A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

Foreign Fisheries Leaflet No. 73-3

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

Fisheries of the Republic of Korea, 1971

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WASHINGTON, D.C.
January 1973

PREFACE

The statistical information used in this report was obtained from the Yearbook of Fisheries Statistics, 1972, published by the Office of Fisheries, Republic of Korea.

A major problem in this report is the inconsistency of some of the data. The Office of Fisheries itself noted that in some instances the data have been rounded off and that totals and grand totals are not always consistent with the figures used to reach these totals. However, in most instances the differences are only fractional. The total figures are believed to be correct. Rather than attempt to correct the statistics, the inconsistencies have been left in the report. In one instance, there were some miscalculations in addition. In this instance, a corrected tabulation has been noted at the bottom of the appropriate page.

Despite these difficulties, this report should provide a useful and informative insight into the fisheries of the Republic of Korea.

FISHERIES OF THE REPUBLIC OF KOREA, 1971

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SUMMARY

The Republic of Korea (ROK) harvested a record 1 million metric tons of fishery products valued at US$256 million in 1971. Practically all this production came from the marine fisheries and mostly from the coastal fishing industries. Korea's high-seas fleet, although still small, managed to increase production. Tuna catches were exported for sizeable financial returns. The South Korean fleet is composed of many small, wooden vessels serving the coastal fisheries, but the high-seas fleet is being developed rapidly. The processed seafood industry developed rapidly in 1971, and this was especially true for the canning industry which more than doubled its output. Finally, fishery exports increased by some 28 percent over 1970. Japan and the United States were the major customers, importing 67 percent of Korea's fishery exports.

The Republic of Korea is now the 17th largest fishing nation in the world. South Koreans expect to become the fifth largest fishing nation in the next 4 years. Under a 5-year plan launched in 1972, South Korean fishermen are expected to catch 1.6 million metric tons of fish per year by 1976.

This project has every chance of being realized. Inhabiting a mountainous peninsula jutting into the Sea of Japan, the Yellow Sea, and the East China Sea, the South Koreans have a tradition of turning to the sea for food. Also, the Koreans are an inventive and resourceful people who have the world's most advanced fishing nation, Japan, only 120 miles from their shores to serve as a model for their development. Finally, the Koreans are an industrious people; between 1960 and 1970 South Korea's fishery catch almost tripled---from 347,500 to 935,000 metric tons---and the catch surpassed the 1 million ton mark in 1971.

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CATCH

South Korean fishermen harvested 1,073,733 metric tons of fishery products valued at US$256,077,840 in 1971. This was an increase of 138,272 tons over the 1970 production figure of 935,461 tons (fig. 1). Nearly all of this catch (99.9 percent or 1,072,862 tons) came from Korea's marine fisheries, which increased by 137,798 tons over 1970. Only a fraction (0.1 percent or 870 tons) came from the country's inland, fresh-water fishery; in 1971, however, this fishery increased by 472 tons over the previous year.

Fish accounted for 68 percent of Korea's total catch (726,806 tons), followed by molluscs (19 percent or 200,251 tons), seaweed (11 percent or 117,182 tons), crustaceans (1 percent or 15,427 tons), and other marine products (1 percent or 14,065 tons).

Tunas, hairtail, anchovy, mackerel, corvinas, squid, saury, sandfish, flounders, and Alaska pollock were, in order of importance, the 10 leading groups of fish caught by the South Koreans in 1972 (fig. 2).

High-seas

The high-seas fleet landed 159,307 tons of fishery products in 1971; this amount, however, was only 15 percent of South Korea's total catch. The fleet's high-seas catch in 1971 was divided fairly evenly between that caught by the tuna longline fleets (52 percent or 83,784 tons) and that produced by the trawl fleets (48 percent or 75,523 tons).

South Korea's tuna fleets were especially productive in the Atlantic Ocean in 1971, where they reported catches of 37,142 tons of tuna and related species. In the Pacific, Korean fishermen reported taking 29,856 tons of tuna and tunalike species. Albacore tuna was the most important species caught in both the Pacific and Atlantic waters. Yellowfin tuna led the list of species caught in the Indian Ocean (table 4).

ROK trawlers reported catches of 68,591 tons in the North Pacific in 1971, of which Alaska pollock (60,086 tons) was the single most important species. South Korean trawlers also operated in the Atlantic Ocean where they reportedly caught 6,932 tons of fish. Table 4 gives detailed information on these two fisheries.

Whaling

South Korean fishermen reported catches of 2,155 tons of whale (755 individuals) in 1971, including 2,017 tons of "large" whales (these included 25 fin and 672 minke whales) and 138 tons of "small" whales---all minke. Table 5 summarizes this information.

Coastal

In 1971, the coastal fisheries accounted for 71 percent of the total catch, some 764,179 tons. Of this amount, fish totaled 95,018 tons, followed by seaweed with 68,364 tons, crustaceans with 15,279 tons, and other aquatic species with 11,910 tons. Hairtails were the leading species caught (10 percent), followed by anchovy (8 percent), mackerel (7 percent), corvinas (5 percent), and squid (5 percent). Table 6 shows the coastal fisheries catch, by species.

Many different fishing methods and gear are used in the coastal fisheries; the most productive is the trawl.

Table 1.--South Korea's coastal fisheries catch, by method of catch, 1970-71

Method of catch	1971	1970
	---------Metric tons---------	
Trawl----------	215,327	181,502
Gillnets--------	125,047	113,138
Liftnets--------	109,159	108,062
Collection------	90,953	89,636
Purse seines----	63,557	37,063
Angling---------	35,984	72,397
Seines----------	33,904	25,692
Longline--------	19,796	30,356
Setnets---------	16,787	14,250
Other methods---	53,665	52,269
Total----------	764,179	724,365

Like neighboring Japan, South Korea has had an increasingly difficult task in expanding its coastal fisheries. Declining resources due to intensive fishing and growing pollution--coupled with a slow decline in the number of fishermen--has forced South Korea to invest heavily in expanding both the high-seas fisheries and aquaculture.

Shallow-sea aquaculture

A total of 147,221 tons, or about 13 percent of the total catch, was produced by the shallow-sea aquaculture fisheries of Korea in 1971. Production was concentrated on oysters (45,663 tons), laver seaweed (34,801 tons), cockles (18,087 tons), sea mussels (16,778 tons), and dulse seaweed (11,103 tons). Table 7 provides statistical information on this fishery.

The most promising commodity produced by South Korea's shallow-sea aquaculture fisheries is the oyster. South Korea's production of oysters has increased nearly seven-fold since 1962 when 7,636 tons of oysters were harvested. Oyster production took on added importance in 1972 when the US-ROK Shellfish Sanitation Agreement was signed. Following the agreement, ROK fishery officials announced a five-year plan to make the ROK a leading world producer of oysters. Under this plan the ROK will develop 28,097 hectares of seawater for oyster cultivation which they hope will earn $25 million by 1976; they anticipate exports of 257,000 tons of oysters in that year or about 44 percent of the world's production of oysters.

Inland fisheries and aquaculture

Korea's inland fisheries and aquaculture is concentrated on catching carp and catching and raising eels. Table 8 provides information on these two fisheries.

FLEET

In 1971, South Korea's fishing fleet had 68,269 vessels registering 392,649 gross tons (GRT). This included 14,657 powered vessels (21.5 percent of the fleet) registering 307,256 GRT and averaging 21 GRT in weight and 56 horsepower per vessel. This fleet also included 1,051 steel vessels (1.5 percent of the fleet) and 1,080 vessels over 50 GRT (1.6 percent of the fleet).

There were 53,612 nonpowered vessels (78 percent of the fleet), registering 85,393 GRT and averaging 1.6 GRT per vessel. Wooden vessels make up 98 percent of the fleet. The nonpowered fleet had increased steadily in number to 54,270 vessels in 1970; in 1971 the nonpowered fleet decreased for the first time in many years.

In 1971 there were 351 steel vessels in the high-seas fleet--291 tuna longliners, 53 otter trawlers, and seven transports or reefers. A total of 96 longliners were 100 to 200 GRT and 195 longliners were over 200 GRT. Five trawlers were between 50 and 100 GRT, five between 100 and 200 GRT, and 43 trawlers were over 200 GRT. Finally, three transports were 100 to 200 GRT, and four were over 200 GRT.

PROCESSED SEAFOODS

South Korea's output of processed seafoods increased to 123,417 tons in 1971 from 105,610 tons in 1970. Sixty-one percent of the processed seafood market involved the production of frozen foods which totaled 75,377 tons (principally mackerel). Canned foodstuffs (mainly oysters and saury) accounted for 11 percent of the total production, followed by dried seaweed (mainly dulse), dried products (mainly squid), and pickled foods (mainly anchovy and shrimp). Korean fishmeal production totaled 458 tons while fish oil production totaled 692 tons, derived mainly from anchovy, squid, and shark. Table 2 gives a comparison breakdown with 1970:

Table 2.-- South Korea's production of processed seafoods, 1970-71

Product	1971	1970
	--------Metric tons--------	
Frozen----------	75,377	62,312
Canned----------	13,588	5,352
Dried seaweed-------	10,595	11,297
Dried----------	7,247	13,855
Pickled----------	5,951	4,581
Cooked----------	4,269	2,951
Salted & preserved--	1,361	1,562
Seasoned/flavored---	1,183	937
Fishmeal and oil----	1,150	527
Ground fishmeat-----	543	443
Salted and dried----	373	756
Agar-agar----------	227	461
Other----------	1,553	576
Total----------	123,417	105,610

The most significant advances were made by the Korean canning industry--which doubled its production--and by the frozen seafood industry. The drying industry apparently met with setbacks in several areas in 1971, while the remaining industries generally increased their production of processed seafoods.

EXPORTS

The value of South Korea's fishery exports increased by some 28 percent over the 1970 export figure for a total value of US$114,981,000 (fig. 3). The value of South Korea's fishery exports accounted for 8.5 percent of total exports. Japan accounted for 42 percent ($48.6 million) of Korea's fishery exports, followed by the United States with 25 percent ($29.3 million). The leading foreign exchange earner was tuna, which returned $55 million to Korea. Table 3 gives a breakdown of Korea's 1971 trade.

Table 3.--South Korea's fishery exports, 1971

Commodity	Value	Quantity
	US$1,000	Metric tons
Fish products:		
Tuna----------	55,103	90,725
Live fish----------	18,217	24,458
Squid----------	9,361	4,377
Frozen fish----------	8,001	11,528
Laver----------	4,749	1,257
Other seaweeds-------	2,678	4,085
Preserved fish-------	2,629	1,247
Canned fish----------	1,885	951
Agar-agar----------	1,171	342
Other fish products--	2,074	1,429
Equipment:		
Fishing nets---------	9,113	5,995
Total----------	114,981	146,394

Table 9 gives additional information on Korea's fishery exports from January through June 1972.

Table 4.--Republic of Korea's high-seas catch, by fishery, species, and oceans, 1971

Fishery / Species	Pacific Ocean	Atlantic Ocean	Indian Ocean	Total
	Metric tons			
Tuna longliners:				
Albacore	12,504	11,539	2,108	26,575
Yellowfin	5,328	9,901	6,454	21,702
Big-eye	4,665	7,353	4,059	16,097
Bluefin	3,226	3,039	537	6,514
Marlin	589	780	719	2,116
Shark	51	405	352	808
Skipjack	154	47	23	222
Other	3,339	4,078	2,534	9,750
Total	29,856	37,142	16,786	83,784
Trawlers:				
Alaska pollock	60,086 1/	-	-	60,086
Octopus	2,159	1,695	-	3,854
Squid	429	2,377	-	2,806
Bastard halibut	470	135	-	605
Cod	571	-	-	571
Seabream	45	472	-	517
Flounder	85	132	-	217
Shrimp	72	34	-	106
Other	4,674	2,087	-	6,761
Total	68,591	6,932	-	75,523
Total high-seas	98,447	44,074	16,786	159,307

1/ Involves only the North Pacific region.

Table 5.--Republic of Korea's whale catch, by weight and species, 1971

Designation	Weight	Fin	Minke	Total
	Metric tons	Number of whales		
Large whales	2,017	25	672	697
Small whales	138	-	58	58
Total	2,155	25	730	755

NOTE: Statistics for the tuna longline catch, by species, do not add correctly. There is no explanation for this error in Korean sources. The correct totals should be: Albacore-26,151; yellowfin-21,683; big-eye-16,077; Bluefin-6,802; marlin-2,088; shark-808; skipjack-224 and other-9,951 for a correct grand total of 83,784 metric tons.

Table 6.--Republic of Korea's coastal fishery catch, by species, 1971.

Marine species	Catch
	Metric tons
FISH:	
Hairtail	82,686
Anchovy	66,904
Mackerel	60,599
Corvenia:	
Yellow	24,554
Other	19,230
Sub-total	43,784
Saury	30,592
Sandfish	24,809
Flounders	18,633
Alaska pollock	11,241
Horse mackerel	8,904
Skates and rays	7,172
Herring	6,718
Sharks:	
Blue sharks	4,753
Grey sharks	276
Other sharks	1,643
Sub-total	6,672
Spanish mackerel	6,584
Hickory shad	5,205
Pomfret	4,492
Bastard halibut	4,336
Sea eels	3,943
Kangdali	3,760
Puffer	3,127
Big-eyed herring	3,107
Sole	2,945
Shark-toothed eel	2,789
Cod	2,571
Mullets	2,295
Seabream:	
Red seabream	967
Black seabream	499
Yellow seabream	111
Other seabream	433
Sub-total	2,010
Whiting	1,772
Redfish	1,355
Rockfish	1,338
Flatfish	1,036
Croakers	967
Half-beak	958
Yellowtail	761
Sandlance	497
Sea bass	283
Common sea bass	269
Lizardfish	245
Salmon	226
Sardine	138
Gurnards	98
Tunas	60
Other fish	147,551
Total fish	573,608

Marine species	Catch
	Metric tons
CRUSTACEANS:	
Crabs:	
Blue crab	4,113
Large crab	494
Other crabs	3,167
Sub-total	7,774
Shrimp:	
Small	2,825
Medium	906
Barley	571
Large	266
Helmet	52
Other	1,626
Sub-total	6,246
Other crustaceans	1,259
Total crustaceans	15,279
MOLLUSCS:	
Squid	37,625
Oysters	7,851
Clams	9,936
Sea mussels	6,266
Cuttlefish	5,400
Cockles	4,842
Topshell whelk	3,903
Octopus:	
Octopus	907
Other octopus	1,878
Sub-total	2,785
Fun mussel	1,984
Mussel	1,878
Abalone	553
Other molluscs	11,995
Total molluscs	95,018
OTHER AQUATIC ANIMALS:	
Sea urchin	2,041
Sea cucumber	1,682
Other	8,187
Total aquatic	11,910
SEAWEEDS:	
Dulse	29,721
Fusiforme	10,607
Duckweed	4,579
Agar-agar	3,143
Kelp	1,468
Irish moss	1,357
Laver	1,213
Other seaweed	16,276
Total seaweed	68,364
Total coastal	764,179

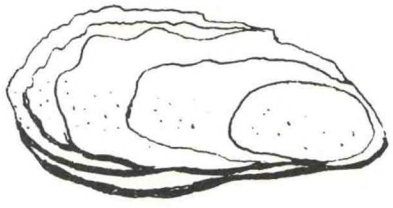
NOTE: Total figures do not necessarily agree with statistics for individual species because of rounding of the figures for some species.

Table 7.--Republic of Korea's shallow-sea aquaculture catch, by species, 1971

Marine species	Catch
	Metric tons
Fish:	
Yellowtail.....	20
Total.....	20
Crustaceans:	
Shrimp.....	20
Other.....	9
Total.....	29
Molluscs:	
Oysters.....	45,663
Cockles.....	18,087
Sea mussel.....	16,778
Hard clams.....	8,520
Short-necked clams.	8,315
Abalone.....	18
Other.....	969
Total.....	98,354
Seaweeds:	
Laver.....	34,801
Dulse.....	11,103
Agar-agar.....	995
Other.....	1,917
Total.....	48,818
Total shallow-sea....	147,221

Table 8.--Republic of Korea's inland fisheries catch, by species, 1971

Fresh-water species	Catch
	Metric tons
FISHERIES:	
Fish:	
Carp.....	114
Common carp.....	90
Eel.....	84
Loach.....	52
Trout.....	22
Snake-head.....	17
Mandarin fish.....	1
Sweetfish.....	1
Salmon.....	1
Other.....	79
Total.....	464
Crustaceans:	
Crustaceans.....	13
Total.....	13
Molluscs:	
Shellfish.....	142
Other.....	76
Total.....	219
Total fisheries.....	695
AQUACULTURE:	
Fish:	
Eel.....	157
Trout.....	7
Carp.....	6
Goldfish.....	1
Other.....	1
Total.....	174
Total aquaculture.....	174
Total inland fisheries..	870



NOTE: Totals do not check owing to rounding of the figures for some species.

Table 9.--Value of the Republic of Korea's fishery exports, to the United States, Japan, and other countries, January through June, 1972

Commodity	Exports by country - Jan-June 1972			Total
	United States	Japan	Other countries	
	US$1,000			
Live:				
Fish	-	7,346	-	7,346
Eels	-	1,201	-	1,201
Total	-	8,547	-	8,547
Fresh:				
Fish	-	3,016	-	3,016
Total	-	3,016	-	3,016
Frozen:				
Tuna	13,842	4,524	13,513	31,879
Shrimp	3	10	285	298
Clams	3	219	-	222
Squid	-	892	162	1,054
Eels	-	42	-	42
Oysters	-	230	-	230
Saury	53	619	118	790
Crab	-	62	-	62
Other	7	2,018	272	2,297
Total	13,908	8,616	14,350	36,874
Canned:				
Saury	4	-	10	14
Oysters	2,017	17	453	2,487
Topshell whelk	12	55	53	120
Eels	3	-	-	3
Sea mussels	4	-	2	6
Other	-	-	8	8
Total	2,040	72	526	2,638
Salted:				
Herring eggs	-	550	-	550
Pollock eggs	-	44	-	44
Topshell whelk	-	11	-	11
Fish eggs	-	43	-	43
Sea-urchin	-	274	-	274
Shrimp	9	-	-	9
Crab	-	77	-	77
Sea cucumber guts	-	14	-	14
Clam	-	14	-	14
Total	9	1,027	-	1,036
Dried:				
Squid	55	2,216	276	2,547
Squid (flavored)	32	3,003	147	3,182
Anchovy	6	62	-	68
Shark fin	2	33	160	195
Shrimp	2	67	-	69
Clam	8	137	166	311
Whiting	-	2	-	2
Oysters	44	9	488	541
Other	16	43	4	63
Total	165	5,572	1,241	6,978

Table 9.--continued:

Commodity	Exports by country - Jan-June 1972			Total
	United States	Japan	Other countries	
	US$1,000			
Special:				
Oyster juice	-	-	15	15
Flavored, hard clams	-	76	-	76
Total	-	76	15	91
Other:				
Marine products	-	93	5	98
Total	-	93	5	98
Seaweeds:				
Laver	118	5	629	752
Agar-agar	-	678	685	1,363
Seaweeds	7	740	14	761
Fusiforme	-	236	2	238
Seaweed powder	-	60	-	60
Dulse	1	-	-	1
	126	1,719	1,330	3,175
Misc. marine products:				
Fish skins	-	25	1	26
Oyster shells	-	15	-	15
Other shells	-	-	1	1
Water-shield	-	39	-	39
Whale meat	-	316	-	316
Turtles	-	11	-	11
Sea-worms	8	326	2	336
Fish liver oil	-	6	3	9
Total	8	738	7	753
Fishing gear/netting:				
Rope	136	24	285	445
Net & thread	275	171	3,339	3,785
Cotton thread	19	15	20	54
Total	430	210	3,644	4,284
Grand Total	16,686	29,686	21,118	67,490

Source: Ministry of Commerce and Industry, Export Statistics Monthly Report, June 1972, Government of the Republic of Korea.

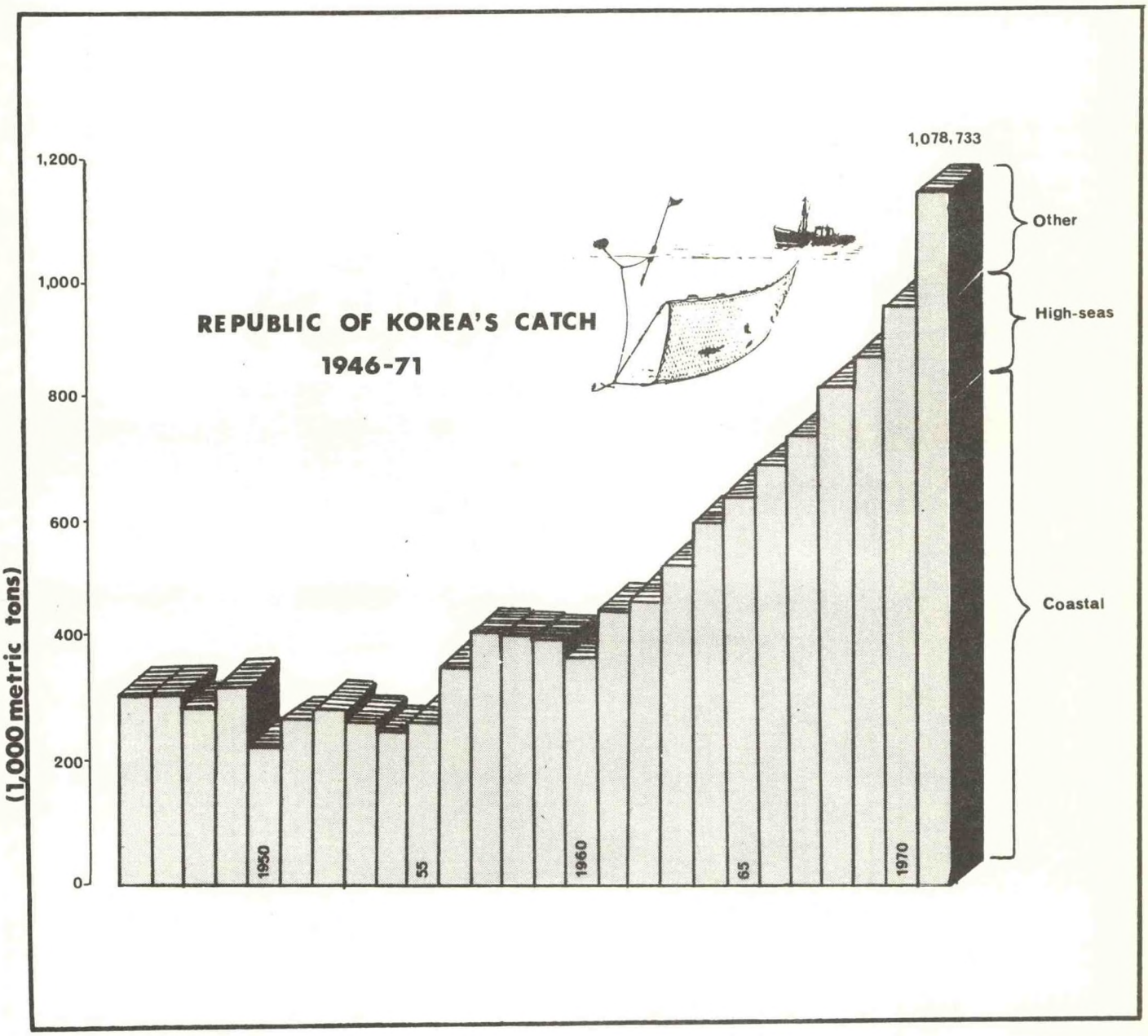


Figure 1.--Republic of Korea's catch, 1946-71.

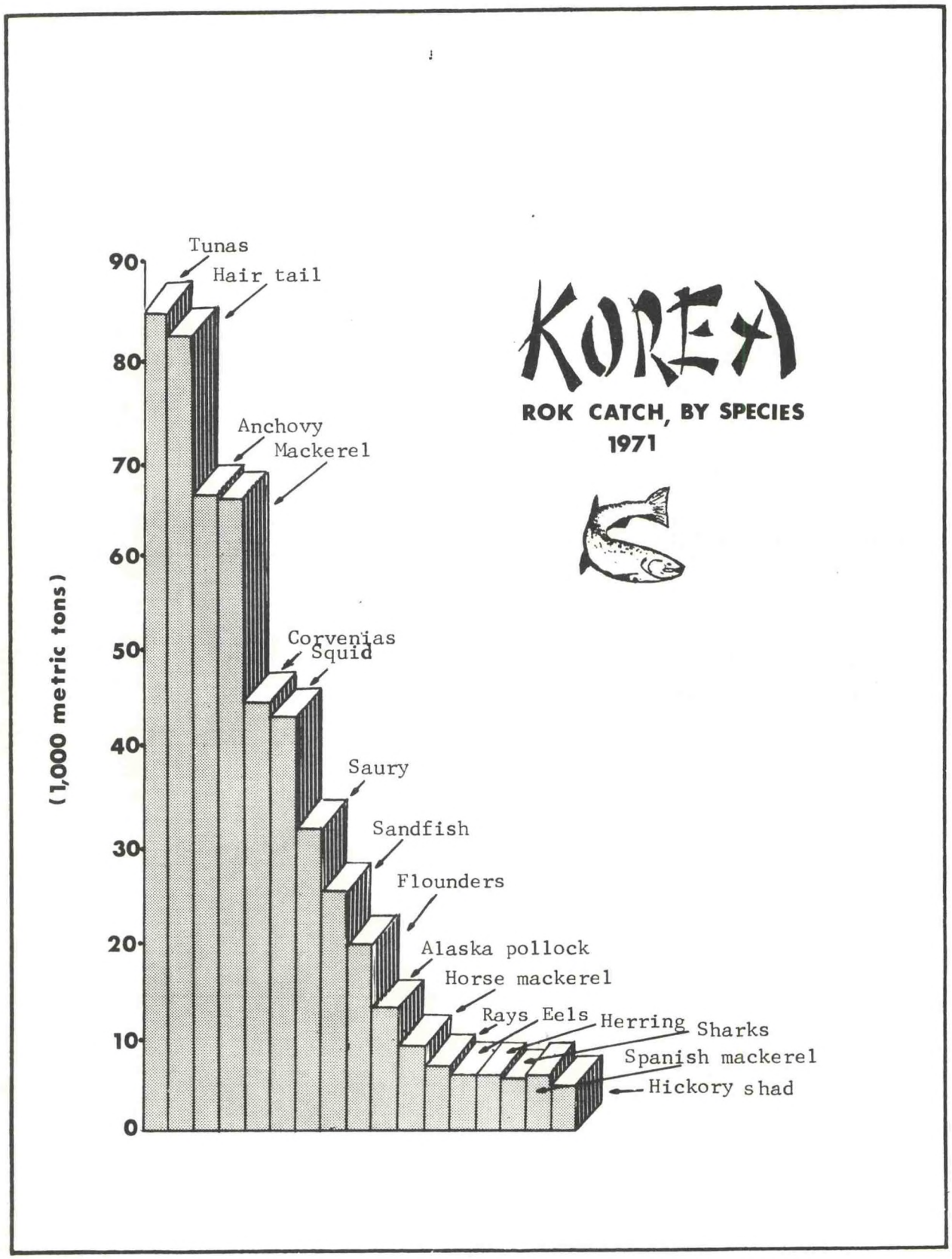


Figure 2.--Republic of Korea's catch, by species, 1971.

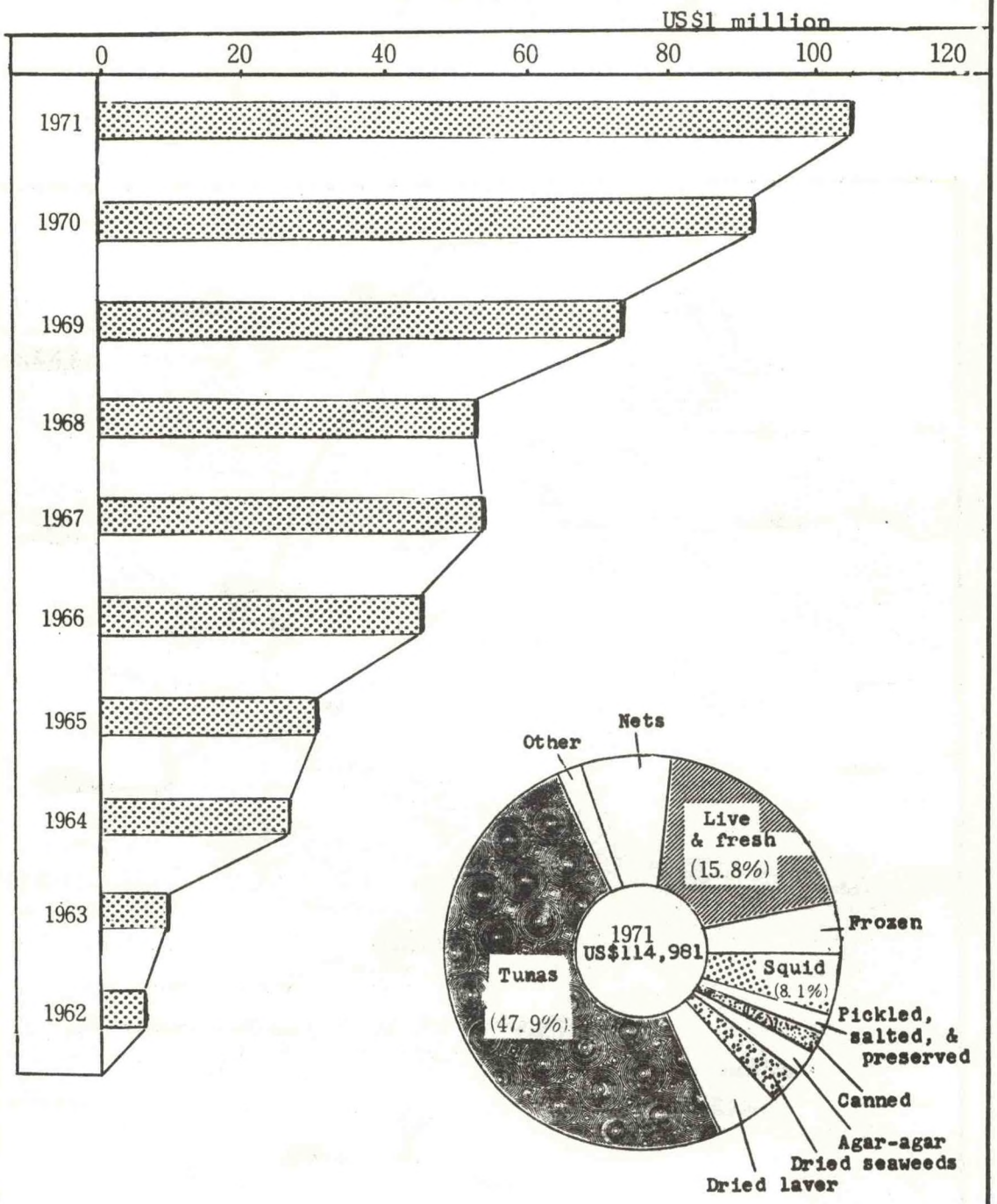


Figure 3.--Republic of Korea's fishery exports, 1962-71.

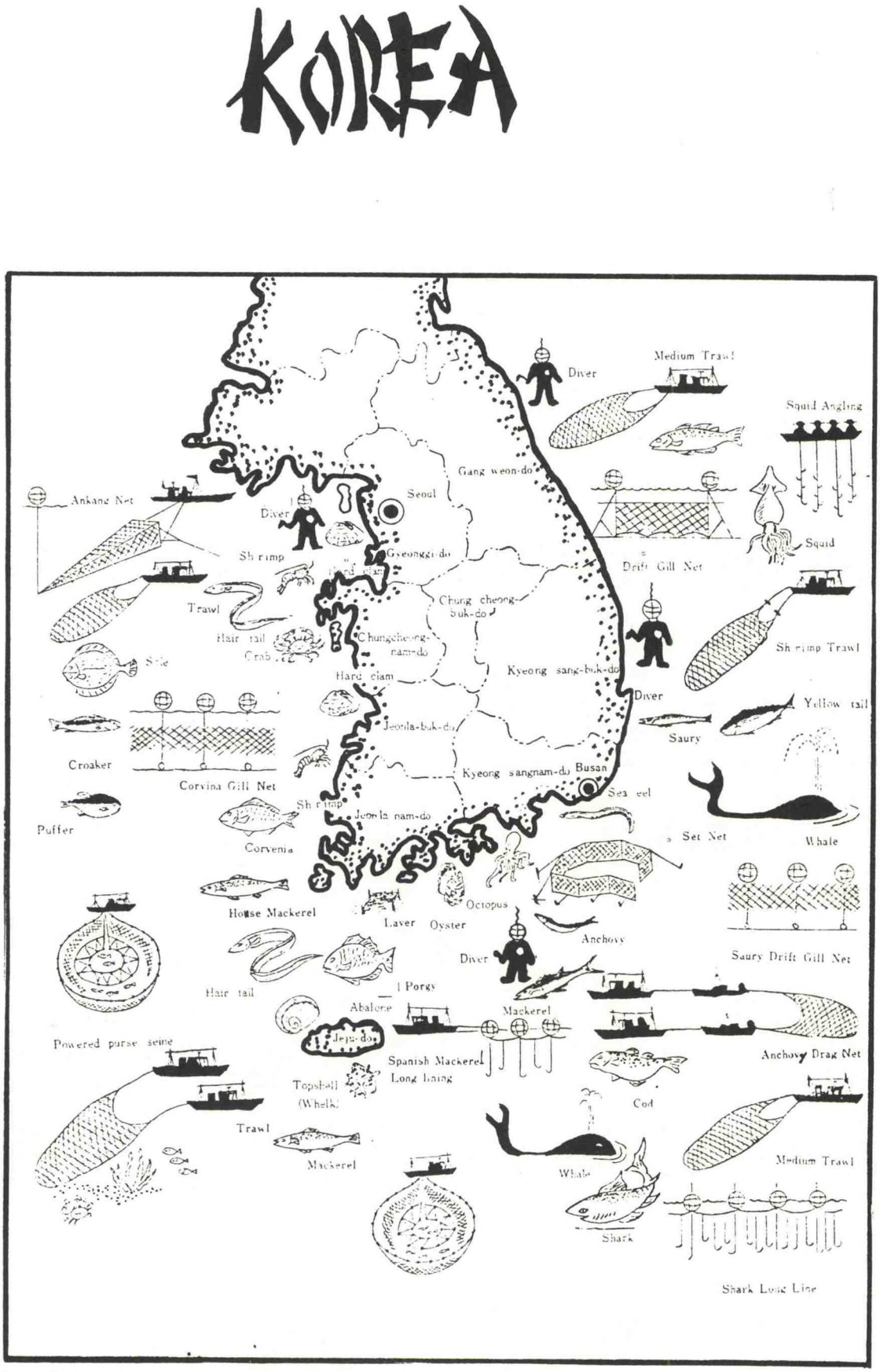


Figure 4.--Map of the Republic of Korea's coastal fisheries.

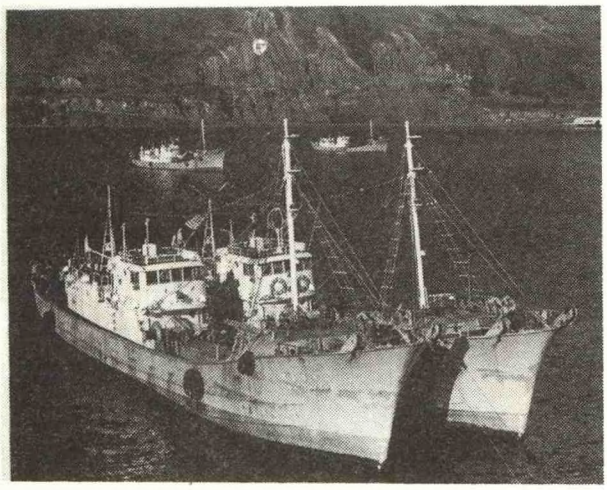


Figure 5.--ROK trawlers during a visit to Kodiak, Alaska. Vessels are about 100 GRT, 90 ft. long, have a speed of 8 knots, and a crew of 15 men.

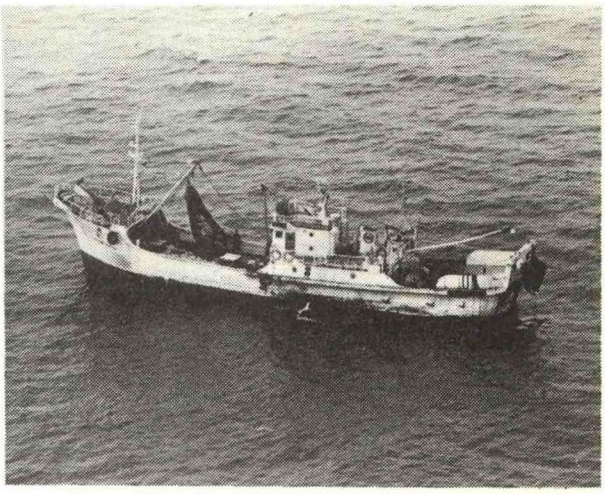


Figure 6.--The Kook Yang No. 112, an ROK bottom trawler. Vessel is 107 ft. long and weighs 133 GRT.

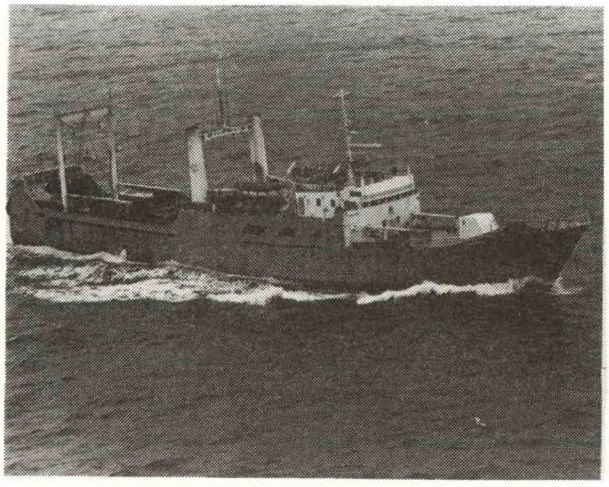


Figure 7.--ROK stern trawler Kang Wha 601. Vessel was built in France, is 252 ft. long, weighs 1,518 GRT, and has a crew of 48.

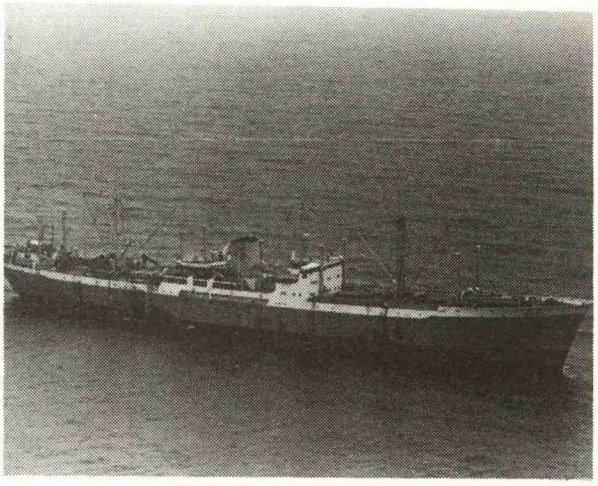


Figure 8.--FOK factoryship Shin Hung. Vessel can store 2,900 tons of frozen fish, 400 tons of fishmeal, 200 tons of fish oil, and 2,500 tons of canned fish.

Photo credits: Bureau of Commercial Fisheries, U.S. Department of Interior, and United States Coast Guard.