

INCIDENCE OF CODED-WIRE TAGGED SALMONIDS
IN COMMERCIAL AND RESEARCH CATCHES
IN THE NORTH PACIFIC OCEAN
AND BERING SEA, 1994-1995

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 1994 through 31 August 1995. Release and recovery information from 194 coded-wire tagged salmonids is reported for the first time: 59 recoveries during 1 September - 31 December 1994, and 135 recoveries from 1 January through 31 August 1995.

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 efforts to examine 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., 45.1 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 1994 (PSMFC 1994). More than 3,200 recoveries of CWT salmonids from releases by 38 agencies have been reported from the high seas and U.S. Exclusive Economic Zone (U.S. EEZ) since 1980 (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 1994 and 1 January-31 August 1995. 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.* (1994) reported information for recoveries during 1993 and a portion of 1994. The tables of release and recovery information for CWT salmonids in this report contain data for all 1994 recoveries and any changes made in release or recovery information for the period 1988-1994 (PSMFC 1994). Release and recovery information from 194 coded-wire tagged salmonids is reported for the first time: 59 recoveries during 1 September - 31 December 1994, and 135 recoveries from 1 January through 31 August 1995.

Snouts from an additional 68 salmonids lacking the adipose fin but without a CWT underwent necropsy: 7 in late 1994 and 61 from 1 January through 31 August 1995.

RESULTS AND DISCUSSION

Research Vessels

1994

During seven salmon research cruises with Fisheries Agency of Japan vessels in 1994, 27,776 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 93 salmonids lacking the adipose fin, six CWTs were recovered from 2 coho salmon and 4 steelhead; 2 pink and 4 coho salmon and 81 steelhead lacked the adipose fin but did not contain CWTs (Table 2).

1995

During two Fisheries Agency of Japan salmon research cruises in 1995 U.S. and Japanese scientists examined 12,046 salmonids for fish lacking the adipose fin (Myers *et al.* 1995). Three CWTs were recovered from 51 steelhead lacking the adipose, left ventral, or both fins. One steelhead lacking the adipose fin was tagged and released from the research vessel *Oshoro maru*.

Groundfish Fishery

Of 61,101 salmonids examined in 1994 (95,095 in 1993) by groundfish observers within the U.S. EEZ, 161 chinook, 6 chum, and 1 coho salmon lacked the adipose fin (Table 3); 145 chinook, 1 coho, and 1 chum salmon contained a CWT. The 36,721 chum salmon examined by observers in the Bering Sea - Aleutian Islands (BSAI) area in 1994 was the second highest number ever examined in that area.

Although over four times as many chinook salmon were examined from the BSAI and Pacific Coast areas as in the Gulf of Alaska, the majority (56%) of the CWT chinook salmon recovered came from the Gulf of Alaska (Table 3). The 56 CWT chinook salmon recovered in the Pacific Coast area in 1994 was four times the number recovered in 1993 when 14 were found. In the Gulf of Alaska, the number of CWT chinook salmon recovered greatly decreased from 163 in 1993 to 81 in 1994. Eight CWT chinook salmon were recovered in the BSAI area in 1994 (11 in 1993), although there were 3,646 more fish examined in 1994 than in 1993 (Dahlberg *et al.* 1994).

In 1995 (through 31 August), 145 snouts from the salmonid bycatch of groundfish vessels were examined; 132 from chinook salmon contained CWTs, the remaining 13 snouts from chinook salmon lacked CWTs. Four CWT chinook salmon were recovered in processing plants from combined catches of several vessels; therefore, the recovery locations appear as Alaska Department of Fish and Game statistical areas, NMFS statistical areas, or general areas rather than latitude and longitude.

Two CWT Snake River origin chinook salmon, one released from the Lyons Ferry hatchery in June 1991 (code 634160) and another released in April 1993 (code 634661) were caught in trawl fisheries off the Washington coast. The June 1991 release was caught seaward of Willapa Bay in May 1994. The April 1993 release was caught in April 1995 off Gray's Harbor, about 30 nm northwest of the earlier recovery. These fish are true surrogate representatives of Snake River fall chinook salmon listed as endangered under the Endangered Species Act.

Release and Recovery Information

Previously unreported CWT release and recovery data for salmonids recovered from high seas research operations and groundfish fisheries in 1994 and January through 31 August 1995 were compiled for chinook (Table 4) and chum salmon (Table 5), and steelhead (Table 6). All 1994 recoveries, including those previously reported in Dahlberg *et al.* (1994), appear in Table 7.

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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 1995.

Tagging agency code	Number of tags recovered	Agency name
ADFG	54	Alaska Department of Fish and Game
AKI	1	Armstrong Keta, Inc.
ANAD	58	Anadromous, Inc.
BCFW	52	British Columbia Fish and Wildlife
BHSR	3	Burnt Hill Salmon Ranch
CDFG	627	California Department of Fish and Game
CDFO	393	Canada Dept. of Fisheries and Oceans - Opr.
CDFR	2	Canada Dept. of Fisheries and Oceans - Res.
CEDC	5	Clatsop Economic Development Council
COOP	15	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	97	U.S. Fish and Wildlife Service
HOH	8	Hoh Indian Tribe
HVT	5	Hoopa Valley Indian Tribe
IDFG	32	Idaho Department of Fish and Game
LUMM	4	Lummi Indian Tribe
MAKA	1	Makah Indian Tribe
MIC	3	Metlakatla Indian Community
NISQ	5	Nisqually Indian Tribe
NMFS	50	National Marine Fisheries Service
NSRA	25	Northern Southeast Reg. Aquaculture Assoc.
OAF	46	Oregon AquaFoods, Inc.
ODFW	970	Oregon Department of Fish and Wildlife
OPSR	2	Oregon Pacific Salmon Ranch (Formerly BHSR)
QDNR	22	Quinault Department Natural Resources
SJ	4	Sheldon Jackson College
SSC	3	Skagit System Cooperative
SSRA	30	Southern Southeast Reg. Aquaculture Assoc.
SUQ	9	Suquamish Indian Tribe
TULA	11	Tulalip Indian Tribe
UI	5	University of Idaho
UW	2	School of Fisheries, Univ. of Washington
WDF	650	Washington Department of Fisheries
WDFW	8	Washington Department of Fisheries and Wildlife
WDW	38	Washington Department of Wildlife (Formerly WDG)
Total:	3,246	

Table 2.--Occurrence of coded-wire tagged salmonids in gill-net, purse seine, 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 1994.^a

	Number of fish						
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Total
Caught	2,427	11,667	11,566	1,683	186	247	27,776
Lacking Ad	0	0	2	6	0	85	93
CWT	0	0	0	2	0	4	6

^aSource: Fisheries Agency of Japan (1995).

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 1994.

	Number of fish						
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Total
WASHINGTON - OREGON - CALIFORNIA							
Examined ^a	0	5	18	7	942	0	972
Lacking Ad	0	0	0	1	61	0	62
CWT	0	0	0	1	56	0	57
GULF OF ALASKA							
Examined ^a	27	11,412	62	6	2,381	0	13,888
Lacking Ad	0	2	0	0	86	0	88
CWT	0	0	0	0	81	0	81
BERING SEA - ALEUTIAN ISLANDS							
Examined ^a	10	36,721	10	79	9,421	0	46,241
Lacking Ad	0	4	0	0	14	0	18
CWT	0	1	0	0	8	0	9

^aSource of examined category: M. Loefflad, REFM Division, Alaska Fisheries Science Center, NMFS, NOAA, Seattle, WA 98115-0070. Pers. commun., October 1995.

Table 5.--Release and recovery information for coded-wire tagged chum salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1994 through 31 August 1995.

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	TOTAL NO.	LAT	LONG	LENGTH	BODY	GONAD	S									
C	C	C	D					E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	(mm)	(g)	(g)	E						
Y	1	2	3	4	D	YR	SITE					DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR						
1994																											
180235						90	NIMPKISH R, LWR				BC	CDFO	26974	0591	940829	58	6	N	174	00	W	630	2600			F	TRAWL

Table 6.--Release and recovery information for coded-wire tagged steelhead salmon recovered from the North Pacific Ocean, 1 January 1995 through 31 August 1995.

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	TOTAL NO.	LAT	LONG	LENGTH	BODY	GONAD	S									
C	C	C	D					E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	(mm)	(g)	(g)	E						
Y	1	2	3	4	D	YR	SITE					DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR						
1995																											
212407						93	HOH RIVER 20.0422				WA	FWS	18693	0594	950706	51	29	N	144	59	W	558	1800		21	F	RESGILL
212414						93	QUINULT LAKE (21)				WA	QDNR	29755	0494	950628	47	30	N	179	30	W	598	2000		1	M	RESGILL
635314						93	WALLA WALLA R32.0008				WA	WDFW	20093	0494	950626	45	30	N	179	30	W	542	1540		5	F	SALGILL

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

Table 7.--Release and recovery information for coded-wire tagged salmon recovered from the North Pacific Ocean and Bering Sea, 1 January 1994 through 31 December 1994.

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	AGENCY	DATE	D	M	TSFT	WT	WT	E		
E	T	T	T	T	P	O	T	O	AGENCY	DATE	D	M	(mm)	(g)	(g)	X		
N	A	A	A	A	O	E	V	AGENCY	DATE	D	M	(mm)	(g)	(g)	X			
C	C	C	C	C	D	E	V	AGENCY	DATE	D	M	(mm)	(g)	(g)	X			
Y	1	2	3	4	D	YR	E	V	AGENCY	DATE	D	M	(mm)	(g)	(g)	X		
Y	1	2	3	4	D	YR	E	V	AGENCY	DATE	D	M	(mm)	(g)	(g)	X		
020128	89						BC	CDFO	26873	0690	940204	55 12 N 164 34 W	660	4100		M	TRAWL	CHINOOK
020250	89						BC	CDFO	24780	0690	940506	47 58 N 125 28 W	974	12780		F	TRAWL	CHINOOK
020310	91						BC	CDFO	110660	0592	940204	57 49 N 154 00 W	550	2000		F	TRAWL	CHINOOK
020313	91						BC	CDFO	76220	0592	940206	57 38 N 154 24 W	510	1500		F	TRAWL	CHINOOK
020314	91						BC	CDFO	75839	0592	940217	57 52 N 152 20 W	520	1800		F	TRAWL	CHINOOK
020346	90						BC	CDFO	26297	0492	940622	58 27 N 153 49 W	590	2400			TRAWL	CHINOOK
020612	90						BC	CDFO	20830	0691	940228	54 51 N 164 48 W	660	2950		F	TRAWL	CHINOOK
021010	91						BC	CDFO	25634	0592	941007	57 2 N 152 31 W	650	3180		M	TRAWL	CHINOOK
021048	91						BC	CDFO	20702	0692	940204	57 49 N 154 00 W	540	1750		M	TRAWL	CHINOOK
021049	91						BC	CDFO	20840	0692	940615	SHELIKOF STRAIT	581	2340		F	TRAWL	CHINOOK
021050	91						BC	CDFO	21505	0692	940206	57 38 N 154 24 W	500	1250		M	TRAWL	CHINOOK
021208	90						BC	CDFO	26147	0691	940219	54 50 N 164 38 W	650	3500		F	TRAWL	CHINOOK
021316	90						BC	CDFO	26555	0591	940125	54 41 N 165 48 W	630	3300	100	F	TRAWL	CHINOOK
021319	90						BC	CDFO	25551	0591	940615	SHELIKOF STRAIT	750	4890		F	TRAWL	CHINOOK
021326	90						BC	CDFO	27839	0492	940221	54 46 N 165 32 W	610	2890	10	F	TRAWL	CHINOOK
021327	90						BC	CDFO	28349	0492	940301	SHELIKOF STRAIT	710	4000			TRAWL	CHINOOK
021428	90						BC	CDFO	23746	0691	940126	55 3 N 165 55 W	680	4000		M	TRAWL	CHINOOK
021430	90						BC	CDFO	24576	0691	940913	NMFS AREA 517	800	7900	3	F	TRAWL	CHINOOK
021445	90						BC	CDFO	24036	0591	940207	55 7 N 165 00 W	580	3100		F	TRAWL	CHINOOK
021458	90						BC	CDFO	26777	0791	940609	58 2 N 153 30 W	772			F	TRAWL	CHINOOK
021533	90						BC	CDFO	53807	0591	940703	58 8 N 152 10 W	800	8200		F	TRAWL	CHINOOK
021546	90						BC	CDFO	52098	0591	940125	55 11 N 165 37 W	680	3900		M	TRAWL	CHINOOK
021546	90						BC	CDFO	52098	0591	940204	57 48 N 154 7 W	700	4400		F	TRAWL	CHINOOK
021546	90						BC	CDFO	52098	0591	940204	57 49 N 154 00 W	640	2750		F	TRAWL	CHINOOK
021552	90						BC	CDFO	32863	0691	940204	57 49 N 154 00 W	620	2500		F	TRAWL	CHINOOK
021553	90						BC	CDFO	33298	0691	940123	54 47 N 165 43 W	700	5400		M	TRAWL	CHINOOK
021558	90						BC	CDFO	74440	0591	940212	54 40 N 165 28 W	620	3600		F	TRAWL	CHINOOK
026011	89						BC	CDFO	18858	0990	940426	55 9 N 164 16 W	760			F	TRAWL	CHINOOK
042945	90						AK	ADFG	15976	0592	941004	53 42 N 164 43 W	680	3600	5	F	TRAWL	CHINOOK
043225	89						AK	SJ	10088	0591	940219	W G OF ALASKA	730	4700			TRAWL	CHINOOK
043225	89						AK	SJ	10088	0591	940622	58 27 N 153 49 W	830	8700			TRAWL	CHINOOK
043628	89						AK	NSRA	6407	0591	941004	57 1 N 152 25 W	860	10100		F	TRAWL	CHINOOK
043643	90						AK	NSRA	7537	0592	940606	58 10 N 152 13 W	670	4400		F	TRAWL	CHINOOK
043644	90						AK	NSRA	9885	0592	940206	57 38 N 154 24 W	660	3500		M	TRAWL	CHINOOK
043646	90						AK	NSRA	10359	0592	940615	SHELIKOF STRAIT	621	2940		F	TRAWL	CHINOOK
043646	90						AK	NSRA	10359	0592	940702	57 58 N 153 22 W	640	3500		F	TRAWL	CHINOOK
043648	90						AK	NSRA	9945	0592	940620	S.W. AFOGNAK	681	3990		M	TRAWL	CHINOOK
043648	90						AK	NSRA	9945	0592	940711	57 23 N 152 32 W	640	3500		F	TRAWL	CHINOOK
043721	90						AK	SJ	10199	0592	940206	57 38 N 154 24 W	520	1600		F	TRAWL	CHINOOK
0501010802	92						CA	FWS	56721	0393	940503	48 16 N 125 7 W	390	700		F	TRAWL	CHINOOK
0501010804	92						CA	FWS	56131	0493	940420	44 5 N 124 34 W	370	600		F	TRAWL	CHINOOK
0501010804	92						CA	FWS	56131	0493	940427	46 3 N 124 26 W	360	600		M	TRAWL	CHINOOK
051649	91						WA	FWS	22862	0592	940427	44 12 N 125 3 W	620	3200	7	F	TRAWL	CHINOOK
051649	91						WA	FWS	22862	0592	940505	48 7 N 125 13 W	540	1900		M	TRAWL	CHINOOK
052834	91						WA	FWS	21722	0592	940427	46 5 N 124 29 W	570			M	TRAWL	CHINOOK
052955	91						CA	FWS	16155	0692	940419	44 33 N 124 37 W	490	1400		F	TRAWL	CHINOOK
053029	92						WA	FWS	24673	0593	940428	46 11 N 124 26 W	390	660		M	TRAWL	CHINOOK
053107	92						WA	FWS	23927	0593	940421	46 1 N 124 29 W	420			M	TRAWL	CHINOOK
053122	92						CA	FWS	155214	0193	940421	46 1 N 124 29 W	490	1400		M	TRAWL	CHINOOK
0601020103	91						CA	CDFG	105146	0692	940428	44 24 N 124 48 W	560	2000		M	TRAWL	CHINOOK
0601020105	90						CA	CDFG	91075	0591	940503	44 0 N 124 57 W	740	5800	6	M	TRAWL	CHINOOK
0601020106	90						CA	CDFG	95629	0591	940418	44 30 N 124 35 W	690	4200		F	TRAWL	CHINOOK
0601020106	90						CA	CDFG	95629	0591	940425	44 54 N 124 40 W	640	3900	3	M	TRAWL	CHINOOK
0601140301	91						CA	CDGF	53034	0492	940421	46 1 N 124 9 W	370	600		F	TRAWL	CHINOOK
0601140313	92						CA	CDFG	51574	0593	940427	46 5 N 124 9 W	370	700		M	TRAWL	CHINOOK
065703	90						CA	CDFG	95880	1191	940417	44 36 N 124 37 W	580	3000		F	TRAWL	CHINOOK
065703	90						CA	CDFG	95880	1191	940424	44 39 N 124 37 W	630	3100	9	M	TRAWL	CHINOOK
065703	90						CA	CDFG	95880	1191	940428	44 24 N 124 48 W	540	1900		F	TRAWL	CHINOOK
065733	92						CA	CDFG	192032	0693	940420	44 5 N 124 7 W	350	500		M	TRAWL	CHINOOK
066327	90						CA	CDFG	31807	1091	940424	43 50 N 124 38 W	590	2570		F	TRAWL	CHINOOK
066337	91						CA	CDFG	45861	1192	940428	44 24 N 124 48 W	490	1400		F	TRAWL	CHINOOK
070418	92						OR	ODFW	32518	0893	940505	48 11 N 125 13 W	370	640		F	TRAWL	CHINOOK
071463	91						OR	ODFW	21731	1092	940430	43 47 N 124 31 W	520	1700		M	TRAWL	CHINOOK
074043	90						OR	ODFW	21444	0392	940223	59 58 N 144 41 W	650	3700		M	TRAWL	CHINOOK
074836	88						OR	ODFW	25931	1089	940513	44 15 N 124 58 W	770	5500	38	F	TRAWL	CHINOOK
074916	R1	90					OR	ODFW	22579	0292	940428	44 54 N 124 54 W	620	3000		F	TRAWL	CHINOOK
074916	R2	90					OR	ODFW	22579	0292	940427	46 7 N 124 22 W	680			F	TRAWL	CHINOOK

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

Table 7.--(Continued).

RELEASE										RECOVERY													
A	D	D	D	D	R	B																	
G	A	A	A	A	E	R	S																
E	T	T	T	T	P	O	T	P															
N	A	A	A	A	O	A	R																
C					C	D	T	O	TOTAL NO.														
Y	1	2	3	4	D	YR	E	V	AGENCY	TAGGED	DATE	DATE	D	M	D	M	LENGTH	BODY	GONAD	S			
											TSPT	WT	WT	X	GEAR	SPECIES							
											(mm)	(g)	(g)										
630759	R4	89					WA	WDFW	116821	0591	940510	47	53	N	125	16	W	780	6800		F	TRAWL	CHINOOK
634008		90					WA	WDFW	24780	0591	940511	48	25	N	125	54	W	330			F	TRAWL	CHINOOK
634045		90					WA	WDFW	32529	0492	940505	48	11	N	125	13	W	610	2500		M	TRAWL	CHINOOK
634117		90					WA	WDF	207589	0791	940222	54	49	N	165	45	W	620	2800		F	TRAWL	CHINOOK
634117		90					WA	WDFW	207589	0791	940311	56	6	N	154	1	W	770	6300		M	TRAWL	CHINOOK
634160		90					WA	WDFW	110748	0691	940509	46	33	N	124	28	W	810	6800		M	TRAWL	CHINOOK
634203		90					WA	WDF	93728	0791	940204	57	49	N	154	00	W	700	4250		F	TRAWL	CHINOOK
634361		91					WA	COOP	14085	0593	940426	46	7	N	124	31	W	490	1400		M	TRAWL	CHINOOK
634418		90					WA	WDF	371483	0592	940206	57	38	N	154	24	W	550	1900		M	TRAWL	CHINOOK
180235		90					BC	CDFO	26974	0591	940829	58	6	N	174	00	W	630	2600		F	TRAWL	CHUM
043931		91					AK	SSRA	10610	0693	940707	56	00	N	145	00	W	558	3040	36	F	RESGILL	COHO
066325		90					CA	CDFG	47856	0392	940422	46	12	N	124	39	W	570	2000		M	TRAWL	COHO
312015		89					AK	ADFG	3684	0991	940630	50	00	N	148	00	W	630	3400	40	M	RESGILL	COHO
104924		92					ID	IDFG	65637	0493	940623	44	30	N	179	30	W	558	1880	15	F	RESLLINE	STEELHEAD
212051		91					WA	HOH	23603	0592	940625	45	30	N	179	30	W	644	2550	22	F	RESGILL	STEELHEAD
212302		92					WA	HOH	12090	0693	940623	44	30	N	179	30	W	534	1540	6	M	RESLLINE	STEELHEAD
212303		92					WA	FWS	11496	0593	940627	50	00	N	157	00	W	570	2000		F	RESGILL	STEELHEAD

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