

**2003 Chinook Selective Fishery,  
Marine Areas 5 and 6**

**By**

**Steven L. Thiesfeld  
Angelika Hagen-Breaux**

**March 02, 2004**

**Washington Department of Fish and Wildlife  
Fish Program  
600 Capitol Way North  
Olympia, Washington 98501**

## EXECUTIVE SUMMARY

During the summer of 2003, a pilot recreational chinook salmon (“chinook”) fishery that was limited to retention of marked (adipose clipped) hatchery chinook salmon occurred in Marine Area 5 and the western portion of Marine Area 6. Marine Areas 5 and 6 are located in Washington waters of the Strait of Juan de Fuca. The Chinook Selective Fishery was scheduled to begin on July 5, 2003 and continue for 41 days or until a quota of 3,500 chinook were kept, whichever occurred first. The fishery started on July 5, 2003 and ran continuously for 30 days through August 3. We estimated total effort, catch per angler trip, number of fish kept, the percentage of marked chinook salmon (mark rate), and the percentage of fish greater than the 22” minimum size encountered.

We estimated fishing effort at 24,618 angler trips during the Chinook Selective Fishery. Those anglers retained an estimated 3,586 chinook and released over 15,000 (based on angler interviews). In addition, an estimated 5,335 hatchery coho and 5,650 pink salmon were kept during this fishery. The majority of the fishing effort (79%) and chinook kept (73%) occurred in Area 5. In Area 5, the number of chinook kept per angler trip was 0.135. An estimated 5,175 anglers participated in the Chinook Selective Fishery in Area 6. In Area 6, the number of chinook kept per angler trip was 0.186. The estimated mark rate for legal-size chinook (greater than or equal to 22”) based on test fishing during the Chinook Selective Fishery was 43% in Area 5 and 45% in Area 6. Angler effort during the Chinook Selective Fishery in 2003 was approximately double the effort associated with the 2002 fishery during the same time frame, but with a combination of ‘non-selective’ and ‘release all’ regulations applied to chinook.

Since the Chinook Selective Fishery in Areas 5 and 6 was a pilot fishery and included a new regulation requiring anglers to release salmon without bringing the fish on board their vessel, we initiated a program to educate anglers about proper methods of releasing fish and fish identification. Anglers were offered a “dehooker” and a pamphlet describing selective fisheries, how to identify salmon species and how to use the dehooker. Anglers were also asked to avoid netting fish they were going to release if possible. Compliance with existing regulations, and the new regulation prohibiting bringing salmon on board a vessel if they were going to be released, was good. Officers contacted 620 anglers during the selective fishery, issuing 7 citations for retaining wild chinook salmon, and no citations for bringing fish to be released on board a vessel.

## INTRODUCTION

In recent years, abundant runs of hatchery salmon have been mixed with depressed runs of wild salmon in both marine and freshwater environments. Providing opportunities to harvest those abundant hatchery stocks while protecting wild stocks has been challenging. One tool for allowing harvest of abundant hatchery fish while limiting impacts on wild stocks is “Selective Fishing”. In recreational selective fisheries, anglers are generally allowed to retain fin clipped (“marked”) hatchery fish and are required to release unclipped (“unmarked”) fish. These unmarked fish are typically wild fish, but may include certain unmarked hatchery fish. While selective coho salmon *Oncorhynchus kisutch* (“coho”) fisheries have occurred in Oregon, Washington, and British Columbia at various times since 1998, and selective chinook salmon *O. tshawytscha* (“chinook”) fisheries have occurred in freshwater areas since 2000, a selective chinook fishery had not been conducted in marine waters. During the summer of 2003, a pilot recreational chinook fishery occurred in marine waters that was limited to the harvest of marked hatchery chinook.

The Chinook Selective Fishery started on July 5, 2003 and ran continuously through August 3, 2003 in Marine Area 5 and the western portion of Marine Area 6. Marine Areas 5 and 6 (hereafter: Areas 5 and 6) are located in Washington waters of the Strait of Juan de Fuca, running from the Sekiu River easterly to Low Point, and from Low Point to approximately Whidbey Island, respectively (Figure 1). Area 6 was open only from Low Point easterly to Ediz Hook. We restricted the Area 6 fishery to this location because the eastern portion of Area 6 has many more boat ramps and other access points, and would have required substantially more sampling effort to obtain precise estimates of harvest and effort. Additional closures to help achieve fishery objectives were established: 1) in the eastern half of Marine Area 4; 2) near the mouths of the Sekiu and Hoko rivers; 3) near the mouth of the Elwha River; and 4) in Port Angeles Harbor.

Anglers were allowed to retain two marked (adipose fin clipped) chinook salmon  $\geq 22$ ” (56 cm) as part of their daily limit, and were required to immediately release, unharmed, any unmarked chinook caught. Integral to the selective fishery was a new regulation that, “Any salmon to be released may not be brought on board a vessel”. Education efforts were undertaken to provide anglers with alternative methods for proper release of fish, other than netting the fish and bringing them into the boat. During the Chinook Selective Fishery anglers were also allowed to retain pink *O. gorbuscha* (“pink”), sockeye *O. nerka*, and marked hatchery coho salmon.

The season was scheduled to run from July 5, 2003 through August 14, 2003 (41 days), or until a quota of 3,500 hatchery chinook salmon were caught and retained by anglers. The fishery was closed by emergency regulation effective at 11:59 p.m., August 3, 2003 because the quota was expected to be reached.

## METHODS

We estimated total effort, catch per angler trip, number of fish harvested, the percentage of adipose fin clipped chinook (mark rate), the total number of chinook released and the proportion 22" or longer (legal-size). Coded wire tags and biological samples were collected from harvested fish and from all chinook caught on test fishing boats for possible future genetic analysis of stock composition.

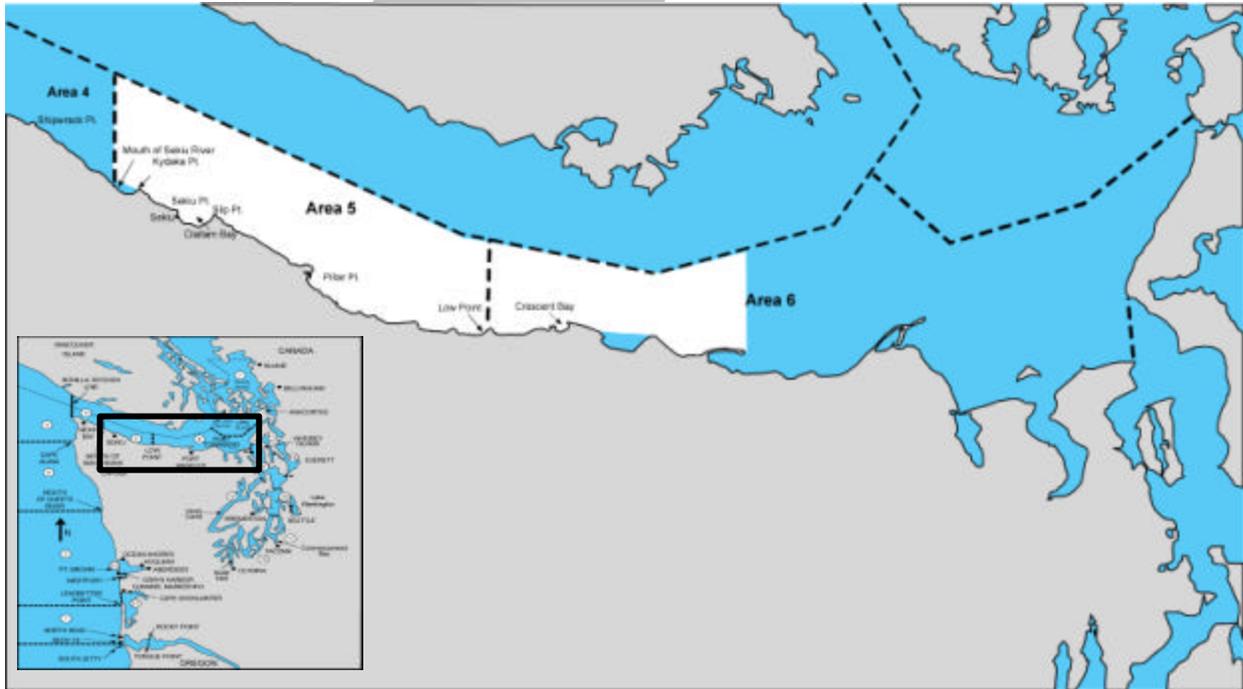


Figure 1. Location of the 2003 Chinook Selective Fishery (shown in white) in Marine Areas 5 and 6.

### Effort and Catch

Effort and catch were estimated by creel surveys generally following the procedures outlined in “Puget Sound salmon sport catch estimation study-1990” (Washington Department of Fisheries and Northwest Indian Fisheries Commission 1992), except that expansion factors were determined in-season, rather than using previously determined effort levels. Four boat surveys were conducted between July 5 and August 3 in Area 5, and 11 in Area 6, to determine the proportion of effort (or “size”) for each access site. While on the water, boats were approached and the skipper was asked where they would tie up at or exit the fishery that day. All boats were surveyed or counted from a selected set of docks or access points during a day. Harvest and effort observed at the two sampled sites were then expanded to all access sites based on their “size” to estimate total harvest for the day. Sample data were combined and expanded to create stratum estimates of harvest. The formula for expanding effort and harvest was:

$$\frac{[(1 - \text{proportion}_2) \times (\text{catch}_1/\text{proportion}_1) + (1 - \text{proportion}_1) \times (\text{catch}_2/\text{proportion}_2)]}{(2 - \text{proportion}_1 - \text{proportion}_2)}$$

For example, if 18 fish are censused at Van Rippers and the Van Rippers proportion of effort (size) is 20% of the Area 5 effort, while 31 fish are censused at Olson's and the Olson's proportion of effort is 50%, then the total Area 5 catch for one day is calculated as follows:

$$\text{Estimated catch} = [(1 - 0.50) \times (18/0.20) + (1 - 0.20) \times (31/0.50)] / (2 - 0.2 - 0.5) = 73.$$

Therefore the total estimated catch for all of Area 5 would be 73 fish. Effort would be expanded in a similar manner.

Weeks were divided into three strata: Monday through Thursday, Friday, and Saturday and Sunday. Each week, two days from the Monday through Thursday stratum were randomly selected for sampling. Every Friday, Saturday, and Sunday were sampled. For each sampling day an AM and a PM period were sampled. Morning shifts started at 7 AM and ended at 2 PM. Afternoon shifts started at 2 PM and ended at 9 PM, except that sampling shifts were adjusted earlier or later if boats were returning before or after normal shift times, such that all boats returning to a selected access site were sampled or counted. For each sampling day, two access sites (ramps or docks) in each Area were selected by computer program for sampling. The computer program selects sampling sites based on their "size" or effort (i.e. the proportion of angler effort that on average uses the site; Murthy 1957, Cochran 1977). Thus a total of four shifts were sampled per selected day in each Area. Access sites in Area 5 were divided into sampled and non-sampled sites. Access sites with low effort were excluded in the sample. All anglers and fish exiting the fishery through the sampled sites were counted. If any boats were not sampled, they were counted, and catch and effort estimates were expanded appropriately.

Harvest and effort estimates are based on the following assumptions: 1) Boat surveys are unbiased estimates of the proportion of anglers accessing fisheries from non-sampled sites; 2) The proportion of total anglers accessing the fishery at site 'A' represents the proportion of total catch landed at site 'A'; 3) All anglers exiting the fishery at a sampled site are accounted for and that anglers accurately report their harvest; and 4) Catch per unit effort (c/f) does not differ significantly between sampled and non-sampled sites.

Numbers of fish encountered but released during the Chinook Selective Fishery were also estimated based on shoreside interviews of anglers, as part of the catch and effort sampling program. Anglers were asked to report numbers of fish released by species. These survey data were expanded to represent total fishery estimates of released salmon using the same methods as previously described for estimating total fishery estimates of catch and effort. For the chinook released that the angler did not know the mark status, we used the mark rates from the test fishery for sublegal (< 22") chinook to apportion those unknown chinook into marked and unmarked categories.

Samplers collected coded wire tags from harvested fish. Fish bearing coded wire tags were also measured for fork length and scales were collected.

### Test Fishing

Two “test” fishing boats were used to determine the species composition, percent of fish encountered that were adipose clipped (mark rate), the percentage of fish that were legal-size, and to collect scales, tissue samples, coded wire tags and fork lengths. We converted fork lengths to total lengths for analysis using the recommended equations presented in Conrad and Gutmann (1996). A 1 cm<sup>2</sup> tissue sample was collected from the dorsal fin or the caudal fin, and placed in a solution of ethanol. Tissue samples were collected for possible future genetic analysis of stock composition. Scales were collected following procedures outlined by the International North Pacific Fisheries Commission (1963). The percentage of legal-size chinook caught by test boats was calculated for the period July 3 through August 14. We used a chi-squared test to determine if a significant difference occurred between Area 5 and Area 6.

Two samplers, utilizing one rod each, fished from each boat. One test boat fished out of Sekiu (Area 5) from July 3 through August 14, and one boat fished out of Port Angeles (Area 6) from July 3 through August 14. The Sekiu boat fished 28 of the 30 open days during the Chinook Selective Fishery and the Port Angeles boat fished 27 days during the same time period. In addition, the Sekiu test boat fished 1 day in July prior to the Chinook Selective Fishery, and 8 days during the period of August 4 – 14, immediately following the Chinook Selective Fishery, during which they continued to target chinook. The Port Angeles boat fished 1 day prior to the Chinook Selective Fishery and an additional 11 days (August 4 – 14) immediately following the Chinook Selective Fishery, during which they continued to target chinook.

Samplers fishing from the test boats attempted to fish methods similar to the “average” angler in order to represent the fishery. Samplers attempted to capture chinook from July 3 through August 14 through their choice of area to fish, depth, gear type and fishing methods. Samplers fished only with artificial lures. No bait (e.g. herring) was used. In this respect, a portion of the fishery was not represented, as some anglers fish predominately with bait.

Additional test fishing directed at coho was conducted in Area 5 in late August and into September. Few chinook were encountered compared to test fishing directed at chinook during July and early August.

### Voluntary Trip Reports

Additional information on mark rates and the percentage of fish that were legal-size was obtained from Voluntary Trip Reports (VTR's). Volunteer trip report forms were issued to interested anglers prior to and during the fishing season. Anglers were asked to record date, number of anglers, target species, which Area they were fishing in, each fish hooked, whether the fish was kept or released, the species of fish if they could positively identify it, approximate total length, and whether the fish was adipose fin clipped or not. Volunteers also collected a few tissue samples for possible future genetic analysis.

## RESULTS AND DISCUSSION

### Effort and Catch

We estimated that anglers made 24,618 trips during the Chinook Selective Fishery (July 5 – August 3). Those anglers kept an estimated 3,586 chinook, 5,335 hatchery coho and 5,650 pink (Table 1). Area 5 accounted for 79% of the effort (19,444 angler trips) and 73% of the kept chinook (2,624) for a rate of 0.135 chinook kept per angler trip. Area 6 accounted for 5,174 angler trips and 962 kept chinook for a higher catch rate of 0.186 chinook kept per angler trip. Area 5 anglers released an estimated 13,466 chinook, 22,310 coho, 3,209 pink and 744 unidentified salmon. Area 6 anglers released an estimated 1,707 chinook, 455 coho, 183 pink and 38 unidentified salmon.

The Chinook Selective Fishery appears to have doubled the amount of effort in Areas 5 and 6, and greatly increased the number of days anglers could fish for chinook, versus 2002. In 2002, anglers were only allowed to harvest chinook (marked and unmarked) during five days of the summer season (July 8, 9, 10, 11 and 22) in Area 5. For comparison with 2003, from July 1 through August 3, 2002, an estimated 10,905 anglers participated in the Area 5 fishery, and kept 1,790 chinook and 1,988 coho, while releasing 2,922 chinook and 5,006 coho. There is no directly comparable information for Area 6 in 2002 since chinook retention was not allowed and the entire area was open. However, observations from Washington Department of Fish and Wildlife (WDFW) samplers suggest that effort was at least double in the portion of Area 6 that was open during the Chinook Selective Fishery compared to the same time period in 2002 (Larry Bennett, WDFW, Personal Communication).

Effort was initially very high in Area 5, declined precipitously during the second week of the season, and then rose modestly until the closure of the Chinook Selective Fishery (Figure 2). In Area 6, effort mostly declined modestly throughout the fishery (Figure 3). Chinook harvest declined from the first week to the second, and then increased sharply during the fourth week in Area 5 (Figure 4), but essentially increased throughout the duration of the fishery in Area 6 (Figure 5). Consequently, the number of chinook kept per angler in Area 5 was fairly consistent during the fishery, except during late July when it increased (Figure 6), while the number of chinook kept per angler essentially increased throughout the fishery in Area 6 (Figure 7).

Table 1. Recreational salmon catch estimate during the Chinook Selective Fishery in Marine Areas 5 and 6, July 5 through August 3, 2003. The released numbers are based on angler interviews.

Fishery	Trips		Harvested			Released			
	Boats	Anglers	Chinook	Coho	Pink	Unidentified	Chinook	Coho	Pink
Area 5	8,026	19,444	2,624	5,230	5,210	744	13,466	22,310	3,209
Area 6	2,646	5,174	962	105	440	38	1,707	455	183
Total	10,672	24,618	3,586	5,335	5,650	782	15,173	22,765	3,392

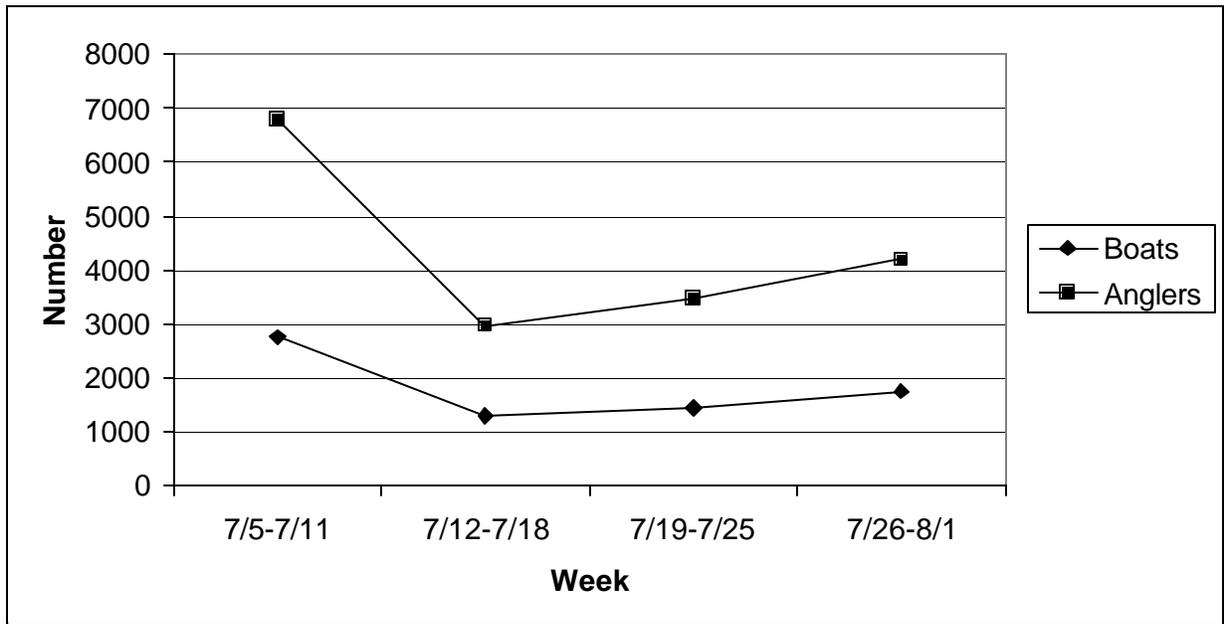


Figure 2. Angler effort in Marine Area 5, by week, for the 2003 Chinook Selective Fishery.

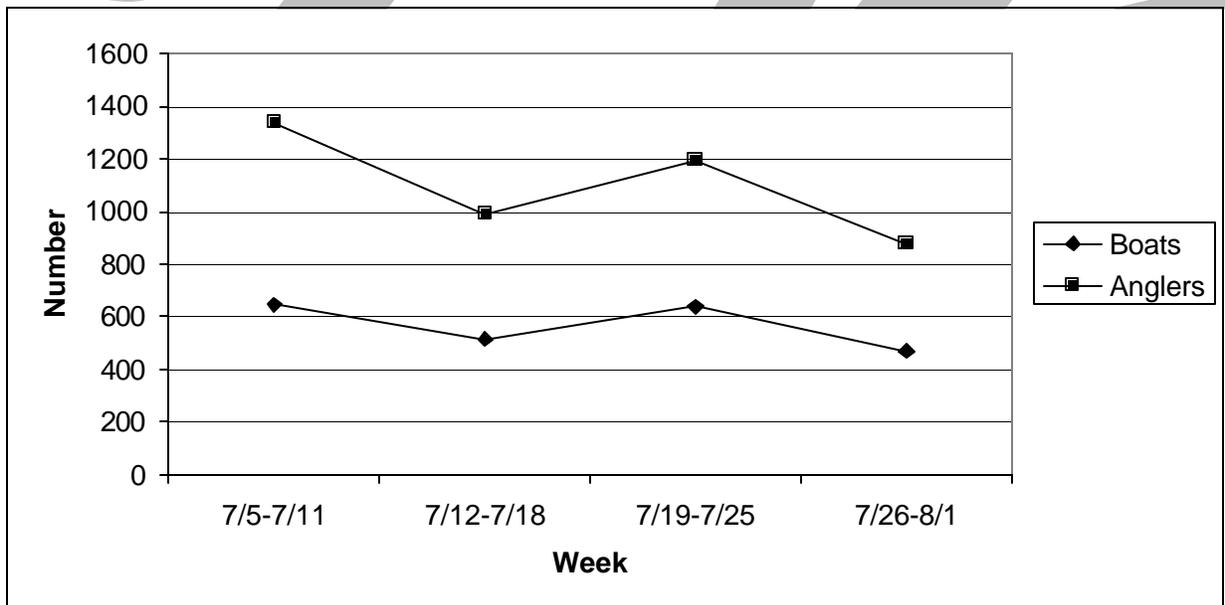


Figure 3. Angler effort in Marine Area 6, by week, for the 2003 Chinook Selective Fishery.

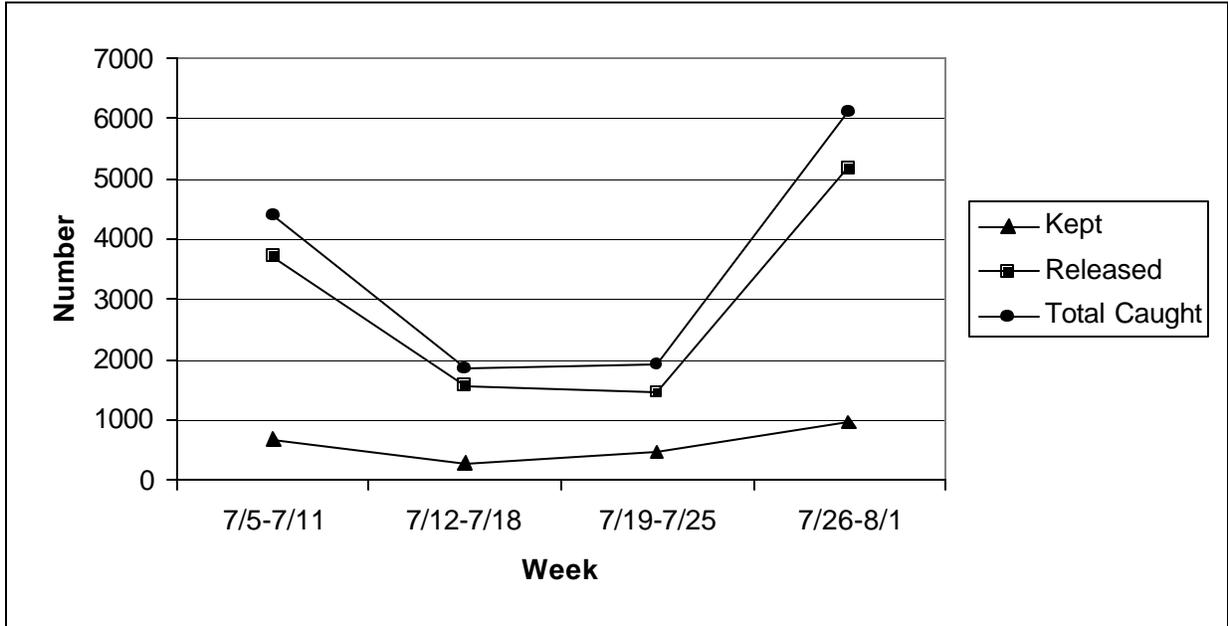


Figure 4. Catch of chinook salmon in Marine Area 5, by week, for the 2003 Chinook Selective Fishery. All chinook released are included in the “Released” data.

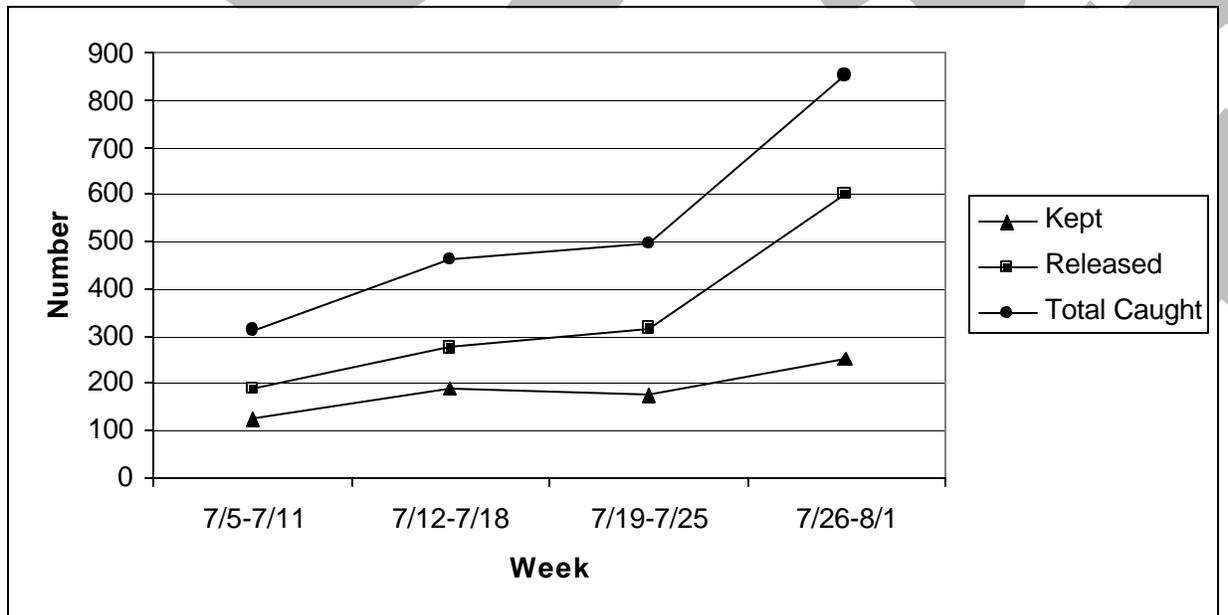


Figure 5. Catch of chinook salmon in Marine Area 6, by week, for the 2003 Chinook Selective Fishery. All chinook released are included in the “Released” data.

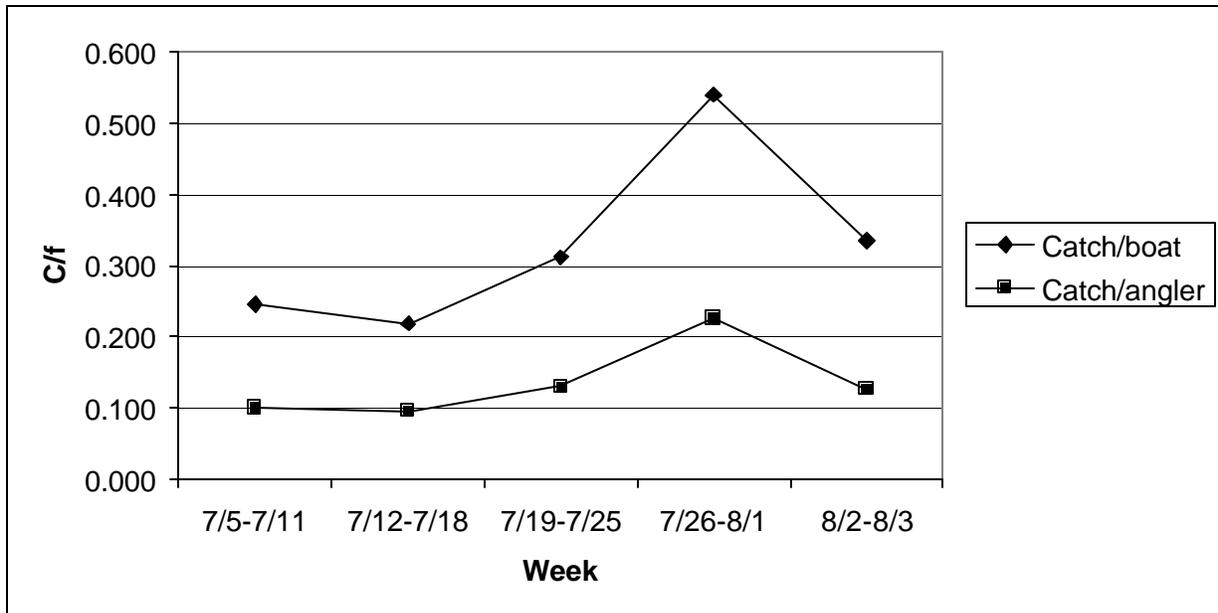


Figure 6. Catch per unit effort (C/f) for kept chinook salmon in Marine Area 5, by week, for the 2003 Chinook Selective Fishery. Note the last week includes only two days.

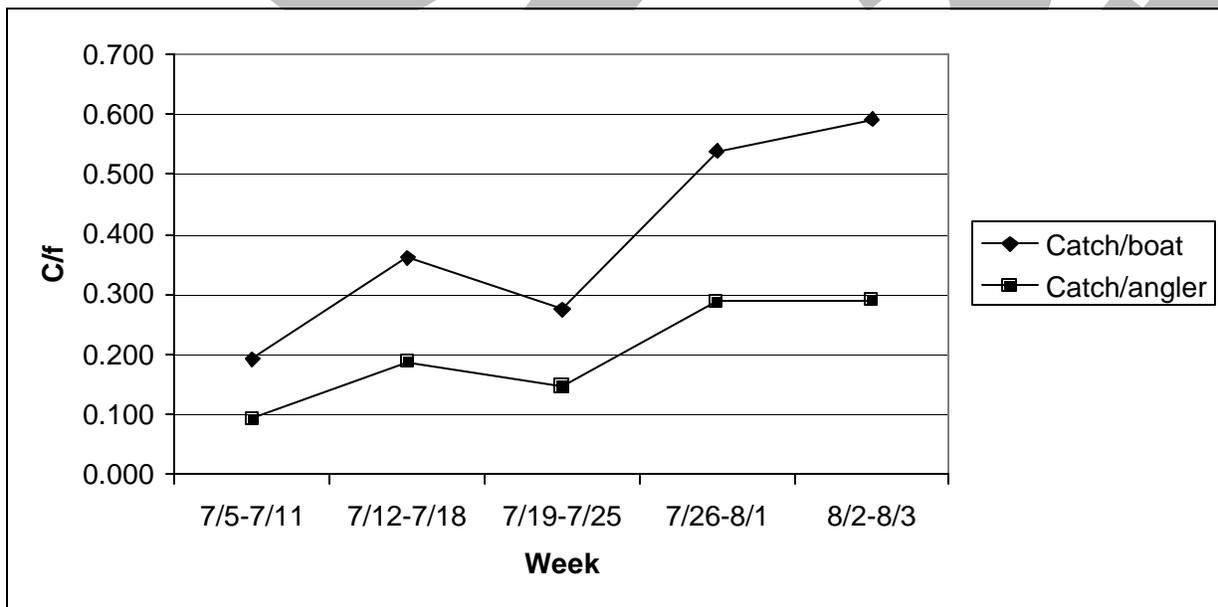


Figure 7. Catch per unit effort (C/f) for kept chinook salmon in Marine Area 6, by week, for the 2003 Chinook Selective Fishery. Note the last week includes only two days.

Mark Rate and Percent Legal*Test Fisheries*

During the Chinook Selective Fishery (July 5-August 3), samplers fishing from the test boats caught 335 chinook in Area 5 and 148 chinook in Area 6 (Table 2). Most of the fish caught in Area 5 were between 40 and 75 cm (16 and 30”), whereas most of the fish caught in Area 6 were between 70 and 100 cm (28 and 39”) (Figures 8 and 9). A significantly ( $X^2 = 99.8$ ,  $p > 0.0001$ ) higher percentage of legal-size chinook were caught in Area 6 (94%) versus Area 5 (46%). During the Chinook Selective Fishery time period, 43% of the legal-size fish were marked in Area 5 and 45% of the legal-size chinook were marked in Area 6 (Table 2). Based on these data, anglers could retain nearly one of every two legal-size chinook they encountered during the fishery. The mark rate for legal-size chinook in Area 5 generally declined from early July through mid-August while the mark rate of legal-size chinook in Area 6 generally increased during the same time period (Figure 10). The mark rate on sublegal chinook for Areas 5 and 6 combined was 27%. Of the total number of chinook encountered by test boats during the Chinook Selective Fishery, 37% were marked.

Based on the continued test fishing in Area 5 directed at coho, the mark rate on chinook immediately following the closure of the Chinook Selective Fishery was not dissimilar from that observed during the fishery (Figure 10).

Table 2. Number of marked and unmarked, legal-size and sublegal-size chinook salmon caught by test boats during the Chinook Selective Fishery in Marine Areas 5 and 6, July 5 through August 3, 2003.

	Legal-size			Sublegal-size			Total		
	Marked	Unmarked	%	Marked	Unmarked	%	Marked	Unmarked	%
Area 5	67	88	43	48	132	27	115	220	34
Area 6	63	76	45	3	6	33	66	82	45
Total	130	164	44	51	138	27	181	302	37

*Voluntary Trip Reports (VTR's)*

Anglers returned Voluntary Trip Reports (VTRs) from 139 boat trips in Areas 5 and 6 between July 5 and September 25. Of those, 53 (38%) were from one charter boat fishing out of Sekiu, and another 25 (18%) were from WDFW biologists fishing during their own time. The North Olympic Peninsula Chapter of Puget Sound Anglers contributed 36 (26%) of the reports. Based on the timing of the trips taken, and the size and species of the fish noted, most of the chinook data appear to be from reliable sources.

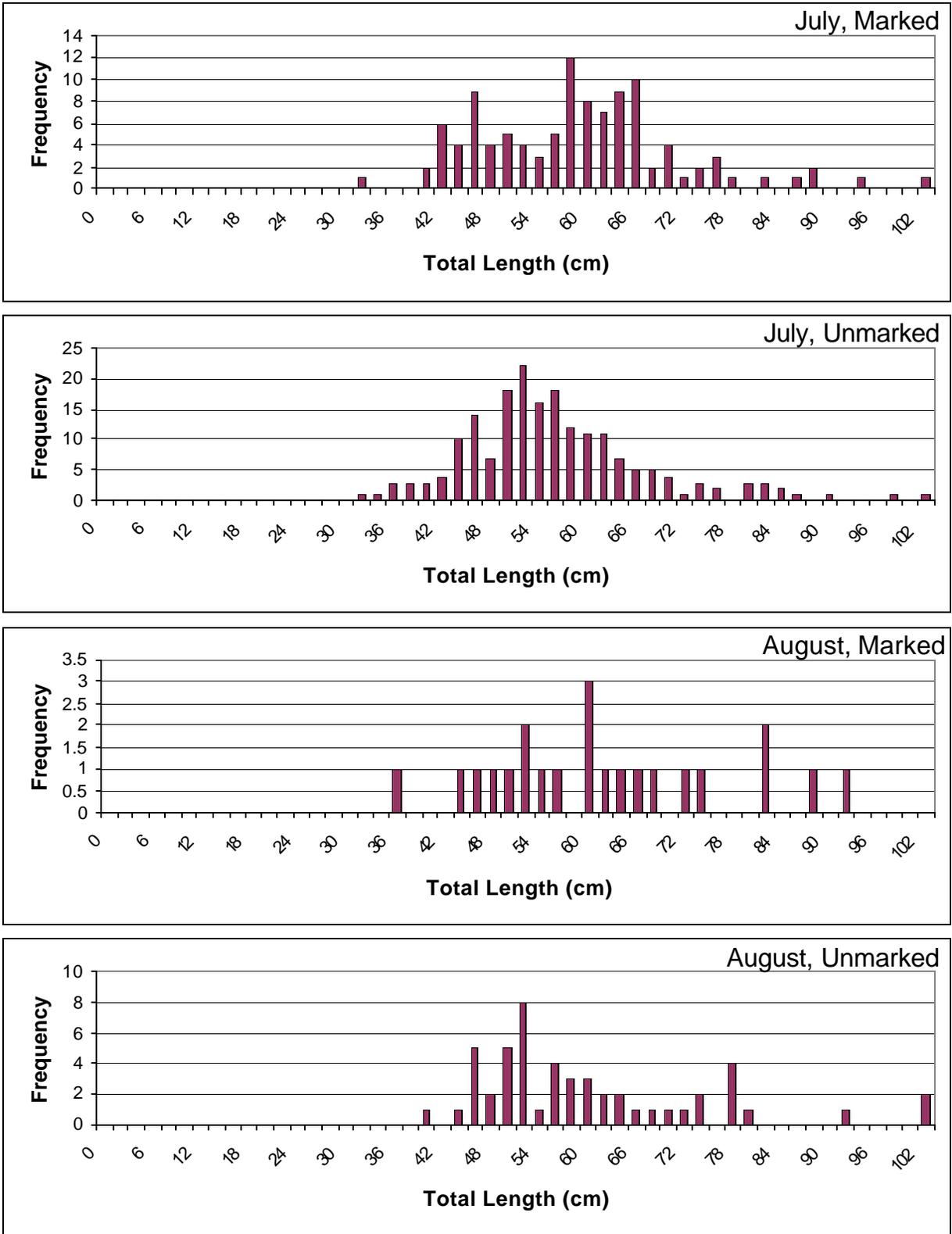


Figure 8. Length frequency histograms of chinook salmon caught by test fishing boats sampling from July 5 through August 3, 2003, in Marine Area 5.

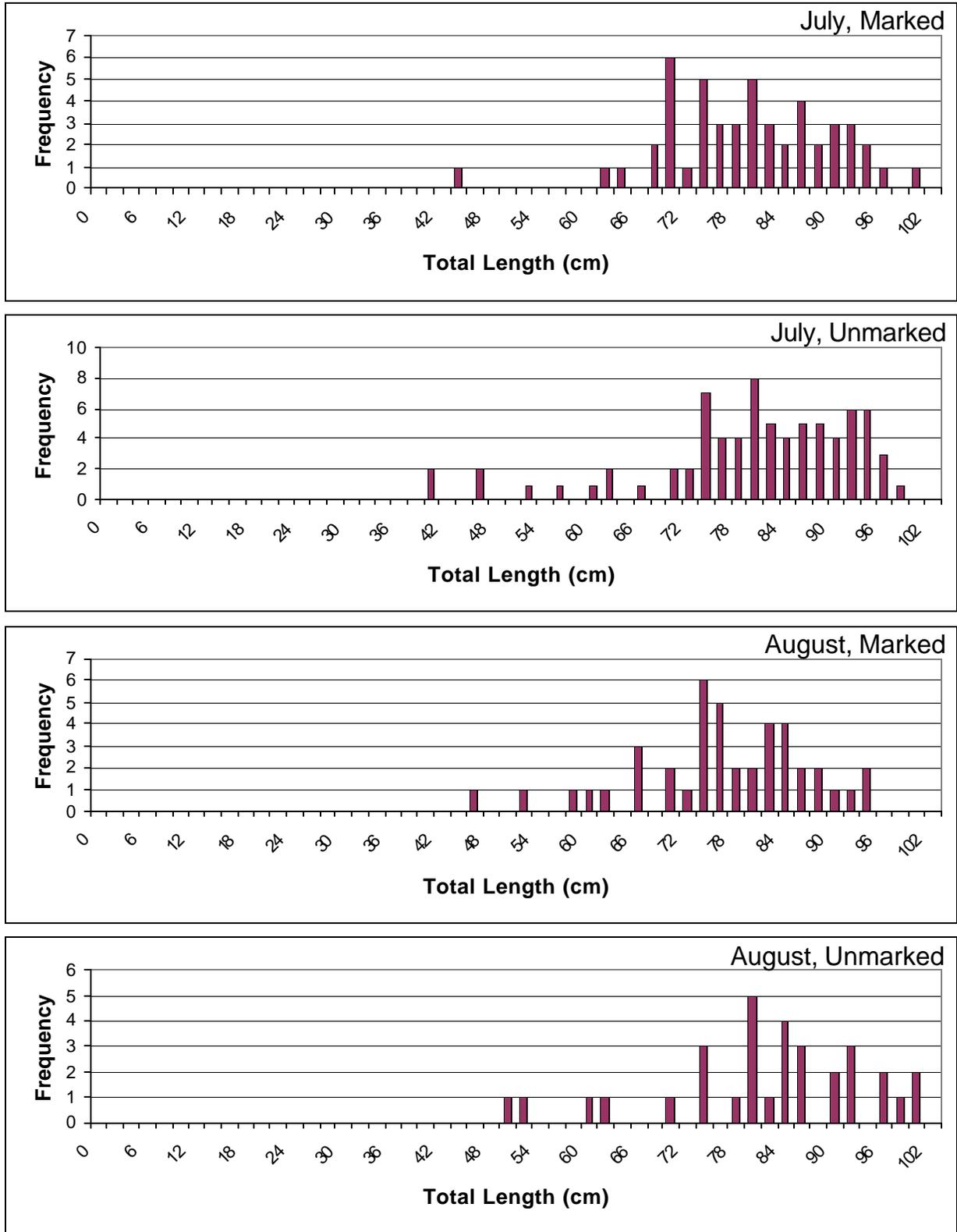


Figure 9. Length frequency histograms of chinook salmon caught by test fishing boats sampling from July 5 through August 3, 2003, in Marine Area 6.

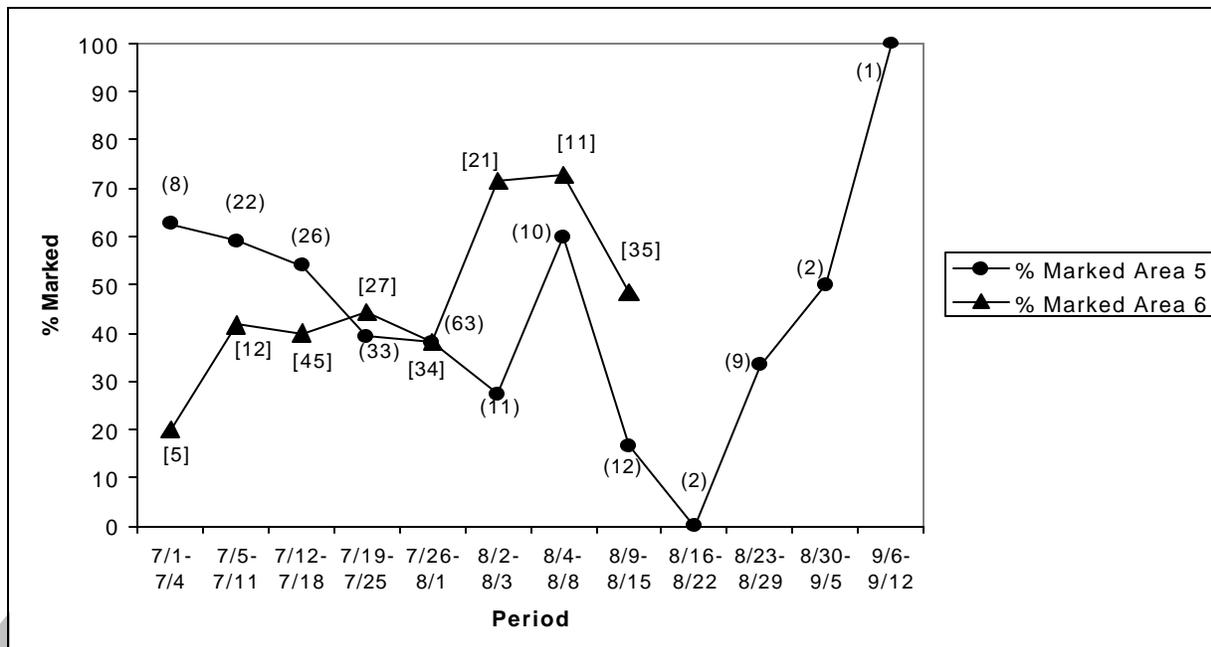


Figure 10. Mark rate (% adipose fin clipped) of legal-size chinook caught by WDFW test boats in Marine Areas 5 and 6 during 2003. Sample sizes for Marine Area 5 are in ( ), while sample sizes for Marine Area 6 are in [ ]. The Chinook Selective Fishery was from July 5 through August 3.

During the Chinook Selective Fishery the VTR's showed 270 chinook encountered in Area 5 and 89 chinook encountered in Area 6 (Table 3). In Area 5, 49% of the chinook were legal-size compared to 46% from the test fishing. In Area 6, 85% of the chinook encountered were legal-size compared to 94% from test fishing. The VTR information showed 29% of the legal-size fish were marked in Area 5 contrasted with 43% in the test fishery. In Area 6 the VTR results showed that 41% of the legal-size fish were marked which compared favorably with 45% observed in the test fishery. The mark rate on sublegal chinook for Areas 5 and 6 combined was 32% compared to 27% in the test fishery. The mark rates of legal-size chinook were generally similar between VTR's and test boats (Figures 11 and 12).

Overall, the information on legal-size vs. sublegal-size chinook and mark rates was very similar to the test fishery results. This was likely due to the reports being filled out by anglers who were both experienced and conscientious.

Table 3. Number of marked and unmarked, legal-size and sublegal-size chinook salmon caught by volunteers during the Chinook Selective Fishery in Marine Areas 5 and 6, July 5 through August 3, 2003.

	Legal-size			Sublegal-size			Total		
	Marked	Unmarked	%	Marked	Unmarked	%	Marked	Unmarked	%
Area 5	38	93	29	43	96	31	81	189	30
Area 6	31	45	41	5	8	38	36	53	40
Total	69	138	33	48	104	32	117	242	33

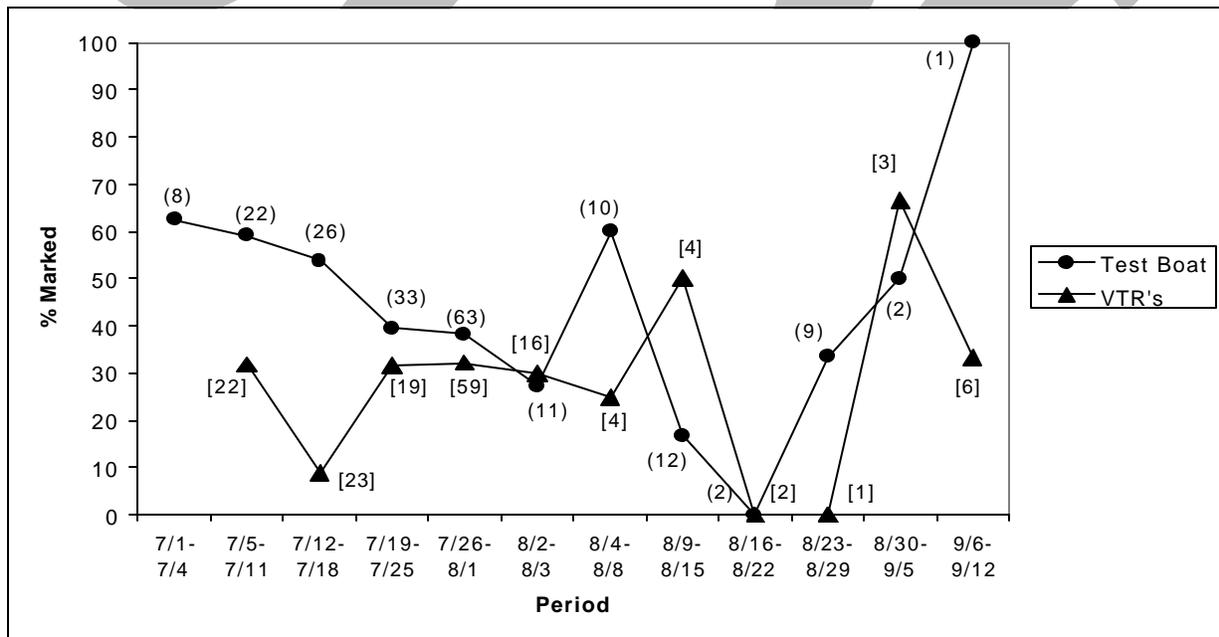


Figure 11. Mark rate (% adipose fin clipped) of legal-size chinook salmon caught by WDFW test boats and anglers recording their catch on Voluntary Trip Reports (VTR's) in Marine Area 5 during 2003. Sample sizes for test boat are in ( ), while sample sizes for VTR's are in [ ]. The Chinook Selective Fishery was from July 5 through August 3.

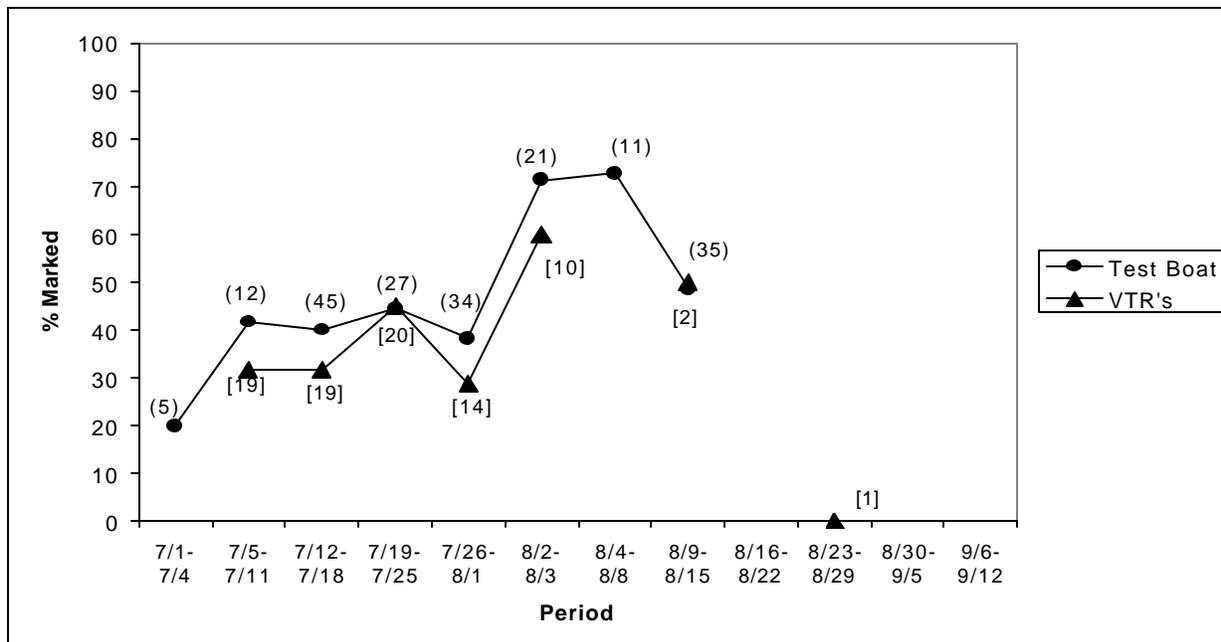


Figure 12. Mark rate (% adipose fin clipped) of legal-size chinook salmon caught by WDFW test boats and anglers recording their catch on Voluntary Trip Reports (VTR's) in Marine Area 6 during 2003. Sample sizes for test boat are in ( ), while sample sizes for VTR's are in [ ]. The Chinook Selective Fishery was from July 5 through August 3.

Summary of chinook kept and released during the Chinook Selective Fishery.

A total of 3,586 chinook were kept during the Chinook Selective Fishery. Of this total, 3,471 were marked and 115 were unmarked (Table 4). A total of 15,173 chinook were released during the Fishery based on angler interviews and the appropriate expansions. Of the total number of chinook released, 1,147 were marked and 14,026 were unmarked. This summary table uses the estimates of kept chinook and the total number of chinook released from the creel surveys, including shoreside interviews of anglers.

Table 4. Creel estimates of chinook caught and released, by mark status, during the Chinook Selective Fishery in Marine Areas 5 and 6, July 5 through August 3, 2003.

	Total Caught	Marked Caught	Unmarked Caught	Total Released	Marked Released	Unmarked Released	Total Encounters	% Marked of Total Chinook Encounters
Area 5	2,624	2,533	91	13,466	1,073	12,393	16,090	22%
Area 6	962	938	24	1,707	74	1,633	2,669	38%
<b>Total</b>	<b>3,586</b>	<b>3,471</b>	<b>115</b>	<b>15,173</b>	<b>1,147</b>	<b>14,026</b>	<b>18,759</b>	

## **SALMON HANDLING REGULATION AND EDUCATION**

Since anglers were required to release salmon without bringing the fish on board their vessel, we initiated a program to educate anglers about the new regulation, alternative methods of releasing fish, and fish identification. A WDFW biologist contacted anglers 3 or 4 days each week starting at first light and working until an 8 or 10 hour shift was completed. The intent was to contact anglers before they started fishing, although some anglers were contacted after their fishing trip. Shifts alternated between Sekiu and Port Angeles, and sites were selected where creel surveys were not being conducted to avoid confusing anglers with multiple Washington Department of Fish and Wildlife (WDFW) employees or “bothering” them multiple times. After identifying himself as a WDFW employee, anglers were queried as to their knowledge of techniques for releasing salmon. Receptive anglers were given a pamphlet describing selective fisheries and how to identify salmon species, and a “dehooker”. The dehooker was designed to release recreational caught salmon without handling the fish or putting them in a net, and as a tool for easily determining whether chinook salmon exceeded the 22” minimum length. The dehooker is constructed from a 22” long, ½” diameter, wood dowel with a teacup hook in the end (Figure 13). Anglers unfamiliar with the dehooker were given a demonstration and instructed in the proper use of the dehooker. Anglers were also asked to avoid netting fish they were going to release.

Response to the new regulation and education efforts was mixed. Many of the experienced anglers had already developed their own methods to minimize handling stress and maximizing survival of released fish, including not using nets. These anglers were generally appreciative of the education effort, even though they gained little from the effort. Some experienced anglers liked the dehooker and preferred it to potentially dropping their own tools in the water. For some anglers, any attempt to limit their ability to handle fish was poorly received. Many of these anglers felt that it was unreasonable to handle fish without bringing them into the boat, while others felt that not using a net was impossible. They generally cited the following reasons: they didn’t want to lose a fish (maybe their only chinook caught during the day) while trying to identify whether it was legal to keep or not; the fish were too wild and active to handle unless they were in a net; and/or the conditions were too rough to safely handle fish over the side of the boat without a net. Some of the anglers who had not used a dehooker in the past were pleased with how well it worked, and a few asked for additional dehookers to share with friends.

## **COMPLIANCE WITH REGULATIONS**

Compliance with existing regulations, and the new regulation prohibiting bringing salmon on board a vessel if they were going to be released, was considered an integral part of a successful fishery. WDFW enforcement division conducted additional patrols and emphasis patrols to monitor compliance. Between July 5 and August 3, officers contacted 620 anglers in Area 5 and 226 anglers in Area 6. From those contacts, officers issued 5 citations and 3 warnings in Area 5, and 2 citations in Area 6, for retention of unmarked chinook. Two warnings were issued in Area 5 for bringing a salmon to be released on board a vessel, while no warnings or citations were

issued for this regulation in Area 6. From the perspective of protecting wild chinook and ensuring proper handling during release, the high compliance rate suggests that these objectives were obtained.

### SUMMARY

By all accounts, the first every marine chinook selective fishery appears to have been successful. Anglers were allowed to fish for and retain chinook for 30 days in Areas 5 and 6, compared with only 5 days in Area 5 in 2002. Angler effort in Area 5 during 2003 was double the effort in 2002 during the same time frame, and likely was also double in Area 6. Using data from the test fishery sampling during the Chinook Selective Fishery nearly half, or one in two of the legal-size chinook encountered were marked and could be retained by anglers. Compliance with fishing regulations was good during the fishery, and in general, anglers strived to release fish carefully.



Figure 13. Schematic of “dehooker” given to anglers participating in the 2003 Chinook Selective Fishery in Marine Areas 5 and 6.

## ACKNOWLEDGEMENTS

We thank the following individuals who contributed to this study. Donalynn Olson of Olson's Resort was extremely helpful in assisting WDFW with accommodations and office space. Chris Mohr and Harold VanRiper of Van Rippers Resort provided valuable advice and guidance regarding the fishery, and graciously provided a location for storage of WDFW equipment. The North Olympic Peninsula Chapter of Puget Sound Anglers spent many long hours assembling the dehookers, saving WDFW thousands of dollars. Numerous WDFW staff contributed to data collection and analysis. Larry Bennett, Connie Warren, and their crew collected much of this data and were quick to provide assistance with the education efforts. Mark Baltzell compiled the Voluntary Trip Reports and completed the necessary data analyses. Justin Secrist provided maps and other figures.

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