

Not to be cited by
INPFC Document number

I N P F C DOCUMENT	
Ser. No.	3431
Rev. No.
.....	

ベーリング海における日本底魚漁業の概況
(1988年度)

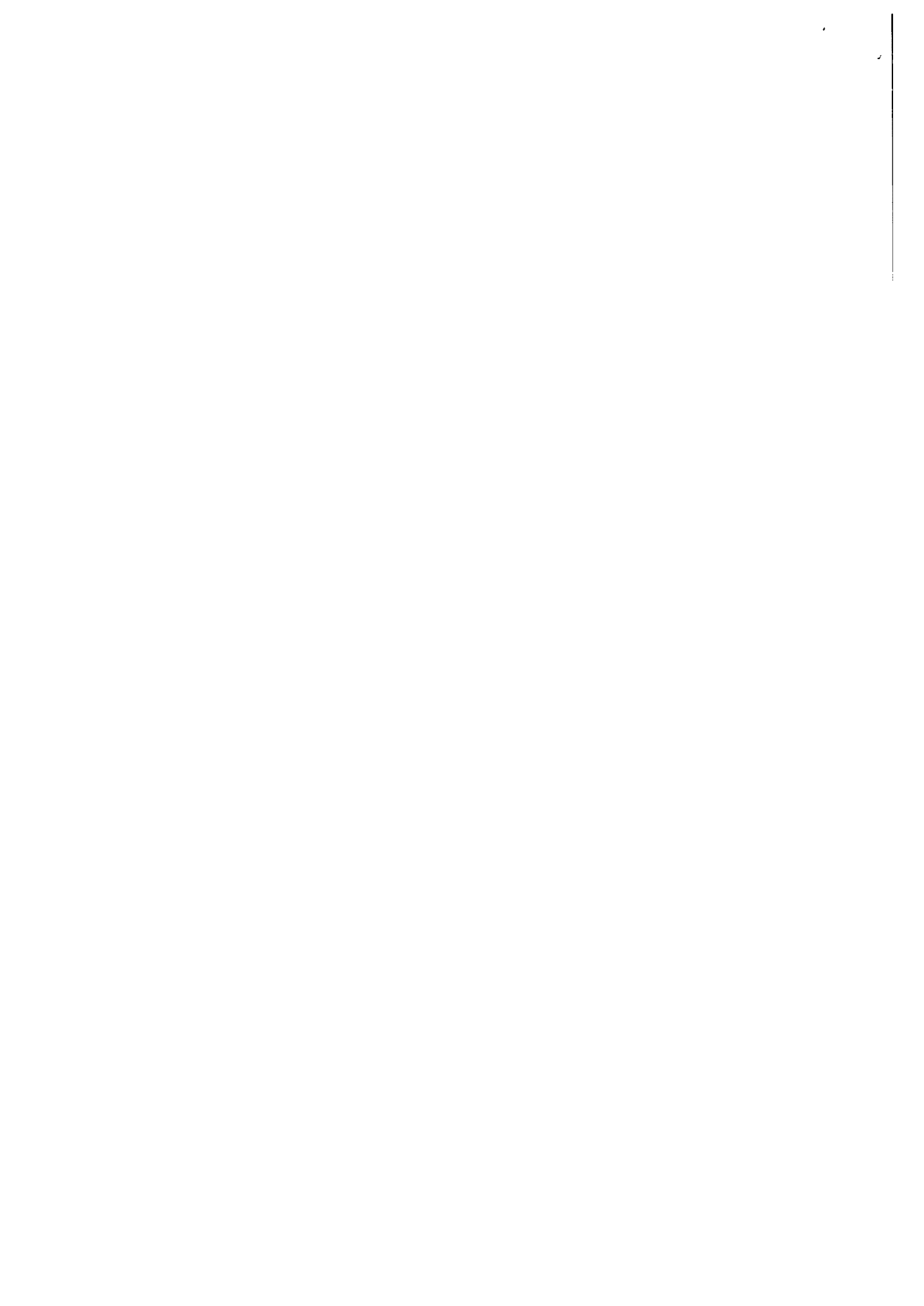
Outline of the Japanese groundfish fishery in the
Bering Sea in 1988, January-December

吉村 拓
Taku Yoshimura
遠洋水産研究所
Far Seas Fisheries Research Laboratory

1989年 10月
October 1989
水産庁
Fisheries Agency of Japan

この文書を引用する場合は下記による：

吉村 拓. 1989. ベーリング海における日本底魚漁業の概況(1988年度). 11頁. (第36回 INPFC 定例年次会議提出文書. 1989年10月. 米国, シアトル). 水産庁, 遠洋水産研究所. 日本. 〒424 清水市折戸 5-7-1.



ベーリング海における日本底魚漁業の概況 (1988年度)

吉村 拓
(遠洋水産研究所)

1. 1988年の日本の底魚漁業(1~12月)

ベーリング・アリューシャン水域で、1988年に操業した日本の底魚漁業は、北方トロール漁業及び北転船漁業の2種類であった。漁業が行なわれたのは当水域の公海域であり、米国200海里水域内では漁業は行なわれなかった。

1988年の実稼働隻数は、北方トロール漁船48隻及び北転船55隻であった(表1)。1987年と比較して、北方トロール船は8隻、北転船は1隻増加した。米国200海里水域内での操業が認められなかったため、北方はえなわ漁船は漁業を行なわなかった。

(1) 漁業形態別漁獲量

1988年の日本の底魚漁業による総漁獲量は749,986トンで、1987年より14%減少した(表2)。このうち、ほぼ100%をスケトウダラが占めたが、スケトウダラの漁獲量は1987年の870,714トンより7%減少した。スケトウダラ以外には、その他の魚種およびドスイカが計5トン漁獲された。

米国200海里水域内において漁業が行なえなくなったため、漁業は海区2と3のみで行なわれた。海区2における1988年の漁獲量は174,779トンで前年より25%増加した。海区3では575,207トン漁獲され、前年より21%減少した。

a) 北方トロール漁業：1988年の漁獲量は488,848トンで、前年より7%減少した(表2)。このうちほぼ100%をスケトウダラが占めたが、スケトウダラの漁獲量は前年より6%減少した。全漁獲量のうち19%が海区2、残り81%が海区3におけるものであった。

b) 北転船漁業：1988年の漁獲量は261,138トンで、前年より11%減少した(表2)。このうちほぼ100%をスケトウダラが占めたが、スケトウダラの漁獲量は前年より9%減少した。全漁獲量のうち30%が海区2、残り70%が海区3におけるものであった。

(2) 漁法別漁獲努力量

a) トロール漁法：1988年に行なわれた漁業は、いずれもトロール漁法によるものであった。総努力量は109,741時間で、前年とほぼ同じであった(表3)。

北方トロール船の1988年の努力量は53,262時間で、前年より7%増加した(表3)。このうち27%が海区2へ、残り73%が海区3へ投入された。

北転船の1988年の努力量は56,479時間で、前年より4%減少した(表3)。このうち39%が海区2へ、残り61%が海区3へ投入された。

b) その他の漁法：1988年にはトロール漁法以外の漁法は用いられなかった。

(3) スケトウダラ漁獲量の地理的分布

スケトウダラは、アリューシャン海盆の公海水域のほぼ全域で漁獲されたが、このうち西部域で高い漁獲が見られた(図3)。

全漁獲量に占める海區別漁獲量を見ると、1987年には全体の10%であった海区2が1988年には23%へと増加し、1987年に90%を占めた海区3では77%と減少した。

Table 1. Number^a of vessels in each of the Japanese groundfish fisheries operated in the Bering Sea, 1986 to 1988.

Fishery	Type of processing/ gear	Year		
		1986	1987	1988
Mothership (Mothership)	<u>Total</u>	<u>4</u>	<u>0</u>	<u>0</u>
	Fish meal	3	0	0
	Frozen fish	1	0	0
Mothership (Catcher boat)	<u>Total</u>	<u>31</u>	<u>0</u>	<u>0</u>
	Pair trawl	21	0	0
	Danish seine	7	0	0
	Stern trawl	3	0	0
North Pacific trawl	Stern trawl	40	40	48
North Pacific longline-gillnet	Longline	22	22	0
Landbased dragnet	Stern trawl	54	54	55

a: Licensed number. Actual number of the vessels operated of North Pacific trawl and Landbased dragnet fisheries is more than the number shown hereon, because plural different vessels each may operate under the same licensed number during the different period.

Table 2. Annual catch(t) by type of fishery and by species caught by Japanese groundfish fisheries in the Bering Sea, 1985 to 1987.

Fishery	Total ^a					
	1986		1987		1988	
	Catch	%	Catch	%	Catch	%
Total ^a	1,070,826	100.1	870,714	100.0	749,986	100.0
Yellowfin sole	51,199	4.8	1,398	0.2	0	0.0
Arrowtooth fl.	2,770	0.3	2,924	0.3	0	0.0
Greenland turb.	7,393	0.7	1,174	0.1	0	0.0
Other flatfish	7,964	0.7	1,850	0.2	0	0.0
Sablefish	42	0.0	9	0.0	0	0.0
Pacific cod	35,248	3.3	54,900	6.3	0	0.0
Pollock	962,367	89.9	806,194	92.6	749,981	100.0
POP	10	0.0	3	0.0	0	0.0
Others	3,836	0.4	2,262	0.3	5	0.0

Fishery	North pacific trawl					
	1986		1987		1988	
	Catch	%	Catch	%	Catch	%
Total ^a	448,481	100.0	526,328	100.1	488,848	100.0
Yellowfin sole	24,556	5.5	1,393	0.3	0	0.0
Arrowtooth fl.	115	0.0	1,166	0.2	0	0.0
Greenland turb.	500	0.1	535	0.1	0	0.0
Other flatfish	3,852	0.9	950	0.2	0	0.0
Sablefish	1	0.0	2	0.0	0	0.0
Pacific cod	2,631	0.6	2,963	0.6	0	0.0
Pollock	415,875	92.7	519,004	98.6	488,845	100.0
POP	2	0.0	2	0.0	0	0.0
Others	950	0.2	313	0.1	3	0.0

Table 2. Continued.

Fishery	Landbased dragnet					
	1986		1987		1988	
	Catch	%	Catch	%	Catch	%
Total ^a	343,002	99.9	293,732	100.0	261,138	100.0
Yellowfin sole	51	0.0	5	0.0	0	0.0
Arrowtooth fl.	2,169	0.6	1,386	0.5	0	0.0
Greenland turb.	6,672	1.9	605	0.2	0	0.0
Other flatfish	568	0.2	857	0.3	0	0.0
Sablefish	6	0.0	2	0.0	0	0.0
Pacific cod	1,632	0.5	4,692	1.6	0	0.0
Pollock	330,778	96.4	285,828	97.3	261,137	100.0
POP	8	0.0	2	0.0	0	0.0
Others	1,118	0.3	356	0.1	2	0.0

Fishery	North pacific longline-gillnet					
	1986		1987		1988	
	Catch	%	Catch	%	Catch	%
Total ^a	28,335	100.0	50,655	100.0	-	-
Yellowfin sole	-	-	-	-	-	-
Arrowtooth fl.	196	0.7	372	0.7	-	-
Greenland turb.	127	0.4	34	0.1	-	-
Other flatfish	26	0.1	42	0.1	-	-
Sablefish	35	0.1	6	0.0	-	-
Pacific cod	26,432	93.3	47,246	93.3	-	-
Pollock	528	1.9	1,362	2.7	-	-
POP	-	-	-	-	-	-
Others	992	3.5	1,593	3.1	-	-

a: Discrepancies between actual sums of component figures and totals given are due to rounding.

Table 3. Japanese fishing effort, by gear, and catch(t) of principal groundfish species, by area, in the Bering Sea, 1986-1988.

Effort and catch	Area 1			Area 2			Area 3			Area 5 (Aleutian)			Total ^a		
	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988
EFFORT															
Danish seine (sets)	-	-	-	3,056	-	-	-	-	-	-	-	-	3,056	-	-
Pair trawl (hours)	2,695	-	-	9,387	-	-	-	-	-	-	-	-	12,082	-	-
Stern trawl, MS(hours)	161	-	-	848	-	-	-	-	-	-	-	-	1,009	-	-
Stern trawl, NT(hours)	12,578	1,284	-	17,131	8,145	14,227	16,248	40,245	39,035	239	-	-	46,197	49,673	53,262
Stern trawl, LD(hours)	-	15	-	36,921	18,177	21,875	24,324	40,798	34,604	654	-	-	61,899	58,990	56,479
Longline (hachi x 10)	200	5,480	-	53,890	104,780	-	-	-	-	-	-	-	54,100	110,250	-
CATCH TOTAL^a															
Danish seine	68,878	5,141	-	562,277	139,543	174,779	433,441	726,032	575,207	6,228	-	-	1,070,826	870,714	749,986
Pair trawl	-	-	-	26,209	-	-	-	-	-	-	-	-	26,209	-	-
Stern trawl, MS	32,980	-	-	184,312	-	-	-	-	-	-	-	-	217,292	-	-
Stern trawl, NT	57	-	-	7,450	-	-	-	-	-	-	-	-	7,507	-	-
Stern trawl, LD	35,719	2,454	-	165,404	42,142	95,170	245,037	481,734	393,678	2,319	-	-	448,481	526,328	488,848
Longline	-	16	-	150,689	49,418	79,609	188,404	244,298	181,529	3,909	-	-	343,002	293,732	261,138
	122	2,671	-	28,213	47,983	-	-	-	-	-	-	-	28,335	50,655	-
Sablefish															
Danish seine	0	0	-	42	9	-	-	-	-	-	-	-	42	9	-
Pair trawl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, NT	0	0	-	1	1	-	-	-	-	-	-	-	1	2	-
Stern trawl, LD	-	-	-	6	2	-	-	-	-	-	-	-	6	2	-
Longline	-	0	-	35	6	-	-	-	-	-	-	-	35	6	-
Flathead sole															
Danish seine	347	55	-	228	753	-	-	-	-	-	-	-	576	808	-
Pair trawl	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-
Stern trawl, MS	150	-	-	98	-	-	-	-	-	-	-	-	248	-	-
Stern trawl, NT	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
Stern trawl, LD	197	54	-	79	91	-	-	-	-	-	-	-	277	145	-
Longline	-	1	-	44	662	-	-	-	-	-	-	-	44	663	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rock sole															
Danish seine	2,250	120	-	384	232	-	-	-	-	-	-	-	2,632	352	-
Pair trawl	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-
Stern trawl, MS	1,676	-	-	34	-	-	-	-	-	-	-	-	1,710	-	-
Stern trawl, NT	2	-	-	3	-	-	-	-	-	-	-	-	5	-	-
Stern trawl, LD	572	120	-	26	57	-	-	-	-	-	-	-	596	177	-
Longline	-	0	-	316	175	-	-	-	-	-	-	-	316	175	-
	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-
Yellowfin sole															
Danish seine	47,694	1,277	-	3,505	121	-	-	-	-	-	-	-	51,199	1,398	-
Pair trawl	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-
Stern trawl, MS	26,531	-	-	10	-	-	-	-	-	-	-	-	26,541	-	-
Stern trawl, NT	50	-	-	0	-	-	-	-	-	-	-	-	50	-	-
Stern trawl, LD	21,113	1,277	-	3,443	116	-	-	-	-	-	-	-	24,556	1,393	-
Longline	-	-	-	51	5	-	-	-	-	-	-	-	51	5	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3. Continued.

Effort and catch	Area 1			Area 2			Area 3			Area 5 (Aleutian)			Total ^a		
	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988
Arrowtooth flounder	82	35	-	2,644	2,888	-	-	-	-	44	-	-	2,770	2,924	-
Danish seine (sets)	-	-	-	13	-	-	-	-	-	-	-	-	13	-	-
Pair trawl (hours)	17	-	-	259	-	-	-	-	-	-	-	-	276	-	-
Stern trawl, MS(hours)	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-
Stern trawl, NT(hours)	65	11	-	50	1,155	-	-	-	-	-	-	-	115	1,166	-
Stern trawl, LD(hours)	-	3	-	2,125	1,382	-	-	-	-	44	-	-	2,169	1,386	-
Longline (hachi x 10)	-	21	-	196	351	-	-	-	-	-	-	-	196	372	-
Greenland turbot	466	52	-	6,828	1,122	-	-	-	-	99	-	-	7,393	1,174	-
Danish seine	-	-	-	9	-	-	-	-	-	-	-	-	9	-	-
Pair trawl	-	-	-	81	-	-	-	-	-	-	-	-	81	-	-
Stern trawl, MS	-	-	-	4	-	-	-	-	-	-	-	-	4	-	-
Stern trawl, NT	466	51	-	34	484	-	-	-	-	-	-	-	500	535	-
Stern trawl, LD	-	-	-	6,573	605	-	-	-	-	99	-	-	6,672	605	-
Longline	-	1	-	127	33	-	-	-	-	-	-	-	127	34	-
Other flatfish	4,322	397	-	432	294	-	-	-	-	-	-	-	4,756	690	-
Danish seine	-	-	-	5	-	-	-	-	-	-	-	-	5	-	-
Pair trawl	1,492	-	-	44	-	-	-	-	-	-	-	-	1,536	-	-
Stern trawl, MS	1	-	-	1	-	-	-	-	-	-	-	-	2	-	-
Stern trawl, NT	2,828	388	-	149	241	-	-	-	-	-	-	-	2,979	628	-
Stern trawl, LD	-	-	-	208	19	-	-	-	-	-	-	-	208	19	-
Longline	1	9	-	25	34	-	-	-	-	-	-	-	26	42	-
Pacific cod	3,924	2,814	-	31,315	52,087	-	8	-	-	-	-	-	35,248	54,900	-
Danish seine	-	-	-	383	-	-	-	-	-	-	-	-	383	-	-
Pair trawl	1,694	-	-	2,351	-	-	-	-	-	-	-	-	4,045	-	-
Stern trawl, MS	2	-	-	123	-	-	-	-	-	-	-	-	125	-	-
Stern trawl, NT	2,110	321	-	520	2,641	-	-	-	-	-	-	-	2,631	2,963	-
Stern trawl, LD	-	11	-	1,624	4,682	-	8	-	-	-	-	-	1,632	4,692	-
Longline	118	2,482	-	26,314	44,764	-	-	-	-	-	-	-	26,432	47,246	-
Pollock	8,326	160	-	514,548	80,012	174,777	433,408	726,023	575,204	6,085	-	-	962,367	806,194	749,981
Danish seine	-	-	-	25,779	-	-	-	-	-	-	-	-	25,779	-	-
Pair trawl	774	-	-	181,317	-	-	-	-	-	-	-	-	182,091	-	-
Stern trawl, MS	2	-	-	7,314	-	-	-	-	-	-	-	-	7,316	-	-
Stern trawl, NT	7,550	113	-	160,969	37,159	95,168	245,037	481,733	393,676	2,319	-	-	415,875	519,004	488,845
Stern trawl, LD	-	1	-	138,641	41,537	79,609	188,371	244,290	181,528	3,766	-	-	330,778	285,828	261,137
Longline	0	46	-	528	1,316	-	-	-	-	-	-	-	528	1,362	-
Pacific ocean perch	1	-	-	9	3	-	-	-	-	-	-	-	10	3	-
Danish seine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pair trawl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, NT	1	-	-	1	2	-	-	-	-	-	-	-	2	2	-
Stern trawl, LD	-	-	-	8	2	-	-	-	-	-	-	-	8	2	-
Longline	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3. Continued

Effort and catch	Area 1			Area 2			Area 3			Area 5 (Aleutian)			Total ^a		
	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988
Other fish	1,454	231	-	1,453	1,946	1	-	1	3	-	-	-	2,908	2,179	4
Danish seine (sets)	-	-	-	10	-	-	-	-	-	-	-	-	10	-	-
Pair trawl (hours)	646	-	-	118	-	-	-	-	-	-	-	-	764	-	-
Stern trawl, MS(hours)	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
Stern trawl, NT(hours)	805	118	-	104	165	1	-	1	2	-	-	-	910	283	3
Stern trawl, LD(hours)	-	0	-	230	301	0	-	-	1	-	-	-	230	302	1
Longline (hechi x 10)	3	113	-	989	1,480	-	-	-	-	-	-	-	992	1,593	-
TOTAL GROUND FISH	68,868	5,141	-	561,384	139,468	174,778	433,416	726,024	575,207	6,228	-	-	1,069,898	870,631	749,986
Danish seine	-	-	-	26,209	-	-	-	-	-	-	-	-	26,209	-	-
Pair trawl	32,980	-	-	184,312	-	-	-	-	-	-	-	-	217,292	-	-
Stern trawl, MS	57	-	-	7,450	-	-	-	-	-	-	-	-	7,507	-	-
Stern trawl, NT	35,709	2,454	-	165,374	42,113	95,169	245,037	481,734	393,678	2,319	-	-	448,441	526,298	488,848
Stern trawl, LD	-	16	-	149,826	49,372	79,609	188,379	244,290	181,529	3,909	-	-	342,114	293,678	261,137
Longline	122	2,671	-	28,213	47,983	-	-	-	-	-	-	-	28,335	50,655	-
Octopus and squid	10	0	-	893	75	0	25	8	0	-	-	-	928	83	1
Danish seine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pair trawl	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, MS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stern trawl, NT	10	0	-	30	29	-	-	0	-	-	-	-	40	30	-
Stern trawl, LD	-	-	-	863	46	0	25	8	0	-	-	-	888	54	1
Longline	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

a: Discrepancies between actual sums of component figures and totals given are due to rounding.

Abbreviation Stern trawl, MS: Catcher boat attached to the mothership.
 Stern trawl, NT: North pacific trawler.
 Stern trawl, LD: Landbased dragnetter.

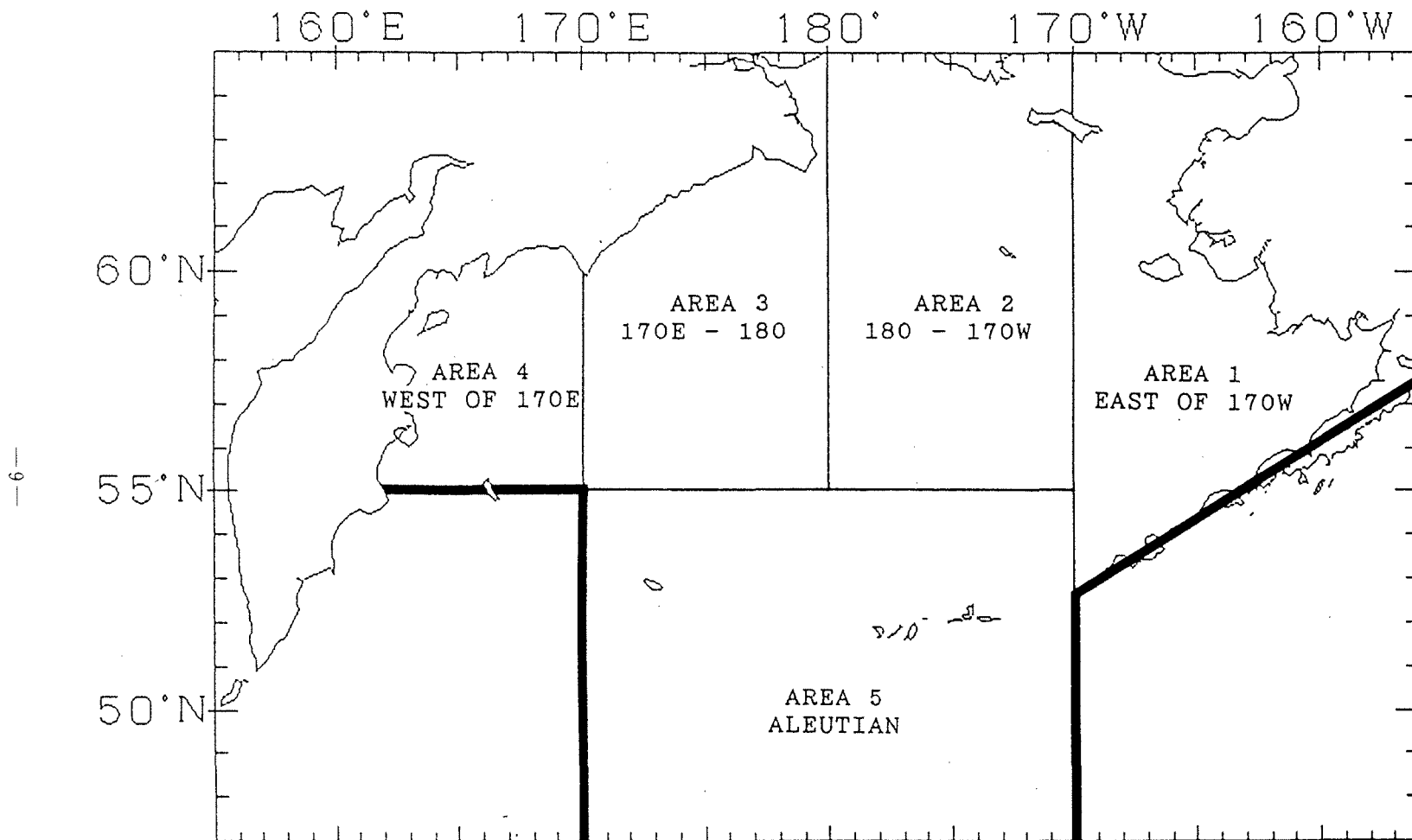
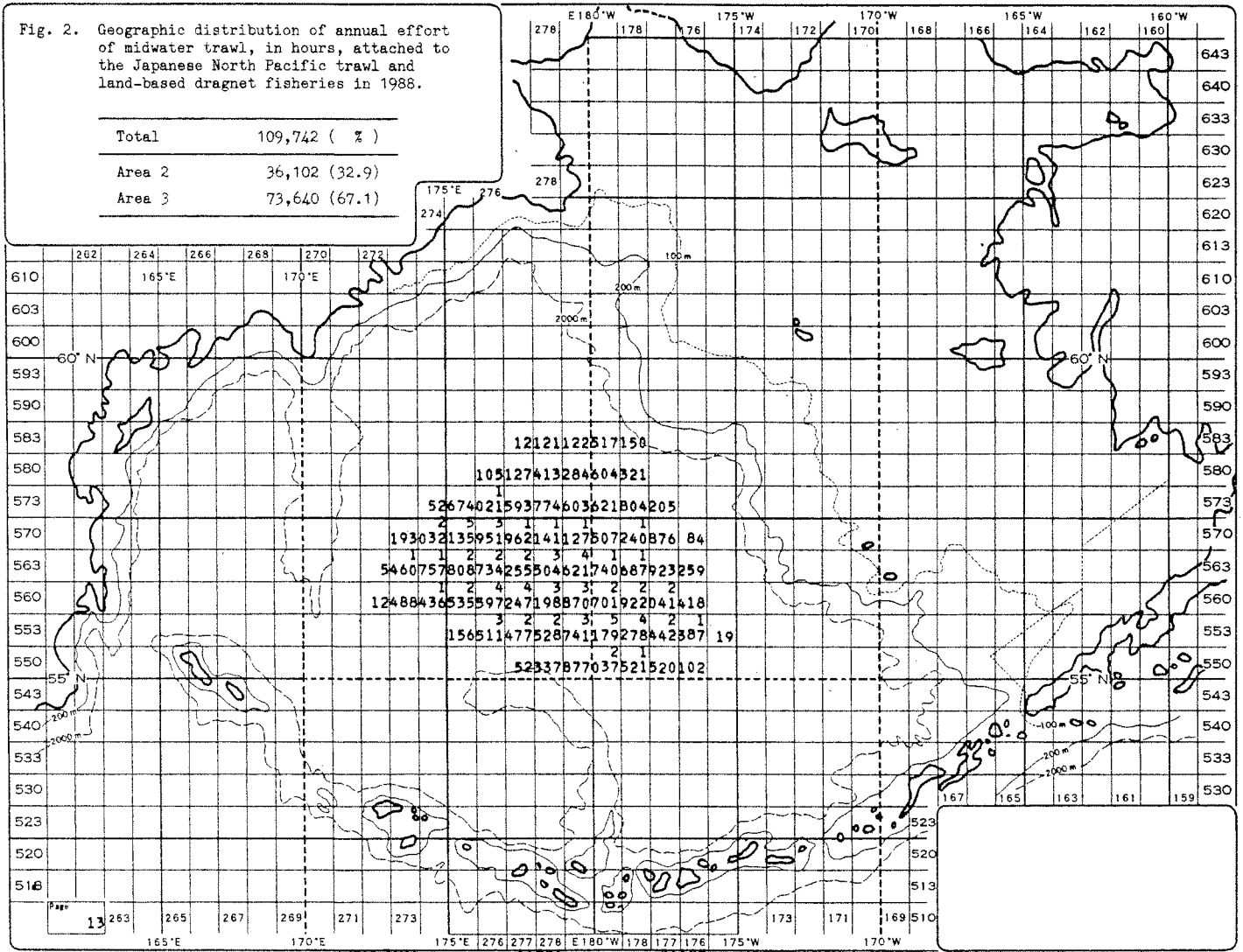


Fig. 1. INPFC statistical areal divisions of the Bering Sea and Aleutian Region.

Fig. 2. Geographic distribution of annual effort of midwater trawl, in hours, attached to the Japanese North Pacific trawl and land-based dragnet fisheries in 1988.

Total	109,742 (%)
Area 2	36,102 (32.9)
Area 3	73,640 (67.1)

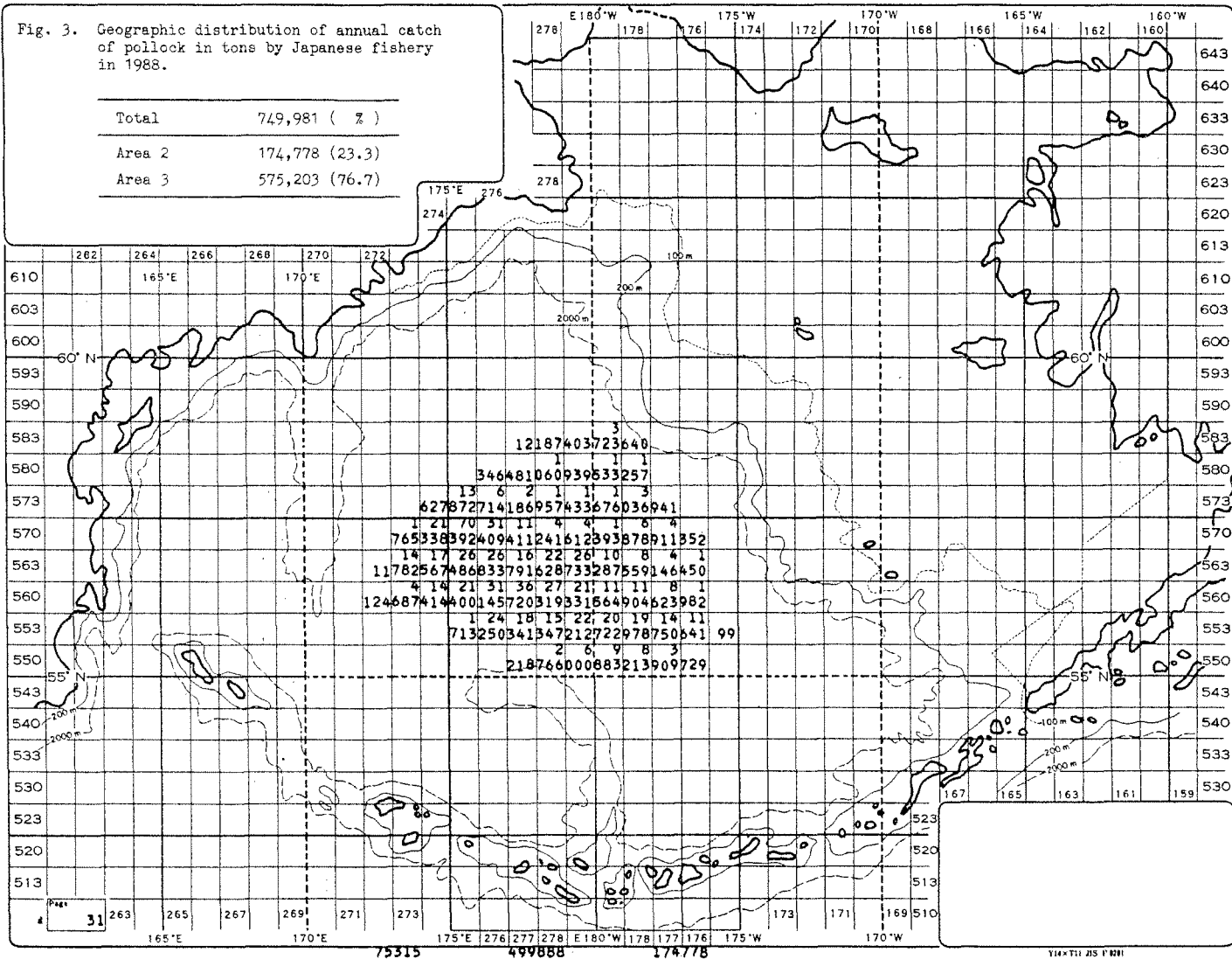


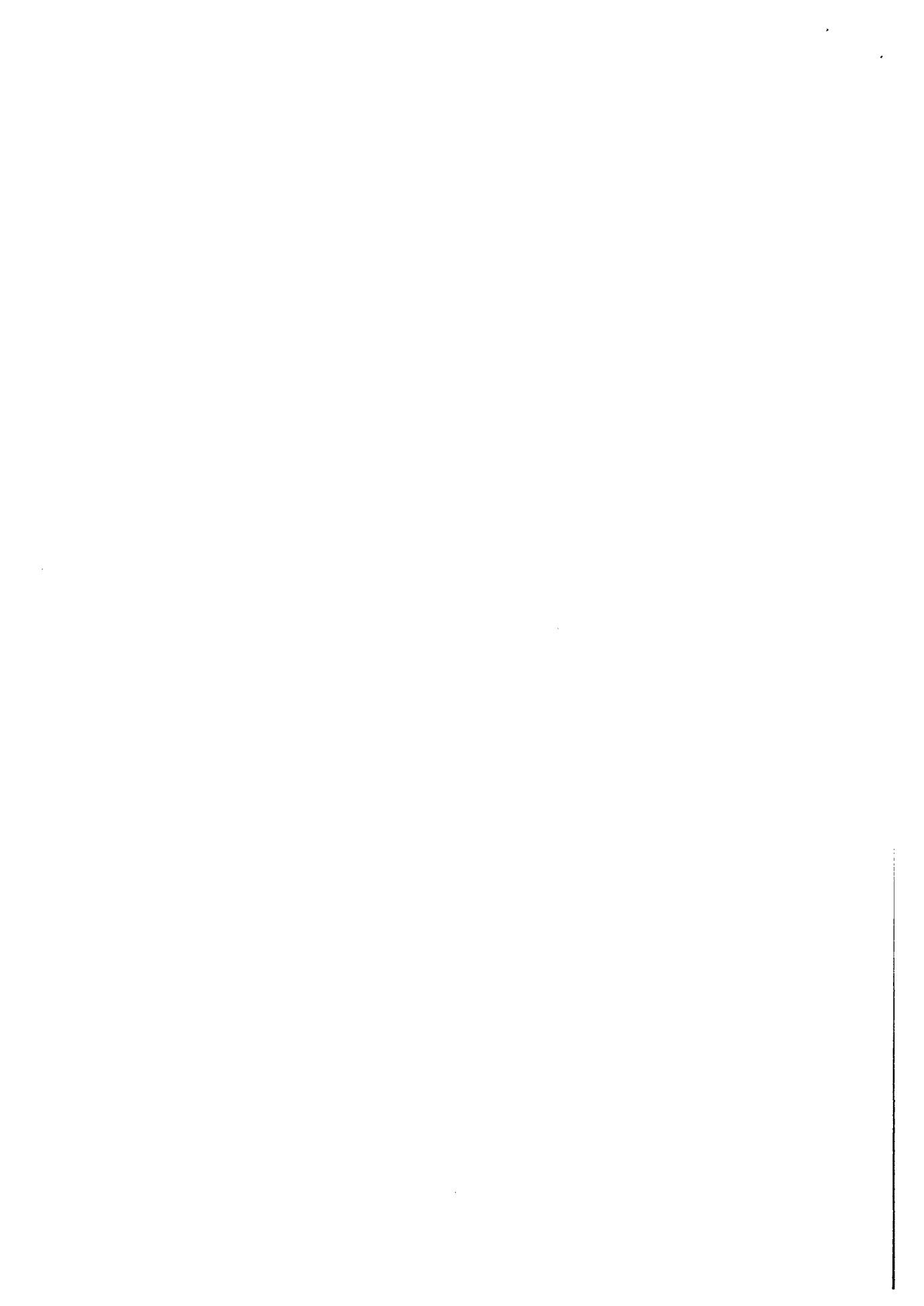
7434 66206 36102

①①①①①①①①①

Fig. 3. Geographic distribution of annual catch of pollock in tons by Japanese fishery in 1988.

Total	749,981 (%)
Area 2	174,778 (23.3)
Area 3	575,203 (76.7)





TRANSLATION

**OUTLINE OF THE JAPANESE GROUND FISH FISHERY IN THE
BERING SEA IN 1988 JANUARY-DECEMBER**

**Taku Yoshimura
Far Seas Fisheries Research Laboratory**

**1989 October
Fisheries Agency of Japan**

THIS PAPER MAY BE CITED IN THE FOLLOWING MANNER:
Yoshimura, Taku. 1989. Outline of the Japanese groundfish fisheries in the Bering Sea in 1988, January-December. (Document submitted to the Annual Meeting of the International North Pacific Fisheries Commission, Seattle, Washington, 1989 October.) 11 p. Fisheries Agency of Japan, Far Seas Fisheries Research Laboratory, 5-7-1 Orido, Shimizu, Shizuoka, Japan 424.

OUTLINE OF THE JAPANESE GROUND FISH FISHERY IN THE
BERING SEA IN 1988 JANUARY-DECEMBER

Taku Yoshimura
Far Seas Fisheries Research Laboratory

The Japanese groundfish fisheries that operated in the Bering Sea and Aleutian Islands region in 1988 were of two types: North Pacific trawl and landbased dragnet. Those fisheries were conducted in the international waters of the Bering Sea and were not conducted within the U.S. 200 miles waters.

The actual number of North Pacific trawler and landbased dragnet trawlers was 48 and 55, respectively (Table 1). As compared with that in 1987, the North Pacific trawlers increased by 8 and the landbased dragnet trawlers increased by 1. As operation within the U.S. 200 miles waters was not permitted, the North Pacific longliners did not conduct fishing.

(1) Catch by fishery

The total catch by the Japanese groundfish fisheries in 1988 was 749,986 t, a decrease of 14% from that in 1987, (Table 2). Pollock accounted for almost 100% of the catch, but the catch of pollock decreased by 7% from 806,194 t in the previous year. For species other than pollock, a total of 5 t of other fishes and red squid was caught.

As Japan could not conduct fishing within the U.S. 200 miles waters, the fishery was conducted in only Areas 2 and 3. The catch in Area 2 in 1988 was 174,778 t and increased by 25% from the previous year. The catch in Area 3 was 575,207 t, and decreased by 21% from the previous year.

a) North Pacific trawl fishery

The catch of groundfish in 1988 was 488,848 t, and decreased by 7% from the previous year (Table 2). Although pollock accounted for almost 100% of the total, the catch of pollock decreased by 6% from the previous year. Nineteen percent of the total catch was obtained in Area 2 and the remaining 81% was obtained from Area 3.

b) Landbased dragnet fishery

The catch of groundfish in 1988 was 261,138 t, and decreased by 11% from the previous year (Table 2). Although pollock accounted for almost 100% of the total, the catch of pollock decreased by 9% from the previous year. Thirty percent of the total catch was obtained in Area 2, and the remaining 70% was obtained in Area 3.

(2) Fishing effort by fishery

a) Trawl fishery

The fisheries in 1988 were all conducted by trawl fishing. The total effort by trawling in 1988 was 109,741 hours and was almost the same as the previous year (Table 3).

Fishing effort by the North Pacific trawlers in 1988 was 53,262 hours, an increase of 7% from that in 1987 (Table 3). Twenty-seven percent and 73% of the total effort was expended in Areas 2 and 3, respectively.

Effort by the landbased dragnet fishery in 1988 was 56,479 hours, a decrease of 4% from that in 1987 (Table 3). Thirty-nine percent and 61% of the total effort was expended in Areas 2 and 3, respectively.

b) Other fisheries

In 1988, fishing methods other than the trawl were not used.

(3) Geographical distribution of the catches of pollock

Pollock were caught throughout the international waters of the Aleutian Basin, and a high catch of this species was observed in the western area (Fig. 3).

Judging from the catch by area, the catch in Area 2 which accounted for 10% of the total catch in 1987, increased to 23% in 1988, and the catch in Area 3 which accounted for 90% of the total catch in 1987 decreased to 77% in 1988.
