

REPORT OF U.S. OBSERVATIONS OF THE JAPANESE MOTHERSHIP
SALMON FISHERY DURING 1981

by

Michael L. Dahlberg

Northwest and Alaska Fisheries Center Auke Bay Laboratory
National Marine Fisheries Service, NOAA
P.O. Box 155, Auke Bay, AK 99821

Submitted to the

INTERNATIONAL NORTH PACIFIC FISHERIES COMMISSION

by the

U.S. NATIONAL SECTION

November 1981



This paper may be cited in the following manner: Dahlberg, M. L. 1981. Report of U.S. observations of the Japanese mothership salmon fishery during 1981. (Document submitted to annual meeting of the International North Pacific Fisheries Commission, Vancouver, British Columbia, Canada, November 1981. 6 pp. Northwest and Alaska Fisheries Center, Natl. Mar. Fish. Serv., Natl. Oceanic Atmos. Admin., Auke Bay Laboratory, P.O. Box 155, Auke Bay, AK, 99821.)

U.S. SALMON OBSERVER PROGRAM IN 1981

INTRODUCTION

As part of the Annex [Paragraph 1(c)] to the amended International Convention for the High Seas Fisheries of the North Pacific Ocean (INPFC), the Government of Japan may be required by the Government of the United States to accept scientific observers on board vessels fishing within the United States Fishery Conservation Zone (FCZ). The United States placed observer teams similar to those used since 1978 on board each of the Japanese salmon motherships operating within the FCZ in 1981. One member of the observer team monitored salmon operations, and the others observed and sampled marine mammals. It was agreed at the meeting of the ad hoc Salmon Research Coordinating Group, Salmon Subcommittee, Biology and Research Committee, INPFC, in Tokyo 4-9 March 1981 that United States observers would arrive at Adak Island, Alaska, by 6 June 1981 and be ready for embarkation on Japanese patrol vessels on 7 June 1981.

Mothership Observations in 1981

Salmon observers were placed aboard the motherships to collect data on total catch, fishing effort, and average weight of each species. The salmon observers' duties were:

- 1) Observe and record daily catch weights of salmon, by species, as the fish were transferred from each of the catcher-boats to the mothership. Each day, the observer obtained the following information from the fleet commander or Japan Fisheries Agency (JFA) inspector:
 - a) the average weight of 30 fish of each salmon species, if available, from each of 5 catcher-boats and the identification number of each of the 5 catcher-boats;
 - b) the catch weights of salmon, by species, for catcher-boats not actually observed; the total effort and effective effort in tans of gillnet for each catcher-boat in the fleet; and the geographical coordinates where each catcher-boat set its nets; and
 - c) the latitude and longitude of the mothership at noon Japan Standard Time and air and surface-water temperatures.
- 2) Record daily the catch weight of salmon, by species, from each of the scout boats in the mothership fleet. (Data obtained from the ship's log or from the JFA inspector.) Also record the total fishing effort and effective fishing effort in tans of gillnet and latitude and longitude of each set for each of the scout boats.
- 3) Summarize daily catcher-boat landings, by salmon species; summarize catch-effort data, by 1° x 1° INPFC statistical area; and prepare a radio message for transmission to the National Marine Fisheries Service Alaska Regional Office, Juneau, Alaska.
- 4) Randomly select one weighing container of each species each day and count the salmon within it to determine average weight of fish

in the container and compare this figure with the average obtained by weighing groups of 30 fish.

- 5) To collect biological data including scales from chinook salmon.
- 6) Examine salmonids missing adipose fins with an electronic detector in order to recover potential coded-wire tags.

The salmon observers gave the Japanese fleet commander on each mothership a written copy of the salmon observers' duties. A Japanese language copy of the U.S. Salmon Observer Manual was furnished to each vessel in 1979 to clarify why the salmon observers were aboard and precisely what the observers were to do each day.

Schedule--The four U.S. salmon observers left Seattle on 4 June 1981 and traveled via Anchorage and Adak, Alaska, before boarding a Japanese vessel on 6 June for transfer to the motherships. The motherships were observed as follows:

<u>Vessel</u>	<u>Dates observer on board (JST)</u>
<u>Kizan maru</u>	9 June - 5 July and 18 July - 26 July
<u>Meiyo maru</u>	9 June - 8 July and 19 July - 25 July
<u>Nojima maru</u>	9 June - 2 July and 12 July - 25 July
<u>Jinyo maru</u>	9 June - 24 July

From 3 July to 17 July, the fleets of the Nojima maru, Kizan maru and Meiyo maru either fished in the central Bering Sea or were in transit. The Kizan maru operated outside the FCZ 6-17 July, and the Meiyo maru was either in transit or seaward of the FCZ on 8-18 July; the Nojima maru was either moving or seaward of the FCZ 3-12 July. The U.S. observers boarded the vessels when the vessels reentered the FCZ and observed salmon catches until 24-26 July. The observers boarded Japanese patrol vessels on 24-26 July and remained on board until all observers were picked up and returned to Adak, Alaska, on 27-28 July 1981; they returned to Seattle on 29 July for debriefing.

Coverage--Salmon fishing operations of the mothership fleets in 1981 followed the pattern observed by U.S. observers in 1978-1980. Each fleet of 43 catcher-boats set gillnets in late afternoon and began pulling in the nets early the next morning. Catches were transferred daily to each of the four motherships. The catcher-boats were moored at fore and aft weighing stations and the catch was transferred in mesh bags. Each bag contained a single species of salmon. The U.S. salmon observer could not monitor all catch weights because the catcher-boats off-loaded at both places with about 1 minute intervals between weighings. Instead, the observer randomly checked weights at both stations and recorded about 42% of the catch weights of the 43 scout and catcher-boats (Table 1). The six scout boats delivered fish, but their catches were not always weighed. Observers later compared their catch records

with those furnished by the JFA chief inspector. Few discrepancies were found between records. Most discrepancies were attributed to the observer's inexperience in reading the needle of the scale as it swung with the roll of the ship.

The U.S. salmon observers collected over 3,500 chinook salmon for use in continent-of-origin studies of chinook salmon in the mothership fishing area inside the FCZ (Table 2).

Lack of Coverage--During the fishing season, three motherships left the FCZ and returned. Salmon observers reboarded all vessels when the vessels returned to the FCZ and observed fishing operations until the end of the season.

The U.S. observers were unable to observe some landings following a storm in mid-June. The landings of several catcher boats were combined in slings before they were brought on board the motherships. One observer was ill 25-26 June and did not return to duty until 27 June.

SALMON OBSERVER PROGRAM PROBLEMS

No adipose-clipped salmonids were returned to U.S. salmon observers for examination. However, a steelhead missing the adipose fin was recovered by a U.S. salmon observer on board a mothership, and the coded-wire tag was later extracted and decoded. The fish was released in April-May of 1980 in the Columbia River below Bonneville Dam. Greater emphasis must be placed on recovering potentially coded-wire tagged salmonids in future mothership operations.

Table 1. Numbers of daily catcher-boat landings observed or not observed by U.S. salmon observers in 1981.

1981 Date	Mothership								All motherships	
	1		2		3		4			
	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed
June 10	18	25	7	36	19	24	8	35	52	120
11	18	25	18	25	19	24	19	24	74	98
12	19	24	19	24	20	23	18	25	76	96
13	18	25	19	24	13	30	19	24	69	103
14	18	25	19	24	Out of FCZ		18	25	55	74
15	12	31	No fishing		Out of FCZ		18	25	30	56
16	No fishing		No fishing		No fishing		No fishing		No fishing	
17	18	25	18	25	19	24	19	24	74	98
18	18	25	19	24	19	24	18	25	74	98
19	18	25	19	24	19	24	18	25	74	98
20	19	24	19	24	19	24	19	24	76	96
21	18	25	19	24	19	24	19	24	75	97
22	18	25	20	23	19	24	19	24	76	96
23	19	24	19	24	19	24	19	24	76	96
24	18	25	19	24	19	24	19	24	75	97
25	18	25	0	43	19	24	19	24	56	116
26	19	24	0	43	19	24	18	25	56	116
27	18	25	19	24	19	24	19	24	75	97
28	20	23	19	24	19	24	19	24	77	95
29	19	24	19	24	19	24	19	24	76	96
30	18	25	19	24	19	24	18	25	74	98
July 1	18	25	19	24	21	22	19	24	77	95
2	18	25	19	24	19	24	19	24	75	97
3	20	23	19	24	Moving		19	24	58	71
4	18	25	20	23	Out of FCZ		19	24	57	72

Table 1 (continued). Numbers of daily catcher-boat landings observed or not observed by U.S. salmon observers in 1981.

1981 Date	Mothership								All motherships	
	1		2		3		4			
	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed	Observed	Not Observed
5	9	34	19	24	Out of FCZ		19	24	47	82
6	Out of FCZ		19	24	Out of FCZ		19	24	38	48
7	Out of FCZ		Out of FCZ		Out of FCZ		18	25	18	25
8	Out of FCZ		19	24	Out of FCZ		19	24	38	48
9	Out of FCZ		Out of FCZ		Out of FCZ		19	24	19	24
10	Out of FCZ		Out of FCZ		Out of FCZ		19	24	19	24
11	Out of FCZ		Out of FCZ		Out of FCZ		19	24	19	24
12	Out of FCZ		Out of FCZ		Out of FCZ		19	24	19	24
13	Out of FCZ		Out of FCZ		19	24	19	24	38	48
14	Out of FCZ		Out of FCZ		19	24	19	24	38	48
15	Out of FCZ		Out of FCZ		19	24	19	24	38	48
16	Out of FCZ		Out of FCZ		19	24	19	24	38	48
17	Moving		Out of FCZ		19	24	19	24	38	48
18	18	25	Moving		19	24	19	24	56	73
19	18	25	18	25	20	23	19	24	75	97
20	19	24	20	23	19	24	19	24	77	95
21	18	25	19	24	19	24	19	24	75	97
22	18	25	19	24	19	24	19	24	75	97
23	18	25	19	24	19	24	19	24	75	97
24	19	24	19	24	19	24	18	25	75	97
25	18	25	19	24	17	26	--	--	54	75
26	4	39	--	--	--	--	--	--	4	39
TOTAL	594	868	577	842	623	796	816	1,076	2,610	3,582
% Observed	41	--	41	--	44	--	43	--	42	

Table 2.--Numbers of chinook salmon scales collected by U.S. observers on board Japanese salmon motherships in 1981.

Vessel	Scales (no.)
<u>Kizan maru</u>	906
<u>Meiyo maru</u>	921
<u>Nojima maru</u>	900
<u>Jinyo maru</u>	800
Total	<u>3,527</u>