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ベーリング海の日本底魚漁業の概況
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Outline of the Japanese groundfish fishery in the
Bering Sea in 1985 January-December
and 1986 January-July

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ベーリング海の日本底魚漁業の概況

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1. 1985年の日本の底魚漁業(1月～12月)

ベーリング・アリューシャン水域で操業する日本の底魚漁業は、1985年も1984年に引き続いて米国の「マグナソン漁業保存管理法」による各種の規制を受けて推移した。1985年に当水域で操業した日本の底魚漁業は、母船式底びき網漁業、北方トロール漁業、北洋はえなわ・さし網漁業及び北転船漁業の四種類で1984年と変わりなかった。

(1) 母船式、北方トロール及び北洋はえなわ・さし網漁業

1985年の実稼動隻数は母船6隻、その付属独航船65隻、トロール漁法で単船操業を行う北方トロール漁船40隻及びはえなわ漁船22隻であった(表1)。1984年に比較して独航船が12隻、北方トロール船が9隻減少した。

1) 漁業形態別漁獲量

1985年の母船式、北方トロール及び北洋はえなわ・さし網漁業の総漁獲量は806,929tで、1984年より0.8%増加した(表2)。このうち、スケトウダラが84%を占めた。1984年に比べ、マダラとスケトウダラの漁獲量は増加したが、コガネガレイ、アラスカアブラガレイ、カラスガレイ、ギンダラ及びアラスカメヌケの漁獲量は減少した。

日本の底魚漁業による主要な魚種の漁業形態別漁獲量と漁業形態別漁法別月別漁獲量をそれぞれ表3と表4に示した。

母船式底びき網漁業：1985年の漁獲量は415,845tで、1984年より2%減少した。このうち、スケトウダラが90%を占めた。1984年に比較すると、すべての魚種の漁獲量が減少した。

北方トロール漁業：合計350,526tが漁獲され、1984年より2%増加した。スケトウダラが85%を占め、スケトウダラとその他のカレイ類以外の漁獲量は1984年より減少した。

北洋はえなわ・さし網漁業：1985年の漁獲量は1984年より28%増加して40,557tであった。そのうちマダラが92%を占めた。1984年に比較して、マダラとスケトウダラの漁獲量は増加し、カラスガレイとギンダラは減少した。

2) 漁法別漁獲量、努力量及びCPUE

2そうびき網漁法：1985年の努力量は1984年より8%増加して19,874時間であった(表5)。1985年の漁獲量は1984年より3%増加して306,313tで、これは1985年の総漁獲量の38%を占めた。CPUEは1984年より減少して15.41となった。全努力量の89%がINPFC海区IIに

において投入された(図1)。

1 そうびき網漁法：1985年の努力量は1984年より13%減少して6,369回であった(表5)。漁獲量は3%減少して51,831 tとなった。これは総漁獲量の6%を占めた。1985年のCPUEは1984年より増加して8.14となった。努力量のすべてがINPFC海区IIにおいて投入された(図2)。

トロール漁法：1985年の努力量は1984年より18%減少して73,252時間であった(表5)。漁獲量は2%減少して408,229 tとなった。これは総漁獲量の51%に当った。CPUEは1983年より増加して5.57となった。全努力量の50%と42%がそれぞれINPFC海区IとIIに投入された(図3)。

はえなわ漁法：1985年の努力量と漁獲量は1984年に比べて、それぞれ31%と28%増加して、860,700 鉢と40,557 tであった(表5)。総漁獲量に占める割合は5%であった。CPUEは1984年とほぼ等しい0.047であった。全努力量の89%がINPFC海区IIに投入された(図4)。

3) スケトウダラ、コガネガレイ及びマダラの漁獲量の地理的分布

スケトウダラの主漁場はセント・マシュー島の南西海域であり、全漁獲量の81%がINPFC海区IIにおいて漁獲された(図5)。コガネガレイの主漁場はベーリング海大陸棚上の南東水域にあり、INPFC海区Iから全漁獲量の98.5%が漁獲された(図6)。マダラの主漁場はプリピロフ諸島からセント・マシュー島にいたる間の西側の水深100~200 mの水域にあり、全漁獲量の82%がINPFC海区IIにおいて漁獲された(図7)。

(2) 北転船漁業

1985年には、1984年より42隻も減少して、27隻のトロール船が北転船として、170°W以西のベーリング・アリューシャン水域で操業した(表1)。1985年の総漁獲量は1984年より25%減少して104,322 tとなった(表6)。このうちスケトウダラが総漁獲量の81%を占めた。1984年と比較すると、コガネガレイを除くすべての魚種の漁獲量が減少した。

2. 1986年の日本の底魚漁業(1月~7月)

ベーリング・アリューシャン水域において1986年7月現在で、4隻の母船とそれに付属する42隻の独航船が母船式底びき網漁業として、10隻のトロール船が北方トロール漁業として、22隻のはえなわ船が北洋はえなわ・さし網漁業として、そして15隻のトロール船が北転船漁業として、それぞれ操業を実施している(表4)。

7月までの予備的な統計によれば、母船式底びき網、北方トロール、北洋はえなわ・さし網及び北転船によるベーリング・アリューシャン水域の総漁獲量は119,868 tで、1985年同期と比較すると46%の減少であった(表7)。このうちスケトウダラが76%、コガネガレイが10%、マダラが8%を占めた。その他のカレイ類を除くすべての魚種の漁獲量は1985年より減少した。INPFC海區別漁獲量の内訳は、海区I 11%、海区II 85%、海区V 4%であった。

Table 1. Number of vessels in each of the Japanese groundfish fisheries actually operated in the Bering Sea during 1984 to 1986 calendar years.

Fishery	Type of processing/ gear	Calendar year		
		1984	1985	1986
Mothership (Mothership)	<u>Total</u>	<u>6</u>	<u>6</u>	<u>4</u>
	Fish meal	5	5	3
	Frozen fish	1	1	1
Mothership (Catcher boat)	<u>Total</u>	<u>77</u>	<u>65</u>	<u>42</u>
	Pair trawl	54	49	34
	Danish seine	13	9	6
	Stern trawl	10	7	2
North Pacific trawl	Stern trawl	43	40	10
North Pacific longline-gillnet	Longline	22	22	22
Landbased	Stern trawl	69	27	15

Data for 1986 is preliminary

Table 2. Annual catch(t) by species caught by Japanese groundfish fisheries (mothership, North Pacific trawl and North Pacific longline-gillnet) in the Bering Sea during 1983 to 1985 calendar years.

Species	1983	1984	1985
<u>Total</u>	<u>811,007</u>	<u>800,330</u>	<u>806,929</u>
Yellowfin sole	64,702	85,207	59,415
Arrowtooth flounder	3,918	1,259	995
Greenland turbot	15,404	10,333	4,847
Other flatfish	11,179	13,105	13,632
Sablefish	2,734	1,302	170
Pacific cod	25,705	42,621	49,356
Pollock	673,088	639,895	674,349
Pacific ocean perch	716	225	20
Others	13,561	6,383	4,145

Table 3. Annual catch(t) by species caught by Japanese groundfish fisheries in the Bering Sea during 1983 to 1985 calendar years.

Fishery	Mothership					
	1983		1984		1985	
	Catch	%	Catch	%	Catch	%
Total	450,381	100.0	425,246	100.0	415,845	100.0
Yellowfin sole	36,647	8.1	32,376	7.6	27,704	6.7
Arrowtooth fl.	2,366	0.5	465	0.1	300	0.1
Greenland turb.	1,243	0.3	1,009	0.2	445	0.1
Other flatfish	5,531	1.2	5,058	1.2	4,100	1.0
Sablefish	41	0.0	4	0.0	0	0.0
Pacific cod	8,945	2.0	7,538	1.8	7,229	1.7
Pollock	389,634	86.5	377,471	88.8	375,354	90.3
POP	1	0.0	0	0.0	0	0.0
Others	5,973	1.3	1,325	0.3	713	0.2

Fishery	North Pacific trawl					
	1983		1984		1985	
	Catch	%	Catch	%	Catch	%
Total	346,456	100.0	343,386	100.0	350,526	100.0
Yellowfin sole	25,056	7.2	52,830	15.4	31,711	9.0
Arrowtooth fl.	1,460	0.4	706	0.2	574	0.2
Greenland turb.	11,823	3.4	8,366	2.4	3,879	1.1
Other flatfish	5,649	1.6	8,048	2.3	9,490	2.7
Sablefish	252	0.1	76	0.0	28	0.0
Pacific cod	8,288	2.4	7,066	2.1	4,712	1.3
Pollock	283,300	81.8	262,033	76.3	298,196	85.2
POP	705	0.2	217	0.1	20	0.0
Others	9,923	2.9	4,044	1.2	1,916	0.5

Fishery	North Pacific longline-gillnet					
	1983		1984		1985	
	Catch	%	Catch	%	Catch	%
Total	14,169	100.0	31,698	100.0	40,557	100.0
Yellowfin sole	-	-	-	-	-	-
Arrowtooth fl.	93	0.6	88	0.3	121	0.3
Greenland turb.	2,338	16.5	958	3.0	523	1.3
Other flatfish	1	0.0	0	0.0	42	0.1
Sablefish	2,441	17.2	1,218	3.8	142	0.4
Pacific cod	8,471	59.8	28,017	88.4	37,416	92.2
Pollock	154	1.1	392	1.2	799	2.0
POP	11	0.1	7	0.0	1	0.0
Others	660	4.7	1,018	3.2	1,513	3.7

Table 4. Monthly catch (t) by major species by type of Japanese groundfish fisheries in the Bering Sea during 1985 calendar year.

	Fishery	Gear	Species	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Mothership fishery	Surimi fleet	PT DS ST	Total	381,992	-	-	-	-	-	23,234	100,723	105,950	89,806	62,820	-	-	
			Yellowfin sole	164	-	-	-	-	-	2	58	70	34	-	-	-	-
			Arrowtooth fl.	284	-	-	-	-	-	26	32	27	74	126	-	-	-
			Greenland turb.	445	-	-	-	-	-	34	45	54	227	86	-	-	-
			Sablefish	0	-	-	-	-	-	-	-	-	-	0	-	-	-
			Pacific cod	6,002	-	-	-	-	-	290	1,031	1,203	1,893	1,587	-	-	-
			Pollock	374,228	-	-	-	-	-	22,769	99,399	104,439	87,384	60,239	-	-	-
			POP	0	-	-	-	-	-	-	-	-	-	-	0	-	-
			Others	869	-	-	-	-	-	-	115	214	169	158	208	-	-
	Frozen-fish fleet	PT St	Total	33,853	-	-	-	-	-	-	6,951	8,633	7,826	8,304	2,138	-	
			Yellowfin sole	27,540	-	-	-	-	-	-	5,638	7,343	6,384	6,556	1,620	-	
			Arrowtooth fl.	16	-	-	-	-	-	-	-	-	3	6	7	1	
			Greenland turb.	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Sablefish	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Pacific cod	1,227	-	-	-	-	-	-	222	244	315	370	75	-	
			Pollock	1,126	-	-	-	-	-	-	310	240	255	277	45	-	
			POP	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Others	3,944	-	-	-	-	-	-	781	803	866	1,094	397	-	
North Pacific longline-gillnet fishery	LL	Total	40,557	658	8,869	1,197	2,319	1,504	538	-	1,474	-	5,912	9,117	8,969		
		Yellowfin sole	-	-	-	-	-	-	-	-	-	-	-	-	-		
		Arrowtooth fl.	121	2	7	1	4	4	5	-	3	-	11	45	41		
		Greenland turb.	523	2	2	1	48	122	258	-	2	-	14	35	39		
		Sablefish	142	1	3	-	3	9	7	-	2	-	10	25	83		
		Pacific cod	37,416	623	8,584	1,175	2,140	1,303	253	-	1,414	-	5,480	8,354	8,091		
		Pollock	799	11	59	7	10	7	0	-	14	-	167	300	224		
		POP	1	-	-	-	-	-	-	-	-	-	1	0	0		
		Others	1,555	19	214	13	114	59	15	-	39	-	229	358	491		
North Pacific trawl fishery	Surimi factory	ST	Total	213,777	7,791	5,439	6,290	5,764	-	64	4,200	14,052	23,749	51,957	46,810	47,662	
			Yellowfin sole	102	-	-	-	-	-	36	-	1	-	2	0	63	
			Arrowtooth fl.	192	-	1	5	-	-	-	1	3	52	28	40	63	
			Greenland turb.	54	0	0	0	-	-	-	-	1	6	18	9	6	
			Sablefish	9	-	0	0	-	-	-	-	0	2	3	3	0	
			Pacific cod	1,440	4	5	7	-	-	2	31	134	354	336	159	407	
			Pollock	210,871	7,783	5,428	6,268	5,764	-	3	4,165	13,892	23,212	51,141	46,362	46,852	
			POP	9	-	0	-	-	-	-	-	0	2	3	2	2	
			Others	1,100	4	5	10	-	-	23	2	16	109	435	238	262	
	Frozen-fish factory	ST	Total	136,749	26,305	24,959	16,348	4,418	1,454	3,227	4,223	6,317	9,553	7,381	5,324	27,241	
			Yellowfin sole	31,609	349	1,548	3,208	2,233	865	1,329	2,400	4,043	4,527	4,795	2,816	3,495	
			Arrowtooth fl.	382	-	-	1	0	5	29	281	20	19	19	2	6	
			Greenland turb.	3,825	-	-	4	57	135	1,206	722	563	392	250	470	27	
			Sablefish	19	-	-	-	-	0	5	3	2	8	1	1	0	
			Pacific cod	3,272	14	49	99	100	169	186	322	600	779	415	258	281	
			Pollock	87,325	25,866	23,261	11,884	1,361	39	165	157	323	894	814	236	22,325	
			POP	11	-	-	-	-	-	2	0	4	1	2	0	1	
			Others	10,306	76	101	1,152	667	239	307	334	765	2,932	1,087	1,541	1,106	

DT: Danish seine. LL: Longline. PT: Pair trawl. ST: Starn trawl

Table 5. Catch-effort statistics (all species included) of each gear used by Japanese groundfish fisheries (mothership, North Pacific trawl and North Pacific longline-gillnet) in the Bering Sea, 1984 and 1985 calendar years.

Type of gear and standard unit of effort	1984			1985		
	Effort	Catch(t)	CPUE	Effort	Catch(t)	CPUE
Pair trawl (hours)	18,354	298,384	16.26	19,874	306,313	15.41
Daish seine (sets)	7,337	53,649	7.31	6,369	51,831	8.14
Stern trawl (hours)	89,095	416,597	4.68	73,252	408,229	5.57
Longline (Hachi)	657,800	31,698	0.048	860,700	40,557	0.047
Total		800,328			806,929	

Table 6. Annual catch (t) by species caught by Japanese landbased dragnet fishery in the Bering Sea during 1983 to 1985 calendar years.

Species	1983	1984	1985
Total	72,520	139,718	104,322
Yellowfin sole	214	5	935
Turbots*	24,428	20,436	14,529
Other flatfishes	5,064	1,539	466
Sablefish	142	189	12
Pacific cod	5,263	4,793	2,150
Pollock	28,703	108,935	84,066
Pacific ocean perch	79	333	10
Others	8,627	3,444	2,154

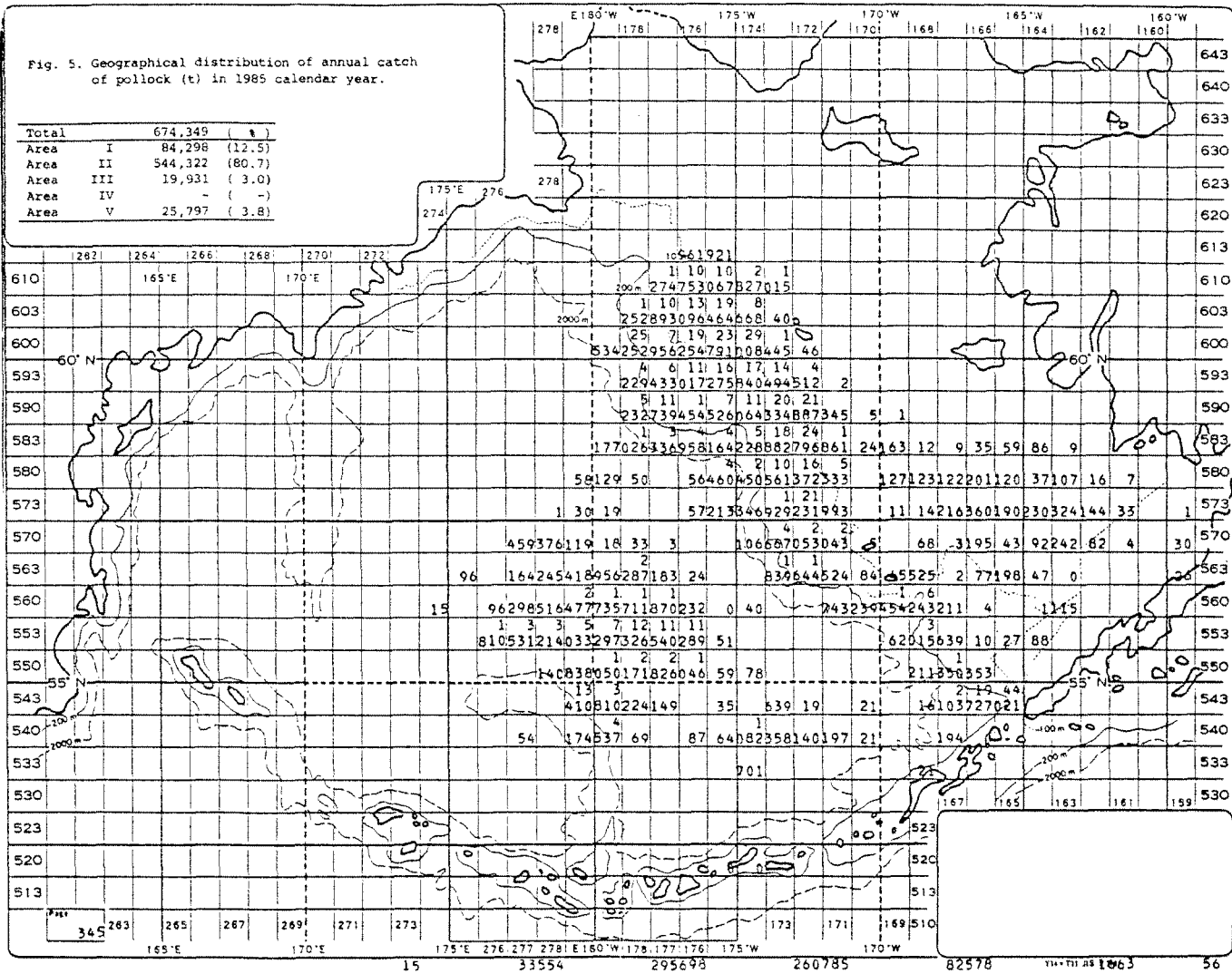
*Turbots include arrowtooth flounder and Greenland turbot.

Table 7. Preliminary catch(t) data Japanese groundfish fisheries by INPFC Areas in the Bering Sea during January through July in 1986. The data included catch by landbased dragnet fishery. Catch data for the same period in 1985 are shown in parentheses.

Species	Bering Sea			Aleutians	
	I	II	III	V	TOTAL
Total	13,336.1 (29,388.2)	101,961.3 (180,595.1)	- (-)	4,570.6 (11,880.6)	119,868.0 (221,863.8)
Pollock	441.5 (1,943.2)	86,585.6 (154,644.7)	- (-)	4,428.3 (11,839.3)	91,455.4 (168,427.2)
P. cod	525.7 (3,266.9)	9,430.6 (13,956.8)	- (-)	- (0.0)	9,956.3 (17,223.7)
POP	- (5.4)	1.3 (8.1)	- (-)	- (0.0)	1.3 (13.5)
Yellowfin sole	10,517.9 (18,786.3)	966.7 (3.3)	- (-)	- (0.0)	11,484.6 (18,789.6)
Other flatfish	1,601.5 (3,282.6)	4,340.6 (433.5)	- (-)	142.1 (0.4)	6,084.2 (3,766.5)
Sablefish	0.3 (9.9)	2.1 (17.6)	- (-)	- (9.1)	2.4 (36.6)
Other fish	248.8 (430.6)	423.5 (762.3)	- (-)	0.1 (0.7)	672.4 (1,193.6)
Squid	0.4 (10.4)	210.9 (664.5)	- (-)	0.1 (0.0)	211.4 (674.9)

Fig. 5. Geographical distribution of annual catch of pollock (t) in 1985 calendar year.

Total	674,349	(%)
Area I	84,298	(12.5)
Area II	544,322	(80.7)
Area III	19,931	(3.0)
Area IV	-	(-)
Area V	25,797	(3.8)



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TRANSLATION

OUTLINE OF THE JAPANESE GROUND FISH FISHERY IN THE BERING SEA
IN 1985 JANUARY-DECEMBER AND 1986 JANUARY-JULY

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Fisheries Agency of Japan

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1. Japanese groundfish fisheries in 1985 (January to December)

Groundfish fisheries by Japan in the Bering Sea and Aleutian Islands region in 1985 were conducted as in 1984 under the U.S. control of the Fisheries Conservation and Management Act established in 1976 (Magnuson Act) and various regulations applying to fishing activities. Japanese groundfish fisheries operated in the Bering Sea and Aleutian Islands region in 1985 were of four types, the same as in 1984: mothership-type trawl, North Pacific trawl, North Pacific longline-gillnet, and landbased dragnet (Hokuten trawl fishery).

(1) Mothership-type trawl, North Pacific trawl, and North Pacific longline-gillnet fisheries

The number of vessels which actually operated in the Bering Sea and Aleutian Islands region in 1985 was: six motherships with 65 catcher boats in the mothership-type trawl fishery, 40 independently operating trawlers in the North Pacific trawl fishery, and 22 longliners in the North Pacific longline-gillnet fishery (Table 1). The number of vessels in 1985, when compared to numbers in 1984, decreased by 12 catcher boats in the mothership-type trawl and by nine trawlers in the North Pacific trawl fisheries.

(a) Catch by fishery

The total catches by the mothership-type, North Pacific trawl, and North Pacific longline-gillnet fisheries in 1985 were 806,929 t, an increase of 0.8% from the total catch in 1984 (Table 2).

Pollock accounted for 84% of the total catch. In comparison with catches in 1984, those of Pacific cod and pollock increased but catches of yellowfin sole, arrowtooth flounder, Greenland turbot, sablefish, and Pacific ocean perch decreased.

Catches of the major species by fishery in the Japanese groundfish fisheries and catches by fishery, by fishing method, and by month are shown in Tables 3 and 4, respectively.

Mothership-type trawl fishery

Catches by the mothership-type trawl fishery in 1985 were 415,845 t, a decrease of 2% from the catch in 1984. Pollock accounted for 90% of the total catch. In comparison with 1984, the catches of all species decreased.

North Pacific trawl fishery

A total of 350,526 t was caught in the North Pacific trawl fishery, an increase of 2% from the catch in 1984. Pollock accounted for 85% of the total and the catches of species other than pollock and other flounders decreased from those taken in 1984.

North Pacific longline-gillnet fishery

Catches in 1985 increased by 28% from the 1984 catch and amounted to 40,557 t. Of that catch, Pacific cod accounted for 92% of the total. In comparison with the 1984 catch, catches of Pacific cod and pollock increased and catches of Greenland turbot and sablefish decreased.

(b) Catch, effort, and CPUE by fishing method

Pair trawl

Fishing effort by the pair trawlers in 1985 was 19,874 hours, an increase of 8% from 1984 (Table 5). Catches in 1985 were 306,313 t, an increase of 3% from the 1984 catch, and accounted for 38% of the total groundfish catch in 1985. CPUE decreased from the 1984 level to 15.41 t/hr. Eighty-nine percent of the total effort was expended in INPFC Area II (Fig. 1).

Danish seine

Effort by Danish seiners in 1985 was 6,369 hauls, a decrease of 13% from the 1984 effort (Table 5). Catch by the Danish seiners in 1985 decreased by 3% from that in 1984 and amounted to 51,831 t which constituted 6% of the total catch. CPUE in 1985 increased from that in 1984 and was 8.14 t/haul. All the effort was expended in INPFC Area II (Fig. 2).

Trawl

Fishing effort by trawlers in 1985 decreased by 18% and totalled 73,252 hours (Table 5). Catches by the trawlers in 1985 decreased by 2% from that in 1984 and amounted to 408,229 t. This constituted 51% of the total catch. CPUE by the trawlers in 1985 increased from that in 1984 and was 5.57 (t/hr). Of the total effort, 50 and 42% were spent in INPFC Areas I and II, respectively (Fig. 3).

Longline

Effort and catches in 1985 increased by 31% and 28%, respectively, compared to those in 1984 (Table 5), and were 860,700 hachi and 40,557 t. The catch by longliners in 1985 amounted to 5% of the total catch. CPUE in 1985 was 0.047 t/hachi which was almost the same value as in 1984. Eighty-nine percent of the total effort was spent in INPFC Area II (Fig. 4).

(c) Geographical distribution of the catches of pollock, yellowfin sole, and Pacific cod

The main fishing grounds for pollock were in water southwest of St. Matthew Island and 81% of the total catch was caught in INPFC Area II (Fig. 5). The main fishing grounds for yellowfin sole were in the southeastern waters on the continental shelf in the Bering Sea and 98.5% of the total catch was caught in INPFC Area I (Fig. 6). The

main fishing grounds for Pacific cod were in depths between 100 m and 200 m on the west from Pribilof Island to St. Matthew Island and 82% of the total catch was caught in INPFC Area II (Fig. 7).

(2) Landbased dragnet fishery

In 1985, a total of 27 trawlers (a decrease of 42 from 1984) operated as landbased dragnet vessels (Hokuten trawlers) in the Bering Sea and Aleutian Islands region, west of 170°W (Table 1). Catches by this fishery in 1985 decreased by 25% from that in 1984 and amounted to 104,322 t (Table 6). Pollock accounted for 81% of the total catch. In comparison with the catch in 1984, the 1985 catches of all species except yellowfin sole decreased.

2. Japanese groundfish fisheries in 1986 January to July

In 1986, as of the end of July, four motherships and their attached 42 catcher boats for the mothership-type trawl fishery, 10 trawlers for the North Pacific trawl fishery, 22 longliners for the North Pacific longline-gillnet fishery, and 15 trawlers for the landbased dragnet fishery operated in the Bering Sea and Aleutian region (Table 1).

According to the preliminary data to July 1986, the total catches by these fisheries as 119,868 t, a decrease of 46% compared with the same period in 1985 (Table 7). Of the 1986 catch, pollock accounted for 76%, yellowfin sole accounted for 10%, and Pacific cod accounted for 8%. The catches of all species except other flounders decreased from 1985.

Catches by INPFC Area were: 11% in Area I, 85% in Area II, and 4% in Area V.

TABLES 1 TO 7 AND FIGS. 1 TO 7 ARE IN ENGLISH IN THE JAPANESE DOCUMENT

