RECOVERIES OF CODED WIRE-TAGGED STEELHEAD TROUT, SALMO GAIRDNERI, IN THE CENTRAL AND WESTERN NORTH PACIFIC OCEAN IN 1984, AND RECOVERIES OF OTHER FIN-CLIPPED OR MAXILLARY-CLIPPED STEELHEAD IN 1983 AND 1984 BY JAPANESE RESEARCH VESSELS

by

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In 1983 and 1984 steelhead trout, Salmo gairdneri, caught by Japanese research vessels in the North Pacific Ocean were provided to Canada for stock identification studies using naturally occurring parasite "tags." Among the samples were fish missing one or more fins or more rarely a maxillary bone. Some of the adipose fin-clipped fish carried in their snouts coded wire tags that had been applied to juvenile fish during their freshwater residence and that identified their North American origin.

Many North American hatchery-reared steelhead are marked as juveniles in fresh water for various management-oriented studies by removal of one or more fins or a maxillary bone. (Only some of these marked fish have a coded wire tag inserted in their snouts.) Although it is possible for fish to be missing a fin naturally, most steelhead taken on the high seas that were found to be lacking one or more fins or a maxillary bone are likely to have been marked intentionally and released from a North American hatchery.

Table 1 lists recoveries in the central and western Pacific in 1984 of 12 coded wire-tagged steelhead, of which seven were released in British Columbia and five in Washington or Idaho. The most significant result of these recoveries is the extension of the known limits of the ocean distribution of British Columbia steelhead westward from 172°13'E to 167°21'E longitude and southward from approximately 46°N to 42°55'N latitude (between 170°W and 177°E).

Tables 2 and 3 record the positions of capture in 1983 and 1984, respectively, of the fin and maxillary marked steelhead. All were from localities within the previously known distributional range for North American steelhead. A comparison with fin and maxillary clips used at various U.S.A. and British Columbia hatcheries may allow identification of specific sites of release of these marked fish or at least limit the number of possible release sites.

References

Margolis, L. 1984. Preliminary report on identification of continent of origin of ocean-caught steelhead trout, Salmo gairdneri, using naturally occurring parasite "tags." INPFC Document 2822, 23 p.

Wertheimer, A. C. and M. L. Dahlberg. 1984. Report of incidence of coded-wire tagged salmonids in catches of foreign commercial and research vessels operating in the North Pacific Ocean and Bering Sea during 1983-84. INPFC Document 2841, 14 p.

Table 1. Recoveries of coded wire-tagged steelhead trout in the central and western North Pacific Ocean in 1984 by Japanese research vessels.

Tag No.	Released		Recovered		
	Date	Locality	Vessel	Date	Locality
19.12.48	May 1982	Puntledge River, B.C.	Riasu maru	12-V	43°31'N,171°30'W
19.12.17	May 1982	Foley Creek, B.C.	Riasu maru	30-IV	43°30'N,173°30'W
19.12.17	May 1982	Foley Creek, B.C.	Hokuho maru	22-V	43°30'N,176°30'W
55.02.62	April 1981	Solduc River, Wash.	Kumamoto maru	4-VI	43°55'N,177°22'W
18.12.11	May 1982	Slesse Creek, B.C.	Kumamoto maru	5-VI	42°55'N,177°28'W
18.12.10	April-May 1982	Robertson Creek, B.C.	Iwaki maru	23-V	42°55'N,177°05'E
19.08.62	April-May 1982	Cowlitz River, Wash.	Iwaki maru	23-V	42°55'N,177°05'E
09.05.61	April 1982	Chalaat Creek, Wash.	Iwaki maru	22-V	43°53'N,177°16'E
16.23.39	April 1983	Deacon Rock (Dworshak), Idaho	Kumamoto maru	15-VII	46°56'N,172°14'E
21.08.62	April-May 1982	Wynoochee River, Wash.	Kumamoto maru	29-IV	43°07'N,172°13'E
18.12.10	April 1982	Robertson Creek, B.C.	Kumamoto maru	29-VI	46°55'N,167°34'E
19.12.16	May 1982	Campbell River, B.C.	Kumamoto maru	27-VI	45°53'N,167°21'E

Table 2. Recoveries of steelhead trout with missing fins by Japanese research vessels in 1983.

Vessel	Date (Day-Month)	Locality	Missing fins	Ocean age
Oshoru maru	2-VII	55°N,155°06'W	right pelvic*	1
Oshoru maru	4-VII	55°N,155°W	half dorsal	1
Oshoru maru	4-VII	55°N,155°W	right pectoral	1
Hokushin maru	5-VI	45°35'N,177°46'W	dorsal	2
Hokushin maru	6-VI	44°34'N,177°37'W	left pelvic*	2
Hokushin maru	1-VII	42°51'N,167°32'E	adipose+½ dorsal**	1
Hokushin maru	2-VII	43°53'N,167°26'E	post. part dorsal*	1
Hokushin maru	5-VII	45°27'N,167°29'E	left pectoral	1
Hokushin maru	18-VII	47°10'N,172°39'E	half dorsal*	2
Riasu maru No. 2	25-VI	44°29'N,175°36'E	adipose***	1
Riasu maru No. 2	25-VI	44°29'N,175°36'E	half dorsal	1
Riasu maru No. 2	2-VII	44°34'N,178°28'W	half dorsal	1
Riasu maru No. 2	4-VII	44°28'N,176°30'W	half dorsal	1
Riasu maru No. 2	4-VII	44°28'N,176°30'W	dorsal	1

*Fish harboured the parasite tags Nanophyetus salmincola or Plagioporus shawi, which are indicative of U.S. Pacific Northwest origin (Margolis 1984).

**Carried coded wire nose tag identifying the release area as the Columbia River (see Wertheimer and Dahlberg 1984).

***Carried coded wire nose tag identifying the release area as Clearwater River, Idaho (see Wertheimer and Dahlberg 1984).

Table 3. Recoveries of steelhead trout with missing fins or maxillary bones by Japanese research vessels in 1984.

Vessel	Date (Day-Month)	Locality	Missing fins or maxillary bones	Ocean age
Oshoro maru	17-VII	54°59.9'N,154°59.8'W	adipose+½ dorsal*	1
Oshoro maru	18-VII	53°59.9'N,155°00.3'W	left pelvic*	1
Oshoro maru	18-VII	53°59.9'N,155°00.3'W	adipose	1
Oshoro maru	18-VII	53°59.9'N,155°00.3'W	adipose**	1
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose**	1
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose+½ dorsal**	1
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose**	2
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose**	1
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose**	1
Oshoro maru	19-VII	52°59.6'N,155°00'W	adipose**	1
Oshoro maru	20-VII	52°00'N,155°00'W	dorsal	1
Oshoro maru	20-VII	52°00'N,155°00'W	adipose**	1
Oshoro maru	20-VII	52°00'N,155°00'W	adipose	1
Oshoro maru	20-VII	52°00'N,155°00'W	adipose	2
Oshoro maru	20-VII	52°00'N,155°00'W	adipose*	2
Oshoro maru	21-VII	51°00.1'N,154°59.2'N	adipose**	1
Oshoro maru	22-VII	50°00'N,155°00'W	adipose+post. 1/3 dorsal**	1
Oshoro maru	23-VII	49°00.1'N,154°59.4'W	adipose	1
Oshoro maru	23-VII	49°00.1'N,154°59.4'W	adipose**	-
Oshoro maru	24-VII	48°00'N,154°54.8'W	adipose	-
Oshoro maru	25-VII	46°59.8'N,154°59.4'W	adipose*	2

Table 3. (cont'd.)

Vessel	Date (Day-Month)	Locality	Missing fins or maxillary bones	Ocean age
Wakatake maru	16-V	43°30'N,172°30'E	post. ½ dorsal*	2
Kumamoto maru	29-IV	43°07'N,172°13'E	adipose**	-
Kumamoto maru	1-VI	46°50'N,177°27'W	adipose+both pelvics*	2
Kumamoto maru	4-VI	43°55'N,177°22'W	adipose+right pelvic	2
Kumamoto maru	4-VI	43°55'N,177°22'W	adipose+½ dorsal**	2
Kumamoto maru	4-VI	43°55'N,177°22'W	adipose+post. ½ dorsal*	1
Kumamoto maru	5-VI	42°55'N,177°28'W	adipose+ant. ½ dorsal**	2
Kumamoto maru	27-VI	45°53'N,167°21'E	adipose**	2
Kumamoto maru	29-VI	46°55'N,167°34'E	adipose**	2
Kumamoto maru	14-VII	47°51'N,172°42'E	adipose+left pectoral*	-
Kumamoto maru	15-VII	46°56'N,172°14'E	adipose**	1
Kumamoto maru	15-VII	46°56'N,172°14'E	dorsal*	1
Iwaki maru	21-V	44°50'N,177°21'E	adipose+dorsal+both pelvics and right maxillary	2
Iwaki maru	22-V	43°53'N,177°16'E	adipose+right pectoral**	2
Iwaki maru	23-V	42°55'N,177°05'E	adipose**	2
Iwaki maru	23-V	42°55'N,177°05'E	adipose**	2
Riasu maru	30-IV	43°30'N,173°30'W	adipose**	2
Riasu maru	12-V	43°31'N,171°30'E	adipose**	2
Riasu maru	16-V	44°29'N,168°33'W	adipose	2
Riasu maru	16-V	44°29'N,168°33'W	post. ½ dorsal	2

Table 3. (cont'd.)

Vessel	Date (Day-Month)	Locality	Missing fins or maxillary bones	Ocean age
Hokuho maru	22-V	43°30'N,176°30°W	adipose**	2
Hokuho maru	22-V	43°30'N,176°30°W	adipose+post. ½ dorsal +both pelvics*	2

*Fish harboured the parasite tags Nanophyetus salmincola or Plagioporus shawi, which are indicative of U.S. Pacific Northwest origin (Margolis 1984).

**Carried coded wire nose tags identifying release areas from southern British Columbia (14), Washington (8), and Idaho (1).