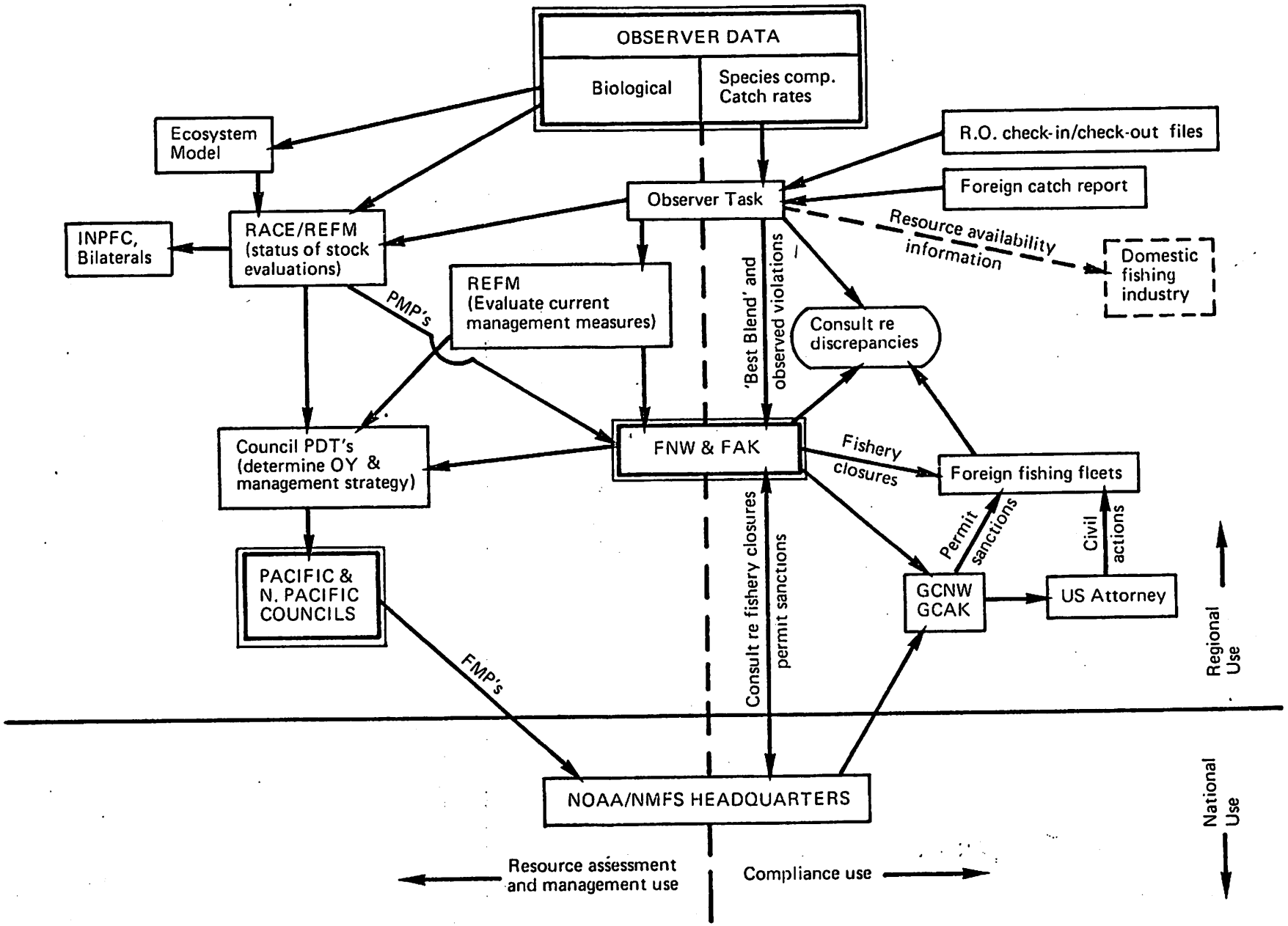
FCMA - OBSERVER DATA USES -- N.E. PACFIC



AGENDA ITEM E 4 MAR 1980

1

FISHERY ELEMENTS

Weeks: 1-52

Statistical areas:
- Eastern Bering Sea (I)
- Central Bering Sea (II)
- Aleutians (IV)
- Shumagin
- Chirikof } combined after analysis
- Kodiak }
- Yakutat } combined after analysis
- Southeast }

Countries:
- Japan
- USSR
- S. Korea
- Taiwan
- Poland
- Mexico

Gear types:
- Pollock Motherships (+ catcherboats)
- Flounder Motherships (+ catcherboats)
- Stern Trawlers
- Longliners - cod fishery
- Longliners - sablefish fishery

Vessel classes:
- Large
- Medium
- Small

FISHERY UNIT

Week
Statistical Area
Country
Gear Type
Vessel Class

Example: Week 21 - Shumagin - Japan - Stern Trawl - Medium

BEST BLEND PROCEDURE

Foreign report of catch of each species group accepted for a Fishery Unit if:

- Observer coverage less than 20%.

or

- Reported catch ± 10% of observer estimate.

Observer estimate of catch of each species group utilized for a Fishery Unit if:

- Observer coverage 20% or more.

and

- Observer estimate and reported catch differ by more than 10%.

Example: Gulf of Alaska - Pacific cod - Week 21 - Japan

Area	Gear Type	Vessel Class	% Obs. Coverage	Foreign Report	Obs. Est.	Reason Obs. Est. Not Used
Shumagin	S. Trawl	Large	14	(36)	41	< 20% coverage
	S. Trawl	Medium	28	17	(23)	--
	Longline	--	31	(12)	13	< 10% difference
Chirikof	S. Trawl	Large	23	14	(17)	--
	Longline	--	17	(23)	27	< 20% coverage
Kodiak	S. Trawl	Large	12	(32)	39	< 20% coverage
	S. Trawl	Medium	18	(15)	14	< 20% coverage
	Longline	--	25	26	(34)	--
Yakutat	S. Trawl	Medium	21	(26)	28	< 10% difference
Totals:				201	236	

Best Blend (total of circled values): 218

BLEND TEST FROM AREA 9 TO 9 FROM 80/ 2/24 TO 80/ 3/ 3 04' OBSERVER COVERAGE PERCENT CUTOFF 20.00

PERIOD	NATION	AREA	SPECIES	FOR. CATCH	FOR. TOTAL	BLEND CATCH	BLEND TOTAL	QUOTA TONS	REMAINDER	CMPL DATE
18	JAPAN	CENTRAL GULF	SQUID	0.0	5.0	0.0	6.0	550.0	544.0	
18	JAPAN	WESTERN GULF	ALL FLOUNDER	0.3	39.1	0.3	41.7	410.0	368.4	
18	JAPAN	CENTRAL GULF	ALL FLOUNDER	0.9	283.5	1.0	286.9	7950.0	7673.2	
18	JAPAN	WESTERN GULF	POLLOCK	1.0	23.9	1.1	29.2	100.0	70.9	81/ 7/ 11
18	JAPAN	CENTRAL GULF	POLLOCK	217.3	2252.7	217.4	2279.2	21974.0	19794.9	81/11/ 30
18	JAPAN	WESTERN GULF	PACIFIC COD	232.1	4122.0	232.1	4353.6	7300.0	2946.5	80/ 5/ 31
18	JAPAN	CENTRAL GULF	PACIFIC COD	642.6	6220.4	642.7	5522.0	17170.0	11248.1	80/ 7/ 4
18	JAPAN	EASTERN GULF	PACIFIC COD	25.0	137.2	25.1	98.9	2400.0	2301.3	81/12/ 7
18	JAPAN	WESTERN GULF	SABLEFISH	0.6	52.6	0.7	51.2	700.0	648.9	
18	JAPAN	CENTRAL GULF	SABLEFISH	4.2	199.3	4.3	287.0	1120.0	733.1	
18	JAPAN	WESTERN GULF	ATKAMACKEREL	0.1	1.1	0.2	1.2	50.0	49.9	
18	JAPAN	CENTRAL GULF	ATKAMACKEREL	0.0	3.8	0.0	13.8	1115.0	1101.2	
18	JAPAN	WESTERN GULF	POP	0.2	6.6	0.3	10.9	40.0	29.2	
18	JAPAN	CENTRAL GULF	POP	0.0	15.0	0.0	47.5	1900.0	1852.5	
18	JAPAN	WESTERN GULF	RKFISH WCPOP	0.1	2.4	0.2	2.6	20.0	17.5	
18	JAPAN	CENTRAL GULF	RKFISH WCPOP	0.3	3.7	0.3	10.5	145.0	134.6	
18	JAPAN	WESTERN GULF	OTHER FISH	1.8	84.1	1.9	95.2	200.0	104.4	81/ 4/ 12
18	JAPAN	CENTRAL GULF	OTHER FISH	24.0	91.9	24.0	110.8	2824.0	2713.3	
18	JAPAN	EASTERN GULF	OTHER FISH	0.1	15.7	0.2	11.0	220.0	209.1	
18	JAPAN	CENTRAL GULF	RATTAILS	0.3	110.6	0.3	177.5	5437.0	5259.6	
18	JAPAN	WESTERN GULF	SS THORNYHD	0.8	12.8	0.9	12.7	609.0	596.4	
18	JAPAN	CENTRAL GULF	SS THORNYHD	0.0	26.3	0.0	27.2	609.0	580.8	
18	USSR	WESTERN GULF	SQUID	0.0	0.0	0.0	0.0	330.0	330.0	
18	USSR	WESTERN GULF	ALL FLOUNDER	0.0	0.0	0.0	0.0	2960.0	2960.0	
18	USSR	WESTERN GULF	POLLOCK	367.6	561.1	367.9	561.2	15025.0	15064.0	80/12/ 15
18	USSR	WESTERN GULF	PACIFIC COD	0.2	0.4	0.3	0.5	1198.0	1197.7	
18	USSR	WESTERN GULF	SABLEFISH	0.0	0.0	0.0	0.0	240.0	240.0	
18	USSR	WESTERN GULF	ATKAMACKEREL	0.0	0.0	0.0	0.0	2882.0	2882.0	
18	USSR	WESTERN GULF	POP	0.8	0.9	0.9	1.0	1020.0	1019.2	
18	USSR	WESTERN GULF	RKFISH WCPOP	0.0	0.0	0.0	0.0	50.0	50.0	
18	USSR	WESTERN GULF	OTHER FISH	0.0	2.2	0.0	2.2	1329.0	1326.8	
18	USSR	WESTERN GULF	RATTAILS	0.0	0.0	0.0	0.0	30.0	30.0	
18	USSR	WESTERN GULF	SS THORNYHD	0.0	0.0	0.0	0.0	167.0	167.0	
18	ICLAND	WESTERN GULF	POLLOCK	495.2	5119.8	495.3	5119.8	5540.0	420.3	80/ 3/ 9
18	ICLAND	WESTERN GULF	POP	3.2	25.2	3.3	29.3	305.0	275.9	81/10/ 27

FISHERIES WITH NO ACTIVITY THIS PERIOD

18	JAPAN	WESTERN GULF	SQUID	0.0	0.6	0.0	0.6	11.0	10.4	
18	JAPAN	WESTERN GULF	RATTAILS	0.0	14.0	0.0	10.3	2289.0	2278.7	
18	JAPAN	EASTERN GULF	SQUID	0.0	1.6	0.0	1.6	495.0	493.4	
18	JAPAN	EASTERN GULF	ALL FLOUNDER	0.0	276.9	0.0	357.3	4830.0	4472.7	
18	JAPAN	EASTERN GULF	POLLOCK	0.0	6.0	0.0	10.1	4085.0	4074.9	
18	JAPAN	EASTERN GULF	SABLEFISH	0.0	62.2	0.0	217.7	570.0	352.3	
18	JAPAN	EASTERN GULF	ATKAMACKEREL	0.0	0.0	0.0	0.0	700.0	700.0	
18	JAPAN	EASTERN GULF	POP	0.0	151.4	0.0	209.9	8000.0	7790.2	
18	JAPAN	EASTERN GULF	RKFISH WCPOP	0.0	22.8	0.0	7.2	2190.0	2182.8	
18	JAPAN	EASTERN GULF	RATTAILS	0.0	62.7	0.0	175.4	750.0	574.6	
18	JAPAN	EASTERN GULF	SS THORNYHD	0.0	7.4	0.0	19.0	608.0	589.0	
18	USSR	CENTRAL GULF	SQUID	0.0	0.1	0.0	0.5	660.0	659.2	
18	USSR	CENTRAL GULF	ALL FLOUNDER	0.0	20.9	0.0	32.1	1020.0	987.9	
18	USSR	CENTRAL GULF	POLLOCK	0.0	9119.7	0.0	9245.6	24197.0	14951.4	
18	USSR	CENTRAL GULF	PACIFIC COD	0.0	76.7	0.0	71.8	1582.0	1510.2	
18	USSR	CENTRAL GULF	SABLEFISH	0.0	41.9	0.0	51.4	400.0	348.6	
18	USSR	CENTRAL GULF	RKFISH WCPOP	0.0	0.1	0.0	0.8	150.0	149.2	
18	USSR	CENTRAL GULF	OTHER FISH	0.0	12.3	0.0	11.2	2246.0	2234.8	
18	USSR	CENTRAL GULF	RATTAILS	0.0	0.0	0.0	1.8	70.0	68.2	
18	USSR	CENTRAL GULF	SS THORNYHD	0.0	0.0	0.0	0.2	167.0	166.8	
18	ICLAND	WESTERN GULF	SQUID	0.0	0.0	0.0	0.0	66.0	66.0	
18	ICLAND	WESTERN GULF	ALL FLOUNDER	0.0	0.0	0.0	0.0	1160.0	1160.0	
18	ICLAND	WESTERN GULF	PACIFIC COD	0.0	0.3	0.0	0.3	142.0	141.7	

SPECIES INCIDENCE OBSERVER DATA BY AREA-MONTH

YEAR 78 ANNUAL 78 AREA BERING SEA I LG TRAWLER JAPAN DATE 6/11 TO 12/10 DAYS ON GROUNDS 342.78

FISHING DAYS 327 SAMPLED DAYS 309 TONS IN SAMPLED DAYS 31131.7 TOTAL HAULS 1312.

TOTAL CATCH TONS 33457.9 AVE DEPTH/HAUL 189.3

CODE	NAME	NO. OF SAMPLES	SAMPLE TONS	NUMBER OBSERVD	MEAN NO/TON	LOWER 90	UPPER 90	STD ERROR	MEAN KG/TON	LOWER 90	UPPER 90	STD ERROR	AVE KG/ INDIVID
2	KING CRAB (RED, BLUE, GO	722.	18810.	2915.	0.146	0.144	0.152	0.002	0.212	0.206	0.217	0.002	1.432
3	TANNER (BAIRDI, OPILIO)	719.	16915.	168597.	10.100	9.989	10.211	0.066	1.550	1.533	1.567	0.010	0.153
101	PACIFIC HALIBUT	722.	18392.	3031.	0.169	0.168	0.170	0.000	0.639	0.634	0.644	0.003	3.769
220	SALMON - UNIDENT.	722.	18394.	78.	0.004	0.004	0.004	0.000	0.023	0.023	0.024	0.000	5.277

DATA COMPILED FROM CRUISES 158 168 172 186 181 191 203 204 205 220 221 232 234 249 253

SPECIES COMPOSITION OBSERVER DATA BY AREA-TIME -NATION-VESSEL-CLASS

YEAR 78 MONTH 7 AREA BERING II LG TRAWLER JAPAN DATE 7/ 6 TO 7/31 DAYS ON GROUNDS 30.34

FISHING-DAYS 33 HAULS SAMPLED 54 TOTAL HOURS 333.0 MT OF SAMPLED HAULS 1896. TOTAL HAULS 119.

AVE DEPTH/HAUL 166.1 AVE MINUTES/HAUL 167.8 TOTAL CATCH MT 3765. TOTAL SAMPLE MT 12.231

RANK	SPECIES CODE	MEAN KG/DAY	MT	MT/HR	PROPORT.	CONFIDENCE LOWER 90	CONFIDENCE UPPER 90	AVERAGE KG/FISH	
1	201	115662.984	3510.070	10.540752	0.93214190	0.92985236	0.93443131	0.30489	WALLEYE POLLOCK
2	202	2469.291	74.936	0.225034	0.01990031	0.01889615	0.02090447	2.19232	PACIFIC COD
3	50	1701.055	51.622	0.155022	0.01370901	0.01254433	0.01487368	0.50042	SQUID - UNIDENT.
4	301	920.033	27.920	0.083845	0.00741466	0.00579628	0.00903304	0.70688	PACIFIC OCEAN PERCH
5	250	613.434	18.616	0.055904	0.00494374	0.00446661	0.00542086	0.11496	EELPOUT - UNIDENT.
6	102	564.595	17.134	0.051453	0.00455014	0.00422224	0.00487804	0.34824	GREENLAND HALIBUT (TURB
7	141	369.977	11.227	0.033717	0.00298169	0.00281033	0.00315305	0.39148	ARROWTOOTH FLOUNDER (TUR
8	21	317.195	9.626	0.028907	0.00255631	0.00237235	0.00274028	0.21292	BASKET STARFISH
9	5	217.612	6.605	0.019831	0.00175376	0.00162663	0.00188089	0.12635	OPILIO - TANNER
10	900	182.696	5.544	0.016649	0.00147236	0.00134433	0.00160040	2.10139	MISC - UNIDENT.
11	400	175.114	5.314	0.015958	0.00141127	0.00128254	0.00153999	0.73332	SCULPIN - UNIDENT.
12	60	164.192	4.982	0.014963	0.00132324	0.00117236	0.00147413	2.12574	OCTOPUS - UNIDENT.
13	4	126.661	3.843	0.011543	0.00102078	0.00092268	0.00111888	0.06224	BARIDI - TANNER
14	402	126.226	3.830	0.011503	0.00101727	0.00083491	0.00119963	5.10764	BIGMOUTH SCULPIN
15	70	63.413	1.924	0.005779	0.00051106	0.00046728	0.00055483	0.01217	SHRIMP - UNIDENT.
16	500	61.090	1.853	0.005567	0.00049233	0.00042474	0.00055993	2.77553	SNAILFISH - UNIDENT.
17	103	54.044	1.640	0.004925	0.00043554	0.00039064	0.00048044	0.23409	FLATHEAD SOLE
18	101	46.887	1.422	0.004272	0.00037786	0.00031924	0.00043649	2.50000	PACIFIC HALIBUT
19	90	41.533	1.260	0.003785	0.00033472	0.00027363	0.00039581	3.11525	SKATE - UNIDENT.
20	112	30.250	0.917	0.002754	0.00024362	0.00018501	0.00030224	0.37810	PETRALE SOLE
21	501	27.815	0.844	0.002534	0.00022416	0.00019254	0.00025578	1.19999	BLACKTAIL SNAILFISH
22	452	25.548	0.775	0.002328	0.00020589	0.00018768	0.00022411	0.13987	STURGEON POACHER
23	401	20.035	0.608	0.001825	0.00016146	0.00012535	0.00019758	0.21170	SPINYHEAD SCULPIN
24	241	16.198	0.491	0.001476	0.00013054	0.00011111	0.00014997	0.29208	NORTHERN RONQUIL
25	95	15.407	0.467	0.001404	0.00012416	0.00008808	0.00016025	2.19999	LONGNOSE SKATE
26	20	15.255	0.462	0.001390	0.00012294	0.00010327	0.00014261	0.30214	STARFISH - UNIDENT.
27	7	12.298	0.373	0.001120	0.00009911	0.00008015	0.00011807	1.00000	KOREAN HORSEHAIR CRAB
28	105	7.422	0.225	0.000676	0.00005981	0.00005165	0.00006797	0.22602	REX SOLE
29	407	7.018	0.212	0.000639	0.00005656	0.00004557	0.00006754	0.31523	RED IRISH LORD
30	413	6.527	0.198	0.000594	0.00005260	0.00004224	0.00006296	0.05227	THORNY SCULPIN
31	140	6.149	0.186	0.000560	0.00004955	0.00004007	0.00005903	0.50000	YELLOWFIN SOLE
32	203	5.040	0.152	0.000459	0.00004062	0.00002882	0.00005243	0.50000	SABLEFISH (BLACK COD)
33	410	3.512	0.106	0.000320	0.00002830	0.00002385	0.00003276	0.19999	BROWN IRISH LORD
34	104	2.986	0.090	0.000272	0.00002406	0.00001528	0.00003285	0.50000	ROCK SOLE
35	96	2.470	0.074	0.000225	0.00001990	0.00001350	0.00002631	0.29999	STARRY SKATE
36	450	0.813	0.024	0.000074	0.00000655	0.00000506	0.00000804	0.04999	POACHER - UNIDENT.

TOTAL = 124082.547

DATA COMPILED FROM CRUISES 158 172 181 186

PACIFIC OCEAN PERCH 1 @ JAPAN SM TRAWLER KODIAK INTERVAL = 2 YEAR = 78 SEX = 2 OBSERVER DATA
LF SAMPLE SIZE OF BOTH SEXES = 5413.

TABLE 1 AGE-LENGTH FREQUENCY (UNWEIGHTED)

LGTH	AV. AGE	S.D.	C.V.	FREQUENCY	AGE 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
28	7.00	0.00	0.00	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
30	8.00	0.89	11.16	6	0	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0	0	0	0	0
31	9.80	1.22	12.54	10	0	0	0	0	0	0	0	0	2	2	2	4	0	0	0	0	0	0	0	0
32	11.00	1.15	10.49	4	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0
33	12.66	0.51	4.07	6	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0
34	10.75	1.38	12.91	8	0	0	0	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0
35	10.80	1.03	9.56	10	0	0	0	0	0	0	0	0	0	2	0	6	2	0	0	0	0	0	0	0
36	10.25	1.38	13.54	8	0	0	0	0	0	0	0	0	0	4	0	2	2	0	0	0	0	0	0	0
37	13.00	0.00	0.00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
38	16.00	1.15	7.21	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	4	0	0
39	15.66	1.03	6.59	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	0
40	15.00	0.00	0.00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0
TOTAL				78.00	0	0	0	0	0	0	4	6	12	2	4	0								
					0	0	0	4	12	12	8	8	6	0										
MEAN					0.00	0.00	0.00	0.00	30.50	32.33	34.00	38.00	38.00	0.00										
					0.00	0.00	0.00	29.00	33.66	33.83	35.00	39.50	38.33	0.00										
ST DEV					0.00	0.00	0.00	0.00	0.57	1.36	1.34	0.00	0.00	0.00										
					0.00	0.00	0.00	1.15	2.46	2.12	2.13	0.53	0.51	0.00										

TABLE 2 LENGTH FREQUENCY (WEIGHTED)

LENGTH	WEIGHTED FREQ	
23	6.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
24	5.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
25	12.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
26	9.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
27	23.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
28	41.	
29	64.	
30	162.	
31	326.	
32	411.	
33	409.	
34	363.	
35	292.	
36	178.	
37	74.	
38	46.	
39	28.	
40	25.	
41	8.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
42	3.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY
43	1.	DIAGNOSTIC... LENGTH BEYOUND BOUNDS OF AGE KEY

TOTAL= 2486.

DIAGNOSTIC... AGE FOR LENGTH 29 ALLOCATED BY INTERPOLATION, FREQUENCY IS 64.00

TABLE 3 AGE FREQUENCY (WEIGHTED)

AGE	NUMBER	PROPORTION	CUMULATIVE TOTAL	CUMULATIVE PROPORTION	LOG. CUM. PROPORTION	HEINCKE ANN.MORT.
0	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
1	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
2	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
3	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
4	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
5	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
6	0.	0.0000	2415.	1.0000	0.000000E 00	0.0000
7	127.	0.0525	2415.	1.0000	0.000000E 00	0.0525
8	135.	0.0556	2288.	0.9474	-0.539294E-01	0.0590
9	373.	0.1543	2152.	0.8916	-0.114728E 00	0.1734
10	361.	0.1494	1779.	0.7372	-0.304804E 00	0.2031
11	350.	0.1447	1418.	0.5878	-0.531289E 00	0.2468
12	626.	0.2588	1067.	0.4431	-0.813921E 00	0.5864
13	346.	0.1433	441.	0.1842	-0.169153E 01	0.7849
14	9.	0.0038	94.	0.0409	-0.319598E 01	0.0966
15	43.	0.0180	65.	0.0371	-0.329352E 01	0.5089
16	18.	0.0076	42.	0.0190	-0.395956E 01	0.4367
17	27.	0.0114	23.	0.0114	-0.446846E 01	1.1685
18	0.	0.0000	-4.	0.0000	-0.158965E 02	0.0000
19	0.	0.0000	-4.	0.0000	-0.158965E 02	0.0000

LENGTH	A/L DECK	LGTH DECK	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
28	2.	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.	64.00	0.00	0.00	0.00	0.00	0.00	41.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	6.	162.00	0.00	0.00	0.00	0.00	0.00	32.00	54.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	10.	326.00	0.00	0.00	0.00	0.00	0.00	54.00	65.20	54.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	4.	411.00	0.00	0.00	0.00	0.00	0.00	0.00	65.20	130.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	6.	409.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	205.50	205.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	8.	363.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	136.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	10.	292.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	272.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	8.	178.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.75	181.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	4.	74.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	90.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	4.	74.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.40	175.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	4.	74.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	4.	74.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.00	44.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				0.00	0.00	0.00	0.00	0.00	0.00	74.00	0.00	0.00	0.00			
38	10.	46.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.20	18.40	0.00				
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.40	0.00			
39	6.	28.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.66	9.33	0.00			
40	4.	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00			
**********																
	78.	2418.99	0.00	0.00	0.00	0.00	135.20	361.45	626.23	9.20	18.40	0.00				
				0.00	0.00	0.00	127.00	373.35	350.10	346.66	43.66	27.73	0.00			
MEAN			0.00	0.00	0.00	0.00	30.36	32.32	33.36	38.00	38.00	0.00				
				0.00	0.00	0.00	29.10	33.31	33.63	33.85	39.57	38.33	0.00			
ST. DEV			0.00	0.00	0.00	0.00	0.68	1.04	1.22	0.00	0.00	0.00				
				0.00	0.00	0.00	0.86	2.36	2.05	1.64	0.50	0.48	0.00			

PACIFIC OCEAN PERCH I @ JAPAN SM TRAWLER KODIAK INTERVAL = 2 YEAR = 78 SEX = ✓ OBSERVER DATA
LF SAMPLE SIZE OF BOTH SEXES = 5413.

SUMMARY OF ESTIMATED AGE COMPOSITION AND MEAN SIZE AT AGE

AGE	MALES			FEMALES			SEXES COMBINED					
	AGED	FREQ	SIZE	AGED	FREQ	SIZE	AGED	FREQ	SIZE	PROPORT	ACCUM	PERCENT M
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	6.00	37.00	26.97	0.00	0.00	0.00	6.00	37.00	26.97	0.00	0.01	100.00
7	10.00	115.30	28.99	4.00	127.00	29.10	14.00	242.30	29.05	0.04	0.05	47.58
8	4.00	64.55	29.70	4.00	135.20	30.36	8.00	199.75	30.15	0.03	0.09	32.31
9	14.00	504.14	31.98	12.00	373.35	33.31	26.00	877.49	32.54	0.16	0.25	57.45
10	12.00	411.60	33.15	6.00	361.45	32.32	18.00	773.05	32.75	0.14	0.40	53.24
11	14.00	700.80	33.05	12.00	350.10	33.63	26.00	1050.90	33.24	0.19	0.60	66.68
12	14.00	540.50	32.69	12.00	626.23	33.36	26.00	1166.73	33.05	0.21	0.82	46.32
13	10.00	294.20	33.02	8.00	346.66	33.85	18.00	640.86	33.47	0.12	0.94	45.90
14	10.00	109.05	36.39	2.00	9.20	38.00	12.00	119.05	36.51	0.02	0.96	92.27
15	8.00	45.45	37.31	8.00	43.66	39.57	16.00	89.11	38.42	0.01	0.98	51.00
16	6.00	59.10	36.38	4.00	18.40	38.00	10.00	77.50	36.76	0.01	0.99	76.25
17	4.00	12.25	38.16	6.00	27.73	38.33	10.00	39.98	38.28	0.00	1.00	30.63
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
19	2.00	10.25	38.00	0.00	0.00	0.00	2.00	10.25	38.00	0.00	1.00	100.00
TOTALS	114.00	2904.99		78.00	2418.99		192.00	5323.99				
MEAN SIZE			32.79			33.14			32.95			
MEAN AGE		10.94			10.90			10.92				

SEX RATIO M/F = 1.20

PRESENT OBSERVER COVERAGE LEVEL IN ALASKAN WATERS (March 20) 1980,

Area/Fishery	No. of Observers	No. of Foreign Vessels	% Coverage
Bering Sea			
Japan			
Crab mothership	1	1	100
Crab landbased	3	3	100
Small trawlers	2	92	2.2
Large trawlers	2	8	25.0
Longliners	0	3	0
Total	8	107	7.5
Korea			
Large trawlers	0	14	0
Poland			
Large trawlers	1	8	12.5
Taiwan			
Large trawlers	0	3	0
US-USSR			
Joint venture	2	5	40
Total	11	137	8
Gulf of Alaska			
Japan			
Trawl	0	1	0
Longline	1	12	8.3
USSR			
Trawl	1	3	33
Total	2	16	12.5
Total All Areas	13	153	8.4