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**Salmon Tagging Experiments and Recovery of Salmon Lacking
Adipose Fin Collected by Japanese Salmon Research Vessels
in the North Pacific Ocean, 1995**

by

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Salmon Tagging Experiments and Recovery of Salmon Lacking Adipose Fin Collected by Japanese Salmon Research Vessels in the North Pacific Ocean, 1995

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ABSTRACT

Two Japanese salmon research vessels conducted 41 longline operations. A total of 246 salmonids (128 chum, 116 pink, and 2 sockeye salmon) in the Bering Sea and 159 salmonids (82 pink, 45 chum, 26 coho, 3 sockeye salmon, and 3 steelhead trout) in the Gulf of Alaska were tagged and released, respectively. Double tagging using Japanese and U.S. disc tags was conducted for some of these fish in order to increase recovery rates.

Four Japanese salmon research vessels conducted a survey for salmonids lacking fins and 62 steelhead trout lacking the adipose fin and/or other fins were recovered. The percentage of steelhead trout lacking adipose fin ($37.1\% = 62/167 = \text{steelhead trout lacking adipose fin} / \text{the total steelhead trout catch}$) was higher in 1995 than in the previous two years (21.9% in 1992; 26.1% in 1993; 30.5% in 1995). Snout samples were collected from these fish and provided to the U.S.A. for coded wire tag examination.

INTRODUCTION

This report describes the tagging experiments conducted in 1995 and summarizes information on salmon lacking adipose fin recovered by Japanese salmon research vessels in the North Pacific Ocean in 1995.

MATERIALS AND METHODS

Two Japanese salmon research vessels, *Wakatake maru* and *Oshoro maru*, conducted 41 longline operations in the Bering Sea and the Gulf of Alaska in June and July, 1995. Double tagging using Japanese and U.S. disc tags was conducted for some of these fish in order to increase recovery rates.

Four salmon research vessels, *Wakatake maru*, *Oshoro maru*, *Hokusei maru*, and *Hokko maru*, caught 18,562 salmonids in the western and central North Pacific, Bering Sea, and Gulf of Alaska from June to August in 1995. Salmon lacking adipose fin were recovered during biological measurements. Snout samples were collected from these fish for later examination of coded wire tag (CWT).

RESULTS AND DISCUSSION

In the Bering Sea, 246 salmonids (128 chum, 116 pink, and 2 sockeye salmon) were tagged and released and 159 salmonids (82 pink, 45 chum, 26 coho, 3 sockeye salmon, and 3 steelhead trout) were tagged and released in the Gulf of Alaska. Double tagging using Japanese and U.S. disc tags was conducted for some of these fish in order to increase recovery rates (Tables 1 and 2).

A total of 62 steelhead trout lacking the adipose fin and/or other fins were recovered. The percentage of steelhead trout lacking adipose fin ($37.1\% = 60/167 = \text{steelhead trout lacking adipose fin} / \text{total steelhead trout catch}$) was higher in 1995 than in the previous two years (21.9% in 1992; 26.1% in 1993; 30.5% in 1995) (Ito and Ishida 1992, 1993; Ito 1994). Snout samples were collected from these fish and provided to the U.S. for CWT examination (Table 3).

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REFERENCES

- Ito, S. and Y. Ishida. 1992. Steelhead trout with missing adipose fin collected by Japanese salmon research vessels in 1992. Salmon Report Series 36:89-92. National Research Institute of Far Seas Fisheries, Shimizu, Shizuoka 424, Japan.
- Ito, S. and Y. Ishida. 1993. Steelhead trout with missing adipose fin collected by Japanese salmon research vessels in 1993. Salmon Report Series 37:90-93. National Research Institute of Far Seas Fisheries, Shimizu, Shizuoka.
- Ito, S. 1994. Salmon with missing adipose fin collected by Japanese salmon research vessels in 1994. Salmon Report Series 39:129-135. National Research Institute of Far Seas Fisheries, Shimizu, Shizuoka.

Table 1. Tagging experiments conducted aboard the *Wakatake maru* in summer, 1995.

No.	Release		Longline		Number of fish caught							Number of fish released							Type of Tag & Tag No. (Missing Tag No.)	Other Remarks				
	Date	Location	Hachi	Sockeye	Chum	Pink	Coho	Chinook	Steelhe	Masu	Total	Sockeye	Chum	Pink	Coho	Chinook	Steelhe	Masu			Total			
1	95.6.18	3829N	17931W	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
2	95.6.19	3932N	17928W	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
3	95.6.20	4032N	17928W	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4	95.6.21	4130N	17926W	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5	95.6.22	4229N	17930W	30	0	1	0	6	0	0	0	7	0	0	0	0	0	0	0	0	0			
6	95.6.23	4331N	17929W	30	0	4	2	7	0	1	0	14	0	0	0	0	0	0	0	0	0			
7	95.6.24	4431N	17926W	30	0	2	1	2	0	0	0	5	0	0	0	0	0	0	0	0	0			
8	95.6.25	4533N	17928W	30	0	20	0	27	0	2	0	49	0	0	0	0	0	0	0	0	0			
9	95.6.26	4633N	17927W	30	0	3	2	23	0	3	0	31	0	0	0	0	0	0	0	0	0			
10	95.6.27	4733N	17930W	30	1	149	3	1	1	3	0	158	0	0	0	0	0	0	0	0	0			
11	95.6.28	4830N	17930W	30	3	22	5	3	2	1	0	36	0	0	0	0	0	0	0	0	0			
12	95.6.29	4930N	17930W	30	5	40	17	1	0	0	0	63	0	0	0	0	0	0	0	0	0			
13	95.6.30	5030N	17930W	30	7	35	4	1	1	0	0	48	0	0	0	0	0	0	0	0	0			
14	95.7.01	5130N	17930W	30	14	8	11	0	0	0	0	33	0	0	0	0	0	0	0	0	0			
15	95.7.02	5230N	17930W	30	32	24	26	0	0	0	0	82	0	0	0	0	0	0	0	0	0			
16	95.7.03	5333N	17930W	30	9	55	15	0	0	0	0	79	0	0	0	0	0	0	0	0	0			
17	95.7.04	5430N	17930W	30	14	90	51	0	0	0	0	155	0	0	0	0	0	0	0	0	0			
18	95.7.05	5530N	17932W	30	2	26	10	0	0	0	0	38	0	8	0	0	0	0	0	0	8	Disc. JJ6036-JJ6043	Disc. KK001-KK008	
19	95.7.06	5631N	17933W	30	6	19	15	0	1	0	0	41	0	0	0	0	0	0	0	0	0			
20	95.7.07	5731N	17933W	30	7	2	99	0	1	0	0	109	0	0	18	0	0	0	0	18	Disc. JJ6044-JJ6063(-50, -51)	Disc. KK009-KK028(-15, -16)		
21	95.7.08	5831N	17927W	30	8	34	75	0	5	0	0	122	0	11	17	0	0	0	0	28	Disc. JJ6064-JJ6091	Disc. KK029-KK056		
22	95.7.09	5730N	17829W	30	34	64	84	0	4	0	0	186	0	20	24	0	0	0	0	44	Disc. JJ6092-JJ6135	Disc. KK057-KK100		
23	95.7.10	5732N	17729W	30	14	40	14	0	1	0	0	69	0	23	6	0	0	0	0	29	Disc. JJ6136-JJ6164	Disc. KK101-KK129		
24	95.7.11	5630N	17732W	30	10	33	28	0	6	0	0	77	0	18	15	0	0	0	0	33	Disc. JJ6165-JJ6197	Disc. KK130-KK162		
25	95.7.12	5631N	17824W	30	14	39	22	0	1	0	0	76	1	15	7	0	0	0	0	23	Disc. JJ6198-JJ6220	Disc. KK163-KK185		
26	95.7.13	5631N	17929E	30	8	12	16	0	19	0	0	55	0	7	11	0	0	0	0	18	Disc. JJ6221-JJ6238	Disc. KK186-KK203		
27	95.7.14	5632N	17831E	30	9	34	27	0	8	0	0	78	1	14	10	0	0	0	0	25	Disc. JJ6239-JJ6263	Disc. KK204-KK228		
28	95.7.15	5629N	17729E	30	6	20	11	0	2	0	0	39	0	12	8	0	0	0	0	20	Disc. JJ6264-JJ6283	Disc. KK229-KK248		
Total				840	203	776	538	71	52	10	0	1650	2	128	116	0	0	0	0	246				

Oshoro

Table 2. Tagging experiments conducted aboard the *Oshoro maru* in summer, 1995.

No.	Release		Longline		Number of fish caught							Number of fish released							Type of Tag & Tag No. (Missing Tag No.)	Other Remarks		
	Date	Location	Hachi	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Masu	Total	Sockeye	Chum	Pink	Coho	Chinook	Steelhead	Masu			Total	
1	95.6.17	4400N 17959W	10	0	0	0	3	0	0	0	3	0	0	0	2	0	0	0	0	2	Disc. DD9001-DD9002	
2	95.6.18	4500N 17954W	10	0	1	0	11	0	0	0	12	0	1	0	11	0	0	0	0	12	Disc. DD9003-DD9014	
3	95.6.19	4600N 17959W	10	0	2	1	4	0	0	0	7	0	2	1	4	0	0	0	0	7	Disc. DD9015-DD9021	
4	95.6.20	4702N 17957W	10	0	0	2	0	0	0	0	2	0	0	2	0	0	0	0	0	2	Disc. DD9022-DD9023	
5	95.6.27	4958N 16104W	10	0	9	1	0	0	0	0	10	0	9	1	0	0	0	0	0	10	Disc. DD9024-DD9033	Disc. KK500-KK509
6	95.6.28	4935N 16112W	10	1	7	4	1	0	0	0	13	1	5	3	1	0	0	0	0	10	Disc. DD9034-DD9043	Disc. KK510-KK519
7	95.7.03	5100N 16150W	12	0	22	4	0	1	0	0	27	0	13	4	0	0	0	0	0	17	Disc. DD9044-DD9060	Disc. KK520-KK536
8	95.7.07	5130N 14500W	13	1	0	13	4	0	5	0	23	0	0	6	1	0	2	0	9	Disc. DD9061-DD9069	Disc. KK537-KK545	
9	95.7.08	5301N 14456W	13	1	5	5	1	0	0	0	12	0	3	2	0	0	0	0	5	Disc. DD9070-DD9074	Disc. KK546-KK550	
10	95.7.09	5401N 14458W	13	1	2	3	9	0	1	0	16	1	1	2	3	0	1	0	8	Disc. DD9075-DD9082	Disc. KK551-KK558	
11	95.7.10	5459N 14503W	13	0	12	12	3	0	0	0	27	0	8	11	3	0	0	0	22	Disc. DD9083-DD9104	Disc. KK559-KK580	
12	95.7.11	5555N 14511W	13	0	4	32	0	0	0	0	36	0	1	21	0	0	0	0	22	Disc. DD9105-DD9126	Disc. KK581-KK601	
13	95.7.12	5819N 14459W	13	1	7	47	1	0	0	0	56	1	2	29	1	0	0	0	33	Disc. DD9127-DD9159	Disc. KK603-KK635	
Total			150	5	71	124	37	1	6	0	244	3	45	82	26	0	3	0	159			

Table 3. Catch location and biological data for salmon with missing adipose and/or other fin caught by Japanese salmon research vessels in 1995.

Date	Location		Length	Weight	Sex	Gonad	Vessel	Gear	Sample Species		Remarks
						Weight	Code		No.	Code	
950626	5000N	16059W	530	1600	F	8	R05	C093	46;14	7	
950626	5000N	16059W	570	1660	M	5	R05	C093	46;15	7	
950626	5000N	16059W	707	3650	F	35	R05	C157	50;01	7	
950626	5000N	16059W	571	1860	F	18	R05	C157	50;02	7	
950628	5000N	15900W	584	1940	M	7	R05	A115	53;04	7	
950706	5129N	14459W	582	1860	M	13	R05	A121	74;16	7	
950706	5129N	14459W	498	1410	M	5	R05	A115	71;14	7	
950706	5129N	14459W	608	2500	M	15	R05	A115	71;15	7	
950706	5129N	14459W	558	1800	F	21	R05	A115	71;16	7	
950706	5129N	14459W	730	3900	M	5	R05	A115	71;17	7	
950706	5129N	14459W	579	2200	M	5	R05	A115	71;18	7	
950706	5129N	14459W	505	1500	M	5	R05	A115	71;19	7	
950706	5129N	14459W	292	257	M	2	R05	C106		7	
950706	5129N	14459W	670	3350	M	10	R05	C106	83;11	7	
950707	5130N	14500W	554	1560	F	4	R05	B	87;11	7	
950707	5300N	14500W	313	285	M	<1	R05	C055	97;03	7	
950707	5300N	14500W	351	430	M	<1	R05	C063		7	
950708	5359N	14500W	584	1940	M	8	R05	A121	116;07	7	
950708	5359N	14500W	770	6700	F	42	R05	C106	125;21	7	
950709	5459N	14500W	294	320	M	<1	R05	C063	138;03	7	
950709	5459N	14500W	600	2550	M	10	R05	A115	132;12	7	
950717	4600N	16959E	752	4800	F	78	R06	C072	21;14	7	
950731	4800N	17327E	540	1560	M	7	R06	A115	48;13	7	
950731	4800N	17327E	578	2100	M	8	R06	A115	48;15	7	
950731	4800N	17327E	586	2240	F	10	R06	A115	48;16	7	
950731	4800N	17327E	756	4700	F	21	R06	A121	50;10	7	
950801	4830N	17121E	594	2600	F	24	R06	A115	58;17	7	
950802	4900N	16915E	602	2240	M	3	R06	C121	73;09	7	
950625	4430N	17930W	682	3000	M	12	R32	C138	20;02	7	missing the dosal fin
950625	4530N	17930W	696	3000	F	25	R32	B	22;17	7	snout lost
950626	4530N	17930W	570	1700	M	9	R32	C093	25;13	7	
950626	4530N	17930W	563	1800	M	2	R32	C093	25;14	7	
950626	4530N	17930W	542	1540	F	5	R32	C093	25;16	7	
950626	4530N	17930W	700	3000	F	8	R32	C121	27;13	7	
950626	4530N	17930W	538	1440	F	6	R32	A115	33;06	7	
950626	4530N	17930W	566	1800	F	12	R32	A115	33;07	7	
950626	4530N	17930W	563	1700	M	4	R32	A115	33;10	7	
950626	4530N	17930W	570	1820	F	5	R32	A115	33;12	7	
950626	4530N	17930W	580	1910	M	8	R32	C138	34;10	7	
950626	4630N	17930W	574	1900	M	2	R32	B	35;27	7	
950626	4630N	17930W	568	1900	F	12	R32	B	35;28	7	
950626	4630N	17930W	700	2750	F	16	R32	B	35;29	7	
950627	4630N	17930W	560	1800	F	5	R32	A115	43;11	7	
950627	4630N	17930W	548	1690	F	3	R32	A115	43;12	7	
950627	4630N	17930W	564	1850	F	11	R32	A115	43;13	7	
950627	4630N	17930W	580	1940	M	3	R32	A115	43;14	7	
950627	4630N	17930W	606	1820	F	5	R32	C121	45;04	7	
950627	4630N	17930W	623	2150	M	5	R32	C121	45;05	7	
950627	4730N	17930W	540	1560	F	17	R32	B	49;21	7	
950627	4730N	17930W	530	1340	M	2	R32	B	49;22	7	
950627	4730N	17930W	530	1430	F	17	R32	B	49;23	7	
950628	4730N	17930W	600	1980	F	23	R32	C082	52;10	7	
950628	4730N	17930W	618	2200	M	19	R32	C157	53;06	7	missing the dorsal fin
950628	4730N	17930W	736	3560	F	54	R32	A115	56;24	7	
950628	4730N	17930W	526	1560	M	1	R32	A115	56;25	7	
950628	4730N	17930W	568	1660	M	2	R32	A115	56;26	7	
950628	4730N	17930W	598	2000	M	1	R32	A115	56;27	7	
950628	4730N	17930W	625	2350	M	1	R32	A115	56;28	7	
950628	4730N	17930W	614	2350	M	20	R32	C072	57;06	7	
950628	4730N	17930W	712	3100	F	13	R32	C138	59;14	7	
950628	4730N	17930W	582	1840	F	10	R32	C063	61;05	7	
950628	4730N	17930W	582	1660	M	6	R32	C063	61;06	7	