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**TAG RETURNS IN 1990-
UNITED STATES HIGH SEAS SALMON TAGGING**

by

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ABSTRACT

Twenty-five recoveries (15 sockeye, 5 chum, 3 pink, and 2 coho salmon) of tagged fish released during U.S. tagging operations in 1963 and 1982 and U.S.S.R.-U.S. tagging operations in 1989 and 1990 are reported. One tagged chum salmon released in 1990 was recovered on the high seas in 1990. Twenty-four tagged fish were recovered in coastal areas of Asia (5 tagged fish) and North America (19 tagged fish). There were three recoveries in Japan of chum salmon tagged in the area southwest of 46°N, 175°W in May. Ten sockeye salmon from a large catch (587 fish caught, 545 fish tagged) in INPFC area E7546 (179°34'E, 47°18'N) in late April 1990 were recovered in Bristol Bay (9 fish) and Port Moller (1 fish) in July. Although these recoveries do not extend the known ocean range of maturing sockeye salmon from the Bristol Bay-Aleutian Islands area (known southwestern extent of range is 171°38'E, 46°27'N from a single recovery in May), they do provide significant new information on the ocean distribution of maturing North American sockeye salmon in April. The known range (in the Gulf of Alaska) of coho salmon from the Arctic-Yukon-Kuskokwim (AYK) region of Alaska was extended northward to 54°38'N, 158°13'W by the recoveries (one in Norton Sound and one in the Kuskokwim River) of two fish tagged near the Shumagin Islands in early July 1990.

INTRODUCTION

This is a report of all recoveries of high seas salmon tags released during U.S. and cooperative U.S.S.R.-U.S. tagging operations and returned between 1 October 1989 and 31 August 1990. The tagging experiments conducted in 1963, 1982, 1989, and 1990 are summarized by Hartt and Dell (1963), Harris (1982), and Walker et al. (1989, 1990), respectively.

RESULTS AND DISCUSSION

Twenty-five recoveries (15 sockeye, 5 chum, 3 pink, and 2 coho salmon) of tagged fish released during U.S. tagging operations in 1963 and 1982 and U.S.S.R.-U.S. tagging operations in 1989 and 1990 are reported (Table 1). These include one high seas recovery, five recoveries in Asia, and nineteen recoveries in North America.

High Seas Recovery

One tagged chum salmon released in late April 1990 was recovered on the high seas in early June 1990 (Tag no. AA-79, Table 1). Based on its ocean age (0.5, Table 1) this was a maturing fish. The fish was recovered 44 days after release, and had migrated in a northwesterly direction (Fig. 1).

Asian Recoveries

All five of the Asian recoveries were 1989 recoveries of 1989 releases. Four tagged chum salmon were recovered in trapnet fisheries in Japan (Tag nos. W-041, W-045, W-060, and W-109; Table 1; Fig. 2). Three of these were tagged in the area southwest of 46°N, 175°W in May (Tag nos. W-041, W-045, and W-060). The other chum salmon was released south of Adak in June and recovered on the Pacific coast of Hokkaido in October (Tag no. W-109, Table 1, Fig. 2). One tagged pink salmon that was released about 225 km south of Amchitka Pass in June was recovered 18 km to the north of the Uka River mouth (south of Karaginsky Bay) in the U.S.S.R. at the end of July (Tag. No. W-204, Table 1, Fig. 2). None of these recoveries extend the known ocean ranges of Asian chum and pink salmon.

North American Recoveries

Ten sockeye salmon from a large catch (set N-04, 587 fish caught, 545 fish tagged) in area E7546 (179°34'E, 47°18'N) on 24 April 1990 were recovered in Bristol Bay (9 fish) and Port Moller (1 fish) in July (Tag nos. W-506, W-563, W-658, W-681, W-698, W-750, W-764, W-820, W-825, W-868; Table 1; Fig. 3). Although these recoveries do not extend the known ocean range of maturing sockeye salmon from the Bristol Bay-Aleutian Islands area (known southwestern extent of range is 171°38'E, 46°27'N from a single recovery in May), they do provide significant new information on the ocean distribution of maturing North American sockeye salmon in April.

Four sockeye salmon tagged during set N-17 south of Adak Island in the Aleutians (172°15'W, 51°36'N) on 7 June 1990 were recovered in Bristol Bay (3 fish) and on the west coast of Kodiak Island (1 fish) in July (Tag Nos. AA-205, AA-211, AA-218, and AA-224; Table 1; Fig. 4).

Two coho and one pink salmon tagged during set N-36 southeast of the Shumagin Islands (158°13'W, 54°38'N) on 8 July 1990 were recovered in Alaska in August; the coho salmon were caught in the Kuskokwim River and in Norton Sound, and the pink salmon was caught in Prince William Sound (Tag nos. AA-404, AA-405, and AA-412; Table 1; Fig. 5). The two recoveries of coho salmon extend northward the known range (in the Gulf of Alaska) of coho salmon from the Arctic-Yukon-Kuskokwim (AYK) region (previously 51°38'N, 176°24'W; Fig. 6).

There were two recoveries from U.S. tagging operations in previous years (Tag nos. L089 and 55409, Table 1, Fig. 7). A sockeye salmon released in area W8050 (176°30'W, 51°17'N) in July 1982 was recovered in Chignik Lagoon, Alaska (unknown year of recovery). A pink salmon released in area W5556 (152°07'W, 57°56'N) in July 1963 was recovered on the Alaska mainland in the Kodiak area in 1963.

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LITERATURE CITED

- Harris, C.K. 1982. Summary of United States high seas salmon tagging operations in 1982. (INPFC Doc.) Fish. Res. Inst., Univ. Washington, Seattle. 18 pp.
- Hartt, A.C., and M.B. Dell. 1963. Tagging studies. Pages 113-121 *in* C. Report on the investigations by the United States for the International North Pacific Fisheries Commission--1963. Annu. Rept. 1963, Int. N. Pac. Fish. Comm., Vancouver.
- Walker, R.V., S. Leopold, and L. Haaga. 1989. Summary of U.S.S.R.-U.S. cooperative high seas salmonid tagging operations in 1989. (INPFC Doc.) FRI-UW-8911. Fish. Res. Inst., Univ. Washington, Seattle. 8 pp.
- Walker, R.V., S. Leopold, and L. Haaga. 1990. Summary of U.S.S.R.-U.S. cooperative high seas salmonid tagging operations in 1990. (INPFC Doc.) FRI-UW-9011. Fish. Res. Inst., Univ. Washington, Seattle. 8 pp.

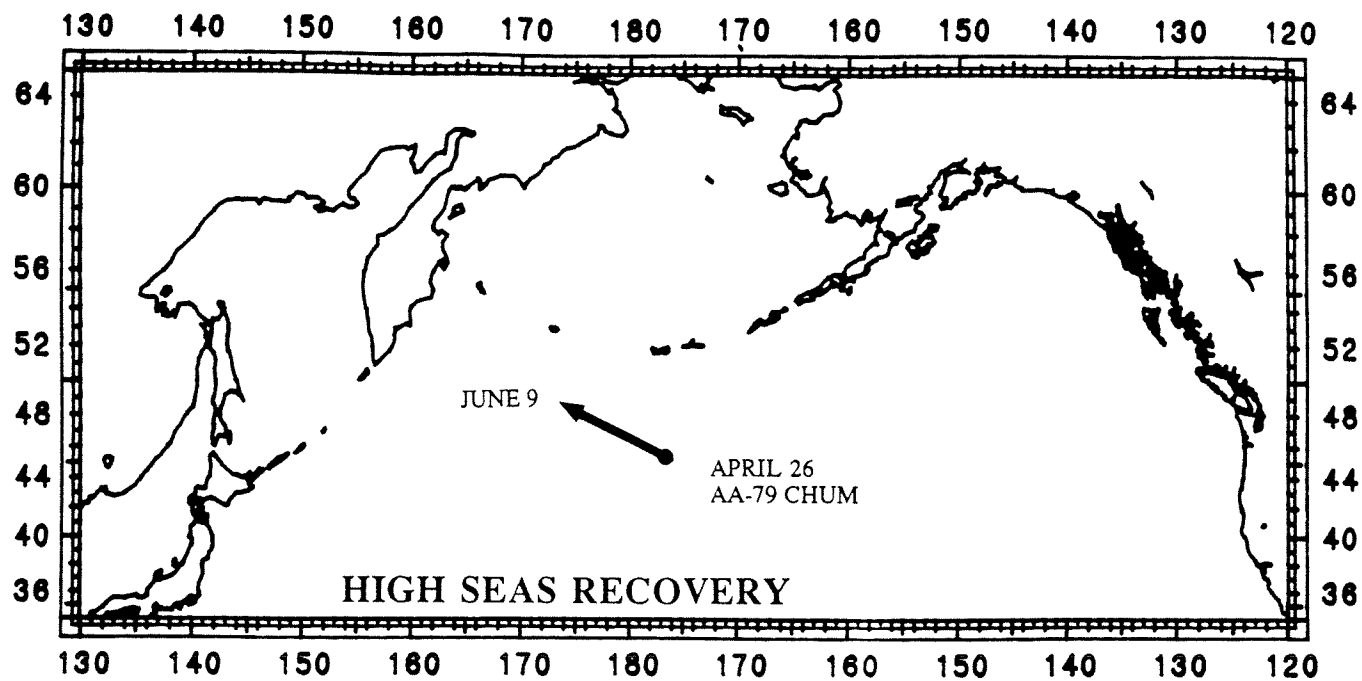


Fig. 1. High seas recovery in 1990 of a 1990 release.

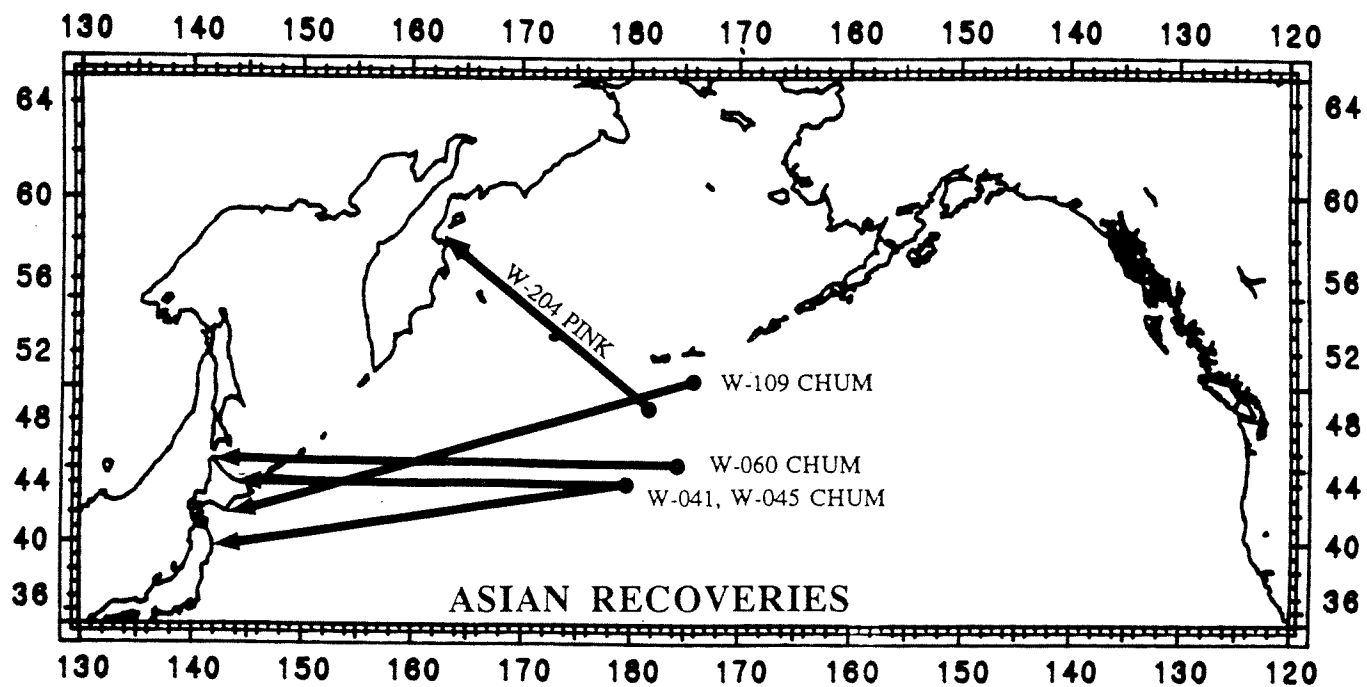


Fig. 2. Asian recoveries in 1989 of 1989 releases.

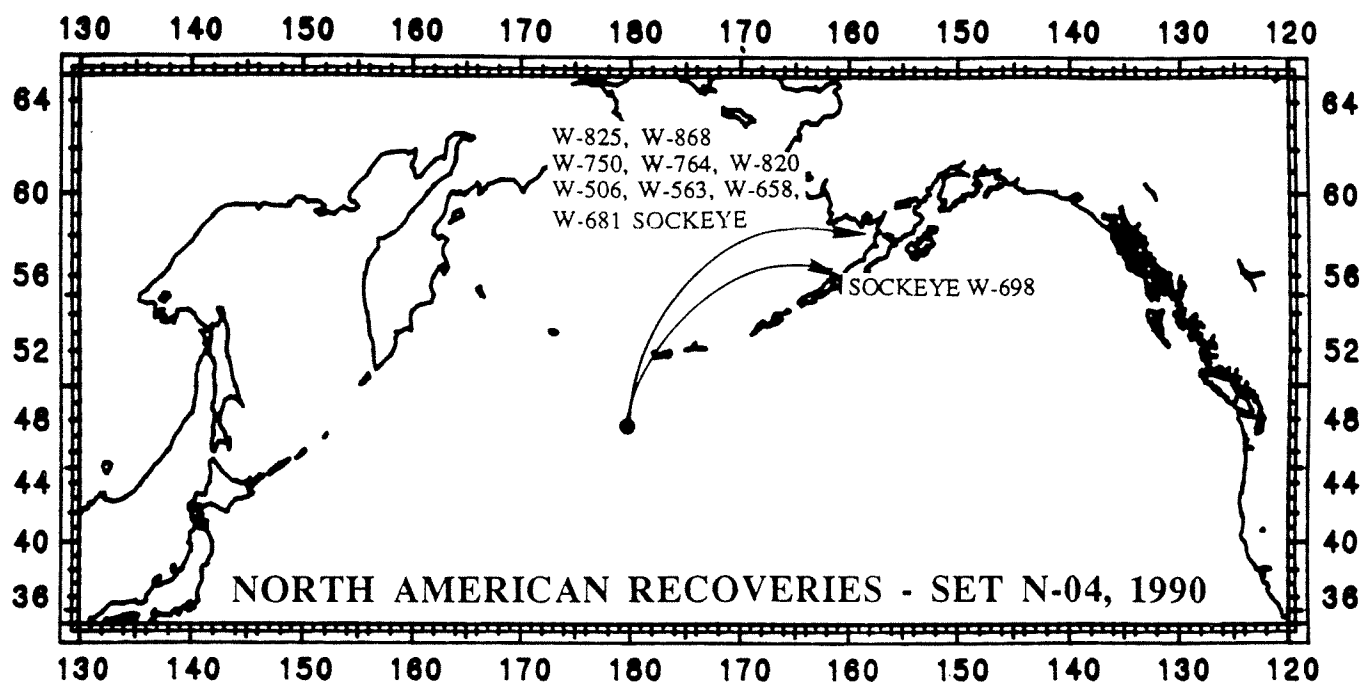


Fig. 3. North American recoveries in 1990 of 1990 releases, set N-04.

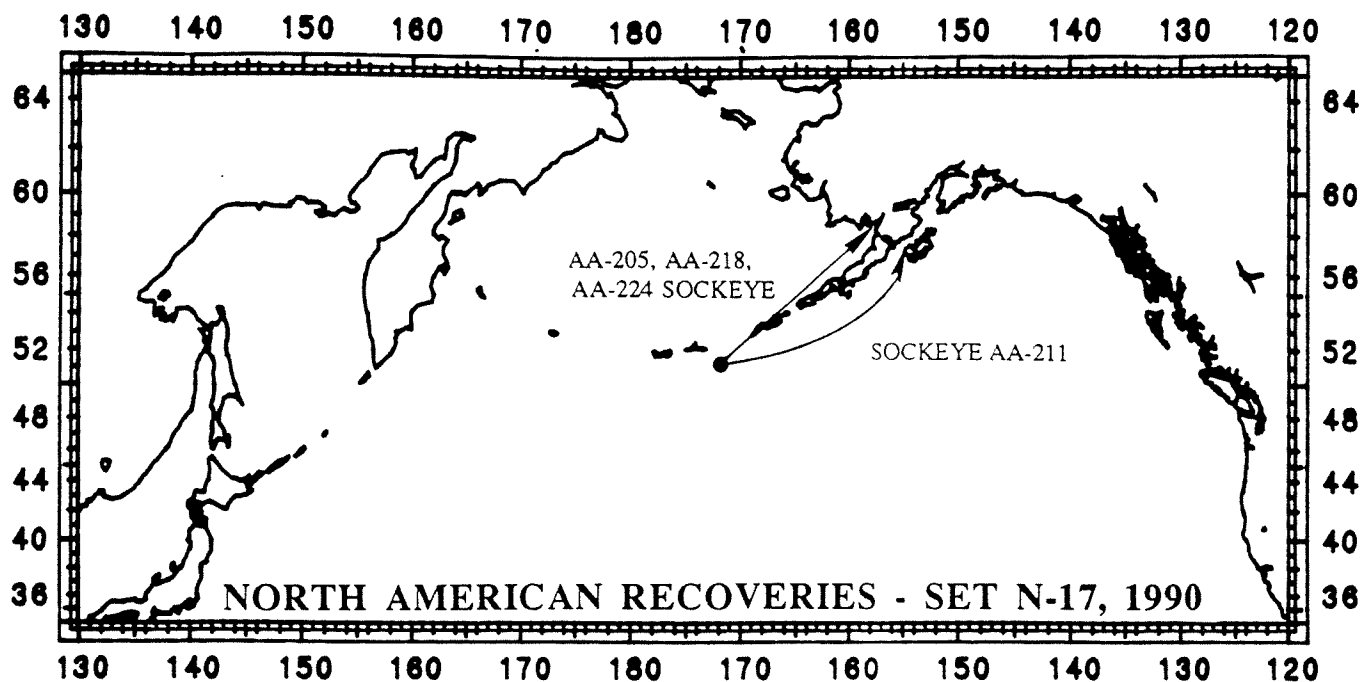


Fig. 4. North American recoveries in 1990 of 1990 releases, set N-17.

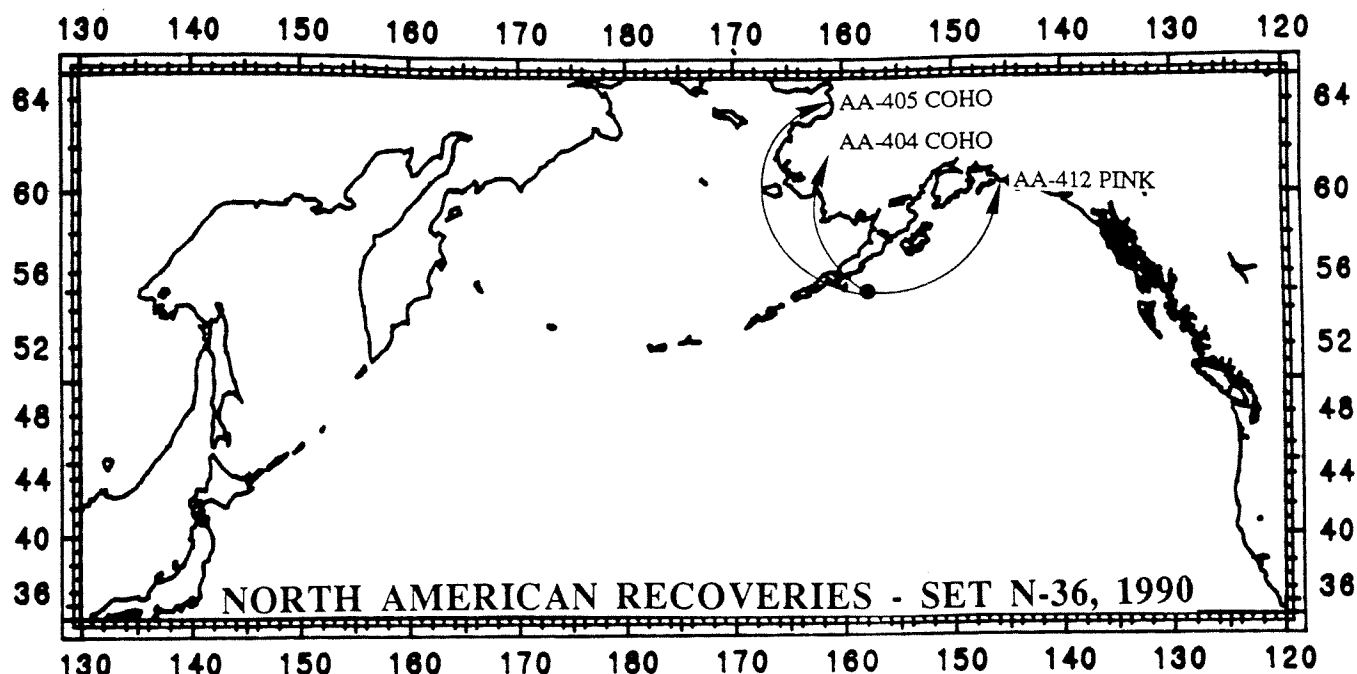


Fig. 5. North American recoveries in 1990 of 1990 releases, set N-36.

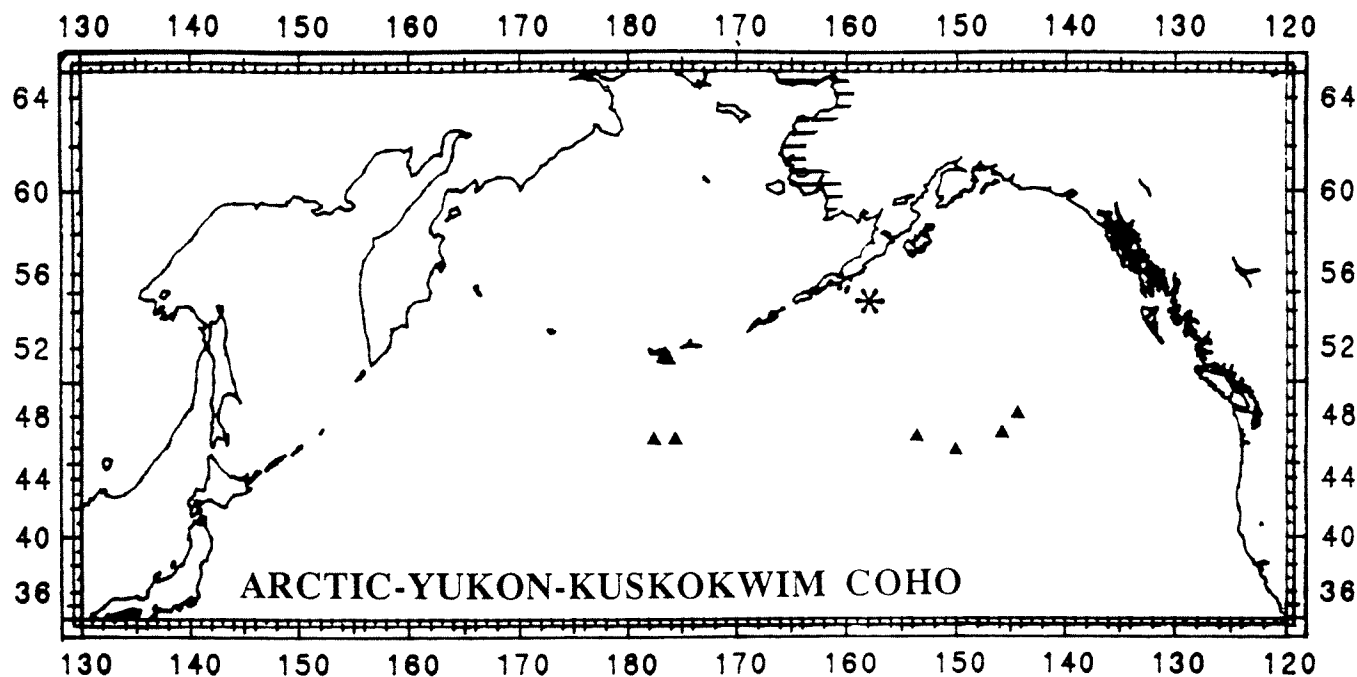


Fig. 6. The known range of coho salmon from the Arctic-Yukon-Kuskokwim (AYK) region of Alaska as shown by tagging experiments. ▲ = release locations of tagged coho salmon recovered in the AYK region, 1956-1989. * = 1990 release location of two tagged coho salmon recovered in the AYK region in 1990, which is a northward extension of the known range of AYK coho salmon in the Gulf of Alaska.

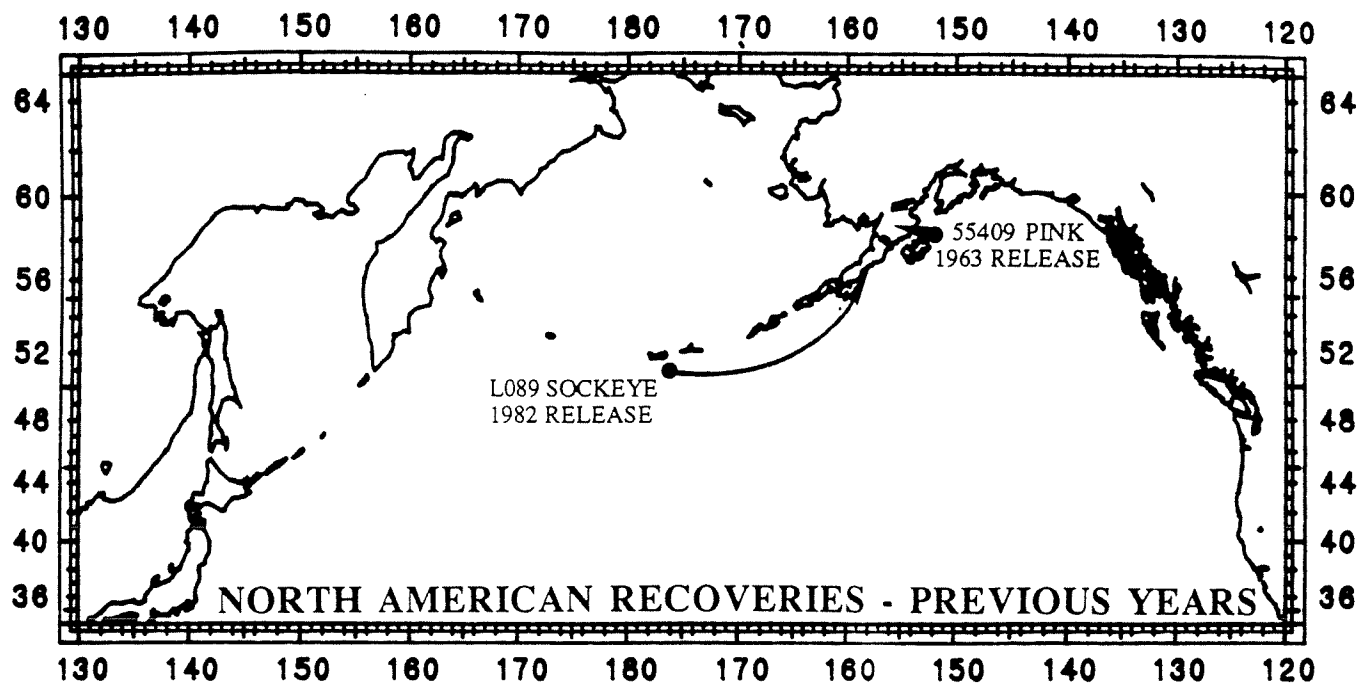


Fig. 7. North American recoveries from releases in previous years.

Table 1. Release and recovery information for U.S. and U.S.S.R.-U.S. tags returned 1 October 1989 to 31 August 1990.

Tag no.	Species	Release/ Recovery	Date (mo/day)	INPFC area ¹	N. lat. (°-')	Long. (°-')	Gear	Set no.	Age ²	Fork length (mm)	Sex	Body weight (g)	Description of recovery area
<u>1990 Recoveries of 1990 Releases</u>													
W-506	Sock-eye	Release Recovery	04/24 07/23	E7546 46-0	47-18 58-49	179-34E 158-33W	Seine Gillnet	N-04	1.3	540 584	- M	-	Nushagak, middle channel, Ekuk, Bristol Bay, Alaska
W-563	Sock-eye	Release Recovery	04/24 07/??	E7546 47-0	47-18 58-45	179-34E 157-10W	Seine Gillnet	N-04	1.3 1.3	570 660	- F	-	East of Ships Anchorage, Naknek- Kvichak, Bristol Bay, Alaska
W-658	Sock-eye	Release Recovery	04/24 07/16	E7546 48-1	47-18 58-12	179-34E 157-24W	Seine	N-04	XX	520	-	-	Egegik R., Bristol Bay, Alaska
W-681	Sock-eye	Release Recovery	04/24 07/06	E7546 48-0	47-18 58-13	179-34E 157-31W	Seine Gillnet	N-04	2.3	560 533 ³	- F	-	Egegik District, Bristol Bay, Alaska
W-698	Sock-eye	Release Recovery	04/24 07/16	E7546 50-4	47-18 55-59	179-34E 160-34W	Seine	N-04	2.2	510	-	-	Port Moller, Alaska
W-750	Sock-eye	Release Recovery	04/24 07/08	E7546 48-0	47-18 58-13	179-34E 157-31W	Seine Gillnet	N-04	XX	545	-	-	Egegik District, Bristol Bay, Alaska
W-764	Sock-eye	Release Recovery	04/24 07/11	E7546 47-0	47-18 58-43	179-34E 157-00W	Seine Gillnet	N-04	2.2	530	-	-	Naknek- Kvichak District, Bristol Bay, Alaska
W-820	Sock-eye	Release Recovery	04/24 07/11	E7546 47-0	47-18 58-43	179-34E 157-00W	Seine Gillnet	N-04	1.3	570 558 ³	- M	-	Naknek, Bristol Bay, Alaska
W-825	Sock-eye	Release Recovery	04/24 07/09	E7546 47-3	47-18 58-43	179-34E 157-04W	Seine Gillnet	N-04	2.2	540	-	-	Naknek R., Bristol Bay, Alaska

Table 1. (cont'd).

Tag no.	Species	Release/ Recovery	Date (mo/day)	INPFC area ¹	N. lat. (°-')	Long. (°-')	Gear	Set no.	Age ²	Fork length (mm)	Sex	Body weight (g)	Description of recovery area
<u>1990 Recoveries of 1990 Releases (cont'd)</u>													
W-868	Sock-eye	Release Recovery	04/24 07/18	E7546 48-1	47-18 58-12	179-34E 157-24W	Seine	N-04	XX	580 533 ³	-	-	Egegik R., Bristol Bay, Alaska
AA-79	Chum	Release Recovery	04/26 06/09	W8044 32-	45-31 48-32	177-06W 173-14E	Seine Gillnet	N-06	0.5 0.5	650 652	M	2840	High Seas Recovery
AA-205	Sock-eye	Release Recovery	06/07 07/02	W7550 47-0	51-36 58-43	172-15W 157-00W	Seine Gillnet	N-17	X.2	630	-	-	Naknek, Bristol Bay, Alaska
AA-211	Sock-eye	Release Recovery	06/07 07/21	W7550 55-4	51-36 57-17	172-15W 154-47W	Seine Seine	N-17	2.3 2.3	600 558 ³	- F	-	Cape Ikolik, west coast, Kodiak I., Alaska
AA-218	Sock-eye	Release Recovery	06/07 07/19	W7550 46-0	51-36 58-49	172-15W 158-33W	Seine	N-17	1.3	550	- F	-	Ekuk Beach, Nushagak R., Bristol Bay, Alaska
AA-224	Sock-eye	Release Recovery	06/07 07/19	W7550 48-0	51-36 58-13	172-15W 157-31W	Seine Gillnet	N-17	1.2	480	-	-	Egegik, Bristol Bay, Alaska
AA-404	Coho	Release Recovery	07/08 08/13	W6054 44-1	54-38 61-06	158-13W 160-58W	Seine	N-36	2.1	580	-	-	Kuskokwim River near Tuluksak, Alaska
AA-405	Coho	Release Recovery	07/08 08/25	W6054 41-1	54-38 63-52	158-13W 160-47W	Seine	N-36	2.1 2.1	580	-	-	Norton Sound near Unalak- leet, Alaska
AA-412	Pink	Release Recovery	07/08 08/??	W6054 59-0	54-38 60-33	158-13W 145-45W	Seine	N-36	0.1	450	-	-	Prince William Sound, off Cordova, Alaska
<u>1989 Recoveries of 1989 Releases</u>													
W-041	Chum	Release Recovery	05/10 09/12	E7542 2-2	43-29 44-11	178-35E 143-50E	Seine Trapnet	N-04	0.2	460	-	-	Tokoro, Hokkaido, Okhotsk Sea Coast

Table 1. (cont'd).

Tag no.	Species	Release/ Recovery	Date (mo/day)	INPFC area ¹	N. lat. (°-')	Long. (°-')	Set Gear	Set no.	Age ²	Fork length (mm)	Sex	Body weight (g)	Description of recovery area
<u>1989 Recoveries of 1989 Releases(cont'd)</u>													
W-045	Chum	Release Recovery	05/10 11/16	E7542 1-0	43-29 39-17	178-35E 141-56E	Seine Trapnet	N-04	0.3	515 594	- F	- 2098	Kamaishi, Honshu, Pacific Coast
W-060	Chum	Release Recovery	05/22 09/22	W8044 2-3	45-13 45-05	175-26W 141-38E	Seine Trapnet	N-08	0.3	470 530	-	- 1550	Toyotomi, Hokkaido, Japan Sea Coast
W-109	Chum	Release Recovery	06/07 10/03	W7550 2-1	50-32 42-02	174-43W 143-18E	Seine Trapnet	N-12	0.4	530	-	-	Syoya, Erimo-cho, Hokkaido, Pacific Coast
W-204	Pink	Release Recovery	06/24 07/??	W8048 12-0	49-06 57-51	179-47W 162-05E	Seine	N-27	0.1 0.1	445 430 ³	- F	-	Uka R. mouth, S. of Karaginsky Bay, U.S.S.R.
<u>Unknown Year of Recovery of 1982 Release</u>													
L089	Sock-eye	Release Recovery	07/16 ??/??	W8050 54-1	51-17 56-20	176-30W 158-29	Seine	L-56	1.1	320	-	-	Chignik Lagoon, Alaska
<u>1963 Recovery of 1963 Release</u>													
55409	Pink	Release Recovery	07/19 ??/??	W5556 54-	57-56	152-07W	Seine	X106	0.1	520	-	-	Alaska mainland in the Kodiak area

¹2° x 5° release area; general and sub-area recovery area codes.

²Age was determined by visual examination of scale patterns. A blank indicates that no scale sample was enclosed with the recovery.

³Probably a measurement error, since release length is greater than recovery length.