

**2009 Reported Recoveries of High-Seas Tags and Tag Releases in
2010 from High-seas Research Vessel Surveys in the North Pacific
Ocean**

by

**Working Group on Salmon Tagging
Committee on Scientific Research and Statistics**

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2009 Reported Recoveries of High-Seas Tags and Tag Releases in 2010 from High-seas Research Vessel Surveys in the North Pacific Ocean

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ABSTRACT

In 2009, high seas tags were recovered from five chum salmon in Japan, and 16 pink, one chum, and one sockeye salmon in Russia. In addition, two high seas tags were recovered; from one coho and one pink salmon recaptured in 2007 in Russia. A chum salmon recaptured in Japan also carried a data storage tag. In 2010, tagging operations were conducted by the research vessel, *Wakatake maru*, which conducted, 24 longline (720 hachi) operations from June to July for the purpose of placing disk tags on salmonids. From these operations, a total 235 salmonids (18 sockeye, 102 chum, 21 pink, 84 coho, and one Chinook salmon, and nine steelhead trout) in the central North Pacific and 1,166 salmonids (74 sockeye, 1,067 chum, 14 pink, and 11 Chinook salmon) in the Bering Sea were tagged and released.

INTRODUCTION

The Working Group on Salmon Tagging (WGST) was established by the CSRS at the 15th Annual Meeting in 2007 to manage the INPFC-NPAFC tagging database and to coordinate high seas tagging activities of the Parties. In this report, we summarize releases of tagged high seas salmon in 2010 and recoveries of high seas tags by the Parties in 2009. This report includes updated information since our previous report was compiled (WGST, 2009).

MATERIALS AND METHODS

Releases of high seas tags in 2009

From June to July 2009, a Japanese research vessel, *Wakatake maru*, conducted 26 longline (780 hachi) operations for live capture of salmonids for tagging (Kaga and Davis 2009). In 2009 two types of disk tags were used: one issued by the FAJ and one issued by the NPAFC. In addition, Chinook salmon in healthy condition were tagged externally with a temperature and depth-recording DST, identical to the model used in 2009 (Lotek model LAT 1400). Coho and

Chinook salmon, and steelhead caught in the central North Pacific were selected for tagging with disk tags and a passive integrated transponder (PIT) tag. The PIT tag was injected into the visceral cavity behind the stomach in the area of the pyloric caecae. The injection site on the body was located approximately halfway between the posterior end of the pectoral fin and the anterior end of the pelvic girdle, 1 - 2 mm away from the ventral midline.

Releases of high seas tags in 2010

From June to July 2010, the Japanese research vessel, *Wakatake maru*, conducted 24 longline (720 hachi) operations for live capture of salmonids for tagging (Ishihara et al. 2010). In 2010 two types of disk tags were used: one issued by the FAJ and one issued by the NPAFC. No other types of tags (data-recording tags and PIT tags) were placed on salmon during this cruise.

Recovery of high seas tags

Scientists at the Pacific Biological Station in Canada, the National Salmon Resources Center in Japan, the Youngdong Inland Fisheries Research Institute in Korea, the Pacific Fisheries Research Centre (TINRO-Centre) and the Kamchatka Scientific Research Institute of Fisheries and Oceanography (KamchatNIRO) in Russia, the Auke Bay Laboratory and the University of Washington in the United States, and the NPAFC Secretariat were designated to collect recovery information. To increase awareness of the tag recovery program for the general public, posters displaying information on types of tags, attachment location, guidelines for collecting important recovery data, and how to report a tag recovery were placed on the NPAFC website (http://www.npafc.org/new/science_fishtag2.html).

RESULTS

2009 reported recoveries of high seas tags

In 2009, high seas tags were recovered from five chum salmon in Japan, and 16 pink, one chum, and one sockeye salmon in Russia (Table 1). A chum salmon recaptured in Japan also carried a data storage tag. In addition, two high seas tags were recovered; from one coho and one pink salmon recaptured in 2007 in Russia. Because the coho salmon recaptured in 2007 was released in 2006 at age 2.1 (as determined by scale examination) and recovered year later at a large size, this fish might have been age 2.2 at recapture in the Hailula River.

Releases of high seas tags in 2010

From June to July, 2010, 290 salmonids (19 sockeye, 122 chum, 26 pink, 112 coho, and

two Chinook salmon, and nine steelhead trout) in the central North Pacific and 1,468 salmonids (91 sockeye, 1,341 chum, 19 pink, and 17 Chinook salmon) in the Bering Sea were caught by surface longline during the salmon research cruise of the *Wakatake maru* (Table 2; Ishihara et al. 2010). Of these fish, 235 salmonids (18 sockeye, 102 chum, 21 pink, 84 coho, and one Chinook salmon, and nine steelhead trout) in the central North Pacific and 1,166 salmonids (74 sockeye, 1,067 chum, 14 pink, and 11 Chinook salmon) in the Bering Sea were tagged and released (Tables 2 and 3).

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Table 1. Recoveries of high-seas tagged salmon in 2009 and two newly reported recoveries from 2007. Age designation is the European method, where the first number is the number of freshwater annuli and the second number is the number of ocean annuli. DS tag: data storage tag, FL: fork length (mm), BW: body weight (g), -: no data. Release date is the date on the west side of the international dateline. * reported previously in Doc. 1197, Rev. 1 (release dates were incorrect in the previous document and are corrected in this document).

Japan tag #	NPAFC/ UW tag#	DS tag #	Release						Recovery							
			Date	Lat	Long	Species	FL	Age	Date	Lat	Long	Gear	Sex	FL	BW	Location
MM3940*	NA3940	-	7/8/09	57°30N	177°00E	Pink	463	0.1	7/29/09	58°45N	162°35E	Trap net	F	500	1160	3.17 km south from mouth of Dranka R., Karaginskiy Bay, East Kamchatka
MM3788*	NA3788	-	7/6/09	56°30N	179°00E	Pink	456	0.1	7/26/09	58°25N	162°10E	Trap net	M	450	1140	15.8 km north from mouth of Rusakova R., Karaginskiy Bay, East Kamchatka
MM3743*	NA3743	-	7/6/09	56°30N	179°00E	Pink	444	0.1	7/25/09	58°44N	162°32E	Trap net	F	420	960	5.9 km south from mouth of Dranka R., Karaginskiy Bay, East Kamchatka
MM3674*	NA3674	-	7/5/09	56°30N	179°00W	Pink	431	0.1	7/29/09	58°45N	162°35E	Trap net	M	500	920	3.17 km south from mouth of Dranka R., Karaginskiy Bay, East Kamchatka
KK3740*	NA3240	-	6/30/09	57°30N	180°00	Pink	446	0.1	7/9/09	59°30N	163°10E	Trap net	F	425	880	2.9 km north from mouth of Timlat R., Karaginskiy Bay, East Kamchatka
MM3720*	NA3720	-	7/6/09	56°30N	179°00E	Pink	452	0.1	8/1/09	58°05N	161°56E	River	F	-	-	Hailula R., Karaginskiy Bay, East Kamchatka
KK3538*	NA3038	-	6/27/09	54°30N	180°00	Pink	442	0.1	7/22/09	58°10N	162°05E	Trap net	F	445	1020	Trap net near from mouth of Hailula R., Karaginskiy Bay, East Kamchatka
MM3786*	NA3786	-	7/6/09	56°30N	179°00E	Pink	448	0.1	7/21/09	60°29N	169°22E	Trap net	F	440	1030	Karaginskiy Bay, East Kamchatka
KK3416*	NA2916	-	6/27/09	54°30N	180°00	Pink	453	0.1	7/15/09	58°10N	162°05E	Trap net	M	445	1030	Trap net near from mouth of Hailula R., Karaginskiy Bay, East Kamchatka
KK3573*	NA3073	-	6/28/09	55°30N	180°00	Sockeye	620	1.3	8/15/09	52°55N	157°10E	River	M	~500	-	Plotnikova R., central part of south Kamchatka
KK3687	NA3187	-	6/30/09	57°30N	180°00	Pink	473	0.1	2009	59°14N	163°10E	Trap net	-	-	-	Ossora Bay, Karaginskiy Gulf, northeast Kamchatka
MM3664	NA3664	-	7/5/09	56°30N	179°00W	Pink	440	0.1	2009	60°13N	165°27E	River	-	-	-	Vivenka R., Korf Gulf, East Kamchatka
MM3895	NA3895	-	7/7/09	56°30N	178°00E	Pink	425	0.1	2009	60°12N	163°28E	River	-	-	-	Vivenka R., Korf Gulf, East Kamchatka
MM3724	NA3724	-	7/6/09	56°30N	179°00E	Pink	443	0.1	9/20-25/09	59°04N	163°04E	Trap net	M	-	-	Karaga Bay, Karaginskiy Gulf, East Kamchatka
KK3355	NA2855	-	6/27/09	54°30N	180°00	Pink	466	0.1	7/20-21/09	59°22N	162°10E	Trap net	-	-	-	Trap net near from mouth of Rusakova R., Karaginskiy Gulf, East Kamchatka
KK3529	NA3029	-	6/27/09	54°30N	180°00	Pink	446	0.1	7/28/09	60°25N	169°35E	Trap net	-	-	-	Trap net near from mouth of Apuka R., Olutorsky Gulf, East Kamchatka
KK3047	NA2547	-	6/18/09	46°00N	180°00	Chum	413	x.2	7/29/09	60°28N	169°40E	River	-	-	-	Apuka R., Olutorsky Gulf, East Kamchatka
KK3941	NA3441	-	7/1/09	58°30N	180°00	Pink	481	0.1	2009	59°09N	162°57E	River	-	-	-	mouth of Karaga R., Karaginskiy Gulf, East Kamchatka
-	NA1356	-	7/9/08	57°29N	176°57E	Chum	516	0.3	9/2/09	43°34N	145°13E	Trap net	F	-	-	Notsuke, Nemuro Strait, Hokkaido
KK3403	NA2903	-	6/27/09	54°30N	180°00	Chum	592	0.3	9/30/09	42°17N	143°19E	Trap net	F	-	2200	Hiroo, Pacific coast, Hokkaido
-	NA1277	-	7/8/08	56°32N	177°06E	Chum	542	0.3	10/19/09	42°42N	143°40E	River	M	590	1780	Tokachi River, Pacific coast, Hokkaido
-	NA2013	LTD13282	9/27/08	55°30N	168°30W	Chum	-	-	10/20/09	43°40N	145°08E	Trap net	M	700	2180	Shibetsu, Nemuro Strait, Hokkaido
MM3854	NA3854	-	7/6/09	56°30N	179°00E	Chum	526	x.x	10/21/09	44°04N	145°00E	Trap net	-	-	-	Utoro, Okhotsk coast, Hokkaido

Table 1. (continued)

Japan tag #	NPAFC/ UW tag#	DS tag #	Release						Recovery							
			Date	Lat	Long	Species	FL	Age	Date	Lat	Long	Gear	Sex	FL	BW	Location
MM4005	LL6905	-	6/16/06	43°00N	180°00E	Coho	510	2.1	9/28/07	55°02N	155°40E	River	M	670	3340	Krutogorova R, Okhotsk sea, West Kamchatka
LL5870	LL1821	-	7/6/07	56°31N	178°55E	Pink	490	0.1	2007	58°04N	161°58E	River	-	-	-	Hailula R., Karaginskiy Gulf, East Kamtchatka

Table 2. Number of salmon caught by longline and number of fish tagged and released by the research vessel *Wakatake maru* in the summer of 2010. LL: longline (30 hachi/operation), BS: Bering Sea, CNP: Central North Pacific. Date is the date on the west side of the international dateline.

Region/ Vessel	Date	Latitude	Longitude	Gear	Number of fish caught						Number of fish released							
					Sock	Chum	Pink	Coho	Chin	SteelDoll	Sock	Chum	PinkCoho	Chin	SteelDoll			
CNP	6/17	41°00N	180°00	LL	0	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Wakatake maru</i>	6/18	42°00N	180°00	LL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6/19	43°00N	180°00	LL	0	10	2	10	0	0	0	0	8	1	9	0	0	0
	6/20	44°00N	180°00	LL	0	29	0	22	0	3	0	0	25	0	14	0	3	0
	6/21	45°00N	180°00	LL	0	4	3	4	0	0	0	0	2	3	1	0	0	0
	6/23	46°00N	180°00	LL	0	13	2	7	0	0	0	0	12	2	4	0	0	0
	6/24	47°00N	180°00	LL	0	11	1	2	1	0	0	0	10	1	0	1	0	0
	6/25	47°30N	180°00	LL	2	10	6	45	0	1	0	2	10	6	37	0	1	0
	6/26	48°30N	180°00	LL	4	12	6	17	1	4	0	4	11	4	14	0	4	0
	6/27	49°30N	180°00	LL	11	24	5	4	0	1	0	10	16	3	4	0	1	0
	6/28	50°30N	180°00	LL	2	9	1	0	0	0	0	2	8	1	0	0	0	0
	Total					19	122	26	112	2	9	0	18	102	21	84	1	9
BS	6/29	51°30N	180°00	LL	1	24	2	0	0	0	0	0	20	2	0	0	0	0
<i>Wakatake maru</i>	6/30	52°30N	180°00	LL	11	45	0	0	0	0	0	11	39	0	0	0	0	0
	7/01	53°30N	180°00	LL	10	66	1	0	0	0	0	9	63	1	0	0	0	0
	7/02	54°30N	180°00	LL	5	91	3	0	0	0	0	5	75	2	0	0	0	0
	7/03	55°30N	180°00	LL	8	97	2	0	0	0	0	7	79	2	0	0	0	0
	7/04	56°30N	180°00	LL	4	48	2	0	0	0	0	4	44	2	0	0	0	0
	7/05	57°30N	180°00	LL	4	114	1	0	3	0	0	4	97	1	0	3	0	0
	7/06	58°30N	180°00	LL	3	145	1	0	2	0	0	3	125	0	0	0	0	0
	7/07	57°30N	179°00W	LL	0	65	0	0	0	0	0	0	54	0	0	0	0	0
	7/08	57°30N	178°00W	LL	0	115	3	0	6	0	0	0	92	3	0	4	0	0
	7/10	56°30N	179°00W	LL	2	131	1	0	0	0	0	1	101	1	0	0	0	0
	7/11	56°30N	179°00E	LL	19	201	3	0	4	0	0	12	143	0	0	4	0	0
7/12	56°30N	178°00E	LL	24	199	0	0	2	0	0	18	135	0	0	0	0	0	
Total					91	1341	19	0	17	0	0	74	1067	14	0	11	0	0
Total					110	1463	45	112	19	9	0	92	1169	35	84	12	9	0

Table 3. Numbers of disk tags placed on Pacific salmon and steelhead trout and released in the summer of 2010. BS: Bering Sea, CNP: central North Pacific. Release date is the date on the west side of the international dateline.

Region/ vessel	Date	Location		Disk tags		N. fish
				FAJ	NPAFC	
CNP	6/17	41°00N	180°00	KK4001	NA4001	1
<i>Wakatake</i>	6/18	42°00N	180°00			0
<i>maru</i>	6/19	43°00N	180°00	KK4002-4019	NA4002-4019	18
	6/20	44°00N	180°00	KK4020-4061	NA4020-4061	42
	6/21	45°00N	180°00	KK4062-4067	NA4062-4067	6
	6/23	46°00N	180°00	KK4068-4085	NA4068-4085	18
	6/24	47°00N	180°00	KK4086-4097	NA4086-4097	12
	6/25	47°30N	180°00	KK4098-4153	NA4098-4153	56
	6/26	48°30N	180°00	KK4154-4190	NA4154-4190	37
	6/27	49°30N	180°00	KK4191-4224	NA4191-4224	34
	6/28	50°30N	180°00	KK4225-4235	NA4225-4235	11
Total						235
BS	6/29	51°30N	180°00	KK4236-4257	NA4236-4257	22
<i>Wakatake</i>	6/30	52°30N	180°00	KK4258-4307	NA4258-4307	50
<i>maru</i>	7/01	53°30N	180°00	KK4308-4380	NA4308-4380	73
	7/02	54°30N	180°00	KK4381-4462	NA4381-4462	82
	7/03	55°30N	180°00	KK4463-4550	NA4463-4550	88
	7/04	56°30N	180°00	KK4551-4600	NA4551-4600	50
	7/05	57°30N	180°00	KK4601-4705	NA4601-4705	105
	7/06	58°30N	180°00	KK4706-4833	NA4706-4833	128
	7/07	57°30N	179°00W	KK4834-4887	NA4834-4887	54
	7/08	57°30N	178°00W	KK4888-4986	NA4888-4986	99
	7/10	56°30N	179°00W	KK4987-5089	NA4987-5089	103
	7/11	56°30N	179°00E	KK5090-5248	NA5090-5248	159
	7/12	56°30N	178°00E	KK5249-5401	NA5249-5401	153
Total						1166
Total						1401