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ベーリング海の日本底魚漁業の概況

Outline of the Japanese groundfish fishery in the  
Bering Sea in 1982 January-December  
and 1983 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. 1982年の日本の底魚漁業

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、1982年も1981年に引き続いてアメリカ合衆国の「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。

ベーリング・アリューシャン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4種類で1981年と変りなかった。

漁船数は母船6隻、その付属独航船83隻、トロール漁法で単船操業を行なう北方トロール漁船49隻、はえなわ漁船22隻とトロール漁法で単船操業する北転船が70隻であった。

### (1) 母船式、北方トロール及び北洋はえなわ・さし網漁業(1982年1月～12月)

1982年のベーリング・アリューシャン水域における母船式、北方トロール及び北洋はえなわ・さし網漁業の実稼動隻数は表1に示されている。この表によると、1982年の稼動隻数は1981年に比較して母船に付属する独航船が8隻、トロール漁法で単船操業を行なう北方トロール漁船が4隻、

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それぞれ減少した。一方、はえなわ漁船が1隻増加した。

母船式、北方トロール及び北洋はえなわ・さし網の3つの漁業種類をまとめた暦年集計値による漁法別の漁獲量、努力量及びCatch rateを表2に示した。

2 そうびき網漁法の1982年の努力量は、1981年より679時間(2.3%)減少して28,561時間であった。1982年の漁獲量は1981年より14,690トン(4.2%)増加して363,397トンで、これは1982年の総漁獲量(884,795トン)の41.1%を占めた。Catch rateは1981年の11.93より増加して12.72であった。

1 そうびき網漁法の1982年の努力量は、1981年の15,546回より3,398回(21.9%)減少して、12,148回であった。1982年の漁獲量は1981年より14,420トン(16.1%)減少して75,386トンとなり、全体の8.5%を占めた。1982年のCatch rateは1981年の5.78より増加し6.21となった。

スターン・トロール漁法の1982年の努力量は1981年から11,181時間(8.6%)減少し119,577時間となった。漁獲量は1981年より40,097トン(8.4%)減少し435,939トンで全体(884,795トン)の49.3%を占めた。Catch rateは1981年の3.64よりわずかに増加して1982年は3.65となった。

はえなわ漁法の1982年の努力量及び漁獲量は1981年より、それぞれ、107,810鉢(20.6%)、4,741トン(32.0%)と急激に減少し416,400鉢及び10,073トンであった。総漁獲量(884,795トン)に占める割合は小さく、わずか1.1%であった。Catch rateは1981年の0.028より減少して0.024となった。

これら4種類の漁法別努力量の地理的分布は図1~4に示されている。すなわち、1982年の2そうびき網漁法の努力量はINPFC海区Iの大陸棚上へその大部分が投入され全体(28,561時間)の94.3%(26,920時間)であった。1そうびき網漁法も2そうびき網漁法とほぼ同様に大陸棚上のINPFC海区Iに集中し、全体の97.0%(11,782回)を占めた。スターン・トロール漁法の努力量は大陸棚縁部に沿って投入されており、努力量の地理的分布の傾向は1981年とほぼ同様であった。1982年のはえなわ漁法のINPFC海區別の努力量はINPFC海区Iについては1981年より215,470鉢減少した。これに対してINPFC海区IIでは逆に1981年より85,510鉢増加した。

1982年における母船式、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884,795トンで、1981年の929,362トンより44,567トン(4.8%)減少した(表3)。

1982年の総漁獲量の魚種別内訳は、スケトウダラ746,025トン(84.3%)、コガネガレイ63,684トン(7.2%)、カラスガレイ16,730トン(1.9%)、マダラ16,366トン(1.8%)、その他のカレイ類15,599トン(1.8%)、アラスカアブラガレイ7,215トン(0.8%)及び上記以外のその他の魚種15,618トン(1.8%)であった。

1982年の魚種別漁獲量を1981年と比較すると、コガネガレイとギンダラの漁獲量は、それぞれ、

2,103 トン( 3.4 %)、227 トン( 10.8 %)増加したが、これら 2 種以外の魚種の漁獲量は減少した(表 3)。

母船式底びき網漁業の 1982 年の漁獲量は 516,862 トンで、1981 年より 25,225 トン( 4.7 %)減少した。主な漁獲物はスケトウダラ 441,308 トン( 85.4 %)、コガネガレイ 45,801 トン( 8.9 %)及びその他のカレイ類 10,144 トン( 2.0 %)であった。1981 年と比較するとコガネガレイは約 3,000 トン増加したが、それ以外の魚種の漁獲量は減少した。特に、その他のカレイ類の漁獲量が 1981 年より著しい減少を示した(表 4)。

1982 年の北方トロール漁業は総計 357,860 トン漁獲し、1981 年より 14,602 トン( 3.9 %)減少した。主要な漁獲物はスケトウダラ 304,607 トン( 85.1 %)、コガネガレイ 22,262 トン( 6.2 %)及びその他のカレイ類 11,336 トン( 3.2 %)であった。コガネガレイを除く、他の魚種の漁獲量は 1981 年より減少を示した。この内、アラスカメヌケ、マダラ及びその他のカレイ類の漁獲量が前年より急激に減少した(表 4)。

1982 年の北洋はえなわ・さし網漁業の総漁獲量は、1981 年より 4,741 トン( 32.0 %)減少し 10,073 トンであった。主要な漁獲物はマダラ 4,047 トン( 40.2 %)、その他のカレイ類 3,225 トン( 32.0 %)、ギンダラ 2,130 トン( 21.1 %)であった。1981 年と比較すると、ギンダラを除く、他の魚種の漁獲量が著しく低下した(表 4)。

スケトウダラの漁場はソ連水域を除く東部ベーリング海域であった。南東水域(170°W 以東)と北西水域(170°以西)の本種の漁獲割合は 1981 年とほぼ同じで、それぞれ 72.4 % 及び 26.0 % であった(図 5)。

コガネガレイの主要漁場はベーリング海大陸棚上の南東水域(170°以東)で、ここから全漁獲量の 98.6 % が漁獲され、1981 年と同様な傾向を示した(図 6)。

日本底魚漁業による主要な魚種の漁業形態別漁法別漁獲量を表 5 に示した。

## (2) 北転船漁業(1982 年 1 月～12 月)

1982 年には、70 隻のトロール船が北転船漁業として、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)。

1982 年の統計によれば、1982 年の総漁獲量は、1981 年より 14,827 トン( 13.4 %)減少して、95,965 トンとなった。漁獲量の主要魚種別内訳は、スケトウダラ 37,865 トン( 39.5 %)、カラスガレイ 21,190 トン( 22.1 %)、その他のカレイ類 11,688 トン( 12.2 %)及びマダラ 4,123 トン( 4.3 %)であった。1981 年と比較すると、カラスガレイを除く、他の魚種の漁獲量は減少した(表 6)。

## 2. 1983年の日本の底魚漁業

### 母船式、北方トロール、北洋はえなわ・さし網及び北転船漁業（1983年1月～7月）

1983年にベーリング・アリューシャン水域では、6隻の母船とそれに付属する84隻の独航船の操業が許可された。52隻のスターン・トロール船が北方トロール漁業として、また、22隻のはえなわ・さし網漁船が北洋はえなわ・さし網漁業として操業を許可された。更に、70隻のスターン・トロール船が北転船漁業として操業を許可されたが、漁獲割当量、操業規制及び生産経費の高騰などのために7月1日から7月31日まで自主的に操業を中断した（表1）。

7月までの予備的な統計によれば、母船式、北方トロール、北洋はえなわ・さし網及び北転船漁業によるベーリング・アリューシャン水域の総漁獲量は、410,208トンで1982年同期と比較すると11,278トン（2.8%）の増加を示した。表7に示されているように、その他のカレイ類を除くすべての魚種が1982年より増加した。総漁獲量（410,208トン）の魚種別内訳はスケトウダラ331,468トン（80.8%）、コガネガレイ19,273トン（4.7%）、マダラ16,148トン（3.9%）などであった。

INPFC海区別による総漁獲量の内訳は、海区Ⅰが36.0%、海区Ⅱが55.4%、海区Ⅴが8.5%及び海区Ⅲが0.1%以下であった。

Table 1. Number of vessels of each of the Japanese groundfish fisheries actually operating in the Bering Sea during 1981 and 1983 calendar years.

Fishery	Type of processing/ gear	Calendar year		
		1981	1982	1983 <sup>a</sup>
Mothership	<u>Total</u>	<u>6</u>	<u>6</u>	<u>6</u>
(Mothership)	Fish meal	5	5	5
	Frozen fish	1	1	1
Mothership	<u>Total</u>	<u>91</u>	<u>83</u>	<u>84</u>
(Catcher boat)	Pair trawl	62	58	58
	Danish seine	16	16	23
	Stern trawl	13	9	3
North Pacific trawl	<u>Total</u>	<u>53</u>	<u>49</u>	<u>52</u>
	Stern trawl	53	49	52
North Pacific longline-gillnet	<u>Total</u>	<u>21</u>	<u>22</u>	<u>22</u>
	Longline	21	22	22
Landbased dragnet	Trawl and Danish seine combined	70	70	70

a Data for 1983 is preliminary

Table 2. Catch-effort statistics (all species included) of each gear used by Japanese mothership, North Pacific trawl, and North Pacific longline-gillnet fisheries in the Bering Sea, 1981 and 1982 calendar years (excluding the landbased dragnet fishery).

Type of gear and standard unit of effort	1981			1982		
	Effort	Catch (t)	Catch per unit effort	Effort	Catch (t)	Catch per unit effort
Pair trawl (hours)	29,240	348,707	11.93	28,561	363,397	12.72
Danish seine (sets)	15,546	89,806	5.78	12,148	75,386	6.21
Stern trawl (hours)	130,758	476,036	3.64	119,577	435,939	3.65
Longline (hachi )	524,210	14,814	0.028	416,400	10,073	0.024
Total		929,362			884,795	

Table 3. Annual catch(t) by species caught by Japanese mothership, North Pacific trawl, and North Pacific longline-gillnet fisheries combined in the Bering Sea, 1981 and 1982 calendar years, excluding the catch by the landbased dragnet fishery.

Species	1981	1982
<u>Total</u>	<u>929,362</u>	<u>884,795</u>
Yellowfin sole	61,581	63,684
Arrowtooth flounder	8,485	7,215
Greenland turbot	21,001	16,730
Other flatfish	20,306	15,599
Sablefish	2,099	2,326
Pacific cod	27,970	16,366
Pollock	762,501	746,025
Pacific ocean perch	2,874	1,232
Herring	-	-
Others	22,545	15,618



Table 4. Comparison of catch(t) by species caught by Japanese fisheries between 1981 and 1982 calendar year.

Fishery	Mothership						North Pacific trawl						North Pacific longline-gillnet					
	1982		1981		Difference		1982		1981		Difference		1982		1981		Difference	
	Catch	%	Catch	%	Catch	% <sup>a</sup>	Catch	%	Catch	%	Catch	% <sup>a</sup>	Catch	%	Catch	%	Catch	% <sup>a</sup>
Total	516,862	100.0	542,087	100.0	-25,225	-4.7	357,860	100.0	372,462	100.0	-14,602	-3.9	10,073	100.0	14,814	100.0	-4,741	-32.0
Yellowfin sole	45,801	8.9	42,798	7.9	+3,003	+7.0	22,262	6.2	18,783	5.0	+3,479	+18.5	-	-	-	-	-	-
Arrowtooth fl.	5,675	1.1	6,410	1.2	-735	-11.5	1,461	0.4	1,906	0.5	-445	-23.3	80	0.8	168	1.1	-88	-52.4
Other flatfish	10,144	2.0	18,097	3.3	-7,953	-43.9	11,336	3.2	19,552	5.2	-8,216	-42.0	3,225	32.0	3,660	24.7	-435	-11.9
Sablefish	61	0.0	84	0.0	-23	-27.4	135	0.0	179	0.0	-44	-24.6	2,130	21.1	1,837	12.4	+293	+15.9
Pacific cod	7,467	1.4	10,555	1.9	-3,088	-29.3	4,853	1.4	9,306	2.5	-4,453	-47.9	4,047	40.2	8,109	54.8	-4,062	-50.1
Pollock	441,308	85.4	452,815	83.6	-11,507	-2.5	304,607	85.2	309,480	83.2	-4,873	-1.6	110	1.1	206	1.4	-96	-46.6
Pacific ocean perch	3	0.0	3	0.0	0	0.0	1,219	0.3	2,852	0.8	-1,633	-57.3	10	0.1	19	0.1	-9	-47.4
Herring	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Others	6,403	1.2	11,325	2.1	-4,922	-43.5	11,987	3.3	10,404	2.8	-1,583	+15.2	471	4.7	815	5.5	-344	-42.2

<sup>a</sup> Deviation from the previous year is present

Table 5. Monthly catch(t) by major species by type of Japanese groundfish fisheries (excluding the landbased dragnet fishery) in the Bering Sea, 1982 calendar year.

Fishery	Gear	Species	Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Mothership fishery	Surimi fleet	Total	476,003	-	-	-	-	16,473	70,796	102,124	118,616	110,866	57,128	-	-	
		Yellowfin sole	4,380	-	-	-	-	220	982	1,022	1,023	1,024	109	-	-	
		Arrowtooth fl.	5,659	-	-	-	-	181	580	1,262	1,227	1,696	713	-	-	
		Sablefish	61	-	-	-	-	-	0	0	1	6	54	-	-	
		Pacific cod	6,827	-	-	-	-	252	967	995	1,468	2,102	1,043	-	-	
		Pollock	440,596	-	-	-	-	14,208	64,440	95,291	110,622	102,048	53,987	-	-	
		P.o.p.	3	-	-	-	-	-	-	0	0	0	3	-	-	
		Herring	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Others	18,477	-	-	-	-	1,612	3,827	3,554	4,275	3,990	1,222	78	-	
	Frozen-fish fleet	Total	40,859	-	-	-	-	-	1,495	7,884	7,323	8,903	8,659	6,594	-	
		Yellowfin sole	37,044	-	-	-	-	-	1,288	7,035	6,260	8,172	8,030	6,259	-	
		Arrowtooth fl.	15	-	-	-	-	-	-	-	-	4	8	3	-	
		Sablefish	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Pacific cod	642	-	-	-	-	-	15	119	155	130	137	86	-	
		Pollock	713	-	-	-	-	-	34	138	242	120	112	69	-	
		P.o.p.	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Herring	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Others	2,445	-	-	-	-	-	158	592	666	477	372	177	-	
	North Pacific longline-gillnet fishery	Longline-gillnet	Total	10,073	403	262	315	322	401	619	1,020	537	1,628	1,693	1,740	1,133
Yellowfin sole			0	-	-	-	-	-	0	-	-	-	-	-	-	
Arrowtooth fl.			80	1	-	1	1	4	7	21	3	11	13	17	0	
Sablefish			2,130	18	25	73	88	110	157	213	62	344	294	420	317	
Pacific cod			4,047	312	179	154	88	156	179	149	163	388	642	907	732	
Pollock			110	6	1	7	1	4	7	15	5	14	24	19	8	
P.o.p.			10	0	0	0	-	-	0	0	1	2	2	1	2	
Herring			-	-	-	-	-	-	-	-	-	-	-	-	-	
Others			3,696	66	57	80	144	127	269	622	303	869	718	368	74	
North Pacific trawl fishery			Surimi factory	Total	292,767	12,621	28,035	27,368	14,298	2,361	1,743	29,007	37,393	37,544	41,524	34,311
	Yellowfin sole	384		-	-	-	-	-	0	21	37	87	1	-	237	
	Arrowtooth fl.	130		6	7	7	2	0	0	8	12	28	26	18	14	
	Sablefish	39		1	0	0	-	-	0	2	8	11	11	3	3	
	Pacific cod	1,987		35	98	67	95	23	10	256	358	402	304	180	157	
	Pollock	288,443		12,541	27,846	27,204	14,128	2,308	1,729	28,638	36,832	36,651	40,840	33,815	25,912	
	P.o.p.	22		0	-	0	-	0	-	6	4	3	5	1	2	
	Herring	-		-	-	-	-	-	-	-	-	-	-	-	-	
	Others	1,762		38	84	90	73	30	4	76	142	362	337	294	238	
	Frozen-fish factory	Stern trawl	Total	65,093	6,141	8,308	6,507	3,168	2,779	3,266	2,449	2,212	3,121	6,152	8,828	12,163
			Yellowfin sole	21,878	2,223	1,673	3,323	995	515	668	409	213	67	2,163	4,897	4,733
			Arrowtooth fl.	1,331	290	173	55	57	78	82	99	59	108	145	149	37
			Sablefish	96	0	2	3	3	3	5	7	5	5	24	26	12
			Pacific cod	2,866	193	111	164	137	123	70	42	30	65	447	522	960
			Pollock	16,164	1,900	4,491	736	457	384	499	348	573	531	883	551	4,811
			P.o.p.	1,197	6	0	6	1	443	213	75	61	67	228	61	37
			Herring	-	-	-	-	-	-	-	-	-	-	-	-	-
			Others	21,561	1,529	1,858	2,220	1,518	1,233	1,729	1,469	1,271	2,278	2,262	2,622	1,573

Table 6. Annual catch (t) by species caught by Japanese landbased dragnet fishery in the Bering Sea during 1980 and 1982 calendar years.

Species	1980	1981	1982
<u>Total</u>	<u>125,899</u>	<u>110,792</u>	<u>95,965</u>
Yellowfin sole	434	1,286	727
Arrowtooth flounder	2,785	3,231	2,863
Greenland turbot	17,835	18,661	21,190
Other flatfish	11,700	11,803	11,688
Sablefish	323	275	230
Pacific cod	5,069	4,369	4,123
Pollock	52,330	43,858	37,865
Pacific ocean perch	1,416	1,192	529
Herring	-	-	-
Others	34,007	26,117	16,750

Table 7. Preliminary Japanese catch(t) in the Bering Sea by INPFC Areas during January-July 1983. Data includes the mothership, North Pacific trawl, North Pacific longline-gillnet, and landbased dragnet fisheries. Comparable catch data for 1982 are shown in parenthesis(Doc.2535).

Species	Bering Sea				Aleutians	Total
	I	II	III	IV	V	
Total	147,802.4 (208,404.4)	227,351.1 (161,885.9)	5.5 (138.4)	- (-)	35,048.7 (28,501.4)	410,207.7 (398,930.1)
Pollock	110,548.5 (167,523.8)	195,741.9 (130,544.6)	5.5 (138.4)	- (-)	25,172.5 (21,016.3)	331,468.4 (319,223.1)
Pacific cod	5,184.4 (2,738.9)	9,483.5 (2,150.9)	- (-)	- (-)	1,474.9 (436.0)	16,142.8 (5,325.8)
Pacific ocean perch	11.0 (45.2)	22.1 (22.6)	- (-)	- (-)	395.9 (769.0)	429.0 (836.8)
Yellowfin sole	18,670.9 (19,472.2)	537.3 (1,302.3)	- (-)	- (-)	64.3 (62.0)	19,272.5 (20,836.5)
Other flatfish	9,790.5 (13,236.6)	16,442.5 (18,637.8)	- (-)	- (-)	4,408.8 (2,563.1)	30,645.8 (34,437.5)
Sablefish	378.5 (371.7)	466.4 (200.5)	- (-)	- (-)	136.8 (171.2)	981.7 (743.4)
Others	3,129.9 (4,965.8)	3,639.9 (8,032.5)	- (-)	- (-)	2,569.9 (3,105.5)	9,339.7 (16,103.8)
Suqid	62.2 (50.2)	907.6 (994.7)	- (-)	- (-)	362.2 (378.3)	1,332.0 (1,423.2)

Fig. 1. Geographical distribution of annual effort of pair trawl (in hours) attached to the Motherships in 1982 calendar year.

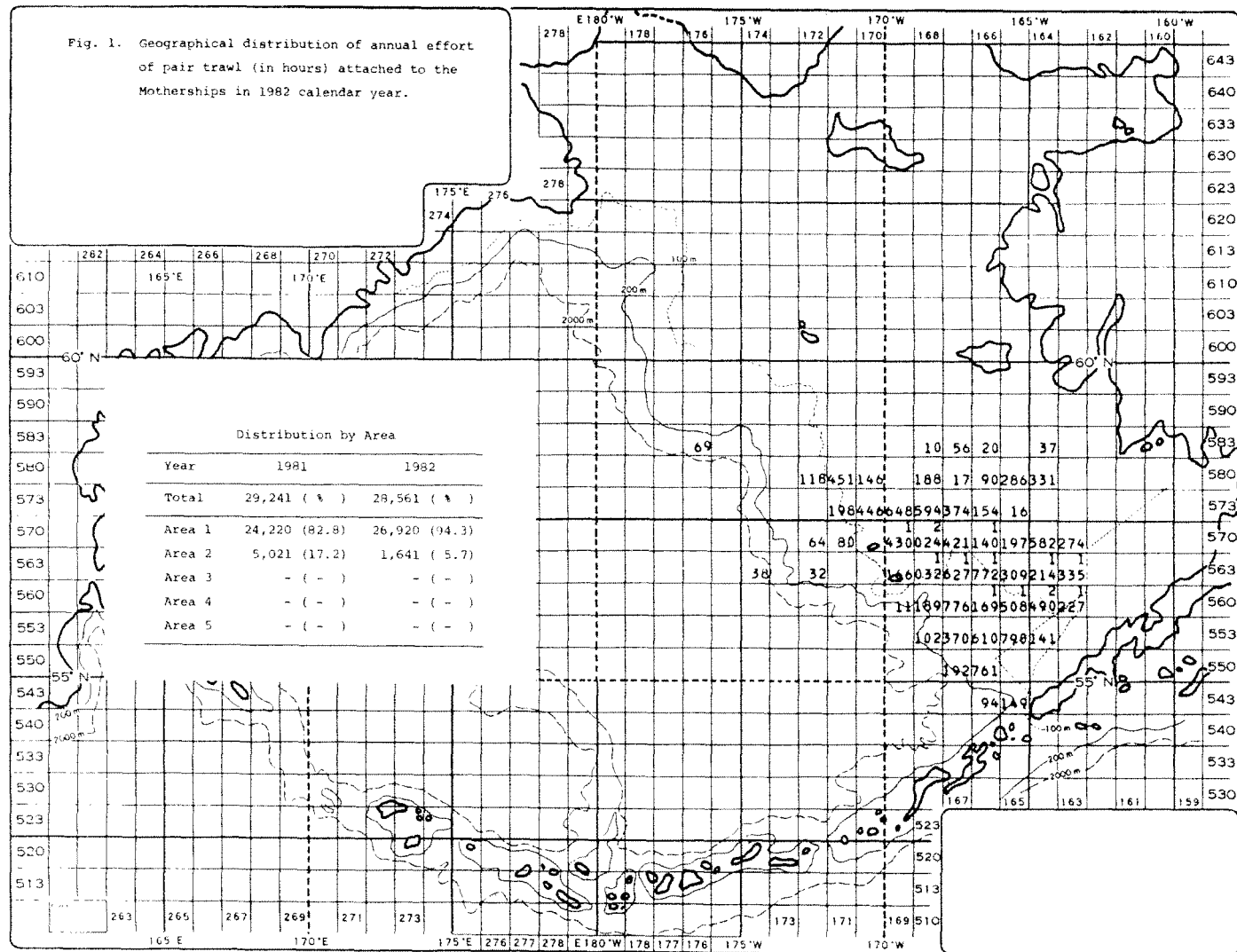


Fig. 2. Geographical distribution of annual effort of Danish seine (in sets) attached to the Motherships in 1982 calendar year.

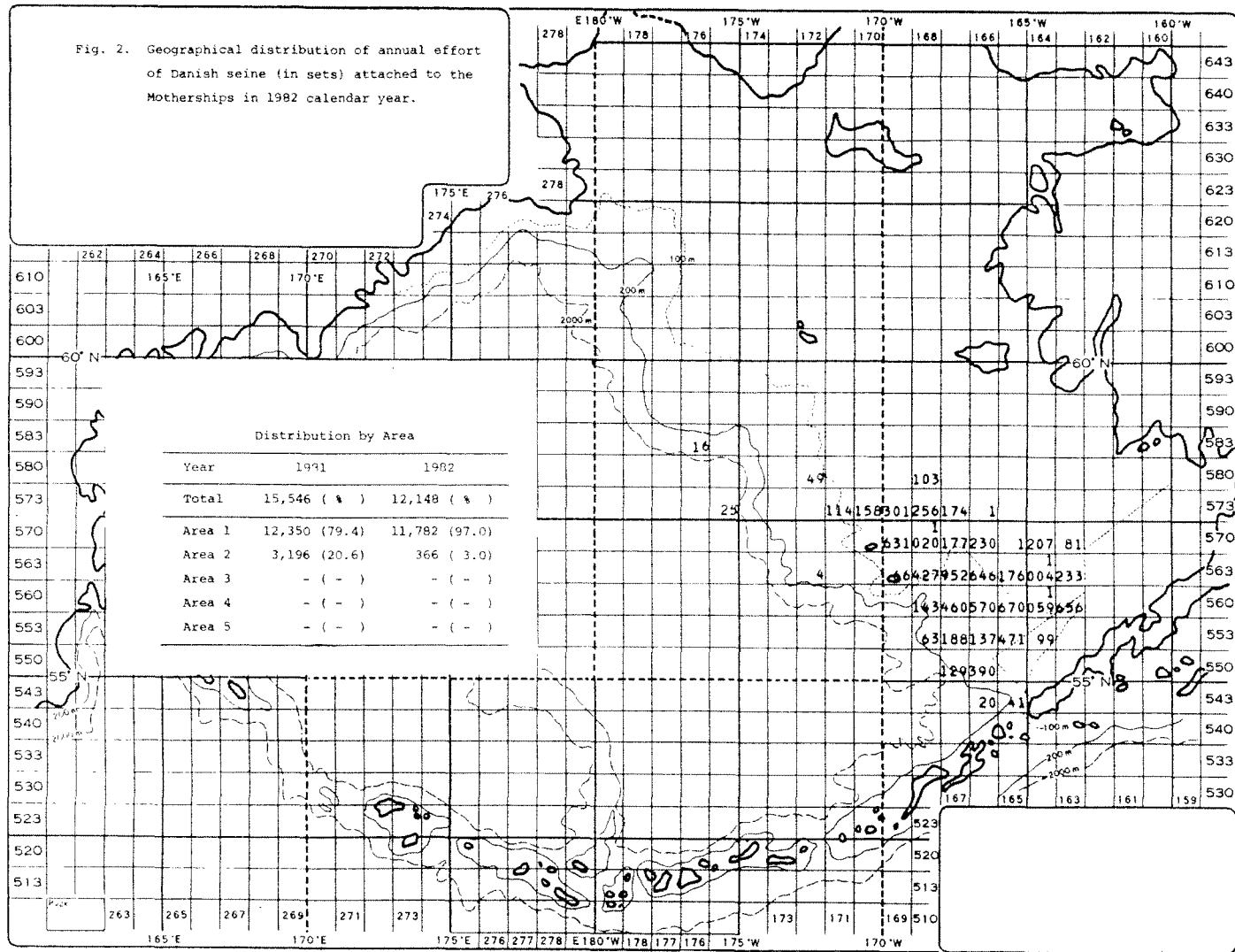


Fig. 3. Geographical distribution of annual effort of stern trawl (in hours) of the Mothership and North Pacific trawl fisheries in 1982 calendar year.

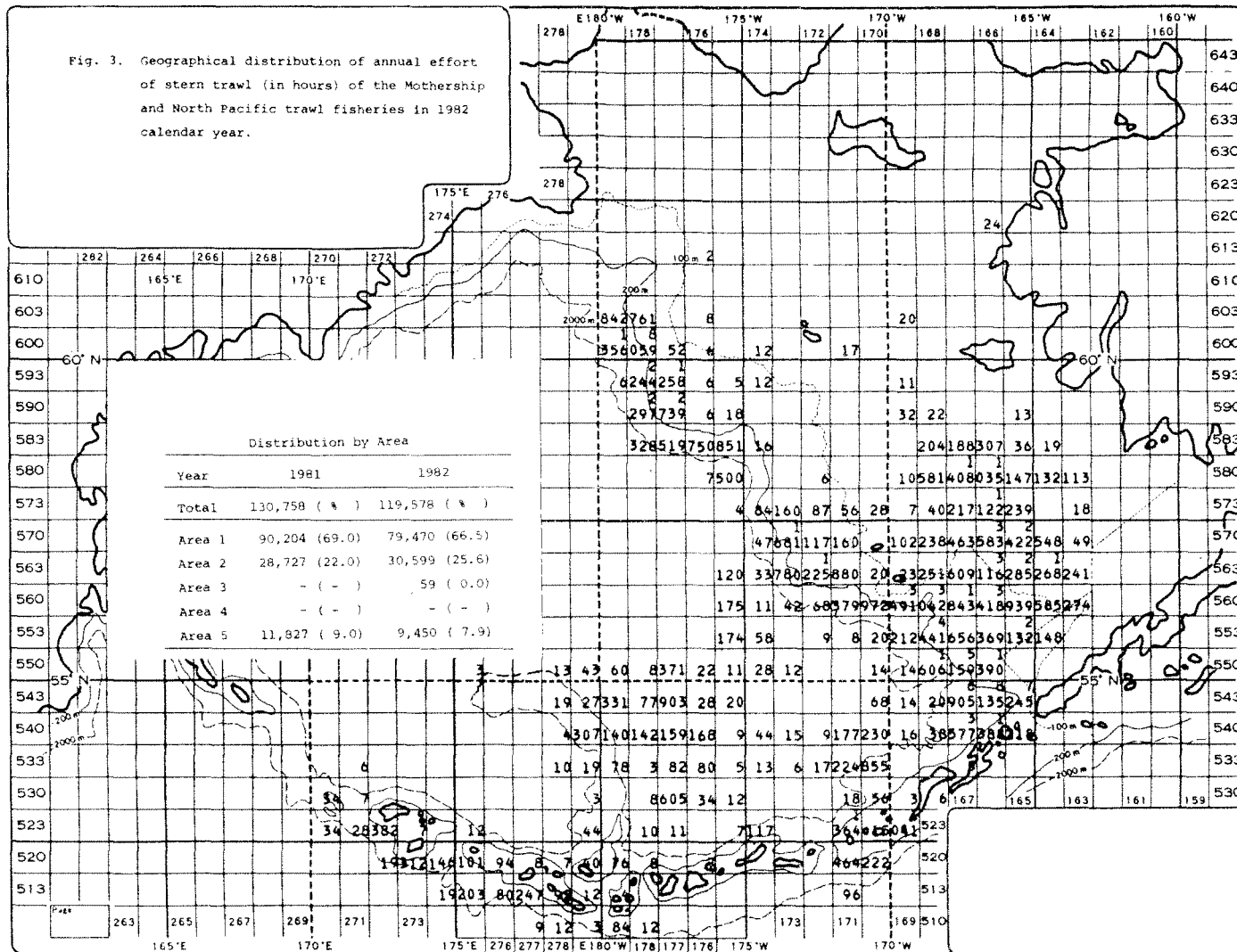
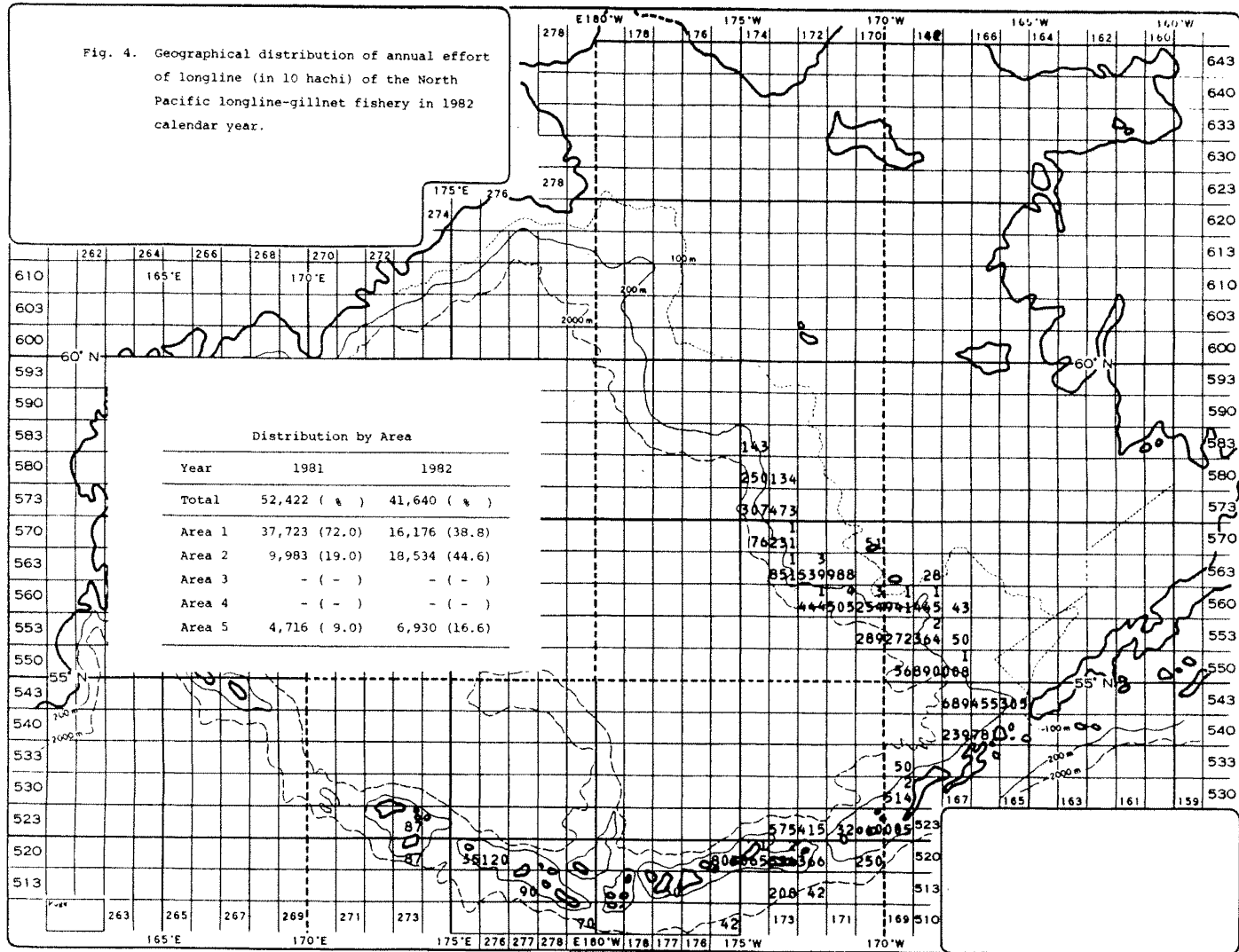


Fig. 4. Geographical distribution of annual effort of longline (in 10 hachi) of the North Pacific longline-gillnet fishery in 1982 calendar year.





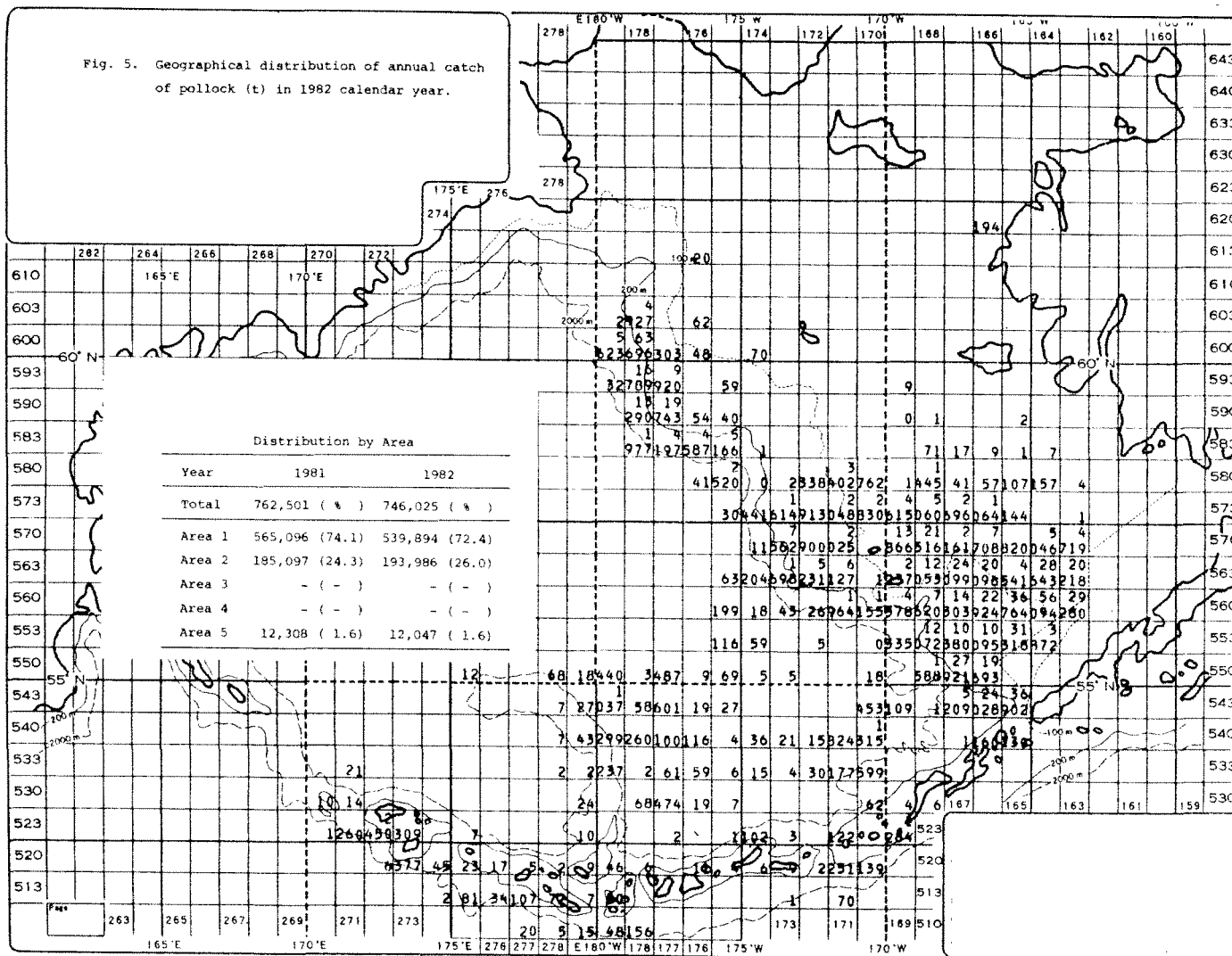
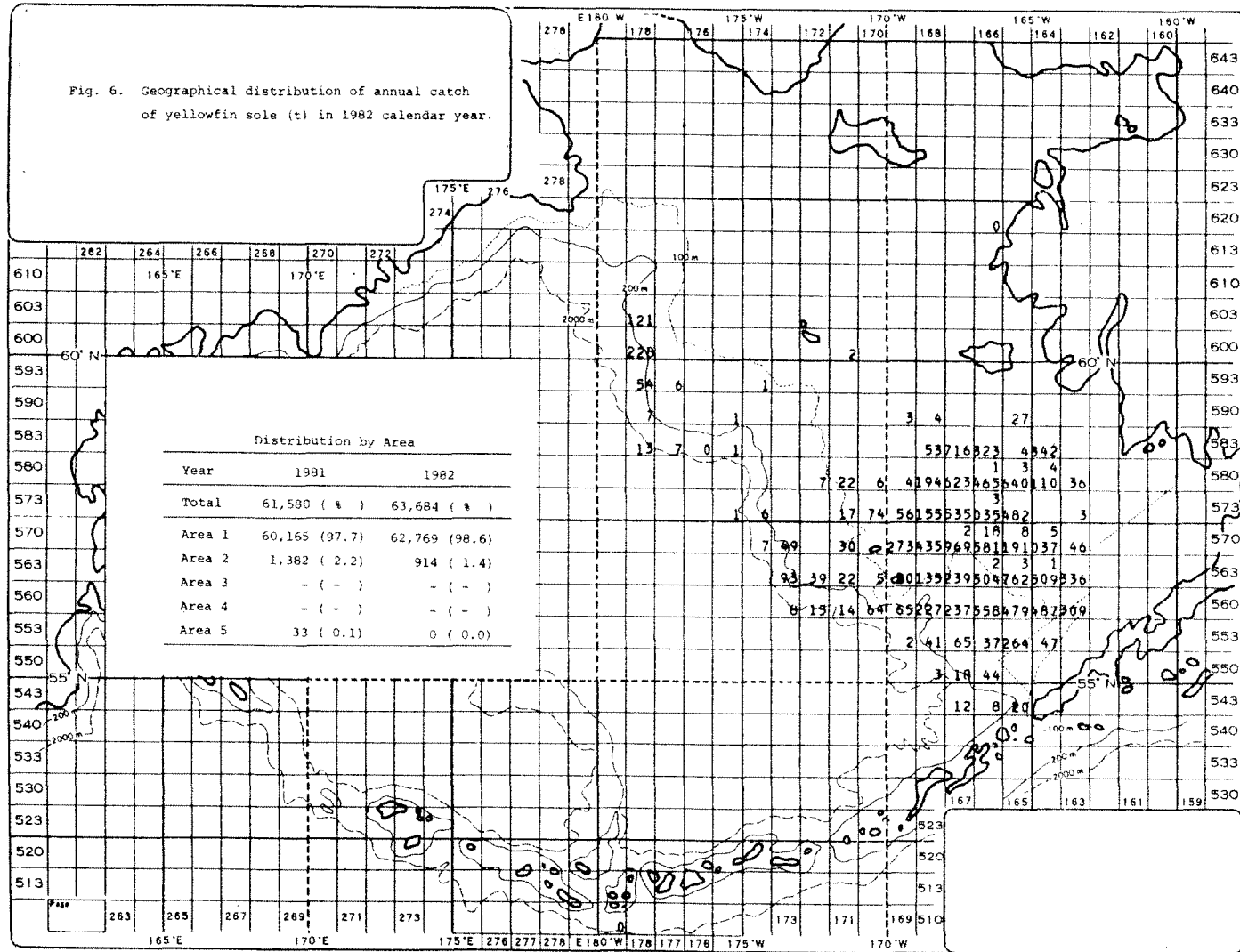


Fig. 6. Geographical distribution of annual catch of yellowfin sole (t) in 1982 calendar year.



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TRANSLATION

OUTLINE OF THE JAPANESE GROUND FISH FISHERY IN THE BERING SEA  
IN 1982 JANUARY TO DECEMBER AND 1983 JANUARY TO JULY

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1. The Japanese groundfish fishery in 1982

The Japanese groundfish fisheries operating in the Bering Sea and Aleutian Area in 1982 were controlled by the enactment of the U.S. Fishery Conservation and Management Act of 1976 and various regulations which continued to be applied for fishing activities in 1982.

In 1982, as in 1981, the Japanese groundfish fisheries operating in the Bering Sea and Aleutian Area were of four types: the mothership-type trawl, North Pacific trawl, North Pacific longline-gillnet, and landbased dragnet fisheries.

The number of fishing vessels in 1982 were: six motherships with 83 catcher boats in the mothership-type trawl fishery, 49 vessels in the North Pacific trawl fishery, 22 vessels in the North Pacific longline-gillnet fishery, and 70 vessels in the landbased dragnet fishery.

(a) Mothership-type trawl, North Pacific trawl, and North Pacific longline-gillnet fisheries (1982 January to December)

The number of fishing vessels which actually operated in the Bering Sea and Aleutian areas in 1982 in the mothership-type trawl, North Pacific trawl, and North Pacific longline-gillnet fisheries are shown in Table 1. According to this table, changes in number of vessels in 1982 from 1981 were: eight less catcher boats attached to the motherships, four less North Pacific trawlers which conduct independent operations in the trawl fishery, and an increase of one longliner.

The catch, effort, and CPUE by the mothership-type trawl, North Pacific trawl, and North Pacific longline-gillnet fisheries combined in the 1982 calendar year are shown by gear in Table 2.

Fishing effort with pair trawls in 1982 was 28,561 hours, a decrease of 2.3% (679 hours) from that in the previous year. The catch by pair trawlers in 1982 constituted 41.1% of the total catch and was 366,397 t, an increase of 14,690 t (4.2%) from the previous year. CPUE was 12.72 t/hr, an increase of 11.93% from the previous year.

Fishing effort with Danish seiners was 12,148 sets in 1982, a decrease of 21.9% (3,398 sets) from the fishing effort in 1981 which was 15,546 sets. The catch by the Danish seine fishery in 1982 was 75,386 t, a decrease of 14,420 t (16.1%) from the previous year and constituted 8.5% of the overall catch. CPUE in 1982 was 6.21 t/set, an increase of 0.43 t/set from the previous year (5.78 t/set in 1981).

Fishing effort by stern trawlers in 1982 was 119,577 hours, a decrease of 11,181 hours (8.6%) from the previous year. Catch by stern trawlers in 1982 was 435,939 t, a decrease of 40,097 t (8.4%) from the previous year and constituted 49.3% of the overall catch (884,795 t). Stern trawler CPUE in 1982 was 3.65 t/hr, a slight increase of 0.01% (3.64 t/hr) from the previous year.

Longline fishing effort and catch in 1982 was 416,400 hachi and 10,073 t, a sharp decrease of 20.6% (107,810 hachi) and 32.0% (4,741 t) from the previous year. Longline catch constituted only 1.1% of the total catch. CPUE in 1982 was 0.024 t/10 hachi, a decrease of 0.004 t/10 hachi from the 0.028 t/10 hachi in 1981.

The geographical distribution of fishing effort in these fisheries, by type of gear, is summarized in Figs. 1 to 4. Almost all fishing effort with pair trawls in 1982 was concentrated on the continental shelf in INPFC Area 1, where it amounted to 94.3% (26,920 hours) of the total effort (28,561 hours). Fishing effort with Danish seines was also concentrated on the continental shelf in INPFC Area 1 (97.0% or 11,782 sets of the total effort).

Fishing effort by the stern trawl fishery in 1982 was concentrated in the area along the edge of the continental shelf. This pattern was similar to that in 1981. Fishing effort by the longline fishery in 1982 decreased 215,470 hachi in INPFC Area 1 from the previous year and, in contrast, increased 85,510 hachi from the previous year in Area 2.

The total catch by the mothership-type, North Pacific trawl, and North Pacific longline-gillnet fisheries in 1982 was 884,795 t, a decrease of 4.8% or 44,567 t from the previous year (Table 3).

Of the total catch taken in 1982, pollock accounted for 84.3% (746,025 t), yellowfin sole, 7.2% (63,684 t), Greenland turbot, 1.9% (16,730 t), Pacific cod, 1.8% (16,366 t), "other flatfish", 1.8% (15,599 t), arrowtooth flounder, 0.8% (7,215 t), and "other species", 1.8% (15,618 t).

Compared with catches in 1981, those of yellowfin sole and sablefish increased by 3.4% (2,103 t) and 10.8% (227 t), respectively, but catch of all other species decreased (Table 3).

The total catch by the mothership-type trawl fishery in 1982 was 516,862 t, a decrease of 4.7% (25,225 t). The catch was mainly pollock, 85.4% (441,308 t), yellowfin sole, 8.9% (45,801 t), and "other flatfish", 2.0% (10,144 t). Compared with catch in 1981, yellowfin sole increased about 3,000 t, but the other species decreased. Catch of "other flatfishes" decreased significantly from the previous year (Table 4).

The total catch by the North Pacific trawl fishery in 1982 was 357,860 t, a decrease of 3.9% (14,602 t) from the previous year. The main catches were pollock, 85.1% (304,607 t), yellowfin sole, 6.2% (22,262 t), and "other flatfish", 3.2% (11,336 t). All species except

the "other species" category and yellowfin sole decreased from the previous year. Of these species, catches of Pacific ocean perch, Pacific cod, and "other flatfish" decreased significantly from the previous year (Table 4).

The total catch by North Pacific longline-gillnet fishery in 1982 was 10,073 t, a decrease of 32.0% (4,741 t) from the previous year. The main species taken were Pacific cod (40.2%), "other flatfish" (32.0%), and sablefish (21.1%). Compared with catches in 1981, species other than sablefish decreased significantly (Table 4).

The main fishing grounds for pollock were the eastern Bering Sea, excluding U.S.S.R. waters. Of the pollock catch, 72.4% came from the southeast grounds (east of 170°W) and 26.0% from the northwest grounds (west of 170°W) in 1982, as in 1981 (Table 5).

The main fishing grounds for yellowfin sole were the southeast grounds, along the continental shelf in the Bering Sea (east of 170°W), from which about 98.6% of the yellowfin sole catch was taken, as in 1981 (Fig. 6). Catch of the main species by fishery and by month in 1982 is shown in Table 5.

(b) Landbased dragnet fishery (1982 January to December)

In 1982, a total of 70 trawlers operated in the Bering Sea and Aleutian Area west of 170°W as a landbased dragnet fishery (Table 1).

According to the 1982 statistics, total catch by this fishery amounted to 95,965 t, a decrease of 13.4% (14,827 t) from the previous year. Major species in the catch were pollock (39.5%, 37,865 t), Greenland turbot (22.1%, 21,190 t), "other flatfish" (12.2%, 11,688 t), and Pacific cod (4.3%, 4,123 t). Compared with the catch in 1981, the catch of all species other than Greenland turbot decreased (Table 6).

2. Japanese groundfish fisheries in 1983

- (a) Mothership-type, North Pacific trawl, North Pacific longline-gillnet, and landbased dragnet fisheries in 1983 (January to July)

In 1983, six motherships with 84 catcher boats were licensed to fish in the Bering Sea and Aleutian Area. In addition, 52 stern trawlers in the North Pacific trawl fishery, 22 longline-gillnetters in the North Pacific longline-gillnet fishery, and 70 stern trawlers in the landbased dragnet fishery were licensed to fish (Table 1).

The preliminary overall catch by the mothership-type, North Pacific trawl, North Pacific longline-gillnet, and the landbased dragnet fisheries in the Bering Sea and Aleutian Areas as of the end of 1982 July was 410,208 t. In comparison with the same period in 1982, the catch increased by 2.8% (11,278 t). Catches of all species except "other flatfish" increased from the previous year, as shown in Table 7.

Of the overall catch in 1983, pollock accounted for 80.8% (331,468 t), yellowfin sole, 4.7% (19,273 t), and Pacific cod, 3.9% (16,143 t). Of the overall catch, 36.0% came from Area 1, 55.4% from Area 2, 8.5% from Area 5, and less than 0.1% from Area 3.

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TABLES 1 TO 7 AND FIGS. 1 TO 6 ARE IN ENGLISH IN THE JAPANESE DOCUMENT