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Provisional Summary
of
U.S. Observer Activities
and Foreign and Joint Venture Fisheries
in the Northeast Pacific Ocean
and Eastern Bering Sea,
1988

May 1989

PROVISIONAL SUMMARY OF U.S. OBSERVER ACTIVITIES AND FOREIGN AND
JOINT VENTURE FISHERIES IN THE NORTHEAST PACIFIC OCEAN
AND EASTERN BERING SEA, 1988

by

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CONTENTS

INTRODUCTION.....1

OBSERVER COVERAGE.....2

ALASKA REGION GROUND FISH AND INCIDENTAL CATCHES

 BERING SEA.....2

 GULF OF ALASKA.....5

WASHINGTON-OREGON-CALIFORNIA REGION

 GROUND FISH AND INCIDENTAL CATCHES.....6

FIGURE AND TABLES.....8

INTRODUCTION

The Alaska Fisheries Center administers the Foreign Fisheries Observer Program, which monitors foreign and joint venture fisheries conducted within the U.S. 200-mile Exclusive Economic Zone (EEZ) in the northeast Pacific Ocean and Eastern Bering Sea. The Magnuson Fishery Conservation and Management Act of 1976 requires that, with some exceptions, all foreign fishing vessels and joint venture processing vessels carry a U.S. fisheries observer while conducting fishing operations within the EEZ. Foreign fishing is defined as foreign vessels that catch and process fish against a foreign quota, and joint venture fishing is defined as foreign vessels which process U.S.-caught and -delivered fish taken against a U.S. quota. The primary purposes for the placement of observers are to collect data required for fisheries management and research and to monitor vessel compliance with U.S. fisheries regulations.

The Foreign Fisheries Observer Program prepares monthly reports summarizing observer coverage, estimates of groundfish catches, and estimates of incidental catches of species whose retention are prohibited by U.S. fishing regulations. The purpose of these reports is to keep those associated with the seasonal management of these fisheries apprised of current conditions. This document provides an annual summary of the fisheries, and includes information contained in the monthly reports for 1988. At this time, data and estimates are provisional. Estimates and final statistics for 1988 can be obtained from the Foreign Fisheries

Observer Program of the Alaska Fisheries Center, Seattle, Washington.

OBSERVER COVERAGE

(Tables 1-4)

Observer coverage (the percentage of the total foreign vessel days on ground that were sampled by observers) for 1988 was 93.9% in the foreign and joint venture fisheries in the northeast Pacific Ocean and Bering Sea, a decrease of 2.1% from coverage in 1987. Observers sampled 14,892 cumulative days aboard vessels from Japan, the U.S.S.R., the Republic of Korea (ROK), Poland, and the People's Republic of China (PRC). Coverage by major region was 93.5% in the Bering Sea, 91.9% in the Gulf of Alaska, and 95.8% in the Washington-Oregon-California (WOC) region. Comparative coverage for 1987 was 96.4% in the Bering Sea, 99.7% in the Gulf of Alaska, and 93.9% in the WOC region. For 1988, the total fishing effort of 15,866 days was 6.9% decrease from the 1987 effort of 17,041 days.

ALASKA REGION GROUND FISH AND INCIDENTAL CATCHES

In 1988, no groundfish resources were allocated for foreign fishing in the Bering Sea/Aleutian and Gulf of Alaska regions.

Bering Sea

(Tables 5-8)

The joint venture fishery in the Bering Sea caught 1,301,400 metric tons (t) in 1988, a 4.0% decrease from the 1987 catch of

1,355,900 t. Most of the fishing effort in 1988 occurred during the first six months of the year (85.5% of the total groundfish was taken during this period). In 1988, 131 foreign processing vessels participated in joint venture fisheries with U.S. fisherman: 52 Japanese vessels, 31 ROK vessels, 30 Soviet vessels, 13 Polish vessels, and 5 PRC vessels.

The incidental catches of prohibited species, with the exception of halibut, were less than those of 1987. The catches of 9,400 salmon, 88,000 king crab, and 3,120,900 Tanner crab represented decreases of 11.3%, 33.5%, and 54.5%, respectively. The halibut catch, however, increased by 196.7%: 1,590,700 halibut (2,579.3 t) were caught in 1988, whereas 536,200 halibut (1,472.0 t) were caught in 1987.

For 1988, the joint venture pollock quota was apportioned into two seasons: the first season was available from January 15 to April 15, and the second season available after April 15. The Bering Sea portion of the first quota was attained on February 9, resulting in the closure of the fishery until the opening of the second season on April 16. The quota for the second season was attained on May 24, closing the fishery in the Bering Sea until supplemental releases of pollock reopened the fishery on September 9, and again on November 30. The final joint venture pollock quota was reached on December 6, closing the fishery for the remainder of 1988. A separate quota for pollock in the Aleutian area was apportioned over the same two seasons as was the Bering Sea pollock quota. The first season closed on March 4 and the second season

closed on June 30. A supplemental release reopened the fishery on October 7, and the quota was reached on October 12. The joint venture yellowfin sole/flatfish fishery began on January 4. The yellowfin sole quota was reached on June 4. Fisheries for other species of flatfish (primarily rock sole, flathead sole, and Alaska plaice) continued until August 5. The yellowfin sole fishery reopened on September 9 with a supplemental release of quota, and the fishery continued through the end of 1988. In the Aleutian region, the Atka mackerel quota was reached on July 13.

Area and zone regulations implemented in 1987 through amendments to the Bering Sea/Aleutian Island Groundfish Management Plan which set catch limits for incidental catches of Chionoecetes bairdi Tanner crab, red king crab, and Pacific halibut in joint venture fisheries targeting on yellowfin sole/flatfish in the Bering Sea and Aleutian region were in effect through 1988 (see Figure 1). In addition for 1988, the U.S. participants in the joint venture yellowfin sole fishery developed a self-management system for Zones 1 and 2, which regulated bycatch rates on a joint venture company basis using industry-established rates. The scheme was adopted by NMFS and was implemented and enforced through restrictions placed on foreign vessel permits.

By zone, the total groundfish catches in fisheries targeting on yellowfin sole/flatfish were 106,400 t in Zone 1, 201,900 t in Zone 2, and 116,600 t in Zone 3. Incidental catches of C. Bairdi Tanner crab were 131,700 crab in Zone 1, 320,700 crab in Zone 2, and 59,600 crab in Zone 3. Incidental catches of red king crab

were 52,200 crab in Zone 1, 8,900 crab in Zone 2, and 11,700 crab in Zone 3. Incidental catches of halibut were 178,300 fish in Zone 1, 389,900 fish in Zone 2, and 66,900 fish in Zone 3.

By zone, the total groundfish catches in fisheries targeting on other species (primarily pollock and Pacific cod) were 163,800 t in Zone 1, 551,400 t in Zone 2, and 161,300 t in Zone 3. Incidental catches of C. Bairdi Tanner crab were 100,700 crab in Zone 1, 136,900 crab in Zone 2, and 1,100 crab in Zone 3. Incidental catches of red king crab were 8,800 crab in Zone 1, 1,000 crab in Zone 2, and less than 100 crab in Zone 3. Incidental catches of halibut were 158,400 fish in Zone 1, 739,800 fish in Zone 2, and 57,400 fish in Zone 3. Summaries of groundfish and incidentally-taken prohibited species by target fishery, zone, and subarea are included in Tables 7 and 8.

On March 8, 1988, Zone 1 was closed to the yellowfin sole/flatfish joint venture fishery due to the bycatch limit of 80,000 C. bairdi Tanner crab being exceeded. Zone 1 reopened on December 12 due to an increase in the bycatch limit.

Gulf of Alaska (Tables 9-10)

The joint venture fishery began operations on June 3 in the Gulf of Alaska. The fishery caught 3,800 t of groundfish in 1988, an 88.1% decrease from the 32,000 t taken in 1987. Fishing occurred in the Shumagin, Chirikof, and Kodiak subareas. The fishery targeted on flounders (however, Pacific cod constituted 47.2% of the total catch). For the year, 4 Japanese vessels and

1 ROK vessel participated in joint venture fisheries. On August 8, the fishery was closed due to the quota of 240 t of halibut being exceeded.

The incidental catches of 10,600 Tanner crab and 100 king crab represented increases from the 5,500 Tanner crab and less than 100 king crab taken during 1987. The incidental catches of 56,400 halibut (244.5 t) and 100 salmon represented decreases from the 189,800 halibut (627.8 t) and 1,000 salmon taken in 1987.

WOC REGION GROUND FISH AND INCIDENTAL CATCHES

(Tables 11-12)

The foreign fishery targeting on Pacific whiting began on June 3 and ended on October 31. The fishery caught 18,300 t of groundfish, a 63.7% decrease from the 50,400 t taken in 1987. The majority of the effort occurred in October, with 60.7% of the total catch taken during the month. The percentage of catch by the International North Pacific Fisheries Commission (INPFC) area was 93.5% in the Columbia area and 6.5% in the Eureka area. Pacific whiting comprised 98.3% of the total groundfish catch. Eighteen Polish vessels participated in the fishery.

The incidental catch of 2,200 salmon was 52.2% decrease from the 4,600 salmon taken in 1987. In 1988, 81.8% of the salmon catch occurred during October. Chinook salmon comprised 90.0% of the total salmon catch. Less than 100 halibut were taken in 1987 and 1988.

The joint venture fishery targeting on Pacific whiting began in April and ended in October. The fishery caught 136,900 t of groundfish, an increase of 27.7% from the 107,200 t taken in 1987. The percent of total catch by INPFC area was 9.2% in the Vancouver area, 71.8% in the Columbia area, 18.5% in the Eureka area, and 0.5% in the Monterrey area. Over 99% of the total catch was Pacific whiting. In 1988, 14 Polish vessels, 13 Soviet vessels, 2 ROK vessels, 1 Japanese vessel, and 1 PRC vessel participated in joint venture fisheries.

The incidental catch of 14,000 salmon was a 62.8% increase from the 8,600 salmon taken in 1987. For 1988, 80.0% of the total salmon catch occurred during July and August (only 55.4% of the total groundfish was taken during these two months). Of the total salmon catch, 80.0% were chinook. The incidental catch of halibut was about 100 fish. Less than 100 halibut were taken in 1987.

FIGURE

Figure 1.--Bering Sea zones by which the restrictions on the incidental catches of king and Tanner crab apply...	9
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TABLES

Table 1.--Observer coverage of foreign and joint venture processing vessels by month for 1988.....	10
Table 2.--Summary of observer coverage of foreign and joint venture fisheries in the Bering Sea/Aleutian region by month for 1988.....	13
Table 3.--Summary of observer coverage of foreign and joint venture fisheries in the Gulf of Alaska region by month for 1988.....	17
Table 4.--Summary of observer coverage of foreign and joint venture fisheries in the Washington-Oregon-California region by month for 1988.....	18
Table 5.--Foreign and joint venture prohibited species summary (by number) in the Bering Sea/Aleutian region by month for 1988.....	21
Table 6.--Foreign and joint venture prohibited species summary (by weight) in the Bering Sea/Aleutian region by month for 1988.....	24
Table 7.--Summary of joint venture prohibited species catches in the Bering Sea/Aleutian region by target fishery and zone for 1988.....	27
Table 8.--Summary of joint venture prohibited species catches in the Bering Sea/Aleutian region by target fishery and subarea for 1988.....	28
Table 9.--Foreign and joint venture prohibited species summary (by number) in the Gulf of Alaska region by month for 1988.....	29
Table 10.--Foreign and joint venture prohibited species summary (by weight) in the Gulf of Alaska region by month for 1988.....	30
Table 11.--Foreign and joint venture prohibited species summary (by number) in the Washington-Oregon-California region by month for 1988.....	31
Table 12.--Foreign and joint venture prohibited species summary (by weight) in the Washington-Oregon-California region by month for 1988.....	33

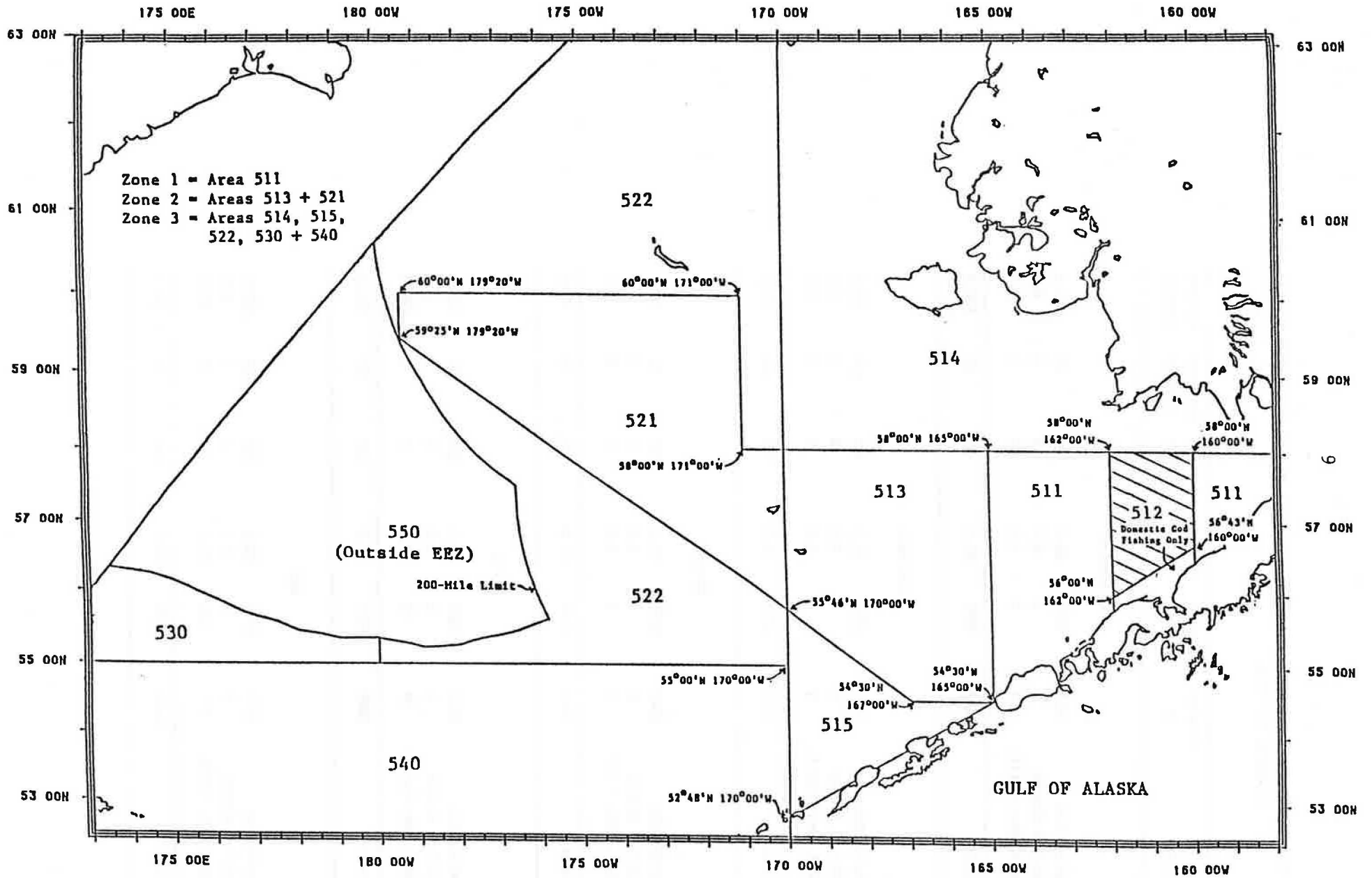


Figure 1.--Bering Sea zones by which the restrictions on the incidental catch of king and Tanner crab apply.

Table 1.--Observer coverage of foreign and joint venture processing vessels by month for 1988.

Region	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
January						
Bering Sea	1247	1074	86.1	85	85	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	0	0	0.0	0	0	0.0
Total	1247	1074	86.1	85	85	100.0
February						
Bering Sea	2142	2055	95.9	105	104	99.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	0	0	0.0	0	0	0.0
Total	2142	2055	95.9	105	104	99.0
March						
Bering Sea	2660	2489	93.6	96	95	99.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	0	0	0.0	0	0	0.0
Total	2660	2489	93.6	96	95	99.0
April						
Bering Sea	2039	1876	92.0	101	101	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	56	45	80.4	6	6	100.0
Total	2095	1921	91.7	107	107	100.0
May						
Bering Sea	2195	2111	96.2	103	103	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	229	224	97.8	11	10	100.0
Total	2424	2335	96.3	114	113	99.1

Table 1.-Continued

Region	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
June						
Bering Sea	1035	971	93.8	74	74	100.0
Gulf of Alaska	15	8	53.3	1	1	100.0
Wash.-Ore.-Calif.	536	509	95.0	24	23	95.8
Total	1586	1488	93.8	99	98	99.0
July						
Bering Sea	195	172	88.2	15	15	100.0
Gulf of Alaska	16	16	100.0	3	3	100.0
Wash.-Ore.-Calif.	625	600	96.0	32	32	100.0
Total	836	788	94.3	50	50	100.0
August						
Bering Sea	6	5	83.3	1	1	100.0
Gulf of Alaska	55	55	100.0	3	3	100.0
Wash.-Ore.-Calif.	723	682	94.3	26	26	100.0
Total	784	742	94.6	30	30	100.0
September						
Bering Sea	644	604	93.8	33	33	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	326	318	97.5	23	23	100.0
Total	970	922	95.1	56	56	100.0
October						
Bering Sea	437	406	92.9	36	36	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	321	319	99.4	16	16	100.0
Total	758	725	95.6	52	52	100.0

Table 1.-Continued

Region	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
November						
Bering Sea	286	275	96.2	15	14	93.3
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	0	0	0.0	0	0	0.0
Total	286	275	96.2	15	14	93.3
December						
Bering Sea	78	78	100.0	5	5	100.0
Gulf of Alaska	0	0	0.0	0	0	0.0
Wash.-Ore.-Calif.	0	0	0.0	0	0	0.0
Total	78	78	100.0	5	5	100.0
Totals for the year						
Bering Sea	12964	12116	93.5	131	131	100.0
Gulf of Alaska	86	79	91.9	5	5	100.0
Wash.-Ore.-Calif.	2816	2697	95.8	49	49	100.0
Total	15866	14892	93.9	185	185	100.0

Table 2.--Summary of observer coverage of foreign and joint venture fisheries in the Bering Sea/Aleutian region by month for 1988.

A. Foreign fishery

No foreign fishery during 1988

B. Joint venture fishery

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
January						
US-USSR	357	289	81.0	16	16	100.0
US-Japan	426	392	92.0	33	33	100.0
US-Korea	368	301	81.8	29	29	100.0
US-Poland	29	26	89.7	2	2	100.0
US-China	67	66	98.5	5	5	100.0
Total	1247	1074	86.1	85	85	100.0
February						
US-USSR	415	395	95.2	19	19	100.0
US-Japan	801	754	94.1	48	47	97.9
US-Korea	793	775	97.7	31	31	100.0
US-Poland	15	13	86.7	2	2	100.0
US-China	118	118	100.0	5	5	100.0
Total	2142	2055	95.9	105	104	99.0
March						
US-USSR	701	664	94.7	26	25	96.2
US-Japan	968	896	92.6	34	34	100.0
US-Korea	860	804	93.5	31	31	100.0
US-Poland	0	0	0.0	0	0	0.0
US-China	131	125	95.4	5	5	100.0
Total	2660	2489	93.6	96	95	99.0
April						
US-USSR	646	607	94.0	26	26	100.0
US-Japan	800	716	89.5	40	40	100.0
US-Korea	418	391	93.5	25	25	100.0
US-Poland	79	68	86.1	6	6	100.0
US-China	96	94	97.9	4	4	100.0
Total	2039	1876	92.0	101	101	100.0

Table 2.-Continued

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
May						
US-USSR	538	512	95.2	24	24	100.0
US-Japan	886	858	96.8	39	39	100.0
US-Korea	544	526	96.7	28	28	100.0
US-Poland	132	125	94.7	8	8	100.0
US-China	95	90	94.7	4	4	100.0
Total	2195	2111	96.2	103	103	100.0
June						
US-USSR	307	275	89.6	15	15	100.0
US-Japan	324	310	95.7	30	30	100.0
US-Korea	394	376	95.4	27	27	100.0
US-Poland	0	0	0.0	0	0	0.0
US-China	10	10	100.0	2	2	100.0
Total	1035	971	93.8	74	74	100.0
July						
US-USSR	110	97	88.2	7	7	100.0
US-Japan	11	11	100.0	2	2	100.0
US-Korea	74	64	86.5	6	6	100.0
US-Poland	0	0	0.0	0	0	0.0
US-China	0	0	0.0	0	0	0.0
Total	195	172	88.2	15	15	100.0
August						
US-USSR	6	5	83.3	1	1	100.0
US-Japan	0	0	0.0	0	0	0.0
US-Korea	0	0	0.0	0	0	0.0
US-Poland	0	0	0.0	0	0	0.0
US-China	0	0	0.0	0	0	0.0
Total	6	5	83.3	1	1	100.0

Table 2.-Continued

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
September						
US-USSR	0	0	0.0	0	0	0.0
US-Japan	260	242	93.1	14	14	100.0
US-Korea	300	283	94.3	14	14	100.0
US-Poland	84	79	94.0	5	5	100.0
US-China	0	0	0.0	0	0	0.0
Total	644	604	93.8	33	33	100.0
October						
US-USSR	0	0	0.0	0	0	0.0
US-Japan	247	232	93.9	16	16	100.0
US-Korea	176	165	93.8	15	15	100.0
US-Poland	14	9	64.3	5	5	100.0
US-China	0	0	0.0	0	0	0.0
Total	437	406	92.9	36	36	100.0
November						
US-USSR	0	0	0.0	0	0	0.0
US-Japan	257	249	96.9	11	11	100.0
US-Korea	29	26	89.7	4	3	75.0
US-Poland	0	0	0.0	0	0	0.0
US-China	0	0	0.0	0	0	0.0
Total	286	275	96.2	15	14	93.3
December						
US-USSR	0	0	0.0	0	0	0.0
US-Japan	51	51	100.0	4	4	100.0
US-Korea	27	27	100.0	1	1	100.0
US-Poland	0	0	0.0	0	0	0.0
US-China	0	0	0.0	0	0	100.0
Total	78	78	100.0	5	5	100.0

Table 2.-Continued

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
Totals for the year						
US-USSR	3080	2844	92.3	30	30	100.0
US-Japan	5031	4711	93.6	52	52	100.0
US-Korea	3983	3738	93.8	31	31	100.0
US-Poland	353	320	90.7	13	13	100.0
US-China	517	503	97.3	5	5	100.0
Total	12964	12116	93.5	131	131	100.0

Table 3.--Summary of observer coverage of foreign and joint venture fisheries in the Gulf of Alaska region by month for 1988.

A. Foreign fishery

No foreign fishery during 1988

B. Joint venture fishery

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
June						
US-Japan	15	8	53.3	1	1	100.0
Total	15	8	53.3	1	1	100.0
July						
US-Japan	15	15	100.0	2	2	100.0
US-Korea	1	1	100.0	1	1	100.0
Total	16	16	100.0	3	3	100.0
August						
US-Japan	55	55	100.0	3	3	100.0
US-Korea	0	0	0.0	0	0	0.0
Total	55	55	100.0	3	3	100.0
Totals for the year						
US-Japan	85	78	91.8	4	4	100.0
US-Korea	1	1	100.0	1	1	100.0
Total	86	79	91.9	5	5	100.0

Note: No fishing January-May and September-December.

Table 4.--Summary of observer coverage of foreign and joint venture fisheries in the Washington-Oregon-California region by month for 1988.

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
April						
A. Foreign fishery						
No foreign fishery in April.						
B. Joint venture fishery						
US-USSR	56	45	80.4	6	6	100.0
Total	56	45	80.4	6	6	100.0
GRAND TOTAL	56	45	80.4	6	6	100.0
May						
A. Foreign fishery						
No foreign fishery in May.						
B. Joint venture fishery						
US-USSR	206	204	99.0	8	8	100.0
US-Poland	23	20	87.0	3	2	66.7
Total	229	224	97.8	11	10	90.9
GRAND TOTAL	229	224	97.8	11	10	90.9
June						
A. Foreign fishery						
Poland	30	30	100.0	4	4	100.0
B. Joint venture fishery						
US-USSR	262	249	95.0	9	9	100.0
US-Poland	226	215	95.1	10	9	90.0
US-Japan	18	15	83.3	1	1	100.0
Total	506	479	94.7	20	19	95.0
GRAND TOTAL	536	509	95.0	24	23	95.8

Table 4.-Continued

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
July						
A. Foreign fishery						
Poland	44	43	97.7	5	5	100.0
B. Joint venture fishery						
US-USSR	258	243	94.2	11	11	100.0
US-Poland	286	277	96.9	12	12	100.0
US-Japan	11	11	100.0	1	1	100.0
US-Korea	11	11	100.0	2	2	100.0
US-China	15	15	100.0	1	1	100.0
Total	581	557	95.9	27	27	100.0
GRAND TOTAL	625	600	96.0	32	32	100.0
August						
A. Foreign fishery						
No foreign fishery in August.						
B. Joint venture fishery						
US-USSR	315	303	96.2	12	12	100.0
US-Poland	319	292	91.5	11	11	100.0
US-Japan	0	0	0.0	0	0	0.0
US-Korea	54	53	98.1	2	2	100.0
US-China	35	34	97.1	1	1	100.0
Total	723	682	94.3	26	26	100.0
GRAND TOTAL	723	682	94.3	26	26	100.0
September						
A. Foreign fishery						
Poland	88	86	97.7	7	7	100.0
B. Joint venture fishery						
US-USSR	120	120	100.0	6	6	100.0
US-Poland	93	90	96.8	9	9	100.0
US-Japan	0	0	0.0	0	0	0.0
US-Korea	0	0	98.5	0	0	0.0
US-China	25	22	88.0	1	1	100.0
Total	238	232	97.5	16	16	100.0
GRAND TOTAL	326	318	97.5	23	23	100.0

Table 4.-Continued

Nation	Foreign days	Observer days	Percent coverage	Foreign vessels	Observer vessels	Percent sampled
October						
A. Foreign fishery						
Poland	299	299	100.0	14	14	100.0
B. Joint venture fishery						
US-USSR	22	20	90.9	2	2	100.0
US-Poland	0	0	0.0	0	0	0.0
US-Japan	0	0	0.0	0	0	0.0
US-Korea	0	0	0.0	0	0	0.0
US-China	0	0	0.0	0	0	0.0
Total	22	20	90.9	2	2	100.0
GRAND TOTAL	321	319	99.4	16	16	100.0
Totals for the year						
A. Foreign fishery						
Poland	461	458	99.3	18	18	100.0
B. Joint venture fishery						
US-USSR	1239	1184	95.6	13	13	100.0
US-Poland	947	894	94.4	14	14	100.0
US-Japan	29	26	89.7	1	1	100.0
US-Korea	65	64	98.5	2	2	100.0
US-China	75	71	94.7	1	1	100.0
Total	2355	2239	95.1	31	31	100.0
GRAND TOTAL	2816	2697	95.8	49	49	100.0

Note: No fishing January-March and November-December.

Table 5.--Foreign and joint venture prohibited species summary (by number) in the Bering Sea/Aleutian region by month for 1988.

Month/Nation	Numbers (1000's)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
January										
Japan	2.8	0.0	26.4	0.0	0.0	0.0	0.0	0.0	7.3	0.0
Foreign Total	2.8	0.0	26.4	0.0	0.0	0.0	0.0	0.0	7.3	0.0
Joint venture	44.8	160.3	10.6	339.8	1.4	1.6	1.0	5.2	10.9	59.7
February										
Japan	13.0	0.0	68.2	0.0	0.0	0.0	0.0	0.0	9.3	0.0
Foreign Total	13.0	0.0	68.2	0.0	0.0	0.0	0.0	0.0	9.3	0.0
Joint venture	333.4	216.8	56.4	349.5	1.8	2.0	<0.1	26.1	63.2	103.0
March										
Japan	2.9	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Foreign Total	2.9	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.5	0.0
Joint venture	279.9	195.2	108.2	258.7	2.3	0.2	25.9	25.0	110.4	498.4
April										
Japan	1.4	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Korea	<0.1	0.0	<0.1	0.0	0.0	0.0	<0.1	0.0	32.8	0.0
Foreign Total	1.4	0.0	11.0	0.0	0.0	0.0	<0.1	0.0	33.6	0.0
Joint venture	288.8	196.0	94.1	367.4	2.0	0.6	72.9	2.7	3107.5	499.8
May										
Japan	2.1	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	2.1	0.0	6.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Joint venture	186.2	272.5	64.1	99.8	1.0	0.2	7.7	11.3	1062.2	185.8
June										
Japan	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Korea	<0.1	0.0	0.2	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
Foreign Total	0.3	0.0	0.5	0.0	0.0	0.0	<0.1	0.0	0.0	0.0
Joint venture	121.6	72.0	118.3	64.7	0.6	0.1	9.1	7.5	112.1	538.2

Table 5.--Continued

Month/Nation	Numbers (1000's)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
July										
Japan	1.0	0.0	1.2	0.0	<0.1	0.0	1.0	0.0	4.5	0.0
Korea	0.8	0.0	1.5	0.0	<0.1	0.0	0.2	0.0	3.6	0.0
Foreign Total	1.8	0.0	2.7	0.0	<0.1	0.0	1.2	0.0	8.1	0.0
Joint venture	44.8	15.3	46.7	7.0	0.2	<0.1	7.3	0.6	2351.9	718.9
August										
Japan	1.9	0.0	2.0	0.0	<0.1	0.0	0.9	0.0	68.5	0.0
Korea	0.8	0.0	0.9	0.0	0.0	0.0	<0.1	0.0	4.9	0.0
Foreign Total	2.7	0.0	2.9	0.0	<0.1	0.0	0.9	0.0	73.4	0.0
Joint venture	5.1	0.5	2.8	0.8	<0.1	0.0	0.1	0.2	0.0	89.4
September										
Japan	2.3	0.0	5.7	0.0	<0.1	0.0	1.5	0.0	7.9	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	2.3	0.0	5.7	0.0	<0.1	0.0	1.5	0.0	7.9	0.0
Joint venture	46.5	94.5	34.1	12.4	1.2	3.2	8.3	0.9	44.4	102.6
October										
Japan	13.8	0.0	45.4	0.0	1.9	0.0	1.0	0.0	104.8	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	13.8	0.0	45.4	0.0	1.9	0.0	1.0	0.0	104.8	0.0
Joint venture	4.0	43.7	0.7	35.1	0.1	0.5	0.1	1.2	<0.1	185.3
November										
Japan	14.4	0.0	42.8	0.0	1.4	0.0	3.6	0.0	87.4	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	14.4	0.0	42.8	0.0	1.4	0.0	3.6	0.0	87.4	0.0
Joint venture	0.2	23.6	<0.1	34.2	<0.1	0.7	0.0	5.6	0.0	92.3
December										
Japan	11.5	0.0	45.6	0.0	0.0	0.0	0.1	0.0	22.7	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	11.5	0.0	45.6	0.0	0.0	0.0	0.1	0.0	22.7	0.0
Joint venture	0.7	11.1	0.0	21.2	0.0	0.3	0.0	1.7	0.0	47.5

Table 5.--Continued

Month/Nation	Numbers (1000's)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
Total										
Japan	67.4	0.0	268.7	0.0	3.3	0.0	8.1	0.0	313.8	0.0
Korea	1.6	0.0	2.6	0.0	<0.1	0.0	0.3	0.0	41.3	0.0
Foreign Total	69.0	0.0	271.3	0.0	3.3	0.0	8.4	0.0	355.2	0.0
Joint venture	1355.9	1301.4	536.2	1590.7	10.6	9.4	132.4	88.0	6862.6	3120.9

Table 6.--Foreign and joint venture prohibited species summary (by weight) in the Bering Sea/Aleutian region by month for 1988.

Month/Nation	Weights (t)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
January										
Japan	2.8	0.0	85.4	0.0	*	*	*	*	*	*
Foreign Total	2.8	0.0	85.4	0.0	*	*	*	*	*	*
Joint venture	44.8	160.3	17.0	326.9	*	*	*	*	*	*
February										
Japan	13.0	0.0	224.5	0.0	*	*	*	*	*	*
Foreign Total	13.0	0.0	224.5	0.0	*	*	*	*	*	*
Joint venture	333.4	216.8	80.2	372.7	*	*	*	*	*	*
March										
Japan	2.9	0.0	43.7	0.0	*	*	*	*	*	*
Foreign Total	2.9	0.0	43.7	0.0	*	*	*	*	*	*
Joint venture	279.9	195.2	218.6	435.6	*	*	*	*	*	*
April										
Japan	1.4	0.0	38.9	0.0	*	*	*	*	*	*
Korea	<0.1	0.0	0.1	0.0	*	*	*	*	*	*
Foreign Total	1.4	0.0	39.0	0.0	*	*	*	*	*	*
Joint venture	288.8	196.0	289.8	641.2	*	*	*	*	*	*
May										
Japan	2.1	0.0	21.6	0.0	*	*	*	*	*	*
Korea	0.0	0.0	0.0	0.0	*	*	*	*	*	*
Foreign Total	2.1	0.0	21.6	0.0	*	*	*	*	*	*
Joint venture	186.2	272.5	159.2	222.8	*	*	*	*	*	*
June										
Japan	0.3	0.0	1.0	0.0	*	*	*	*	*	*
Korea	<0.1	0.0	0.5	0.0	*	*	*	*	*	*
Foreign Total	0.3	0.0	1.5	0.0	*	*	*	*	*	*
Joint venture	121.6	72.0	322.8	199.0	*	*	*	*	*	*

Note: * indicates weight not taken.

Table 6.--Continued

Month/Nation	Weights (t)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
July										
Japan	1.0	0.0	5.8	0.0	*	*	*	*	*	*
Korea	0.8	0.0	7.6	0.0	*	*	*	*	*	*
Foreign Total	1.8	0.0	13.4	0.0	*	*	*	*	*	*
Joint venture	44.8	15.3	188.6	28.4	*	*	*	*	*	*
August										
Japan	1.9	0.0	11.0	0.0	*	*	*	*	*	*
Korea	0.8	0.0	5.6	0.0	*	*	*	*	*	*
Foreign Total	2.7	0.0	16.6	0.0	*	*	*	*	*	*
Joint venture	5.1	0.5	34.1	1.1	*	*	*	*	*	*
September										
Japan	2.3	0.0	25.3	0.0	*	*	*	*	*	*
Korea	0.0	0.0	0.0	0.0	*	*	*	*	*	*
Foreign Total	2.3	0.0	25.3	0.0	*	*	*	*	*	*
Joint venture	46.5	94.5	157.6	71.0	*	*	*	*	*	*
October										
Japan	13.8	0.0	218.0	0.0	*	*	*	*	*	*
Korea	0.0	0.0	0.0	0.0	*	*	*	*	*	*
Foreign Total	13.8	0.0	218.0	0.0	*	*	*	*	*	*
Joint venture	4.0	43.7	4.1	141.7	*	*	*	*	*	*
November										
Japan	14.4	0.0	196.5	0.0	*	*	*	*	*	*
Korea	0.0	0.0	0.0	0.0	*	*	*	*	*	*
Foreign Total	14.4	0.0	196.5	0.0	*	*	*	*	*	*
Joint venture	0.2	23.6	0.0	114.2	*	*	*	*	*	*
December										
Japan	11.5	0.0	183.5	0.0	*	*	*	*	*	*
Korea	0.0	0.0	0.0	0.0	*	*	*	*	*	*
Foreign Total	11.5	0.0	183.5	0.0	*	*	*	*	*	*
Joint venture	0.7	11.1	0.0	24.7	*	*	*	*	*	*

Note: * indicates weight not taken.

Table 6.--Continued

Month/Nation	Weights (t)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
Total										
Japan	67.4	0.0	1055.2	0.0	*	*	*	*	*	*
Korea	1.6	0.0	13.8	0.0	*	*	*	*	*	*
Foreign Total	69.0	0.0	1069.0	0.0	*	*	*	*	*	*
Joint venture	1355.9	1301.4	1472.0	2579.3	*	*	*	*	*	*

Note: * indicates weight not taken.

Table 7.--Summary of joint venture prohibited species catches in the Bering Sea/Aleutian region by target fishery and zone for 1988.

Numbers (1000's)									
	Groundfish Catch (1000's t)	Bairdi Tanner Crab	Other Tanner Crab	Red King Crab	Other King Crab	Chinook Salmon	Other Salmon	Pacific Halibut	Pacific Halibut (t)
Yellowfin sole/flatfish									
Zone 1	106.4	131.7	17.3	52.2	0.2	0.1	<0.1	178.3	178.4
Zone 2	201.9	320.7	900.8	8.9	3.9	0.1	<0.1	389.9	905.7
Zone 3	116.6	59.6	1261.0	11.7	1.0	0.1	0.1	66.9	274.4
Totals	424.9	512.0	2179.1	72.8	5.2	0.3	0.1	635.0	1358.5
Other species									
Zone 1	163.8	100.7	12.0	8.8	0.1	1.6	1.5	158.4	225.5
Zone 2	551.4	136.9	169.8	1.0	<0.1	2.9	1.9	739.8	872.6
Zone 3	161.3	1.1	9.4	<0.1	0.1	0.8	0.2	57.4	122.5
Totals	876.4	238.7	191.1	9.8	0.3	5.3	3.6	955.6	1220.6
Joint venture totals									
Zone 1	270.2	232.4	29.3	61.0	0.4	1.8	1.6	336.8	403.9
Zone 2	753.4	457.5	1070.9	9.9	3.9	3.0	2.0	1129.7	1778.5
Zone 3	277.8	60.8	1270.4	11.7	1.1	0.9	0.2	124.3	396.9
Totals	1301.4	750.6	2370.2	82.6	5.4	5.6	3.8	1590.7	2579.1

Table 8.--Summary of joint venture prohibited species catches in the Bering Sea/Aleutian region by target fishery and subarea for 1988.

Subarea	Numbers (1000's)								
	Groundfish Catch (1000's t)	Bairdi Tanner Crab	Other Tanner Crab	Red King Crab	Other King Crab	Chinook Salmon	Other Salmon	Pacific Halibut	Pacific Halibut (t)
Yellowfin sole/flatfish									
511	106.4	131.7	17.3	52.2	0.3	0.1	<0.1	178.3	178.4
513	197.2	270.9	886.8	7.8	2.2	0.1	<0.1	361.7	810.2
514	113.2	47.2	513.8	11.5	0.3	0.1	0.1	64.6	270.7
515	0.4	0.0	0.0	<0.1	0.0	0.0	0.0	<0.1	0.1
521	4.7	49.7	14.1	1.2	1.7	<0.1	0.0	28.2	95.5
522	2.9	12.4	747.2	0.2	0.7	0.0	0.0	2.2	3.6
530	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
540	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Totals	424.9	512.0	2179.1	72.8	5.2	0.3	0.1	635.0	1358.5
Other species									
511	163.8	100.7	12.0	8.8	0.1	1.6	1.5	158.4	225.5
513	297.9	122.7	162.7	1.0	<0.1	2.7	1.9	734.3	839.6
514	1.8	0.3	9.3	0.0	<0.1	<0.1	0.0	7.0	9.6
515	90.8	0.8	<0.1	<0.1	0.0	0.6	0.1	43.0	57.0
521	253.5	14.2	7.1	<0.1	0.0	0.2	<0.1	5.5	33.0
522	2.2	0.1	<0.1	0.0	0.0	<0.1	0.0	0.2	1.7
530	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
540	66.5	0.0	0.0	<0.1	0.1	0.2	<0.1	7.2	54.2
Totals	876.4	238.7	191.1	9.8	0.3	5.3	3.6	955.6	1220.6
Joint venture totals									
511	270.2	232.4	29.3	61.0	0.4	1.8	1.6	336.8	403.9
513	495.1	393.6	1049.4	8.7	2.2	2.8	1.9	1096.0	1649.8
514	115.0	47.5	523.1	11.5	0.3	0.1	0.1	71.6	280.3
515	91.3	0.8	<0.1	<0.1	0.0	0.6	0.1	43.0	57.1
521	258.1	63.9	21.1	1.2	1.7	0.2	<0.1	33.7	128.5
522	5.1	12.4	747.2	0.2	0.7	<0.1	0.0	2.4	5.3
530	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
540	66.5	0.0	0.0	<0.1	0.1	0.2	<0.1	7.2	54.2
Totals	1301.4	750.6	2370.2	82.6	5.4	5.6	3.8	1590.7	2579.1

Table 9.--Foreign and joint venture prohibited species summary (by number) in the Gulf of Alaska region by month for 1988.

Month/Nation	Numbers (1000's)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
January - May	No fishing									
June										
Joint venture	0.0	0.5	0.0	13.8	0.0	<0.1	0.0	0.1	0.0	0.2
July										
Joint venture	0.0	1.0	0.0	10.0	0.0	<0.1	0.0	<0.1	0.0	9.3
August										
Joint venture	0.9	2.2	6.9	32.6	<0.1	<0.1	0.0	<0.1	1.4	1.1
September										
Joint venture	3.2	0.0	38.1	0.0	0.1	0.0	<0.1	0.0	3.7	0.0
October										
Joint venture	27.9	0.0	144.8	0.0	0.9	0.0	<0.1	0.0	0.4	0.0
Total										
Joint venture	32.0	3.8	189.8	56.4	1.0	0.1	<0.1	0.1	5.5	10.6

Table 10.--Foreign and joint venture prohibited species summary (by weight) in the Gulf of Alaska region by month for 1988.

Month/Nation	Weights (t)									
	Groundfish catch (1,000's t)		Halibut		Salmon		King Crab		Tanner Crab	
	1987	1988	1987	1988	1987	1988	1987	1988	1987	1988
January - May	No fishing									
June										
Joint venture	0.0	0.5	0.0	40.1	*	*	*	*	*	*
July										
Joint venture	0.0	1.0	0.0	53.4	*	*	*	*	*	*
August										
Joint venture	0.9	2.2	25.6	151.0	*	*	*	*	*	*
September										
Joint venture	3.2	0.0	101.0	0.0	*	*	*	*	*	*
October										
Joint venture	27.9	0.0	501.2	0.0	*	*	*	*	*	*
Total										
Joint venture	32.0	3.8	627.8	244.5	*	*	*	*	*	*

Note: * indicates weight not taken.

Table 11.-Foreign and joint venture prohibited species summary (by number) in the Washington-Oregon-California region by month for 1988.

Month/Nation	Groundfish catch (1,000's t)		Numbers (1000's)			
	1987	1988	Halibut		Salmon	
			1987	1988	1987	1988
January - March						
No directed or joint venture fishing						
April						
Joint venture	3.1	3.6	0.0	<0.1	<0.1	0.4
May						
Joint venture	10.1	11.5	<0.1	<0.1	1.1	0.8
June						
Poland	1.0	1.4	0.0	<0.1	<0.1	<0.1
Joint venture	20.4	31.0	<0.1	<0.1	1.6	1.2
July						
Poland	8.0	2.2	<0.1	<0.1	0.5	0.2
Joint venture	30.4	34.4	<0.1	<0.1	3.3	3.0
August						
Poland	6.5	0.0	<0.1	0.0	0.2	0.0
PRC	<0.1	0.0	<0.1	0.0	0.0	0.0
Korea	0.2	0.0	0.0	0.0	<0.1	0.0
Foreign Total	6.7	0.0	<0.1	0.0	0.2	0.0
Joint venture	27.6	41.4	<0.1	<0.1	1.6	8.2
September						
Poland	14.8	3.8	<0.1	0.0	0.6	0.2
PRC	<0.1	0.0	0.0	0.0	<0.1	0.0
Korea	1.2	0.0	<0.1	0.0	0.4	0.0
Foreign Total	16.0	3.8	<0.1	0.0	1.0	0.2
Joint venture	14.1	13.5	0.0	<0.1	0.8	0.4
October						
Poland	18.7	11.1	<0.1	<0.1	2.8	1.8
PRC	0.0	0.0	0.0	0.0	0.0	0.0
Korea	0.0	0.0	0.0	0.0	0.0	0.0
Foreign Total	18.7	11.1	<0.1	<0.1	2.8	1.8
Joint venture	1.5	1.5	0.0	0.0	0.2	<0.1

Table 11.--Continued

Month/Nation	Groundfish catch		Numbers (1000's)			
	(1,000's t)		Halibut		Salmon	
	1987	1988	1987	1988	1987	1988
Total						
Poland	49.0	18.3	<0.1	<0.1	4.2	2.2
PRC	<0.1	0.0	<0.1	0.0	<0.1	0.0
Korea	1.4	0.0	<0.1	0.0	0.4	0.0
Foreign Total	50.4	18.3	<0.1	<0.1	4.6	2.2
Joint venture	107.2	136.9	<0.1	0.1	8.6	14.0

Table 12.--Foreign and joint venture prohibited species summary (by weight) in the Washington-Oregon-California region by month for 1988.

Month/Nation	Weights (t)					
	Groundfish catch (1,000's t)		Halibut			
	1987	1988	1987	1988	1987	1988
January - March						
No directed or joint venture fishing						
April						
Joint venture	3.1	3.6	0.0	<0.1	*	*
May						
Joint venture	10.1	11.5	<0.1	<0.1	*	*
June						
Poland	1.0	1.4	0.0	<0.1	*	*
Joint venture	20.4	31.0	<0.1	0.2	*	*
July						
Poland	8.0	2.2	<0.1	<0.1	*	*
Joint venture	30.4	34.4	0.1	0.1	*	*
August						
Poland	6.5	0.0	0.1	0.0	*	*
PRC	<0.1	0.0	<0.1	0.0	*	*
Korea	0.2	0.0	0.0	0.0	*	*
Foreign Total	6.7	0.0	0.1	0.0	*	*
Joint venture	27.6	41.4	0.2	0.5	*	*
September						
Poland	14.8	3.8	<0.1	0.0	*	*
PRC	<0.1	0.0	0.0	0.0	*	*
Korea	1.2	0.0	0.1	0.0	*	*
Foreign Total	16.0	3.8	0.1	0.0	*	*
Joint venture	14.1	13.5	0.0	0.1	*	*
October						
Poland	18.7	11.1	<0.1	0.1	*	*
PRC	0.0	0.0	0.0	0.0	*	*
Korea	0.0	0.0	0.0	0.0	*	*
Foreign Total	18.7	11.1	<0.1	0.1	*	*
Joint venture	1.5	1.5	0.0	0.0	*	*

Note: * indicates weight not taken.

Table 12.--Continued

Month/Nation	Groundfish catch		Weights (t)			
	(1,000's t)		Halibut		Salmon	
	1987	1988	1987	1988	1987	1988
Total						
Poland	49.0	18.3	0.1	0.1	*	*
PRC	<0.1	0.0	<0.1	0.0	*	*
Korea	1.4	0.0	0.1	0.0	*	*
Foreign Total	50.4	18.3	0.2	0.1	*	*
Joint venture	107.2	136.9	0.4	0.9	*	*

Note: * indicates weight not taken.

