1	1	0.6%
Big Beef Beach	0	0	3	3	1.9%
Dewatto Creek Watch	0	1	0	1	0.6%
Lilliwaup Beach Launch	1	0	0	1	0.6%
Grand Total	37	62	55	154	100%

7) Marine Area 13 Summer Mark-Selective Chinook Fishery

The Washington Department of Fish and Wildlife (WDFW) implemented a sixth consecutive summer mark-selective Chinook fishery (MSF) in Marine Area 13 from May 1 through September 30, 2012. 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 2012a for details) along with efforts to distribute and collect voluntary trip reports (VTRs) from the angling public.

Baseline Sampling is opportunistic in nature, with overall sampling effort allocated across space and time in a manner that maximizes the number of angler interviews obtained per sample effort. Site visits ranged from short (e.g., "no effort" samples) to full-day (8+ hours) sampling events. When present, samplers interviewed all anglers exiting the Area 13 fishery at the selected access site. The interview and catch-sampling procedures employed in Area 13 were identical to those used in other mark-selective fisheries. In contrast to the intensive survey design (i.e., the "Murthy" design) employed in other areas, Area 13 sampling results could not be used to produce fishery-total estimates of effort, encounters (retained catch + releases), and unmarked-DIT Chinook impacts. It should be noted, however, that Area 13 baseline sampling observations will ultimately (one to two years from the close of the fishery) be combined with Catch Record Card (CRC) data to estimate catch and effort at the fishery-total level, by month. Thus, while these descriptors of MSF impacts are not presented in the present document, they will be available at a future time.

Table 7.1 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 2012a). In this section we present results from our monitoring activities during the Area 13 summer mark-selective Chinook fishery from May 1 through September 30, 2012, including relative catch and effort patterns over the three-month season based on the assumption that baseline-sampling observations of these parameters are good indicators of associated fishery-wide trends.

Table 7.1 Sampling/estimation details on target parameters associated with the overall Area 13 mark-selective fishery monitoring program.

Activity	Focal Parameter(s)	Secondary Parameter(s)	Sample Unit(s)	Finest Estimation Time Step	Comments
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 ¹ ; 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 may be used in the estimation of total Chinook encounters by size/mark group (LM = 40, LU = 40%, SM = 20%, SU = 0%; Table 7.5) and associated impacts, once CRC-based retained Chinook estimates become available, using Conrad and McHugh's (2008) bias-corrected method.
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 using the CRC-based retained Chinook estimate, when it becomes available.
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 using the CRC-based retained Chinook estimate, when it becomes available. The temporal resolution of DIT impacts is constrained by the total number of tags recovered.

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

Table 7.2 Observations of fishing effort, salmon harvest, and reported salmon releases, by week, for the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates. AD = marked (adipose-clipped), UM = unmarked, UK = unknown mark status.

Month	Stat Week	Start Date	End Date	Effort		Retained Fish				Released Fish							
				Boats	Anglers	Chinook		Coho		Chinook			Coho			Cutthroat Trout	Unknown Salmon
						AD	UM	AD	UM	AD	UM	UK	AD	UM	UK		
May	19	1-May	6-May	11	22	0	0	0	0	0	0	0	0	0	0	0	1
	20	7-May	13-May	14	26	1	0	0	0	0	0	0	0	0	0	0	0
	21	14-May	20-May	15	27	1	0	0	0	0	0	3	0	0	0	0	0
	22	21-May	27-May	27	58	2	0	0	0	0	2	0	0	0	0	0	0
Jun	23	28-May	3-Jun	6	14	0	0	0	0	0	0	0	0	0	0	4	0
	24	4-Jun	10-Jun	9	24	0	0	0	0	0	1	0	0	0	0	16	0
	25	11-Jun	17-Jun	5	8	0	0	0	0	0	0	0	0	0	0	0	0
	26	18-Jun	24-Jun	11	17	1	0	0	0	0	4	1	0	1	0	1	0
	27	25-Jun	1-Jul	11	20	0	0	0	0	0	0	0	0	0	0	0	0
Jul	28	2-Jul	8-Jul	32	66	0	0	0	0	0	0	0	0	0	0	0	0
	29	9-Jul	15-Jul	46	87	1	0	0	0	3	2	0	0	0	0	0	0
	30	16-Jul	22-Jul	26	50	1	0	0	0	1	1	0	0	1	0	11	0
	31	23-Jul	29-Jul	54	99	1	0	0	0	5	3	4	0	0	1	2	0
Aug	32	30-Jul	5-Aug	63	123	4	0	0	0	2	6	3	0	0	0	5	0
	33	6-Aug	12-Aug	87	159	14	0	0	0	2	3	14	0	0	0	7	0
	34	13-Aug	19-Aug	85	169	19	0	0	0	1	9	4	0	1	0	0	0
	35	20-Aug	26-Aug	127	254	15	0	2	0	1	2	7	0	0	0	0	20
Sept	36	27-Aug	2-Sep	113	220	11	0	2	0	9	8	13	0	1	0	0	10
	37	3-Sep	9-Sep	45	81	2	0	0	0	1	0	2	1	0	1	0	0
	38	10-Sep	16-Sep	24	42	1	0	6	0	1	1	3	0	0	0	0	0
	39	17-Sep	23-Sep	76	146	1	0	127	5	1	1	1	6	12	0	6	0
	40	24-Sep	30-Sep	47	75	2	0	19	0	0	0	1	2	2	5	3	0
Area 13 Season Total:				934	1,787	77	0	156	5	27	43	56	9	18	7	55	31

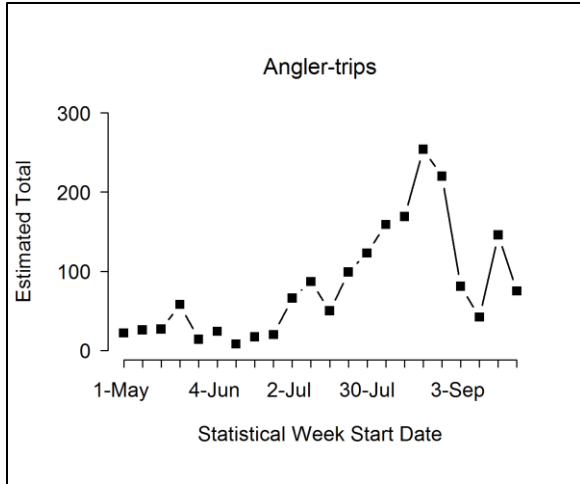


Figure 7.1 Temporal patterns in fishing effort during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

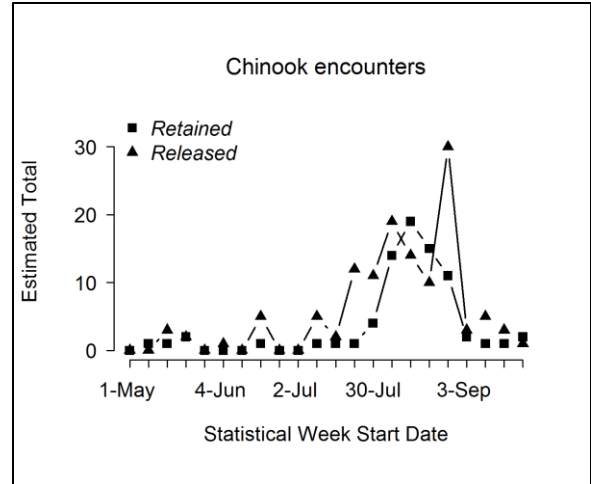


Figure 7.3 Temporal patterns in Chinook encounters (retained and released) during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

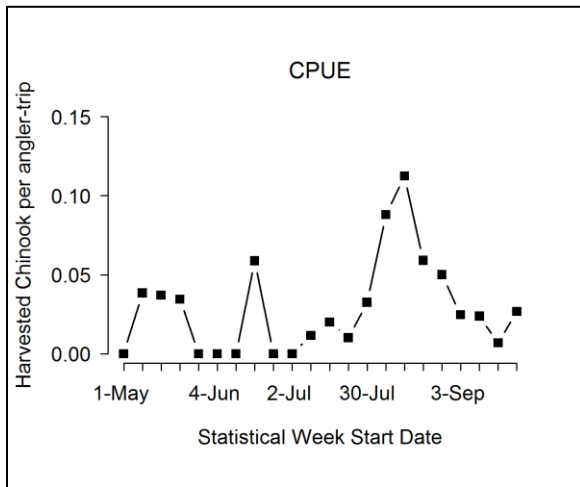


Figure 7.2 Temporal patterns in CPUE (landed Chinook per angler trip) during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012. Note: displayed values are sample observations (summed across sampled sites) and not fishery-total estimates.

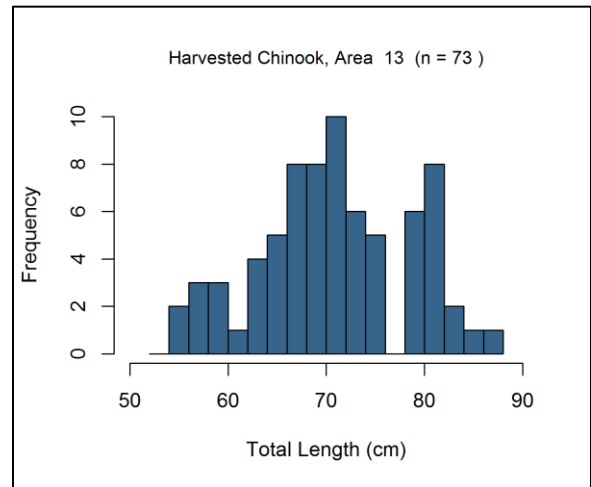


Figure 7.4 Length-frequency distributions of retained marked Chinook sampled in dockside angler interviews during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012.

Table 7.3 Summary of total length samples from retained Chinook salmon collected during dockside angler interviews in the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012.

Mark Type	Number Sampled		
	Legal-size	Sublegal-size	Total
Marked	71	2	73
Unmarked	0	0	0
Total	71	2	73

Table 7.4 Summary of coded-wire tags recovered from Chinook salmon harvested during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012. 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 (100%)	Hood Canal (40%)	Finch Creek 16.0222	Hoodspout Hatchery	1 (20%)	0
		Purdy Creek 16.0005	George Adams Hatchery	1 (20%)	1
	Mid Puget Sound (20%)	Gorst Creek 15.0216	Gorst Creek Rearing Pond	1 (20%)	0
	S Puget Sound (40%)	Chambers Creek 12.0007	Chambers Creek Hatchery	1 (20%)	0
		Kalama Creek 11.0017	Kalama Creek Hatchery	1 (20%)	0
Total				5	1

Table 7.5 Total Chinook encountered (retained and released) by private-boat anglers logging their trips on voluntary trip reports (VTRs) during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012, with estimates of legal-size and overall (legal and sublegal) mark rates. AD = marked (adipose-clipped), UM = unmarked. Variances associated with size/mark-status proportions and mark rates are provided in parentheses.

Data Source	Effort and Sample Size	Legal		Sublegal		Totals	Mark Rate	
		AD	UM	AD	UM		Overall	Legal
Private VTR	3 1-trip VTRs, 5 Angler Trips	2	2	1	0	5	0.60	0.50
Size/mark-status composition:		0.40	0.40	0.20	0.00			
Variance:		(0.0600)	(0.0600)	(0.0400)	(0.0000)			

Table 7.6 List of sites sampled with the number of sampling events (site-days) during the Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012

Location	Number of Site-Days Sampled per Month					Total Site-Days	% of Total
	May	Jun	Jul	Aug	Sept		
Allyn Public Ramp	1	1	2	0	2	6	1.4%
Arcadia Ramp	1	1	1	1	1	5	1.2%
Boston Harbor Ramp/Marina	8	12	13	22	21	76	17.7%
Concrete Dock	1	0	0	0	0	1	0.2%
Fox Island Public Ramp	2	2	0	1	1	6	1.4%
General - Area 12	0	0	0	1	0	1	0.2%
Gig Harbor Ramp	0	1	1	1	0	3	0.7%
Grapeview Public Ramp	1	1	0	0	0	2	0.5%
Hartstene Is. Ramp	1	1	5	2	10	19	4.4%
Longbranch Public Ramp	0	1	0	0	1	2	0.5%
Luhr Beach Ramp	12	9	16	15	7	59	13.8%
Narrows Marina (Boathouse; Ramp; Rental)	18	17	14	18	11	78	18.2%
East Bay Marina/Ramp (Oly. Isle)	0	0	0	0	1	1	0.2%
Point Defiance Boathouse	2	1	1	0	0	4	0.9%
Point Defiance Public Ramp	4	4	3	4	2	17	4.0%
Silverdale Waterfront Ramp	0	1	0	0	0	1	0.2%
Solo Point (Tatsolo Pt-Ft Lewis) Rm	5	11	12	14	10	52	12.1%
Steilacoom Public Ramp	5	2	2	5	0	14	3.3%
Vaughn Public Ramp	0	3	1	1	1	6	1.4%
Wauna Ramp	0	0	1	1	0	2	0.5%
Wollochet Bay Public Ramp	1	2	1	1	0	5	1.2%
Zittels Marina	9	9	16	11	10	55	12.8%
Home Public Ramp	0	1	0	0	0	1	0.2%
Solo Point Shore	0	0	1	0	0	1	0.2%
John's Creek	0	0	0	0	1	1	0.2%
Narrows Properties Park	4	3	0	1	0	8	1.9%
Landover	1	1	0	0	0	2	0.5%
Dupont Shore	0	0	0	0	1	1	0.2%
Grand Total	76	84	90	99	80	429	100%

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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, 2012.

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
7/1/2012	27	0.2202	Olsons East Docks	7/25/2012	31	0.3034	Olsons Ramp
7/1/2012	27	0.3589	Olsons Ramp	7/25/2012	31	0.1834	Olsons East Docks
7/5/2012	28	0.3034	Olsons Ramp	7/27/2012	31	0.3589	Olsons Ramp
7/5/2012	28	0.1164	Van Riper's North	7/27/2012	31	0.1941	Van Riper's South
7/6/2012	28	0.3589	Olsons Ramp	7/29/2012	31	0.3589	Olsons Ramp
7/6/2012	28	0.2202	Olsons East Docks	7/29/2012	31	0.2202	Olsons East Docks
7/7/2012	28	0.2202	Olsons East Docks	7/30/2012	32	0.1834	Olsons East Docks
7/7/2012	28	0.1941	Van Riper's South	7/30/2012	32	0.2328	Van Riper's South
7/9/2012	29	0.3034	Olsons Ramp	8/3/2012	32	0.3968	Olsons Ramp
7/9/2012	29	0.1164	Van Riper's North	8/3/2012	32	0.176	Olsons West Docks
7/14/2012	29	0.2202	Olsons East Docks	8/5/2012	32	0.3968	Olsons Ramp
7/14/2012	29	0.0865	Olsons West Docks	8/5/2012	32	0.1573	Van Riper's South
7/15/2012	29	0.3589	Olsons Ramp	8/9/2012	33	0.1745	Van Riper's North
7/15/2012	29	0.2202	Olsons East Docks	8/9/2012	33	0.3108	Olsons Ramp
7/16/2012	30	0.3034	Olsons Ramp	8/10/2012	33	0.0779	Olsons East Docks
7/16/2012	30	0.1834	Olsons East Docks	8/10/2012	33	0.3968	Olsons Ramp
7/20/2012	30	0.3589	Olsons Ramp	8/11/2012	33	0.1573	Van Riper's South
7/20/2012	30	0.1941	Van Riper's South	8/11/2012	33	0.3968	Olsons Ramp
7/21/2012	30	0.2202	Olsons East Docks	8/15/2012	34	0.3108	Olsons (Combined)
7/21/2012	30	0.3589	Olsons Ramp	8/15/2012	34	0.1745	Van Ripers Resort

Appendix A.2 Size measures by sample date, for sites sampled during dockside creel surveys in the Area 9 mark-selective Chinook fishery from July 16 through August 19, 2012.

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
7/16/2012	30	0.163	Port Townsend Boat Haven Ramp	8/3/2012	32	0.0701	Port Townsend Boat Haven Ramp
7/16/2012	30	0.4165	Norton Street (Everett) Ramp	8/4/2012	32	0.4946	Norton Street (Everett) Ramp
7/17/2012	30	0.1025	Kingston Public Ramp	8/4/2012	32	0.0701	Port Townsend Boat Haven Ramp
7/17/2012	30	0.4165	Norton Street (Everett) Ramp	8/5/2012	32	0.1367	Fort Casey Public Ramp (Keystone)
7/20/2012	30	0.4088	Norton Street (Everett) Ramp	8/5/2012	32	0.4946	Norton Street (Everett) Ramp
7/20/2012	30	0.0777	Kingston Public Ramp	8/7/2012	33	0.1544	Mukiteo State Park Public Ramp
7/21/2012	30	0.1553	Port Townsend Boat Haven Ramp	8/7/2012	33	0.1468	Port Townsend Boat Haven Ramp
7/21/2012	30	0.4088	Norton Street (Everett) Ramp	8/9/2012	33	0.4271	Norton Street (Everett) Ramp
7/22/2012	30	0.0777	Kingston Public Ramp	8/9/2012	33	0.1231	Fort Casey Public Ramp (Keystone)
7/22/2012	30	0.4088	Norton Street (Everett) Ramp	8/10/2012	33	0.089	Kingston Public Ramp
7/24/2012	31	0.4165	Norton Street (Everett) Ramp	8/10/2012	33	0.152	Mukiteo State Park Public Ramp
7/24/2012	31	0.163	Port Townsend Boat Haven Ramp	8/11/2012	33	0.4946	Norton Street (Everett) Ramp
7/25/2012	31	0.163	Port Townsend Boat Haven Ramp	8/11/2012	33	0.0701	Port Townsend Boat Haven Ramp
7/25/2012	31	0.4165	Norton Street (Everett) Ramp	8/12/2012	33	0.4946	Norton Street (Everett) Ramp
7/27/2012	31	0.4088	Norton Street (Everett) Ramp	8/12/2012	33	0.089	Kingston Public Ramp
7/27/2012	31	0.1553	Port Townsend Boat Haven Ramp	8/13/2012	34	0.4271	Norton Street (Everett) Ramp
7/28/2012	31	0.4088	Norton Street (Everett) Ramp	8/13/2012	34	0.1468	Port Townsend Boat Haven Ramp
7/28/2012	31	0.1553	Port Townsend Boat Haven Ramp	8/16/2012	34	0.1468	Port Townsend Boat Haven Ramp
7/29/2012	31	0.1559	Fort Casey Public Ramp (Keystone)	8/16/2012	34	0.4271	Norton Street (Everett) Ramp
7/29/2012	31	0.1505	Mukiteo State Park Public Ramp	8/17/2012	34	0.1367	Fort Casey Public Ramp (Keystone)
7/30/2012	32	0.163	Port Townsend Boat Haven Ramp	8/17/2012	34	0.4946	Norton Street (Everett) Ramp
7/30/2012	32	0.4165	Norton Street (Everett) Ramp	8/18/2012	34	0.0701	Port Townsend Boat Haven Ramp
8/2/2012	32	0.4271	Norton Street (Everett) Ramp	8/18/2012	34	0.4946	Norton Street (Everett) Ramp
8/2/2012	32	0.089	Kingston Public Ramp	8/19/2012	34	0.089	Kingston Public Ramp
8/3/2012	32	0.4946	Norton Street (Everett) Ramp	8/19/2012	34	0.152	Mukiteo State Park Public Ramp

Appendix A.3 Size measures by sample date, for sites sampled during dockside creel surveys in the Area 10 mark-selective Chinook fishery from July 16 through August 19, 2012.

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
7/16/2012	30	0.4388	Shilshole Public Ramp	8/3/2012	32	0.4356	Shilshole Public Ramp
7/16/2012	30	0.1293	Manchester Public Ramp	8/4/2012	32	0.0808	Manchester Public Ramp
7/17/2012	30	0.4388	Shilshole Public Ramp	8/4/2012	32	0.4356	Shilshole Public Ramp
7/17/2012	30	0.2024	Kingston Public Ramp	8/5/2012	32	0.4356	Shilshole Public Ramp
7/20/2012	30	0.1432	Kingston Public Ramp	8/5/2012	32	0.1115	Kingston Public Ramp
7/20/2012	30	0.4146	Shilshole Public Ramp	8/7/2012	33	0.2566	Armeni Public Ramp
7/21/2012	30	0.2637	Armeni Public Ramp	8/7/2012	33	0.0713	Brownsville Marina/Dock/Ramp
7/21/2012	30	0.4146	Shilshole Public Ramp	8/9/2012	33	0.5056	Shilshole Public Ramp
7/22/2012	30	0.1432	Kingston Public Ramp	8/9/2012	33	0.2566	Armeni Public Ramp
7/22/2012	30	0.4146	Shilshole Public Ramp	8/10/2012	33	0.1115	Kingston Public Ramp
7/24/2012	31	0.4388	Shilshole Public Ramp	8/10/2012	33	0.4356	Shilshole Public Ramp
7/24/2012	31	0.1293	Manchester Public Ramp	8/11/2012	33	0.2996	Armeni Public Ramp
7/25/2012	31	0.1429	Armeni Public Ramp	8/11/2012	33	0.4356	Shilshole Public Ramp
7/25/2012	31	0.4388	Shilshole Public Ramp	8/12/2012	33	0.4356	Shilshole Public Ramp
7/27/2012	31	0.4146	Shilshole Public Ramp	8/12/2012	33	0.2996	Armeni Public Ramp
7/27/2012	31	0.0857	Manchester Public Ramp	8/13/2012	34	0.2566	Armeni Public Ramp
7/28/2012	31	0.2637	Armeni Public Ramp	8/13/2012	34	0.0826	Manchester Public Ramp
7/28/2012	31	0.4146	Shilshole Public Ramp	8/16/2012	34	0.5056	Shilshole Public Ramp
7/29/2012	31	0.1432	Kingston Public Ramp	8/16/2012	34	0.2566	Armeni Public Ramp
7/29/2012	31	0.4146	Shilshole Public Ramp	8/17/2012	34	0.0808	Manchester Public Ramp
7/30/2012	32	0.4388	Shilshole Public Ramp	8/17/2012	34	0.4356	Shilshole Public Ramp
7/30/2012	32	0.2024	Kingston Public Ramp	8/18/2012	34	0.2996	Armeni Public Ramp
8/2/2012	32	0.5056	Shilshole Public Ramp	8/18/2012	34	0.4356	Shilshole Public Ramp
8/2/2012	32	0.2566	Armeni Public Ramp	8/19/2012	34	0.4356	Shilshole Public Ramp
8/3/2012	32	0.2996	Armeni Public Ramp	8/19/2012	34	0.2996	Armeni Public Ramp

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 September 30, 2012.

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
6/1/2012	23	0.1415	Point Defiance Boathouse	6/30/2012	27	0.4579	Point Defiance Public Ramp
6/1/2012	23	0.4579	Point Defiance Public Ramp	7/1/2012	27	0.4307	Point Defiance Public Ramp
6/3/2012	23	0.4579	Point Defiance Public Ramp	7/1/2012	27	0.0602	Armeni Public Ramp
6/3/2012	23	0.0874	Armeni Public Ramp	7/5/2012	28	0.5051	Point Defiance Public Ramp
6/4/2012	24	0.4669	Point Defiance Public Ramp	7/5/2012	28	0.1158	Point Defiance Boathouse
6/4/2012	24	0.2017	Point Defiance Boathouse	7/6/2012	28	0.1427	Point Defiance Boathouse
6/9/2012	24	0.4579	Point Defiance Public Ramp	7/6/2012	28	0.4307	Point Defiance Public Ramp
6/9/2012	24	0.102	Gig Harbor Ramp	7/8/2012	28	0.4307	Point Defiance Public Ramp
6/10/2012	24	0.4579	Point Defiance Public Ramp	7/8/2012	28	0.2442	Redondo Ramp
6/10/2012	24	0.1415	Point Defiance Boathouse	7/9/2012	29	0.5051	Point Defiance Public Ramp
6/11/2012	25	0.1441	Gig Harbor Ramp	7/9/2012	29	0.1158	Point Defiance Boathouse
6/11/2012	25	0.4669	Point Defiance Public Ramp	7/14/2012	29	0.1427	Point Defiance Boathouse
6/15/2012	25	0.4579	Point Defiance Public Ramp	7/14/2012	29	0.4307	Point Defiance Public Ramp
6/15/2012	25	0.1415	Point Defiance Boathouse	7/15/2012	29	0.4307	Point Defiance Public Ramp
6/16/2012	25	0.4579	Point Defiance Public Ramp	7/15/2012	29	0.1427	Point Defiance Boathouse
6/16/2012	25	0.0874	Armeni Public Ramp	7/16/2012	30	0.117	Gig Harbor Ramp
6/19/2012	26	0.4669	Point Defiance Public Ramp	7/16/2012	30	0.5051	Point Defiance Public Ramp
6/19/2012	26	0.0735	Redondo Ramp	7/20/2012	30	0.1427	Point Defiance Boathouse
6/22/2012	26	0.4579	Point Defiance Public Ramp	7/20/2012	30	0.4307	Point Defiance Public Ramp
6/22/2012	26	0.102	Gig Harbor Ramp	7/21/2012	30	0.2442	Redondo Ramp
6/24/2012	26	0.4579	Point Defiance Public Ramp	7/21/2012	30	0.4307	Point Defiance Public Ramp
6/24/2012	26	0.1415	Point Defiance Boathouse	7/25/2012	31	0.5051	Point Defiance Public Ramp
6/27/2012	27	0.4669	Point Defiance Public Ramp	7/25/2012	31	0.1158	Point Defiance Boathouse
6/27/2012	27	0.2017	Point Defiance Boathouse	7/27/2012	31	0.2442	Redondo Ramp
6/30/2012	27	0.102	Gig Harbor Ramp	7/27/2012	31	0.4307	Point Defiance Public Ramp

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
7/29/2012	31	0.0602	Armeni Public Ramp	8/30/2012	36	0.4027	Point Defiance Public Ramp
7/29/2012	31	0.4307	Point Defiance Public Ramp	8/30/2012	36	0.1462	Point Defiance Boathouse
7/30/2012	32	0.5051	Point Defiance Public Ramp	9/1/2012	36	0.4301	Point Defiance Public Ramp
7/30/2012	32	0.1361	Redondo Ramp	9/1/2012	36	0.1096	Gig Harbor Ramp
8/3/2012	32	0.2336	Redondo Ramp	9/2/2012	36	0.0909	Point Defiance Boathouse
8/3/2012	32	0.4917	Point Defiance Public Ramp	9/2/2012	36	0.4301	Point Defiance Public Ramp
8/5/2012	32	0.4917	Point Defiance Public Ramp	9/6/2012	37	0.3035	Point Defiance Public Ramp
8/5/2012	32	0.2336	Redondo Ramp	9/6/2012	37	0.2962	Redondo Ramp
8/9/2012	33	0.4027	Point Defiance Public Ramp	9/7/2012	37	0.4301	Point Defiance Public Ramp
8/9/2012	33	0.2114	Redondo Ramp	9/7/2012	37	0.1096	Gig Harbor Ramp
8/10/2012	33	0.4917	Point Defiance Public Ramp	9/9/2012	37	0.4301	Point Defiance Public Ramp
8/10/2012	33	0.1078	Point Defiance Boathouse	9/9/2012	37	0.0909	Point Defiance Boathouse
8/11/2012	33	0.0793	Gig Harbor Ramp	9/10/2012	38	0.3035	Point Defiance Public Ramp
8/11/2012	33	0.2336	Redondo Ramp	9/10/2012	38	0.2962	Redondo Ramp
8/16/2012	34	0.4027	Point Defiance Public Ramp	9/15/2012	38	0.4301	Point Defiance Public Ramp
8/16/2012	34	0.1462	Point Defiance Boathouse	9/15/2012	38	0.3135	Redondo Ramp
8/18/2012	34	0.2336	Redondo Ramp	9/16/2012	38	0.3135	Redondo Ramp
8/18/2012	34	0.4917	Point Defiance Public Ramp	9/16/2012	38	0.4301	Point Defiance Public Ramp
8/19/2012	34	0.1078	Point Defiance Boathouse	9/19/2012	39	0.1207	Gig Harbor Ramp
8/19/2012	34	0.4917	Point Defiance Public Ramp	9/19/2012	39	0.3035	Point Defiance Public Ramp
8/21/2012	35	0.1462	Point Defiance Boathouse	9/22/2012	39	0.4301	Point Defiance Public Ramp
8/21/2012	35	0.4027	Point Defiance Public Ramp	9/22/2012	39	0.3135	Redondo Ramp
8/24/2012	35	0.4917	Point Defiance Public Ramp	9/23/2012	39	0.4301	Point Defiance Public Ramp
8/24/2012	35	0.1078	Point Defiance Boathouse	9/23/2012	39	0.1096	Gig Harbor Ramp
8/26/2012	35	0.4917	Point Defiance Public Ramp	9/25/2012	40	0.3035	Point Defiance Public Ramp
8/26/2012	35	0.2336	Redondo Ramp	9/25/2012	40	0.2962	Redondo Ramp

Sample Date	Week	Site Size	Location	Sample Date	Week	Site Size	Location
9/28/2012	40	0.4301	Point Defiance Public Ramp	9/29/2012	40	0.1096	Gig Harbor Ramp
9/28/2012	40	0.3135	Redondo Ramp	9/29/2012	40	0.4301	Point Defiance Public Ramp

Appendix B.1 Coded-wire tag (CWT) recoveries in the summer Area 5 mark-selective Chinook fishery from July 1 - August 15, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
5	7/7/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	63	45360	AD
5	7/7/2012	635166	2008	LYONS FERRY REL.SITE	LYONS FERRY H	WDFW		60	45361	AD
5	7/8/2012	635369	2009	CASCADE R 03.1411	MARBLEMOUNT H	WDFW		63	45363	AD
5	7/12/2012	220303	2008	BIG CANYON ACCL PND	LYONS FERRY H	NEZP		69	45365	AD
5	7/13/2012	635180	2009	LYONS FERRY REL.SITE	LYONS FERRY H	WDFW		66	45367	AD
5	7/15/2012	90331	2009	SNAKE R-1 (HELLS CAN	UMATILLA H	ODFW		63	45368	AD
5	7/15/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	62	45369	AD
5	7/21/2012	220316	2009	SNAKE R@PITT. LNDG	LYONS FERRY H	NEZP		51	45377	AD
5	7/26/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	69	45386	AD
5	7/25/2012	635469	2009	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		69	45390	AD
5	8/11/2012	635369	2009	CASCADE R 03.1411	MARBLEMOUNT H	WDFW		55	65207	AD
5	8/12/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	61	65210	AD
5	8/12/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		56	65211	AD
5	8/12/2012	90385	2009	WILLAMETTE R M FK-1	DEXTER PONDS	ODFW		60	65213	AD
5	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	54	65272	AD
5	7/27/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		77	65302	AD
5	7/28/2012	635564	2009	SNAKE L.MON-LTL GOOS	LYONS FERRY H	WDFW		54	65303	AD
5	8/2/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	73	65306	AD
5	8/8/2012	635578	2009	WENATCHEE R 45.0030	DRYDEN POND	WDFW		55	65308	AD
5	8/8/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	54	65313	AD
5	8/8/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		76	65315	AD
5	8/8/2012	185957	2008	R-BIG QUALICUM R	BIG QUALICUM RIVER H	CDFO		81	65316	AD
5	8/8/2012	634295	2009	COWLITZ R 26.0002	COWLITZ SALMON H	WDFW		57	65318	AD
5	8/10/2012	634481	2007	KLICKITAT H (YKFP)	KLICKITAT H (YKFP)	YAKA		91	65322	AD
5	8/12/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		68	65327	AD
5	8/12/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	60	65328	AD
5	8/2/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	67	65336	AD
5	8/2/2012	68714	2009	IRON GATE H	IRON GATE H	CDFG		56	65337	AD
5	8/2/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	61	65338	AD
5	8/5/2012	220303	2008	BIG CANYON ACCL PND	LYONS FERRY H	NEZP		62	65342	AD
5	8/8/2012	210907	2009	HOKO R 19.0148	HOKO FALLS H	MAKA		67	65343	AD
5	8/10/2012	210860	2008	KALAMA CR 11.0017	KALAMA CR H	NISQ		77	65345	AD
5	8/11/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	65	65348	AD
5	8/15/2012	210786	2007	HOKO R @ RM 10	HOKO FALLS H	MAKA		89	65350	AD
5	8/15/2012	181592	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,584,181	51	65351	AD
5	8/15/2012	634278	2008	CHAMBERS CR 12.0007	GARRISON H	WDFW		77	65352	AD
5	7/29/2012	68641	2009	SAN JOAQ SHRM ISL NET	MOK R FISH INS	CDFG		58	65364	AD
5	7/29/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	68	65365	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
5	7/30/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	67	65367	AD
5	7/4/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	70	65369	AD
5	8/15/2012	635280	2009	COLUMBIA NEAR WELLS	WELLS H	WDFW		54	65384	AD
5	8/11/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	53	65385	AD
5	8/11/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	52	65387	AD
5	8/5/2012	180994	2009	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		52	65392	AD
5	8/4/2012	180994	2009	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		55	65393	AD
5	8/4/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	66	65395	AD
5	8/5/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	73	65396	AD
5	8/5/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	65	65397	AD
5	7/28/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		53	65401	AD
5	7/28/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	74	65402	AD
5	8/1/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	73	65404	AD
5	8/11/2012	635469	2009	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		66	65408	AD
5	7/26/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	61	65451	AD
5	7/28/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	53	65454	AD
5	7/28/2012	180484	2008	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		73	65455	AD
5	7/29/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	69	65456	AD
5	7/29/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		53	65457	AD
5	8/4/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		71	65459	AD
5	8/4/2012	180994	2009	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		54	65460	AD
5	8/5/2012	635364	2009	COLUMBIA NEAR WELLS	WELLS H	WDFW		54	65463	AD
5	8/5/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	64	65464	AD
5	8/9/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	66	65465	AD
5	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	62	65469	AD
5	8/12/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	66	65470	AD
5	7/12/2012	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN H	WDFW		75	65483	AD
5	7/12/2012	635469	2009	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		67	65487	AD
5	7/1/2012	180493	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		52	65551	AD
5	7/1/2012	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN H	WDFW		71	65553	AD
5	7/1/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	65	65554	AD
5	7/5/2012	90270	2008	CEDAR CR #1 (SANDY R	SANDY H	ODFW		75	65560	AD
5	7/6/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	65	65562	AD
5	7/6/2012	634271	2007	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634270	79	65571	UM
5	7/7/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	61	65572	AD
5	7/7/2012	54278	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	54283	81	65573	AD
5	7/7/2012	635489	2009	COL R @ PRIEST RAPIDS	PRIEST RAPIDS H	WDFW	635,290,635,294,635	57	65574	AD
5	7/8/2012	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634795	69	65577	AD
5	7/8/2012	220309	2009	CAPTAIN JOHNS PD	LYONS FERRY H	NEZP		61	65579	AD
5	7/12/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	74	65580	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
5	7/13/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	62	65581	AD
5	7/20/2012	635182	2009	GRAND RONDE R35.2192	IRRIGON H	ODFW		68	65585	UM
5	7/1/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		62	65601	AD
5	7/6/2012	210906	2009	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		54	65602	AD
5	7/6/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	65603	AD
5	7/7/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	68	65605	AD
5	7/7/2012	210906	2009	WHITEHORSE SPRINGS	WHITEHORSE POND	STIL		51	65606	AD
5	7/5/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	62	65608	AD
5	7/5/2012	635177	2008	CHELAN R 47.0052	CHELAN RIVER NP	WDFW		62	65609	AD
5	7/6/2012	90256	2008	BLIND SL (LWR COL R)	CEDC YOUNGS BAY NET	ODFW		75	65612	AD
5	7/6/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		55	65613	AD
5	7/6/2012	186046	2009	R-CHEMAINUS R	SEASPRING SALMON FM	CDFO		81	65614	AD
5	7/7/2012	220309	2009	CAPTAIN JOHNS PD	LYONS FERRY H	NEZP		54	65616	AD
5	7/8/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	56	65618	AD
5	7/8/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		64	65619	AD
5	7/8/2012	634867	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		70	65620	AD
5	7/8/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	70	65621	AD
5	7/9/2012	180992	2009	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		61	65623	AD
5	7/13/2012	180276	2008	R-SHUSWAP R LOW	H-SHUSWAP RIVER, MID	CDFO		78	65627	AD
5	7/13/2012	90343	2009	SALMON R	SALMON R H	ODFW		67	65628	AD
5	7/20/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	81	65634	AD
5	7/21/2012	220314	2009	CAPTAIN JOHNS PD	LYONS FERRY H	NEZP		52	65640	UM
5	7/21/2012	90342	2009	ELK R	ELK R H	ODFW		52	65643	AD
5	7/8/2012	180484	2008	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		83	65706	AD
5	7/6/2012	634776	2008	COWLITZ R 26.0002	COWLITZ SALMON H	WDFW		66	65712	AD
5	7/5/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		86	65713	AD
5	7/6/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	54	65714	AD
5	7/12/2012	90331	2009	SNAKE R-1 (HELLS CAN)	UMATILLA H	ODFW		62	65716	AD
5	7/13/2012	53277	2009	L WHITE SALMON @ NFH	L WHITE SALMON NFH	FWS		66	65721	AD
5	7/13/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	61	65722	AD
5	7/15/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	66	65725	AD
5	7/19/2012	635179	2008	COL R @ TURTLE ROCK	TURTLE ROCK H	WDFW		71	65726	AD
5	7/19/2012	634841	2008	FRIDAY CR 03.0017	SAMISH H	WDFW	634842	70	65728	AD
5	7/22/2012	210923	2009	TULALIP CR 07.0001	BERNIE GOBIN H	TULA		56	65738	AD
5	7/22/2012	54966	2009	L WHITE SALMON @ NFH	L WHITE SALMON NFH	FWS		66	65740	AD
5	7/22/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	83	65741	AD
5	7/27/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	62	65747	AD
5	7/20/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	72	65749	AD
5	7/1/2012	180889	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		60	65752	AD
5	7/1/2012	635364	2009	COLUMBIA NEAR WELLS	WELLS H	WDFW		56	65754	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
5	7/7/2012	90329	2009	UMATILLA R	UMATILLA H	ODFW		57	65758	AD
5	7/8/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	80	65759	AD
5	7/12/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	71	65761	AD
5	7/12/2012	92048	2009	TANNER CR (BNVILLE)	BONNEVILLE H	ODFW		59	65762	AD
5	7/13/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		74	65766	AD
5	7/13/2012	180967	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		59	65767	AD
5	7/13/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	58	65768	AD
5	7/13/2012	220305	2008	CAPTAIN JOHNS PD	LYONS FERRY H	NEZP		66	65769	AD
5	7/21/2012	635180	2009	LYONS FERRY REL.SITE	LYONS FERRY H	WDFW		62	65788	AD
5	7/25/2012	180678	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		62	65792	AD
5	7/25/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	65	65793	AD
5	7/28/2012	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634795	76	65800	AD
5	7/1/2012	634875	2008	SIMILKAMEEN R 490325	SIMILKAMEEN H	WDFW		60	65802	AD
5	7/1/2012	634772	2008	DEEP R 25.0071	DEEP R NET PENS	WDFW		77	65803	AD
5	7/5/2012	180480	2008	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,483,180,482,180	75	65805	AD
5	7/6/2012	634841	2008	FRIDAY CR 03.0017	SAMISH H	WDFW	634842	71	65806	AD
5	7/6/2012	634841	2008	FRIDAY CR 03.0017	SAMISH H	WDFW	634842	74	65808	AD
5	7/6/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	64	65809	AD
5	7/7/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		69	65810	AD
5	7/13/2012	90323	2009	BIG CR (LWR COL R)	BIG CR H	ODFW	90148	75	65813	AD
5	7/14/2012	186307	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		67	65814	AD
5	7/14/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	61	65815	AD
5	7/14/2012	635198	2009	DEEP R 25.0071	DEEP R NET PENS	WDFW		72	65816	AD
5	7/22/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	61	65820	AD
5	7/25/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		65	65821	AD
5	7/25/2012	220316	2009	SNAKE R@PITT. LNDG	LYONS FERRY H	NEZP		54	65822	AD
5	7/27/2012	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		86	65823	AD
5	7/27/2012	90342	2009	ELK R	ELK R H	ODFW		58	65824	AD
5	7/28/2012	180967	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		55	65825	AD
5	7/28/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	58	65827	AD
5	8/4/2012	180972	2009	R-SHUSWAP R LOW	H-SHUSWAP RIVER, MID	CDFO		65	65831	AD
5	8/5/2012	635369	2009	CASCADE R 03.1411	MARBLEMOUNT H	WDFW		59	65833	AD
5	8/5/2012	635564	2009	SNAKE L.MON-LTL GOOS	LYONS FERRY H	WDFW		48	65835	AD
5	8/8/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	57	65837	AD
5	8/9/2012	634385	2008	WASHOUGAL R 28.0159	WASHOUGAL H	WDFW		79	65839	AD
5	7/25/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	77	65842	AD
5	7/26/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	74	65844	AD
5	7/27/2012	92048	2009	TANNER CR (BNVILLE)	BONNEVILLE H	ODFW		82	65846	AD
5	7/27/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		72	65847	AD

Appendix B.2 Coded-wire tag (CWT) recoveries in the summer Area 6 mark-selective Chinook fisheries from July 1 - August 15, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
6	7/10/2012	90323	2009	BIG CR (LWR COL R)	BIG CR H	ODFW	90148	61	65523	AD
6	7/10/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		64	65524	AD
6	7/13/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		55	65525	AD
6	7/14/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	58	65526	AD
6	8/6/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		65	65529	AD
6	8/6/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		72	65530	AD
6	8/7/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	60	65531	AD
6	8/10/2012	210831	2008	BAKER R 03.0435	MARBLEMOUNT H	WDFW		84	65533	AD
6	8/10/2012	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		67	65534	AD
6	8/10/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	59	65535	AD
6	7/3/2012	210860	2008	KALAMA CR 11.0017	KALAMA CR H	NISQ		73	65651	AD
6	7/3/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		61	65652	AD
6	7/9/2012	186046	2009	R-CHEMAINUS R	SEASPRING SALMN FRM	CDFO		56	65653	AD
6	7/16/2012	90331	2009	SNAKE R-1 (HELLS CAN)	UMATILLA H	ODFW		60	65654	AD
6	8/7/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	65	65659	AD
6	8/7/2012	54866	2008	SPRING CR 29.0159	SPRING CR NFH	FWS	54867	88	65682	AD
6	7/22/2012	90199	2008	BIG CR (LWR COL R)	BIG CR H	ODFW		91	65683	AD
6	7/19/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	72	65684	AD
6	7/15/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		61	65685	AD
6	7/8/2012	635289	2009	KLICKITAT H (YKFP)	KLICKITAT H (YKFP)	YAKA		57	65686	AD
6	7/7/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	58	65687	AD
6	7/7/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		65	65688	AD
6	7/7/2012	634867	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		77	65689	AD
6	7/7/2012	210831	2008	BAKER R 03.0435	MARBLEMOUNT H	WDFW		70	65690	AD
6	7/7/2012	180493	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		64	65691	AD
6	7/7/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		68	65692	AD
6	7/7/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	63	65693	AD
6	7/7/2012	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		73	65694	AD
6	7/7/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		68	65695	AD
6	7/3/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	69	65696	AD
6	7/2/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	56	65697	AD
6	7/2/2012	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		85	65698	AD
6	7/1/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	68	65699	AD
6	7/6/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		58	65925	AD
6	7/6/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	61	65926	AD
6	7/6/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		70	65927	AD
6	7/5/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		70	65928	AD
6	7/12/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	64	70197	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
6	7/12/2012	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		81	70198	AD
6	7/12/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	79	70199	AD
6	7/13/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	70200	AD
6	8/9/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		55	70201	AD
6	7/14/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		58	70205	AD
6	7/14/2012	180890	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		55	70206	AD
6	7/18/2012	68672	2009	SAN PABLO BAY NET	FEATHER R H	CDFG		65	70207	AD
6	7/14/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	63	70208	AD
6	7/19/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	66	70209	AD
6	7/18/2012	90323	2009	BIG CR (LWR COL R)	BIG CR H	ODFW	90148	82	70210	AD
6	7/19/2012	635577	2009	COL R @ TURTLE ROCK	TURTLE ROCK H	WDFW		56	70211	AD
6	8/5/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	83	70213	AD
6	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	72	70214	AD
6	7/26/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		54	70215	AD
6	7/27/2012	634778	2008	COL R @ TURTLE ROCK	TURTLE ROCK H	WDFW		76	70216	AD
6	7/28/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		69	70217	AD
6	7/21/2012	635289	2009	KLICKITAT H (YKFP)	KLICKITAT H (YKFP)	YAKA		55	70218	AD
6	7/21/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	60	70219	AD
6	7/25/2012	210855	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		77	70220	AD
6	7/25/2012	635469	2009	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		64	70221	AD
6	7/25/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	70222	AD
6	8/2/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		65	70224	AD
6	8/10/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	65	70226	AD
6	8/8/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	72	70229	AD
6	8/11/2012	90237	2008	MCKENZIE R 1	MCKENZIE H	ODFW		83	70247	AD
6	8/11/2012	181584	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,592,181	57	70248	AD
6	8/8/2012	635292	2009	WALLACE R 07.0940	WALLACE R H	WDFW	635293	59	70250	AD
6	8/5/2012	635369	2009	CASCADE R 03.1411	MARBLEMOUNT H	WDFW		65	70251	AD
6	7/8/2012	180967	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		70	70348	AD
6	7/8/2012	634841	2008	FRIDAY CR 03.0017	SAMISH H	WDFW	634842	71	70349	AD
6	7/8/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	74	70350	AD
6	7/8/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	67	70351	AD
6	7/8/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	79	70352	AD
6	7/7/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	62	70353	AD
6	7/8/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	66	70395	AD
6	7/8/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	63	70396	AD
6	7/8/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		63	70397	AD
6	7/8/2012	180486	2008	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		80	70399	AD
6	7/8/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	70	70400	AD
6	7/1/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	69	70451	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
6	7/1/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	70	70452	AD
6	7/1/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	82	70453	AD
6	7/1/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		70	70454	AD
6	7/2/2012	635284	2009	SAMISH R 03.0005	SAMISH H	WDFW	635285	68	70455	UM
6	7/2/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	73	70456	AD
6	7/2/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	79	70457	AD
6	7/2/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	70458	AD
6	7/2/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	64	70459	AD
6	7/7/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		68	70460	AD
6	7/7/2012	210831	2008	BAKER R 03.0435	MARBLEMOUNT H	WDFW		66	70461	AD
6	7/7/2012	610427	2009	HANFORD REACH (36)	NA	CRFC		70	70462	AD
6	7/7/2012	90331	2009	SNAKE R-1 (HELLS CAN)	UMATILLA H	ODFW		61	70463	AD
6	7/17/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	72	70468	AD
6	7/17/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		66	70469	AD
6	7/28/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	73	70471	AD
6	7/28/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		83	70472	AD
6	7/28/2012	90323	2009	BIG CR (LWR COL R)	BIG CR H	ODFW	90148	83	70473	AD
6	7/29/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		65	70474	AD
6	8/3/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		62	70475	AD
6	8/3/2012	54278	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	54283	83	70476	AD
6	8/3/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	62	70477	AD
6	8/4/2012	634867	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		75	70478	AD
6	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	54	70479	AD
6	8/4/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		69	70480	AD
6	8/4/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	60	70481	AD
6	8/5/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	63	70482	AD
6	8/12/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		79	70484	AD
6	8/12/2012	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	634285	78	70485	AD
6	8/13/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	57	70486	AD

Appendix B.3 Coded-wire tag (CWT) recoveries in the summer Area 9 mark-selective Chinook fishery from July 16 - August 19, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
9	7/20/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	69	9537	AD
9	7/22/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	69	9538	AD
9	8/11/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	58	9542	AD
9	8/5/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		71	14727	AD
9	8/7/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		74	14728	AD
9	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	71	32626	AD
9	8/12/2012	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634795	66	32627	AD
9	8/13/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	70	32628	AD
9	8/13/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	74	32629	AD
9	8/16/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	72	32630	AD
9	8/18/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	NA	32631	AD
9	8/19/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		70	32650	AD
9	7/31/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	83	43037	AD
9	7/31/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	67	43040	AD
9	7/31/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	43041	AD
9	8/3/2012	54278	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	54283	78	43042	AD
9	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	78	43043	AD
9	8/4/2012	634769	2008	CASCADE R 03.1411	MARBLEMOUNT H	WDFW	635082	68	43044	AD
9	8/4/2012	634284	2007	VOIGHT CR 10.0414	VOIGHTS CR H	WDFW		90	43045	AD
9	8/5/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	77	43046	AD
9	8/17/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		69	43099	AD
9	8/16/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		62	43100	AD
9	8/18/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		70	51277	AD
9	7/29/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		67	60299	AD
9	7/30/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		65	60300	AD
9	8/10/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		70	62658	AD
9	8/5/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	54	63766	AD
9	7/25/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		59	63768	AD
9	7/17/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	63	63769	AD
9	7/30/2012	634781	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		79	66800	AD
9	7/22/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		56	66870	AD
9	7/22/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		61	66871	AD
9	8/11/2012	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	634865	68	67224	AD
9	8/12/2012	210831	2008	BAKER R 03.0435	MARBLEMOUNT H	WDFW		75	67225	AD
9	8/19/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		65	67229	AD
9	8/9/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		59	67231	AD
9	8/9/2012	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		82	67232	AD
9	8/11/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		73	67233	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
9	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	61	67234	AD
9	8/11/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		66	67235	AD
9	8/2/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	68	67241	AD
9	8/18/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		55	67243	AD
9	8/19/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	69	67245	AD
9	7/22/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	68	67330	AD
9	7/27/2012	635081	2008	EAST SOUND BAY (SAN)	GLENWOOD SPRINGS	COOP		74	67333	AD
9	7/21/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		59	67431	AD
9	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	67	67432	AD
9	7/22/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		69	67451	AD
9	7/24/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	69	67452	AD
9	7/25/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		66	67453	AD
9	7/25/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	56	67454	AD
9	7/27/2012	634781	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		93	67455	AD
9	7/28/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	74	67456	AD
9	8/5/2012	181590	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,584,181	52	67457	AD
9	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	74	67460	AD
9	7/16/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		70	67461	AD
9	7/20/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	61	67462	AD
9	7/20/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	67	67463	AD
9	7/21/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	61	67464	AD
9	7/21/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	75	67465	AD
9	7/24/2012	634769	2008	CASCADE R 03.1411	MARBLEMOUNT H	WDFW	635082	69	67467	AD
9	7/28/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	74	67468	AD
9	7/28/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		72	67469	AD
9	8/2/2012	210856	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		73	67470	AD
9	7/21/2012	634781	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		87	67471	AD
9	7/27/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	53	67472	AD
9	8/2/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		59	67473	AD
9	8/4/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		65	67474	AD
9	8/3/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		74	67481	AD
9	7/16/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		73	67482	AD
9	7/16/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	67483	AD
9	7/17/2012	635285	2009	SAMISH R 03.0005	SAMISH H	WDFW	635284	66	67484	AD
9	7/22/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	64	67485	AD
9	7/27/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	81	67486	AD
9	7/27/2012	635298	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635297	63	67487	UM
9	7/29/2012	210862	2009	CLARKS CRK H	CLARKS CRK H	PUYA		64	67488	AD
9	7/29/2012	634844	2008	WALLACE R 07.0940	WALLACE R H	WDFW	634845	70	67489	AD
9	7/29/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	69	67490	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
9	7/21/2012	210862	2009	CLARKS CRK H	CLARKS CRK H	PUYA		63	67494	AD
9	7/21/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	70	67495	AD
9	7/27/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	65	67496	AD
9	7/16/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	78	70464	AD
9	7/16/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	59	70465	AD
9	7/16/2012	180678	2009	R-COWICHAN R	H-COWICHAN RIVER H	CDFO		61	70466	AD
9	7/16/2012	68672	2009	SAN PABLO BAY NET	FEATHER R H	CDFG		59	70467	AD
9	7/24/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		82	70470	AD

Appendix B.4 Coded-wire tag (CWT) recoveries in the summer Area 10 mark-selective Chinook fishery from July 16 – August 19, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
10	7/16/2012	634873	2008	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	634872	70	9535	AD
10	8/11/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		77	51276	AD
10	8/9/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	70	51279	AD
10	8/9/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		61	51280	AD
10	8/9/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		62	51281	AD
10	8/9/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	69	51282	AD
10	8/11/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	57	54793	AD
10	7/30/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	77	56804	AD
10	7/22/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	65	58477	AD
10	7/22/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		83	62654	AD
10	8/5/2012	635292	2009	WALLACE R 07.0940	WALLACE R H	WDFW	635293	55	62656	AD
10	8/5/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	56	62657	AD
10	8/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	64	66875	AD
10	8/11/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		60	66876	AD
10	8/13/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		66	67226	AD
10	7/25/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		57	67331	AD
10	7/28/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		75	67332	AD
10	7/28/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		60	67334	AD
10	7/29/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	76	67335	AD
10	8/4/2012	634864	2008	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	634865	62	67336	AD
10	8/8/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	68	67339	AD
10	8/8/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	68	67340	AD
10	8/10/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	68	67341	AD
10	8/10/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		68	67342	AD
10	8/11/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	77	67343	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
10	8/12/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		75	67344	AD
10	8/12/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	67	67346	AD
10	7/27/2012	181588	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,584,181	57	67349	AD
10	7/28/2012	180898	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,896	65	67350	AD
10	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	60	67351	AD
10	8/5/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	66	67352	AD
10	8/7/2012	210822	2008	GROVERS CR H	GROVERS CR H	SUQ	634796	80	67353	AD
10	8/7/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	60	67355	AD
10	8/10/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	62	67356	AD
10	8/11/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	73	67357	AD
10	8/11/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		70	67359	AD
10	8/12/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		69	67361	AD
10	8/13/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		62	67362	AD
10	8/18/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		62	67365	AD
10	8/11/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		62	67459	AD
10	7/16/2012	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634277	59	67492	AD
10	7/17/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		69	67493	AD
10	7/27/2012	634395	2008	CASCADE R 03.1411	MARBLEMOUNT H	WDFW		69	67497	AD
10	7/28/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	75	67500	AD
10	7/25/2012	635772	2010	MINTER CR 15.0048	MINTER CR H	WDFW		41	67505	UM
10	7/27/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		70	67506	AD
10	7/28/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	58	67508	AD
10	8/3/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		83	67509	AD
10	7/28/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		59	67510	AD
10	8/7/2012	210790	2007	GROVERS CR H	GROVERS CR H	SUQ	634276	60	67603	AD
10	8/4/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		65	67604	AD
10	8/7/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		62	67605	AD
10	8/7/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		89	67607	AD
10	8/10/2012	210916	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		61	67611	AD
10	8/12/2012	210788	2007	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634277	80	67612	AD
10	8/12/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	68	67613	AD
10	8/12/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		72	67614	AD
10	8/19/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	65	67620	AD
10	7/30/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		74	67651	AD
10	8/2/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		64	67652	AD
10	8/2/2012	210856	2008	GORST CR 15.0216	GORST CR REARING PND	SUQ		71	67653	AD
10	8/2/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		68	67654	AD
10	8/5/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	61	67656	AD
10	8/5/2012	181590	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,584,181	52	67657	AD
10	8/5/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		68	67658	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
10	8/12/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	57	67661	AD
10	8/12/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		68	67662	AD
10	8/13/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	64	67663	AD
10	8/17/2012	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634795	74	67666	AD
10	8/19/2012	180993	2009	R-HARRISON R	H-CHEHALIS RIVER H	CDFO		58	67667	AD

Appendix B.5 Coded-wire tag (CWT) recoveries in the summer Area 11 mark-selective Chinook fishery from June 1 - September 30, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
11	7/23/2012	634278	2008	CHAMBERS CR 12.0007	GARRISON H	WDFW		72	8698	AD
11	8/19/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		64	9418	AD
11	6/27/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	57	9489	AD
11	8/16/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	74	9491	AD
11	9/9/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	55	9493	AD
11	7/14/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		82	9884	AD
11	7/27/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		65	9885	AD
11	8/15/2012	181584	2010	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	181,679,181,592,181	54	9886	AD
11	8/11/2012	210958	2010	WHITEHORSE SPRINGS	STILLAGUAMISH H	SUQ		48	9887	AD
11	8/19/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		65	9888	AD
11	8/19/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		67	9889	AD
11	8/26/2012	635096	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	210905	65	9919	AD
11	8/27/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	64	9920	AD
11	8/18/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	68	9938	AD
11	7/6/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		66	9999	AD
11	8/5/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	60	26012	AD
11	8/5/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		66	26013	AD
11	8/8/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		62	26014	AD
11	8/17/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		63	26015	AD
11	8/17/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	67	26016	AD
11	8/17/2012	635096	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	210905	69	26018	UM
11	8/23/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	58	26019	AD
11	7/27/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		58	42233	AD
11	7/27/2012	634781	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		88	42234	AD
11	8/4/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	63	42235	AD
11	8/4/2012	210862	2009	CLARKS CRK H	CLARKS CRK H	PUYA		60	42236	AD
11	8/12/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		78	42241	AD
11	8/12/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	67	42242	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
11	8/18/2012	634782	2008	WALLACE R 07.0940	WALLACE R H	WDFW		80	42243	AD
11	8/19/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	78	42244	AD
11	7/2/2012	631427	2008	LAKEWOOD H	LAKEWOOD H	WDFW		73	56644	AD
11	6/23/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	60	56645	AD
11	7/7/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		66	56647	AD
11	6/10/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	70	56649	AD
11	6/11/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	60	56650	AD
11	8/23/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		59	56992	AD
11	7/5/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	65	62580	AD
11	8/10/2012	180896	2009	R-CHILLIWACK R	H-CHILLIWACK RIVER H	CDFO	180,895,180,898	86	62582	AD
11	8/15/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		69	62583	AD
11	8/11/2012	210912	2009	GROVERS CR H	GROVERS CR H	SUQ	635089	76	62584	AD
11	8/15/2012	635292	2009	WALLACE R 07.0940	WALLACE R H	WDFW	635293	58	62585	AD
11	8/15/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		67	62586	AD
11	8/15/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		68	62587	AD
11	8/23/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		71	62589	AD
11	7/24/2012	635297	2009	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	635298	73	62618	AD
11	7/29/2012	631427	2008	LAKEWOOD H	LAKEWOOD H	WDFW		77	62619	AD
11	9/7/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		74	62621	AD
11	8/27/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		70	62635	AD
11	6/27/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		90	62637	AD
11	6/16/2012	634780	2008	ICY CR 09.0125	ICY CR H	WDFW		78	62761	AD
11	6/27/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	77	62762	AD
11	7/8/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	73	62763	AD
11	7/27/2012	635288	2009	VOIGHT CR TR 10.0428	VOIGHTS CR H	WDFW		58	62765	AD
11	7/29/2012	55228	2009	SPRING CR 29.0159	SPRING CR NFH	FWS	55229	69	62766	AD
11	8/16/2012	634286	2007	BIG SOOS CR 09.0072	SOOS CREEK H	WDFW	634285	80	62768	AD
11	8/16/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		63	62769	AD
11	8/21/2012	210824	2008	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	634795	70	62770	AD
11	8/21/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	56	62771	AD
11	8/24/2012	635573	2009	CASCADE R 03.1411	MARBLEMOUNT H	WDFW	635574	58	62772	AD
11	8/24/2012	635291	2009	FINCH CR 16.0222	HOODSPORT H	WDFW		77	62773	AD
11	8/26/2012	635096	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	210905	70	62775	AD
11	9/2/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		65	62777	AD
11	7/14/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		60	62862	AD
11	7/21/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		72	62863	AD
11	8/5/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	65	62864	AD
11	8/12/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		67	67360	AD
11	8/17/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	64	67364	AD
11	8/18/2012	210862	2009	CLARKS CRK H	CLARKS CRK H	PUYA		64	67367	AD

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
11	9/8/2012	210905	2009	CLEAR CR 11.0013C	CLEAR CREEK H	NISQ	635096	65	67391	AD
11	8/23/2012	210915	2009	GORST CR 15.0216	GORST CR REARING PND	SUQ		58	67511	AD
11	7/25/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		59	S65064	AD
11	8/10/2012	631427	2008	LAKWOOD H	LAKWOOD H	WDFW		77	S65065	AD
11	8/24/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		73	S65069	AD
11	8/21/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		62	S65070	AD

Appendix B.6 Coded-wire tag (CWT) recoveries in the summer Area 12 mark-selective Chinook fishery from July 1 - September 30, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
12	8/25/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	76	51881	AD

Appendix B.7 Coded-wire tag (CWT) recoveries in the summer Area 13 mark-selective Chinook fishery from May 1 - September 30, 2012.

Area	Recovery Date	Tag Code	Brood Year	Release Site	Rearing Hatchery	Release Agency	DIT Codes	FL (cm)	Label	Recovery Mark
13	5/26/2012	634867	2008	FINCH CR 16.0222	HOODSPORT H	WDFW		78	9488	AD
13	9/1/2012	635366	2009	PURDY CR 16.0005	GEORGE ADAMS H	WDFW	635367	77	42245	UM
13	8/17/2012	635086	2009	CHAMBERS CR 12.0007	CHAMBERS CR H	WDFW		78	52727	AD
13	9/29/2012	210972	2010	GORST CR 15.0216	GORST CR REARING PND	SUQ		53	52747	AD
13	8/18/2012	210928	2009	KALAMA CR 11.0017	KALAMA CR H	NISQ		71	62950	AD