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INCIDENCE OF CODED-WIRE TAGGED SALMONIDS
IN COMMERCIAL AND RESEARCH CATCHES
IN THE NORTH PACIFIC OCEAN
AND BERING SEA, 1995-1996

by

**Michael Dahlberg, Susan Fowler,
and Ron Heintz**

AUKE BAY LABORATORY
Alaska Fisheries Science Center
National Marine Fisheries Service
National Oceanic and Atmospheric Administration
11305 Glacier Highway
Juneau, AK 99801-8626, U.S.A.

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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 1995 through 31 August 1996. Release and recovery information from 80 coded-wire tagged salmonids is reported for the first time: 2 recoveries during 1 September - 31 December 1995, and 78 recoveries from 1 January through 31 August 1996. Six coded-wire tagged chinook salmon of Snake River, Washington origin were recovered from trawl catches off the Pacific Coast of Washington state. These fish are representatives of Snake River fall chinook salmon listed under the Endangered Species Act. The recovery of a coded-wire tagged coho salmon from the Nehalem River, Oregon represents a significant northwest range extension for Oregon coho salmon in the Gulf of Alaska. The recovery of a coded-wire tagged sockeye salmon from a Prince William Sound, Alaska hatchery marks the first instance of the recovery of a coded-wire tagged sockeye salmon on the high seas.

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., 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 3,300 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 1995 and 1 January-31 August 1996. 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.* (1995) reported information for recoveries during 1994 and a portion of 1995. The tables of release and recovery information for CWT salmonids in this report contain data for all 1995 recoveries and any changes made in release or recovery information for the period 1989-1995 (PSMFC 1996). Release and recovery information from 80 coded-wire tagged salmonids is reported for the first time: 2 recoveries during 1 September - 31 December 1995, and 78 recoveries from 1 January through 31 August 1996.

Snouts from an additional 30 salmonids lacking the adipose fin but lacking a CWT underwent necropsy: 9 in late 1995 and 21 from 1 January through 31 August 1996.

RESULTS AND DISCUSSION

Research Vessels

1995

During salmon research cruises with Fisheries Agency of Japan vessels in 1995 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 58 steelhead lacking the adipose fin, four CWTs were recovered from steelhead; 54 steelhead lacked the adipose fin but did not contain CWTs (Table 2).

1996

During four Fisheries Agency of Japan and one U.S. salmon research cruises in 1996 U.S. and Japanese scientists examined 17,940 salmonids for fish lacking the adipose fin (Myers *et al.* 1996, Davis, *et al.* 1996). Eight CWTs were recovered from 47 steelhead, 4 sockeye, 1 pink, 11 coho, and 4 chinook salmon lacking the adipose, left ventral, or both fins.

The recovery of a coded-wire tagged coho salmon from the Nehalem River, Oregon represents a significant northwest range extension for Oregon coho salmon in the Gulf of Alaska. The recovery of a coded-wire tagged sockeye salmon from a Prince William Sound, Alaska hatchery marks the first instance of the recovery of a coded-wire tagged sockeye salmon on the high seas.

Groundfish Fishery

Of 35,759 salmonids examined in 1995 (61,101 in 1994) by groundfish observers within the U.S. EEZ, 146 chinook, and 1 chum salmon lacked the adipose fin (Table 3); 133 chinook salmon contained a CWT. Although nearly equal numbers of chinook salmon were examined from the Gulf of Alaska and Pacific Coast as in the BSAI, the majority (78%) of the CWT chinook salmon recovered came from the Pacific Coast (Table 3). The 104 CWT chinook salmon recovered in the Pacific Coast area in 1995 were nearly twice the number recovered in 1994 when 57 were found. In the Gulf of Alaska, the number of CWT chinook salmon recovered

greatly decreased from 81 in 1994 to 29 in 1995. Only one CWT chinook salmon was recovered in the BSAI area in 1995 (8 in 1994), (Dahlberg *et al.* 1995).

In 1996 (through 31 August), 77 snouts from the salmonid bycatch of groundfish vessels were examined; 66 from chinook salmon contained CWTs, the remaining 10 snouts from chinook salmon lacked CWTs. Two CWT chinook salmon were recovered in processing plants from combined catches of several vessels; therefore, the recovery locations appear as general areas rather than latitude and longitude.

Six CWT Snake River origin fall chinook salmon were caught in trawl fisheries off the Washington coast in 1996 (two in 1995). The six CWT fish originated from five release lots from three brood years tagged and released during 1993-1995. These fish are representatives of Snake River fall chinook salmon listed as endangered under the Endangered Species Act.

The number of salmon examined (Table 3) is the number of fish appearing in the U.S. observer's sample for the Pacific Coast, Gulf of Alaska, and BSAI are, however, 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 fish that were handled but were not in the observer's samples.

Release and Recovery Information

Previously unreported CWT release and recovery data for salmonids recovered from high seas research operations and groundfish fisheries in 1995 and January through 31 August 1996 were compiled for chinook (Table 4) and coho salmon (Table 5), sockeye salmon (Table 6), and steelhead (Table 7). All 1995 recoveries, including those previously reported in Dahlberg *et al.* (1995), appear in Table 8. Some 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.

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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	58	Alaska Department of Fish and Game
AKI	1	Armstrong Keta, Inc.
ANAD	58	Anadromous, Inc.
BCFW	52	British Columbia Fish and Wildlife
CDFG	629	California Department of Fish and Game
CDFO	415	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	101	U.S. Fish and Wildlife Service
HOH	8	Hoh Indian Tribe
HVT	5	Hoopa Valley Indian Tribe
IDFG	34	Idaho Department of Fish and Game
KRHI	1	Klawock River Hatchery, Inc.
LUMM	4	Lummi Indian Tribe
MAKA	1	Makah Indian Tribe
MIC	3	Metlakatla Indian Community
NISQ	5	Nisqually Indian Tribe
NMFS	51	National Marine Fisheries Service
NSRA	29	Northern Southeast Reg. Aquaculture Assoc.
OAF	46	Oregon AquaFoods, Inc.
ODFW	989	Oregon Department of Fish and Wildlife
OPSR	5	Oregon Pacific Salmon Ranch (Formerly BHSR)
PWSA	1	Prince William Sound Aquaculture Assn.
QDNR	23	Quinault Department Natural Resources
SJ	4	Sheldon Jackson College
SSC	3	Skagit System Cooperative
SSRA	34	Southern Southeast Reg. Aquaculture Assoc.
SUQ	10	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	25	Washington Department of Fisheries and Wildlife
WDW	38	Washington Department of Wildlife (Formerly WDG)
Total:	3,329	

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 1995.^a

	Number of fish						
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Total
Caught ^b							
Lacking Ad	0	0	0	0	0	58	58
CWT	0	0	0	0	0	4	4

^aSource: Fisheries Agency of Japan (1996).

^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 1995.

	Number of fish						
	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Total
WASHINGTON - OREGON - CALIFORNIA							
Examined ^a	3	50	393	701	2,805	0	3,952
Lacking Ad	0	0	0	0	112	0	112
CWT	0	0	0	0	104	0	104
GULF OF ALASKA							
Examined ^a	4	18,926	4	79	1,323	0	20,336
Lacking Ad	0	1	0	0	33	0	34
CWT	0	0	0	0	29	0	29
BERING SEA - ALEUTIAN ISLANDS							
Examined ^a	0	7,073	2	78	4,318	0	11,471
Lacking Ad	0	0	0	0	1	0	1
CWT	0	0	0	0	0	0	0

^aSource of examined category: M. Loefflad, REFM Division, Alaska Fisheries Science Center, NMFS, NOAA, Seattle, WA 98115-0070. Pers. commun., September 1996.

Table 4. (Continued.)

RELEASE										RECOVERY													
A	D	D	D	D	R	B									LENGTH		BODY	GONAD	S				
G	A	A	A	A	E	R									TSFT	WT	WT	E					
E	T	T	T	T	P	O									(mm)	(g)	(g)	X	GEAR	SPECIES			
N	A	A	A	A	O																		
C	C D																						
Y	1	2	3	4	D	YR	SITE	E	V	AGENCY	TOTAL NO.	DATE	DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR	SPECIES
1996																							
635163	93	SNAKE R.	LWR	33.0002	WA	WDFW	101161	0495	960709	48	24	N	124	57	W	440	900				TRAWL	CHINOOK	
635163	93	SNAKE R.	LWR	33.0002	WA	WDFW	101161	0495	960711	48	23	N	125	0	W	470	1020				M TRAWL	CHINOOK	
635263	92	SNAKE R.	LWR	33.0002	WA	WDFW	33736	0494	960524	47	13	N	124	50	W	525	1520				M TRAWL	CHINOOK	
635437	93	SUND ROCK	NET PENS		WA	WDFW	24194	0495	960713	48	23	N	124	54	W	550	1800				F TRAWL	CHINOOK	
635539	93	COWLITZ R	26.0002		WA	WDFW	199353	0694	960710	48	25	N	124	48	W	530	1875				M TRAWL	CHINOOK	
635705	93	COL R @	TURTLE ROCK		WA	WDFW	193994	0495	960524	47	24	N	124	43	W	433	890				F TRAWL	CHINOOK	
635705	93	COL R @	TURTLE ROCK		WA	WDFW	193994	0495	960709	48	28	N	124	51	W	530	1600				M TRAWL	CHINOOK	
635758	94	FRIDAY CR	03.0017		WA	WDFW	205256	0595	960707	48	25	N	125	50	W	405	800				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 1995 through 31 August 1996.

1996																						
ID	YR	SITE	STATE	AGENCY	TOTAL NO.	DATE	DATE	D	M	D	M	TSFT	WT	WT	X	GEAR	SPECIES					
043734		BERNERS R	AK	ADFG	41000		960726	58	11	N	136	42	W	208			RESTRRAWL COHO					
044342	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			RESTRRAWL COHO					
044549	94	NEETS BAY	AK	SSRA	10960	96	960726	57	52	N	137	47	W	250			RESTRRAWL COHO					
044550	94	NEETS BAY	AK	SSRA	10844	96	960724	56	59	N	135	53	W	226			RESTRRAWL COHO					
044555	94	NEETS BAY	AK	SSRA	11379	96	960726	57	52	N	137	47	W	241			RESTRRAWL COHO					
075339		NEHALEM R,	NFK	OR	ODFW	0396	960802	58	45	N	150	16	W	355			RESTRRAWL 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 sockeye salmon recovered from the North Pacific Ocean and Bering Sea, 1 September 1995 through 31 August 1996.

1996																						
ID	YR	SITE	STATE	AGENCY	TOTAL NO.	DATE	DATE	D	M	D	M	TSFT	WT	WT	X	GEAR	SPECIES					
312442	93	MAIN BAY	225-20	AK	PWSA	32462	0695	960705	54	0	N	144	59	W	364	640	1	M RESGILL	SOCKEYE			

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

Table 7.--Release and recovery information for coded-wire tagged steelhead recovered from the North Pacific Ocean and Bering Sea, 1 September 1995 through 31 August 1996.

1995																						
ID	YR	SITE	STATE	AGENCY	TOTAL NO.	DATE	DATE	D	M	D	M	TSFT	WT	WT	X	GEAR	SPECIES					
043951	92	CRYSTAL CR	106-44	AK	ADFG	1010	0594	950731	48	0	N	173	27	E	540	1540	7	M RESGILL	STEELHEAD			
1996																						
103053	95	CLEAR CR	ID	IDFG	63556	0496	960711	52	20	N	141	15	W	298	250	3	F RESGILL	STEELHEAD				
103511	95	SALMON R	ID	IDFG	61552	0496	960707	52	0	N	145	0	W	298	220	3	F RESGILL	STEELHEAD				
634833	93	WASHOUGAL,	WF28.0232	WA	WDFW	14886	0494	960711	47	0	N	165	0	E				GILLNET	STEELHEAD			
635716	94	TOUCHET R	32.0097	WA	WDFW	19967	0495	960623	45	30	N	179	30	W	550	1620	1	M GILLNET	STEELHEAD			
635728	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.

Table 8. (Continued.)

RELEASE														RECOVERY									
A	D	D	D	D	P	B																	
G	A	A	A	A	E	R																	
E	T	T	T	T	P	O																	
N	A	A	A	A	O																		
C	C	D																					
Y	1	2	3	4	D	VR	S	TOTAL NO.		LAT		LONG		LENGTH		BODY		GONAD		S		SPECIES	
							E	AGENCY	TAGGED	DATE	D	M	D	M	(mm)	(g)	(g)	X	GEAR	E			
065902	R2	92	IRON GATE HATCHERY				CA	CDFG	74024	1193	950423	43	41	N	124	33	W	510	1740		F	TRAWL	CHINOOK
065902	R2	92	IRON GATE HATCHERY				CA	CDFG	74024	1193	950424	43	51	N	124	35	W	490	1520		F	TRAWL	CHINOOK
065902	R2	92	IRON GATE HATCHERY				CA	CDFG	74024	1193	950424	43	49	N	124	35	W	500	1580		F	TRAWL	CHINOOK
065902	R2	92	IRON GATE HATCHERY				CA	CDFG	74024	1193	950424	43	49	N	124	35	W	490	1280		M	TRAWL	CHINOOK
066341		92	MOKELUMNE R, MOUTH				CA	EBMD	50403	0593	950418	44	45	N	124	42	W	554	3400		M	TRAWL	CHINOOK
066341		92	MOKELUMNE R, MOUTH				CA	EBMD	50403	0593	950430	44	21	N	124	50	W	640	2900		M	TRAWL	CHINOOK
070232		92	BIG CR - L COL. R				OR	ODFW	52453	0893	950416	46	20	N	124	34	W	580	2500		M	TRAWL	CHINOOK
070232		92	BIG CR - L COL. R				OR	ODFW	52453	0893	950419	43	54	N	124	53	W	640	3100		M	TRAWL	CHINOOK
070232		92	BIG CR - L COL. R				OR	ODFW	52453	0893	950423	47	3	N	124	59	W	482	1600		F	TRAWL	CHINOOK
070249		92	NOBLE CR - COOS R				OR	ODFW	26724	1093	950415	45	20	N	124	24	W	623	2900		M	TRAWL	CHINOOK
070249		92	NOBLE CR - COOS R				OR	ODFW	26724	1093	950416	46	15	N	124	37	W	590	2500		F	TRAWL	CHINOOK
070355		92	HUNTER CR-S. COAST				OR	ODFW	19182	1293	950424	43	49	N	124	35	W	490	1560		F	TRAWL	CHINOOK
070360		92	PISTOL R				OR	ODFW	18877	1293	950427	43	53	N	124	35	W	530	1720		M	TRAWL	CHINOOK
070360		92	PISTOL R				OR	ODFW	18877	1293	950427	43	54	N	124	43	W	520	1790		F	TRAWL	CHINOOK
070420		92	SALMON R/OR COAST				OR	ODFW	28386	0893	950416	57	30	N	150	24	W	600	3200		M	TRAWL	CHINOOK
070421		92	SALMON R/OR COAST				OR	ODFW	40339	0893	950415	57	31	N	150	22	W	560	2400		M	TRAWL	CHINOOK
070422		92	ELK R				OR	ODFW	35509	1193	950417	44	55	N	126	29	W	550	2200		M	TRAWL	CHINOOK
070423		92	ELK R				OR	ODFW	36278	1193	950427	43	54	N	124	36	W	390	1500		M	TRAWL	CHINOOK
070424		92	ELK R				OR	ODFW	35468	1193	950424	43	51	N	124	35	W	480	1230		F	TRAWL	CHINOOK
070424		92	ELK R				OR	ODFW	35468	1193	950424	43	43	N	124	34	W	560	1700		F	TRAWL	CHINOOK
070424		92	ELK R				OR	ODFW	35468	1193	950427	43	58	N	124	38	W	500	1630		F	TRAWL	CHINOOK
070655		92	HUNTER CR - S COAST				OR	ODFW	19182	1293	950418	44	45	N	124	42	W				F	TRAWL	CHINOOK
071462		91	PISTOL R				OR	ODFW	21967	1192	950423	43	49	N	124	39	W	750	4850		F	TRAWL	CHINOOK
071462		91	PISTOL R				OR	ODFW	21967	1192	950427	47	59	N	125	19	W	760	7400		M	TRAWL	CHINOOK
071462		91	PISTOL R				OR	ODFW	21967	1192	950428	45	58	N	124	43	W	750	6300		F	TRAWL	CHINOOK
071463		91	WINCHUCK R				OR	ODFW	21731	1092	950415	45	25	N	124	26	W	666	3700		F	TRAWL	CHINOOK
071463		91	WINCHUCK R				OR	ODFW	21731	1092	950418	44	45	N	124	42	W	683	4400		F	TRAWL	CHINOOK
075653		91	BIG CR - L COL. R				OR	ODFW	51786	0892	950428	45	26	N	124	28	W	750	5500			TRAWL	CHINOOK
075737		92	BIG CR - L COL. R				OR	ODFW	51797	0893	950418	44	45	N	124	42	W	473	1500		F	TRAWL	CHINOOK
075737		92	BIG CR - L COL R				OR	ODFW	51797	0893	950428	45	49	N	124	35	W	480	1300		F	TRAWL	CHINOOK
075807		91	CHETCO R				OR	ODFW	22981	1092	950429	44	30	N	124	43	W	730	5650		F	TRAWL	CHINOOK
075818		91	MCKENZIE R - 1				OR	ODFW	31021	0393	950421	46	41	N	124	47	W	750	5100		M	TRAWL	CHINOOK
075906		91	ROGUE R - 4				OR	ODFW	10448	0892	950429	47	32	N	124	58	W	830	7600		M	TRAWL	CHINOOK
075926		91	WILLAMETTE R, MD FK2				OR	ODFW	27019	0393	950416	57	34	N	150	15	W	590	2700		F	TRAWL	CHINOOK
075936		91	WILLAMETTE R, MD FK2				OR	ODFW	19190	0393	950122	57	58	N	152	15	W	550	2200		F	TRAWL	CHINOOK
076029		92	ROCK CR (N UMPQUA R)				OR	ODFW	24170	0394	950421	46	41	N	124	47	W	520	1600		F	TRAWL	CHINOOK
076029		92	ROCK CR, N UMPQUA R				OR	ODFW	24170	0394	950424	43	51	N	124	35	W	500	1640		M	TRAWL	CHINOOK
076029		92	ROCK CR, N UMPQUA R				OR	ODFW	24170	0394	950430	44	19	N	124	51	W	460	1280		M	TRAWL	CHINOOK
076033		92	ELK R				OR	ODFW	26665	1193	950424	43	50	N	124	38	W	550	2350		M	TRAWL	CHINOOK
076033		92	ELK R				OR	ODFW	26665	1193	950427	43	53	N	124	39	W	530	1780		M	TRAWL	CHINOOK
076033		92	ELK R				OR	ODFW	26665	1193	950428	46	8	N	124	39	W	530	1700		M	TRAWL	CHINOOK
076034		92	CHETCO R				OR	ODFW	24669	1093	950423	43	41	N	124	33	W	580	2400		M	TRAWL	CHINOOK
076120		92	ROGUE R - 1				OR	ODFW	13638	0993	950424	43	49	N	124	35	W	410	1250		F	TRAWL	CHINOOK
076120		92	ROGUE R-1				OR	ODFW	13638	0993	950424	43	49	N	124	35	W	500	1460		F	TRAWL	CHINOOK
076120		92	ROGUE R - 1				OR	ODFW	13638	0993	950424	43	49	N	124	35	W	530	1870		F	TRAWL	CHINOOK
076339		92	ROGUE R - 4				OR	ODFW	9821	0993	950422	46	30	N	124	47	W	560	2200		F	TRAWL	CHINOOK
076343		92	ROGUE R - 4				OR	ODFW	10316	0893	950422	43	49	N	124	49	W	600	3100		F	TRAWL	CHINOOK
076346		92	ROGUE R - 4				OR	ODFW	10288	0993	950423	43	41	N	124	33	W	560	2350		M	TRAWL	CHINOOK
076346		92	ROGUE R - 4				OR	ODFW	10288	0993	950424	43	43	N	124	34	W	530	1760		F	TRAWL	CHINOOK
076347		92	ROGUE R - 4				OR	ODFW	10170	0993	950424	43	49	N	124	35	W	510	1580			TRAWL	CHINOOK
076350		92	ROGUE R - 4				OR	ODFW	8897	1093	950424	43	51	N	124	35	W	460	1180		F	TRAWL	CHINOOK
180729		92	CONUMA ESTUARY				BC	CDFO	30641	0493	950702	58	4	N	153	25	W	630	3150		M	TRAWL	CHINOOK
180734		92	NITINAT LAKE				BC	CDFO	32276	0593	950702	58	4	N	153	25	W	610	3260		M	TRAWL	CHINOOK
180827		91	ATNARKO R, LWR				BC	CDFO	57377	0692	950121	57	49	N	154	9	W	760	5200		M	TRAWL	CHINOOK
180830		91	MITCHIE CR/YUKON				YK	CDFO	52946	0692	950224	55	19	N	164	43	W	1800		F	TRAWL	CHINOOK	
180837		91	SALLOOMT RIVER				BC	CDFO	59876	0792	950403	57	56	N	150	32	W	700	4400		M	TRAWL	CHINOOK
180851		91	NICOLA RIVER				BC	CDFO	74489	0493	950327	58	23	N	149	23	W	630	3300		M	TRAWL	CHINOOK
181222		92	ATNARKO R, LWR				BC	CDFO	61002	0693	950124	58	5	N	153	29	W	520	2400		F	TRAWL	CHINOOK
181224		92	ATNARKO R, UPR				BC	CDFO	54413	0693	950122	58	3	N	152	23	W	570	2450		M	TRAWL	CHINOOK
181224		92	ATNARKO R, UPR				BC	CDFO	54413	0693	950702	58	4	N	153	25	W	620	2970		F	TRAWL	CHINOOK
181233		93	CHEHALIS R/BC				BC	CDFO	49158	0494	950421	46	41	N	124	47	W	390	600		M	TRAWL	CHINOOK
181443		93	ADAMS R, UPPER				BC	CDFO	75734	0594	950415	47	25	N	124	51	W	360	640		M	TRAWL	CHINOOK
181558		93	CONUMA R				BC	CDFO	36037	0594	950702	58	4	N	153	25	W	403	760			TRAWL	CHINOOK
212323		92	KALAMA CR 11.0017				WA	NISQ	216185	0593	950416	46	15	N	124	39	W	600	2600		M	TRAWL	CHINOOK
212452		93	SALMON R 21.0139				WA	QDNR	170604	0894	951003	57	6	N	152	25	W	430	800			TRAWL	CHINOOK
312160		92	DECEPTION CR 247-41				AK	ADFG	39420	0693	950313	56	7	N	153	58	W	600	3200		M	TRAWL	CHINOOK
312311		93	SELDOVIA HBR 241-11				AK	ADFG	45071	0694	950122	NMPS	AREA	621	W	290	600		F	TRAWL		CHINOOK	
634661		91	SNAKE R, LWR 33.0002				WA	WDFW	51370	0493	950423	47	3	N	124	59	W	660			M	TRAWL	CHINOOK

Table 8. (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	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	(mm)	(g)	(g)	X	GEAR	SPECIES	
043951						92	CRYSTAL CR 106-44	AK	ADFG	1010	0594	950731	48	0	N	173	27	E	540	1540	7	M	RESGILL	STEELHEAD
212407						93	HOH RIVER 20.0422	WA	FWS	18693	0594	950706	51	29	N	144	59	W	558	1800	31	F	RESGILL	STEELHEAD
212414						93	QUINULT LAKE (21)	WA	QDNR	29755	0494	950628	47	30	N	179	30	W	598	2000	1	M	RESGILL	STEELHEAD
635314						93	WALLA WALLA R32.0008	WA	WDFW	20093	0494	950626	45	30	N	179	30	W	542	1540	5	F	SALGILL	STEELHEAD

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