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**INCIDENCE OF CODED-WIRE TAGGED SALMONIDS
IN COMMERCIAL AND RESEARCH CATCHES
IN THE NORTH PACIFIC OCEAN
AND BERING SEA, 1996-1997**

by

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ABSTRACT

In this document we summarize the results of sampling for coded-wire tagged salmonids by scientists on research vessels and by U.S. observers on groundfish vessels in the North Pacific Ocean and Bering Sea from 1 January 1996 through 31 August 1997. Release and recovery information from 110 coded-wire tagged salmonids is reported for the first time: 31 recoveries during 1 September - 31 December 1996, and 79 recoveries from 1 January through 31 August 1997. Four coded-wire tagged chinook salmon of Snake River drainage, Washington-Idaho origin were recovered from commercial catches off the Pacific Coast of Washington state. The recovery off the south central Oregon coast of a coded-wire tagged immature chinook salmon from the Kenai River, Alaska marks the southernmost recovery of a Alaska origin chinook salmon on the Pacific Coast.

INTRODUCTION

During the 27th Annual Meeting of the International North Pacific Fisheries Commission (INPFC) in Anchorage, Alaska, in November 1980, a representative from the Pacific States Marine Fisheries Commission (PSMFC) requested the INPFC coordinate among member countries the examination of salmonids that might contain a coded-wire tag (CWT) that were caught in convention waters. The matter was referred to the Standing Committee on Biology and Research, which subsequently referred the matter to the Subcommittee on Salmon. Early in March 1981, the Ad Hoc Salmon Research Coordinating Group of the Subcommittee on Salmon met in Tokyo and discussed procedures for sampling. The procedures agreed to by the Group have been used from 1981 to the present (Dahlberg 1981).

The number of CWT salmonids potentially available for sampling has increased greatly since 1980; e.g., 44.3 million salmonids were coded-wire tagged and released into the North Pacific Ocean by California, Oregon, Idaho, Washington state, British Columbia, Yukon Territory, and Alaska agencies in 1995 (PSMFC 1996). More than 3,400 recoveries of CWT salmonids from releases by 39 agencies have been reported from the high seas and U.S. Exclusive Economic Zone (U.S. EEZ) since 1980. Six coded-wire tag recoveries in 1996-97 came from releases by three new agencies: Metlakatla Indian Community, Muckleshoot Tribe, and the Nez Perce Tribe (Table 1).

In this document we summarize the results of sampling for coded-wire tagged salmonids by scientists on research vessels and by U.S. observers on groundfish vessels in the North Pacific Ocean and Bering Sea during 1996 and 1 January-31 August 1997. Information from CWT recoveries from research vessel catches and from groundfish fisheries in the North Pacific Ocean and Bering Sea for 1980-1987 and a portion of 1988 was previously summarized and reported (see Dahlberg *et al.* 1988 for review). Information from recoveries of CWT salmonids has been reported to the INPFC annually through 1992 and to the North Pacific Anadromous Fish

Commission since 1992; e.g., Dahlberg *et al.* (1996) reported information for recoveries during 1995 and a portion of 1996. The tables of release and recovery information for CWT salmonids in this report contain data for all 1996 recoveries and any changes made in release or recovery information for the period 1989-1995 (PSMFC 1996). Release and recovery information from 110 coded-wire tagged salmonids is reported for the first time: 31 recoveries during 1 September - 31 December 1996, and 79 recoveries from 1 January through 31 August 1997.

Snouts from an additional 119 salmonids lacking the adipose fin but lacking a CWT underwent necropsy: 15 in late 1996 and 104 from 1 January through 31 August 1997.

RESULTS AND DISCUSSION

Research Vessels

1996

During salmon research cruises with Fisheries Agency of Japan (FAJ) vessels in 1996 salmonids were caught and most examined for fish lacking the adipose fin; those fish lacking the fin could potentially contain a CWT in the snout. Of 47 steelhead trout, 4 sockeye, 1 pink, and 5 coho salmon lacking the adipose fin, five CWTs were recovered from steelhead and one each from a sockeye and coho salmon (Table 2).

1997

During two FAJ cruises and one U.S. cruise in 1997, U.S. and Japanese scientists examined 23,193 salmonids for fish lacking the adipose fin (Carlson *et al.* 1997, Myers *et al.* 1997, Nagasawa *et al.* 1997). Eight CWTs were recovered from 72 steelhead trout lacking the adipose fin. Three CWTs were recovered from 33 coho salmon and none from 2 sockeye salmon lacking the adipose fin.

Groundfish Fishery

Of 57,638 salmon examined in 1996 (35,759 in 1995) by groundfish observers within the U.S. EEZ, 94 chinook, and 17 chum salmon lacked the adipose fin (Table 3); 85 chinook and 2 chum salmon contained a CWT. Although over nine times as many chinook salmon were examined from the Bering Sea-Aleutian Islands (BSAI) area as in the Pacific Coast and Gulf of Alaska (GOA) areas, the majority (70%) of the CWT chinook salmon recovered came from the Pacific Coast and GOA (Table 3). The 38 CWT chinook salmon recovered in the Pacific Coast area in 1996 was only about one-third the number recovered in 1995 when 104 were found. In the GOA, the number of CWT chinook salmon recovered decreased from 29 in 1995 to 23 in 1996. Twenty four CWT chinook salmon were recovered in the BSAI area in 1996 (1 in 1995), and two CWT chum salmon were recovered in the same area (0 in 1995) (Dahlberg *et al.* 1996).

In 1997 (through 31 August), 75 snouts from the salmonid bycatch of groundfish vessels were examined; 63 snouts from chinook salmon contained CWTs; snouts from 1 chum and 4 coho salmon contained CWTs. One CWT chinook salmon was recovered in a processing plant.

The number of salmon examined (Table 3) is the number of salmon appearing in the U.S. groundfish observer's sample for the Pacific Coast, GOA, and BSAI areas. In the case of the BSAI area, fishing regulations since 1994 require full retention of the salmon bycatch on groundfish vessels and some CWTs could have come from salmon that were not in the observer's sample but came from the portion of the trawl catch not sampled.

Release and Recovery Information

Previously unreported CWT release and recovery data for salmonids recovered from high seas research operations and groundfish fisheries in 1996 and January through 31 August 1997 were compiled for chinook (Table 4), coho (Table 5), chum (Table 6), pink (Table 7), sockeye (Table 8), and steelhead (Table 9). All 1996 recoveries, including those previously reported in Dahlberg *et al.* (1996), appear in Table 10. Some CWT chinook salmon were recovered in processing plants from combined catches of several vessels; therefore, in those cases the recovery locations appear as Alaska Department of Fish and Game statistical areas, NMFS statistical areas, or general areas rather than latitude and longitude.

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- Pacific States Marine Fisheries Commission, Regional Mark Processing Center. 1996. Pacific salmonid coded-wire tag releases 1989-1997. Portland, Oregon. 167 p.

Table 1.--Tagging agencies that released coded-wire tagged salmonids recovered in commercial and research vessel catches, and total number of tags recovered by agency from January 1980 through 31 August 1997.

Tagging agency code	Number of tags recovered	Agency name
ADFG	76	Alaska Department of Fish and Game
AKI	1	Armstrong Keta, Inc.
ANAD	58	Anadromous, Inc.
BCFW	51	British Columbia Fish and Wildlife
CDFG	631	California Department of Fish and Game
CDFO	449	Canada Dept. of Fisheries and Oceans - Opr.
CDFR	2	Canada Dept. of Fisheries and Oceans - Res.
CEDC	6	Clatsop Economic Development Council
COOP	17	Washington Department of Fisheries - Coop.
DIPC	1	Douglas Island Pink and Chum, Inc.
DOMS	1	Domsea Farms, Inc.
EBMD	2	East Bay Municipal Utilities District
ELWA	2	Elwah Indian Tribe
FWS	102	U.S. Fish and Wildlife Service
HOH	8	Hoh Indian Tribe
HVT	5	Hoopa Valley Indian Tribe
IDFG	37	Idaho Department of Fish and Game
KRHI	1	Klawock River Hatchery, Inc.
LUMM	5	Lummi Indian Tribe
MAKA	1	Makah Indian Tribe
MIC	4	Metlakatla Indian Community
MUCK	1	Muckleshoot Tribe
NEZP	1	Nez Perce Tribe
NISQ	8	Nisqually Indian Tribe
NMFS	51	National Marine Fisheries Service
NSRA	29	Northern Southeast Reg. Aquaculture Assoc.
OAF	46	Oregon AquaFoods, Inc.
ODFW	1008	Oregon Department of Fish and Wildlife
OPSR	5	Oregon Pacific Salmon Ranch (Formerly BHSR)
PWSA	2	Prince William Sound Aquaculture Assn.
QDNR	25	Quinault Department Natural Resources
SJ	4	Sheldon Jackson College
SSC	3	Skagit System Cooperative
SSRA	35	Southern Southeast Reg. Aquaculture Assoc.
SUQ	11	Suquamish Indian Tribe
TULA	11	Tulalip Indian Tribe
UI	5	University of Idaho
UW	2	School of Fisheries, Univ. of Washington
WDFW	731	Washington Department of Fisheries and Wildlife
Total:	3,438	

Table 2.--Occurrence of coded-wire tagged salmonids in gill-net and longline catches observed by Japanese and U.S. scientists onboard Japanese salmon research vessels operating in the North Pacific Ocean and Bering Sea in 1996.^a

	Number of fish						Total
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	
Caught ^b							
Lacking Ad	4	0	1	5	0	47	57
CWT	1	0	0	1	0	5	7

^aSource: Fisheries Agency of Japan (1997).

^bNot available at the time of document preparation.

Table 3.--Occurrence of coded-wire tagged salmonids in incidental catches of salmonids from groundfish fisheries sampled by U.S. observers within the U.S. EEZ in 1996.^a

	Number of fish						Total
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	
WASHINGTON - OREGON - CALIFORNIA							
Examined ^a	0	39	0	27	543	0	609
Lacking Ad	0	0	0	0	44	0	44
CWT	0	0	0	0	38	0	38
GULF OF ALASKA							
Examined ^a	2	2,422	6	19	2,128	0	4,577
Lacking Ad	0	1	0	0	26	0	27
CWT	0	0	0	0	23	0	23
BERING SEA - ALEUTIAN ISLANDS							
Examined ^a	2	27,445	1	42	24,962	0	52,452
Lacking Ad	0	16	0	0	25	0	41
CWT	0	2	0	0	24	0	26

^aSource of examined category: S. Fitzgerald, REFM Division, Alaska Fisheries Science Center, NMFS, NOAA, Seattle, WA 98115-0070. Pers. commun., September 1997.

Table 4. (Continued.)

RELEASE										RECOVERY																						
A	D	D	D	D	R	B	S	T	P	TOTAL NO.		LAT		LONG		LENGTH	BODY	GONAD	S													
G	A	A	A	A	E	R	A	R	DATE	DATE	D	M	D	M	TSFT	WT	WT	E														
E	T	T	T	T	P	O	T	O	Y	1	2	3	4	D	YR	SITE	E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR	SPECIES
1997																																
635155	92	SIMILKAMEEN	R49.0325	WA	WDFW	133923	0494	970520	47	24	N	124	58	W	970	1320	M	TRAWL	CHINOOK													
635163	93	SNAKE R,	LWR 33.0002	WA	WDFW	101161	0495	970715	48	24	N	124	49	W	530	2200	F	TRAWL	CHINOOK													
635163	93	SNAKE R,	LWR 33.0002	WA	WDFW			970727	48	7	N	125	15	W	640	3800	F	TRAWL	CHINOOK													
635240	93	ICY CR	09.0125	WA	WDFW	46175	0595	970801	48	24	N	124	57	W	560	2100	F	TRAWL	CHINOOK													
635328	94	WINTER CR	15.0048	WA	WDFW	127093	0695	970809	48	18	N	125	16	W	510	1450	F	TRAWL	CHINOOK													
635338	94	FINCH CR	16.0222	WA	WDFW	60628	0695	970802	48	27	N	124	53	W	490	1600	F	TRAWL	CHINOOK													
635543	93	FRIDAY CR	03.0017	WA	WDFW	201258	0594	970705	48	12	N	125	13	W	670	4200	F	TRAWL	CHINOOK													
635545	93	PURDY CR	16.0005	WA	WDFW	223417	0694	970726	48	17	N	125	13	W	730	7600	F	TRAWL	CHINOOK													
635640	93	SNAKE R,	LWR 33.0002	WA	WDFW	73987	0495	970610	48	20	N	125	1	W	570	2100	F	TRAWL	CHINOOK													
635705	93	COL R @	TURTLE ROCK	WA	WDFW	193994	0495	970812	48	21	N	124	51	W	500	1550	F	TRAWL	CHINOOK													
635712	94	SNAKE R @	PITTSBURG	ID	NEZP	113977	0496	970812	48	17	N	124	54	W	540	2100	M	TRAWL	CHINOOK													
635758	94	FRIDAY CR	03.0017	WA	WDFW	205256	0595	970614	48	26	N	124	56	W	530	1800	M	TRAWL	CHINOOK													
635758	94	FRIDAY CR	03.0017	WA	WDFW	205256	0595	970712	48	25	N	124	59	W	520	1600	F	TRAWL	CHINOOK													
635839	94	WENATCHEE R	45.0030	WA	WDFW			970520	47	13	N	124	52	W	440	1050	M	TRAWL	CHINOOK													
635839	94	WENATCHEE R	45.0030	WA	WDFW	222562	0696	970713	48	23	N	124	48	W	450	1100	F	TRAWL	CHINOOK													
635839	94	WENATCHEE R	45.0030	WA	WDFW	222562	0696	970802	48	27	N	124	53	W	460	1000	M	TRAWL	CHINOOK													

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 5.--Release and recovery information for coded-wire tagged coho salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1996 through August 31, 1997.

RELEASE											RECOVERY																
A	D	D	D	D	R	B						S						LENGTH	BODY	GONAD	S						
G	A	A	A	A	E	R						T	P						TSFT	WT	WT	E					
E	T	T	T	T	P	O						A	R						(mm)	(g)	(g)	X					
N	A	A	A	A	O						T	O	TOTAL NO.														
C						C	D						E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M					
Y	1	2	3	4	D	YR	SITE																				
1997																											
1201010111	95					TENTH LK		AK	MIC	20127	0597	970726	59	13	N	147	57	W	259							RESTRAWL	COHO
181418	95					ROBERTSON CR		BC	CDFO	39560	0597	970726	59	13	N	147	57	W	259							RESTRAWL	COHO
182054	94					CHASE R		BC	CDFO	10404	0596	970801	48	27	N	124	49	W	460	1050					M	TRAWL	COHO
635909	94					CASCADE R 3.1411		WA	WDFW	99615	0696	970801	48	24	N	124	56	W	460	1200					F	TRAWL	COHO
635940	94					INDIAN SLOUGH 3.0102		WA	WDFW	47436	0296	970814	48	19	N	125	3	W	550	1950					F	TRAWL	COHO
636005	95					COWLITZ R 26.002		WA	WDFW	91704	0796	970812	48	17	N	124	54	W	420	850					M	TRAWL	COHO

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 6.--Release and recovery information for coded-wire tagged chum salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1996 through August 31, 1997.

RELEASE											RECOVERY																
A	D	D	D	D	R	B						S						LENGTH	BODY	GONAD	S						
G	A	A	A	A	E	R						T	P						TSFT	WT	WT	E					
E	T	T	T	T	P	O						A	R						(mm)	(g)	(g)	X					
N	A	A	A	A	O						T	O	TOTAL NO.														
C						C	D						E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M					
Y	1	2	3	4	D	YR	SITE																				
1996																											
181536	93					STAVE R		BC	CDFO	24623	0494	961011	55	24	N	165	3	W	560	2700					F	TRAWL	CHUM
181538	93					STAVE R		BC	CDFO	25458	0594	960918	55	12	N	164	43	W	604	2300					M	TRAWL	CHUM
1997																											
181536	93					STAVE R		BC	CDFO	24623	0494	970230	54	29	N	166	15	W	635	3050					M	TRAWL	CHUM

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 7.--Release and recovery information for coded-wire tagged pink salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1996 through August 31, 1997.

RELEASE											RECOVERY																
A	D	D	D	D	R	B						S						LENGTH	BODY	GONAD	S						
G	A	A	A	A	E	R						T	P						TSFT	WT	WT	E					
E	T	T	T	T	P	O						A	R						(mm)	(g)	(g)	X					
N	A	A	A	A	O						T	O	TOTAL NO.														
C						C	D						E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M					
Y	1	2	3	4	D	YR	SITE																				
1996																											
1301031115	95					SOLOMON GULCH 221-60		AK	ADFG	136086	0596	960802	58	41	N	150	12	W	150							RESTRAWL	PINK
1301031212	95					LAKE BAY 223-40		AK	ADFG	11247	0596	960731	59	50	N	148	27	W	128							RESTRAWL	PINK
1301031301	95					LAKE BAY 223-40		AK	ADFG	12664	0596	960804	57	19	N	150	47	W	132							RESTRAWL	PINK
1301031302	95					LAKE BAY 223-40		AK	ADFG	12115	0596	960802	58	41	N	150	12	W	132							RESTRAWL	PINK

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 8.--Release and recovery information for coded-wire tagged sockeye salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1996 through August 31, 1997.

RELEASE											RECOVERY																	
A	D	D	D	D	R	B						S																
G	A	A	A	A	E	R						T	P															
E	T	T	T	T	P	O						A	R															
N	A	A	A	A	O						T	O																
C						C	D						E	V	AGENCY	TOTAL NO.	DATE	DATE	LAT		LONG		LENGTH BODY		GONAD	S		
Y	1	2	3	4	D	YR	SITE	E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	TSFT	WT	WT	WT	E	X	GEAR	SPECIES			
(mm)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)				
1996																												
312517	94	MARSHA	L	226-30	AK	PWSA	5370	1195	960802	58	55	N	150	37	W	137										RESTRAWL	SOCKEYE	
312525	94	CROSSWIND	L	212-20	AK	ADFG	11520	0696	960730	59	49	N	146	43	W	149										RESTRAWL	SOCKEYE	

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 9.--Release and recovery information for coded-wire tagged steelhead salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1996 through August 31, 1997.

RELEASE											RECOVERY																	
A	D	D	D	D	R	B						S																
G	A	A	A	A	E	R						T	P															
E	T	T	T	T	P	O						A	R															
N	A	A	A	A	O						T	O																
C						C	D						E	V	AGENCY	TOTAL NO.	DATE	DATE	LAT		LONG		LENGTH BODY		GONAD	S		
Y	1	2	3	4	D	YR	SITE	E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	TSFT	WT	WT	WT	E	X	GEAR	SPECIES			
(mm)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)	(g)			
1997																												
102006	94	HAZARD	CR.	L	SALMON	R	ID	IDFG	19430	0595	970628	47	30	N	180	0	702	3200	20	F	RESGILL	STEELHEAD						
103509	95	HAZARD	CR.	L	SALMON	R	ID	IDFG	64558	0496	970624	45	0	N	180	0	546	1430	2	M	RESLLINE	STEELHEAD						
104511	94	SAWTOOTH	HATCHERY	ID	FWS	20331	0495	970622	43	0	N	180	0	710	2320	20	F	RESLLINE	STEELHEAD									
104520	94	SAWTOOTH	HATCHERY	ID	FWS	18109	0495	970625	45	0	N	180	0	574	2000	3	M	RESGILL	STEELHEAD									
212936	95	SALMON	R,	HATCHERY	WA	QDNR	35654	0496	970621	41	0	N	180	0	572	2000	18	F	RESGILL	STEELHEAD								
212938	95	QUINAULT	L,	NET PENS	WA	QDNR	46168	0596	970628	48	30	N	179	30	W	700	3740	23	F	RESLLINE	STEELHEAD							
213032	96	SALMON	R,	HATCHERY	WA	QDNR		1997	970707	52	0	N	145	0	W	303	250	1	F	RESGILL	STEELHEAD							

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.

Table 10. (Continued.)

RELEASE										RECOVERY														
A	D	D	D	D	R	B					S													
G	A	A	A	A	E	R					T	P												
E	T	T	T	T	P	O					A	R												
N	A	A	A	A	O						T	O												
C	C	C	C	C	D						E	V	AGENCY	TOTAL NO.	DATE	DATE	LAT	LONG	LENGTH	BODY	GONAD	S	E	SPECIES
Y	1	2	3	4	D	YR	SITE	E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR	SPECIES	
635154	92					92	SIMILKAMEEN R49.0325	WA	WDFW	133923	0494	960318	59	45	N	148	11	W	630	3800	M	TRAWL	CHINOOK	
635159	93					93	WASHOUGAL R 28.0159	WA	WDFW	91490	0794	960524	47	24	N	124	43	W	535	1810	M	TRAWL	CHINOOK	
635162	93					93	SNAKE R, LWR 33.0002	WA	WDFW	89805	0495	960520	47	36	N	124	50	W	420	830	M	TRAWL	CHINOOK	
635163	93					93	SNAKE R, LWR 33.0002	WA	WDFW	101161	0495	960709	48	24	N	124	57	W	440	900		TRAWL	CHINOOK	
635163	93					93	SNAKE R, LWR 33.0002	WA	WDFW	101161	0495	960711	48	23	N	125	0	W	470	1020	M	TRAWL	CHINOOK	
635263	92					92	SNAKE R, LWR 33.0002	WA	WDFW	33736	0494	960524	47	13	N	124	50	W	525	1520	M	TRAWL	CHINOOK	
635437	93					93	SUND ROCK NET PENS	WA	WDFW	24194	0495	960713	48	23	N	124	54	W	550	1800	F	TRAWL	CHINOOK	
635539	93					93	COWLITZ R 26.0002	WA	WDFW	199353	0694	960710	48	25	N	124	48	W	530	1875	M	TRAWL	CHINOOK	
635705	93					93	COL R @ TURTLE ROCK	WA	WDFW	193994	0495	960524	47	24	N	124	43	W	433	890	F	TRAWL	CHINOOK	
635705	93					93	COL R @ TURTLE ROCK	WA	WDFW	193994	0495	960709	48	28	N	124	51	W	530	1600	M	TRAWL	CHINOOK	
635758	94					94	FRIDAY CR 03.0017	WA	WDFW	205256	0595	960707	48	25	N	125	50	W	405	800	M	TRAWL	CHINOOK	
181536	93					93	STAVE R	BC	CDFO	24623	0494	961011	55	24	N	165	3	W	560	2700	F	TRAWL	CHUM	
181538	93					93	STAVE R	BC	CDFO	25458	0594	960918	55	12	N	164	43	W	604	2300	M	TRAWL	CHUM	
043734							BERNERS R	AK	ADFG	41000		960726	58	11	N	136	42	W	208			RESTRAWL	COHO	
044233	94					94	TAKU R - WILD	AK	ADFG	10253	0696	960726	58	9	N	136	51	W	183			RESTRAWL	COHO	
044342	93					93	KALWOCK R 103-60	AK	KRHI	10198	0695	960704	55	0	N	145	0	W	608	3220	14	M	RESGILL	COHO
044529							BERNERS R	AK	ADFG	41000		960726	58	11	N	136	42	W	232			RESTRAWL	COHO	
044549	94					94	NEETS BAY 101-90	AK	SSRA	10960	96	960726	57	52	N	137	47	W	250			RESTRAWL	COHO	
044550	94					94	NEETS BAY 101-90	AK	SSRA	10844	96	960723	56	7	N	134	52	W	215			RESTRAWL	COHO	
044550	94					94	NEETS BAY 101-90	AK	SSRA	10844	96	960724	56	59	N	135	53	W	226			RESTRAWL	COHO	
044555	94					94	NEETS BAY 101-90	AK	SSRA	11379	96	960726	57	52	N	137	47	W	241			RESTRAWL	COHO	
075339							NEHALEM R, NFK	OR	ODFW		0396	960802	58	45	N	150	16	W	355			RESTRAWL	COHO	
1301031115	95					95	SOLOMON GULCH 221-60	AK	ADFG	136086	0596	960802	58	41	N	150	12	W	150			RESTRAWL	PINK	
1301031212	95					95	LAKE BAY 223-40	AK	ADFG	11247	0596	960731	59	50	N	148	27	W	128			RESTRAWL	PINK	
1301031301	95					95	LAKE BAY 223-40	AK	ADFG	12664	0596	960804	57	19	N	150	47	W	132			RESTRAWL	PINK	
1301031302	95					95	LAKE BAY 223-40	AK	ADFG	12115	0596	960802	58	41	N	150	12	W	132			RESTRAWL	PINK	
312442	93					93	MAIN BAY 225-20	AK	PWSA	32462	0695	960705	54	0	N	144	59	W	364	640	1	M	RESGILL	SOCKEYE
312517	94					94	MARSHA L 226-30	AK	PWSA	5370	1195	960802	58.55	N	150	37	W	137				RESTRAWL	SOCKEYE	
312525	94					94	CROSSWIND L 212-20	AK	ADFG	11520	0696	960730	59	49	N	146	43	W	149			RESTRAWL	SOCKEYE	
103053	95					95	CLEAR CR	ID	IDFG	63556	0496	960711	52	20	N	141	15	W	298	250	3	F	RESGILL	STEELHEAD
103511	95					95	SALMON R	ID	IDFG	61552	0496	960707	52	0	N	145	0	W	298	220	3	F	RESGILL	STEELHEAD
634833	93					93	WASHOUGAL, WF28.0232	WA	WDFW	14886	0494	960711	47	0	N	165	0	E				GILLNET	STEELHEAD	
635716	94					94	TOUCHET R 32.0097	WA	WDFW	19967	0495	960623	45	30	N	179	30	W	550	1620	1	M	GILLNET	STEELHEAD
635728	94					94	SNAKE R, LWR 33.0002	WA	WDFW	39737	0495	960627	47	30	N	179	30	W	585	2040	2	M	GILLNET	STEELHEAD

Release data were obtained from Pacific States Marine Fisheries Commission Regional Mark Processing Center.