United States Department of the Interior, J. A. Krug, Secretary
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Fishery Leaflet 279

Washington 25, D. C. January 1948

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(A STATISTICAL REPORT)

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JAPANESE FISHERIES PRODUCTION, 1908-46
(A Statistical Report)

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(A Statistical Report)

SUMMARY

1. This report presents production statistics of the Japanese fishing industry from 1908 through 1946.

2. Fishery production was at its peak during 1931-38 when total annual production, including that of colonies, varied from 4,900,000 to 6,900,000 metric tons. Excluding colonial totals, annual production ranged from 3,500,000 to 4,900,000 metric tons during this period.

3. Prior to World War II Japanese fisheries production came from operations in coastal and inland waters, offshore waters, overseas waters, and colonial fisheries (these operations are defined later in this report). The largest tonnage was obtained from coastal and inland waters, which averaged about 2,597,000 metric tons from fishing operations and 140,000 tons from aquiculture annually during 1931-38.

4. Hokkaido leads in production from coastal and offshore fisheries, accounting for more than one-third of the total. Tohoku, Kanto, and Kyushu are also regions of major production.

5. The production and processing of marine products employed about 1,500,000 persons, full or part-time, in Japan Proper during 1931-38. About 363,000 fishing boats were used.

6. The production from Japanese fisheries varies considerably from year to year, chiefly because of the irregular occurrences of two important pelagic species, sardines and herring.

7. Some Japanese fisheries evidence depletion, owing to overfishing. One of the fisheries for which statistical data indicating this depletion are available is the trawl (kisensokobiki) fishery for sea bream (tai).

INTRODUCTION

A. General

1. The Japanese fishing industry is the main source of animal protein for the 77,000,000 people of Japan and also, prior to World War II, provided considerable foreign exchange. Approximately 1,500,000 persons were engaged either full or part-time in fishing and processing of marine products; about 363,000 boats were used in the industry. As these figures indicate, aquatic industries are of far greater importance in Japan than in most countries.

2. Japanese fishing before World War II was concentrated largely in the coastal waters of Japan Proper, but operations were conducted also in the Yellow and China seas, along the coasts of Korea and Karafuto, around the margins of the Okhotsk Sea, and in the Antarctic whaling grounds. Fisheries of the Bering Sea and tropical Pacific waters, and off Mexico and South America were of minor importance from the standpoint of production.

3. This report presents a statistical review of the Japanese fishery production from 1908 through 1946. It is designed to provide the quantitative information concerning the production of the industry as a whole and its component parts, which is necessary to any understanding of Japanese fishing activities.

4. Since the fundamental objective of the Japanese fishing industry is to provide food, the reports on specialized, non-edible products have been removed from the statistics. Coral, pearl, pearl shell, and seaweed used only for industrial purposes were deleted from the data. The statistics thus represent the marine products which could be used for food purposes 1/.

5. Although emphasis is placed upon production statistics, data concerning fishing boats and fishermen are included. Statistical treatment is also given to fluctuations of the catch of herring and sardines, and overfishing, two problems of the Japanese fisheries considered significant in future planning for sustained production.

1/ In most years a considerable part of the "edible" catch was used for fertilizer. The non-edible items are very small in quantity (5-11 metric tons in recent years) so that the data presented in this report approximate the total production.

This report was prepared by Ada V. Espenshade, Fisheries Division. Capt John L. Kask began the compilation of material, and Dr Y. Hiyama of Tokyo University assisted in the preparation of the report.

B. Sources of Information

1. Statistical data used in this survey were obtained from Japanese Government records and checked with officials of the Bureau of Fisheries (Suisan Kyoku) of the Ministry of Agriculture and Forestry (Norinsho). Despite care in preparation it is recognized that some data are inaccurate because of numerous inconsistencies in the collection and recording procedures employed by the Japanese. Although most of the figures are given as converted from the recorded data, they are considered to be accurate only to one or two significant figures.

2. Data presented in this report are in many instances at variance with the recorded data from the same sources because of corrections and adjustments which have been made as a result of consultations with Japanese fishery experts. These changes have been made only when they seem warranted in order to present a more accurate picture of the actual production than that given by official and semi-official data. It is believed that the figures presented are the best which can be derived, though admittedly not as accurate as desired. 2/

3. The production data are listed for the calendar year prior to 1941 and in 1946, and for the fiscal year 1 February - 31 January for 1941-45.

4. The basic published sources used are: (a) Noshomu Tokei, the statistical yearbook of the Ministry of Commerce and Agriculture for the years prior to 1916; (b) Norin Tokei, the statistical yearbook of the Ministry of Agriculture and Forestry for the years since 1916. Together these yearbooks constitute a single series containing the official recorded Japanese statistics on fisheries.

5. For the colonial areas the data presented were obtained from Taiwan Suisan Tokei, published by the Formosan Government; Chosen Suisan Tokei, published by the Korean Government; Nanyo Suisan Tokei, published by the Japanese Bureau of South Sea Island Affairs (Nanyo Cho); Okamoto's Manshi Suisan Jijo (1940) for data on Kwantung Peninsula; and Karafuto Kaihatsu Chosakai Toshinsho (1944) for data on Karafuto.

6. Fishing companies provided some data, such as part of that concerning the trawl fisheries and whaling, and the Japanese Bureau of Fisheries provided unpublished data for some of the recent years.

C. Methods of Compiling Statistical Data, and Definitions

1. A difficult problem in preparing a statistical report on Japanese fisheries is making the data uniformly comparable. In this report all production data are presented in terms of weight as landed. For most production units landed weight figures are available from Japanese sources, although in several different units. In some instances, however, the only production statistics are in volume units or in terms of the number of individuals captured, and for a few fisheries the only data available are in processed weights.

2. For this survey standard conversion for one kan will be 3.75 kilograms, and for one kin 0.6 kilograms. In the statistics on whaling, weight of a whale from Japanese or colonial waters is estimated at 40 metric tons 3/ and weight of a whale from Antarctic or northern waters at 70 tons.

3. Some of the older statistics for coastal and offshore fisheries give weight figures for the important species, value figures for minor species, and value figures for total catch. In these cases the weight for minor species was estimated on the basis of the ratio of the value of these species to the total value. These estimated weights, added to the recorded weight of the important species, provide total weights.

4. Conversion for Northern Fisheries

a. In the production statistics of some of the northern fisheries such as those in Soviet waters, a volume unit "koku" was used. This measure has been converted to metric weight on the basis of

2/ Recently the Investigation Section of the Japanese Bureau of Fisheries revised, for the period prior to 1940, the production figures of Norin Tokei, statistical yearbook of the Ministry of Agriculture and Forestry which is the source of much of the data in this report. It is claimed that the figures of Norin Tokei prior to 1940 do not include all landings. Using statistics on the production of processed fish and receipts of fresh fish at urban markets, they have derived a conversion factor of 1.5 and have applied it to the previously published production figures of coastal and offshore fisheries and aquiculture. In this report, however, the author has not used such a conversion, although aware of inaccuracies of Norin Tokei data. The method of deriving the 1.5 conversion factor has not been satisfactorily explained, and the author does not consider any single conversion factor valid for all years prior to 1940.

3/ The accuracy of this conversion factor is questionable. No average weight figure was derived by the Japanese, and over a period of many years the relative importance of the species caught has shifted. When sei and sperm whales are numerous, as they have been in recent years, this conversion factor is probably fairly accurate. It is based on the actual weighing of a small number of whales at a coastal whaling station in 1940. Many Japanese figures use 17 tons as a conversion factor, but this is the approximate weight of the products instead of the weight of whales as landed.

one koku equalling 0.20 metric ton for fresh fish and 0.15 ton for salted fish. Actually the accurate conversion of koku to tons varies with each species, but the conversion factors selected are averages for salmon and trout, the only two important species involved. 4/

b. Recent data received for northern fisheries are in terms of number of individual fish caught. In converting these to weight the following conversions were used:

1 red salmon	= 1.8 kilograms
1 silver and chum salmon	= 2.1 kilograms
1 salmon-trout 5/	= 0.8 kilograms
1 king salmon	= 3.7 kilograms
1 crab (taraba)	= 1.8 kilograms

5. Since some fisheries terms are not clearly defined nor used as mutually exclusive in Japanese statistical sources, it is necessary to explain how the major terms are used in this report.

a. "Coastal fisheries" refers to fishing from shore or by small boats in the coastal waters of Japan Proper and in inland waters. Products obtained by beach seines, lift nets, set nets, gill nets, and some drift nets and trawls, as well as those obtained by hook and line, are counted in these figures. Seaweed and shellfish products are also included. Prior to the surrender in 1945, Japan Proper included not only the four main islands of Hokkaido, Honshu, Kyushu, and Shikoku, but also the Ryukyu, Bonin, and Kuril islands. The coastal fisheries statistics of the past, therefore, include production from islands no longer part of Japan.

(1) The statistics for the coastal fisheries were obtained from the official publications already noted. The production figures for the coastal fisheries are originally collected from fishermen's associations of the numerous coastal villages, then compiled by each prefectural government, and later summarized for all Japan by the Japanese Government.

(2) The data presented in this report are not absolutely comparable for the entire period. From 1907-11 the production from aquiculture is included, and from 1941-43 and for 1946 the production from offshore fisheries is included. It seemed inadvisable, because of lack of sufficient information as to the productivity of the component parts in these years, to attempt to correct the data so that coastal fisheries would have a uniform meaning throughout.

b. "Offshore fisheries" 6/ refers mainly to the fishing in powered boats in offshore regions. Although some offshore fishing takes place hundreds of miles from the coast, part of it is in waters relatively close to shore, sometimes as close as some of the coastal fishing. No clear distinction can be made between offshore and coastal fisheries on the basis of distance from shore or species caught. They differ in that many of the offshore fisheries are carried on by companies, special associations, or individuals rather than through village associations. Production data from each fishing vessel are reported directly to the prefectural governments. The data are then summarized by the Bureau of Fisheries of the Ministry of Agriculture and Forestry.

(1) These fisheries include the bonito and tuna operations east, southeast, and south of Japan Proper; most of the large-scale purse seine operations for sardines; and trawling other than otter trawling.

(2) No accurate records are available prior to 1915, and for 1941-43 and 1946 the production data for these fisheries are included in those of the coastal fisheries.

c. "Aquiculture" denotes the culture in Japan Proper of carp, eel, oyster, clam, other fish and shellfish, and seaweed. Carp and eel are raised in rice paddies and natural ponds on natural food and also in culture ponds on artificial food. Shellfish are raised by sowing seeds in definite culture grounds, and seaweed by placing brush or netting for collecting spores in shallow coastal waters.

(1) Statistics for aquiculture production were obtained from the official sources but converted to comparable weight units. The original data for individual culture ponds, rice paddies, and natural ponds are compiled by the prefectural governments and later summarized by the central government

d. "Overseas fisheries" refers to the operations of Japanese fishermen in Soviet waters, in waters off the Kwantung Peninsula, Korea, Formosa, and South Sea Islands, and small operations in many

4/ These conversion factors were derived from information concerning the size of salmon and trout caught by the Japanese in these waters, supplied by Nichiro Gyogyo KK, the largest fishing company which operated in this region.

5/ Salmon-trout (sometimes translated as trout) is a confusing term. It includes Oncorhynchus masou for which there is no English equivalent, pink salmon, and the young of the other species, especially red salmon.

6/ In many sources available in English these fisheries are incorrectly called "pelagic fisheries"

other parts of the world. Production from floating factory vessels (excepting the whale factory vessels) and from otter trawlers constitutes a large part of the total catch. Although the figures include fish from waters of Japanese colonies they do not include fish landed in the colonies but only those which were brought directly to home ports in Japan Proper.

(1) The statistics for these fisheries, also obtained from the official publications, have been converted into comparable units for this study. The data were collected by the central Japanese Government directly from the companies or associations operating these fisheries.

e. The term "whaling" as used in this report includes all whaling by Japan in the offshore waters of Japan Proper, in waters of Korea, Formosa, Karafuto, and the Kwantung Peninsula, and by the floating factories which operated both in the Antarctic and in northern waters of the Bering Sea and the Arctic Ocean. The production of mink whales, dolphins, and porpoises, actually conducted with the whaling in Japanese and colonial waters, is not considered as part of whaling, but is included in coastal fisheries for Japan Proper and in the colonial fisheries for the colonial areas.

(1) The whaling data presented in this report were obtained from the official sources already named. Original data, given in terms of number of whales caught, were converted to weight figures.

f. "Colonial fisheries" refers to the catches of Korea, Formosa, Karafuto, Kwantung Peninsula, and the former Japanese Mandated Islands. The data for the colonies are complete only for 1926-38.

OVER-ALL VIEW OF JAPANESE FISHERIES PRODUCTION

1. Recorded data concerning Japanese fisheries production data from 1908 1/, but complete data for all the various fisheries, including the colonies, are confined to the brief period 1926-38 (Table 1). Figure 1 summarizes the production for the period 1908-46, and Figure 2 shows the areas of operation during the latter part of this period.

2. During the peak production period for which data are complete, 1931-38, the fisheries based on Japan Proper produced an annual average of 4,244,000 metric tons of marine products. With colonial fisheries included, the annual catch averaged about 6,000,000 metric tons.

3. Coastal fisheries have always provided the bulk of the Japanese marine products. Coastal and inland waters, including production from aquiculture, accounted for an average of 3,038,000 metric tons, or about 71 percent of the total excluding colonies, and about 50 percent of the total including colonies.

4. For marine products landed in Japan Proper the offshore fisheries, including whales landed from these waters, were the next most productive, providing an average of 810,000 tons in the same period. Overseas fisheries, including Antarctic and northern whaling, provided 396,000 tons.

5. The colonial fisheries were sizable producers during this period, averaging about 1,762,000 tons a year. However, part of this was consumed not in Japan but in the respective colonial areas.

1/ Less reliable production data for the coastal fisheries are available for 1894-1907 inclusive but have been omitted from this report.

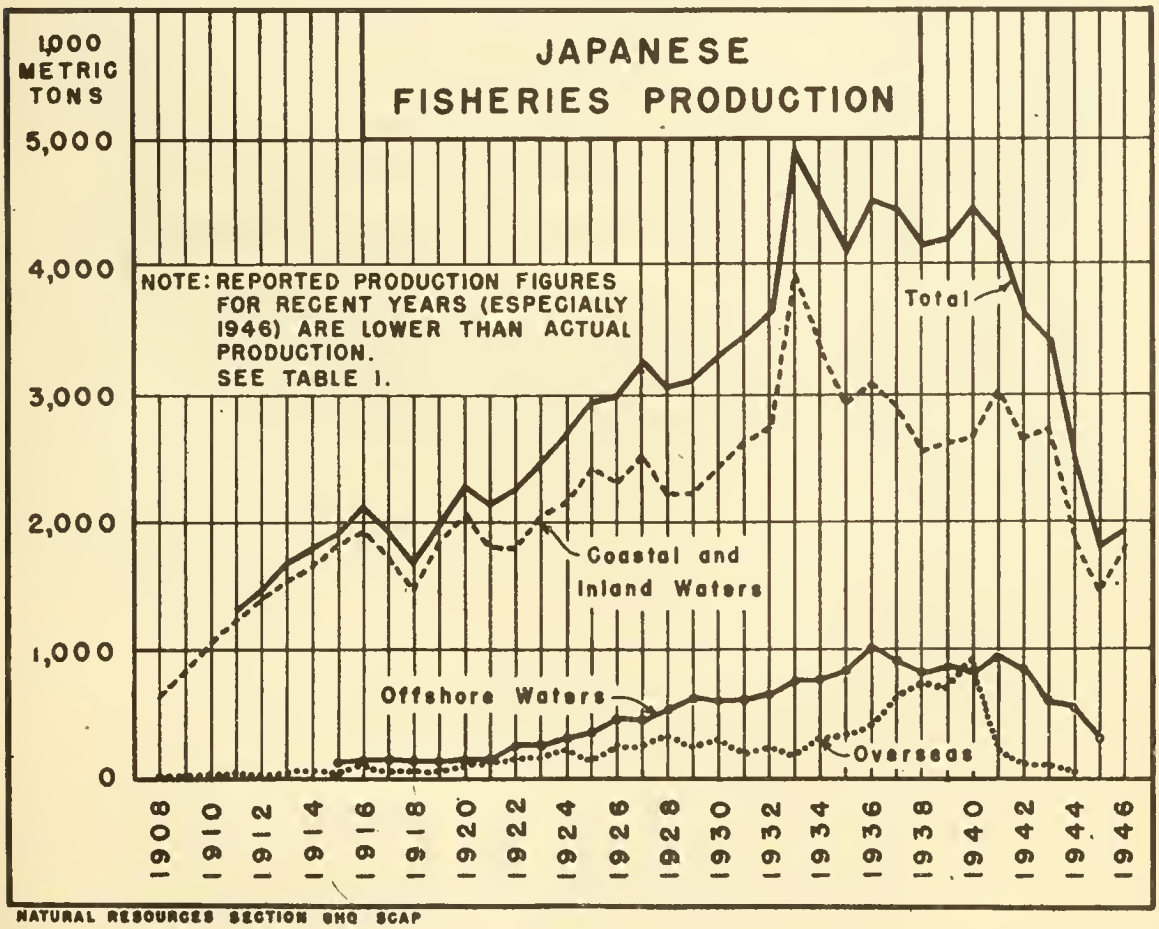


Figure 1

TABLE 1.- SUMMARY OF JAPANESE FISHERIES PRODUCTION, 1908-46 a/
(1,000 metric tons)

Year	FISHERIES BASED ON JAPAN PROPER										COLONIAL FISHERIES			TOTAL JAPANESE EMPIRE
		Coastal and Inland Waters			Offshore Waters			Overseas						
	Total	Total	Fishing b/	Aquiculture c/	Total	Fishing d/	Whaling e/	Total	Fishing	Whaling f/	Total	Fishing	Whaling	
1908	Inc	652	652 g/	h/	ND	ND	ND	13	13 i/	0	ND	ND	ND	Inc
1909	Inc	733	733 g/	h/	ND	ND	ND	24	24 i/	0	ND	ND	ND	Inc
1910	Inc	1,071	1,071 g/	h/	Inc	ND	39	36	36 i/	0	ND	ND	ND	Inc
1911	1,345 j/	1,222	1,222 g/	h/	Inc	ND	62	61	61 i/	0	Inc	Inc	16	Inc
1912	1,498 j/	1,416	1,371	45	Inc	ND	48	34	34 i/	0	Inc	Inc	15	Inc
1913	1,705 j/	1,550	1,508	42	Inc	ND	100	55	55 i/	0	Inc	Inc	13	Inc
1914	1,820 j/	1,683	1,627	56	Inc	ND	68	69	69 i/	0	Inc	Inc	13	Inc
1915	1,923 j/	1,750	1,694	56	112	43	69	61	61 i/	0	Inc	Inc	15	Inc
1916	2,156 j/	1,943	1,884	59	113	56	57	100	100 i/	0	Inc	Inc	15	Inc
1917	1,955 j/	1,736	1,675	61	140	88	52	79	79 i/	0	Inc	Inc	16	Inc
1918	1,700 j/	1,495	1,432	63	138	67	71	67	67 i/	0	Inc	Inc	16	Inc
1919	2,092 j/	1,875	1,806	69	143	89	54	74	74 i/	0	Inc	Inc	12	Inc
1920	2,334 j/	2,056	1,982	74	152	113	39	126	126 i/	0	Inc	Inc	12	Inc
1921	2,161 j/	1,842	1,765	77	173	129	44	146	146 i/	0	Inc	Inc	15	Inc
1922	2,272 j/	1,832	1,756	76	267	218	49	173	173 i/	0	Inc	Inc	12	Inc
1923	2,520	2,044	1,981	63	288	241	47	188	188	0	Inc	Inc	22	Inc
1924	2,720	2,171	2,102	69	312	263	49	237	237	0	Inc	Inc	8	Inc
1925	2,972	2,445	2,368	77	369	320	49	158	158	0	Inc	Inc	10	Inc
1926	3,057	2,330	2,255	75	466	411	55	261	261	0	861	851	10	3,918
1927	3,281	2,529	2,442	87	466	418	48	286	286	0	1,097	1,082	15	4,378
1928	3,094	2,221	2,127	94	541	494	47	332	332	0	1,162	1,149	13	4,256
1929	3,442	2,236	2,138	98	630	582	48	276	276	0	1,235	1,211	24	4,377
1930	3,336	2,422	2,341	81	606	537	69	308	308	0	1,157	1,173	14	4,523
1931	3,472	2,629	2,528	101	623	586	37	220	220	0	1,383	1,360	23	4,855
1932	3,689	2,770	2,669	101	660	627	33	259	259	0	1,448	1,440	8	5,137
1933	4,040	3,970	3,861	109	771	737	34	199	199	0	1,297	1,289	8	6,237
1934	4,510	3,397	3,257	140	793	754	39	320	306	14	1,699	1,694	5	6,209
1935	4,151	2,934	2,767	167	857	815	42	360	316	44	1,804	1,797	7	5,955
1936	4,526	3,100	2,936	164	1,017	975	42	409	273	136	2,000	1,993	7	6,526
1937	4,479	2,913	2,727	186	911	862	49	655	265	390	2,422	2,413	9	6,901
1938	4,187	2,589	2,431	158	849	788	61	749	224	525	2,043	2,036	7	6,230
1939	4,228	2,637	2,476	161	870	785	85	721	231	490	Inc	Inc	6	Inc
1940	4,466 k/	2,673	2,505	168	869	793	76	924	178 l/	746	Inc	Inc	5	Inc
1941	4,205 k/	3,050	2,890 m/	160 n/	950	861 o/	89	205	164 l/	41	Inc	Inc	5	Inc
1942	3,699 k/	2,692	2,492 m/	200 n/	884	845 o/	39	123	123 l/	0	Inc	ND	7	Inc
1943	3,449 k/	2,742	2,492 m/	250 n/	601	547 o/	54	106	106 l/	0	Inc	ND	5	Inc
1944	2,532 k/p/	1,809	1,719 p/	120 n/	565	485	80	68	68	0	Inc	ND	7	Inc
1945	1,810 p/	1,495	1,375 p/	120 n/	315	297	18	Inc	q/	0	Inc	ND	3	Inc
1946	1,949 p/	1,867	1,737 p/	130 n/	q/	q/	q/	Inc	q/	82 r/	0	0	0	1,949 p/

Footnotes on next page

TABLE I.- SUMMARY OF JAPANESE FISHERIES PRODUCTION, 1908-46 a/(CONT'D)
(1,000 metric tons)

a/ This table summarizes the fisheries production of Japan and its former colonies. Fish, shellfish, other marine animals (including crustaceans, squid, octopi, and whales), and seaweed are all included. The data here are grouped so as to indicate areas of production more accurately than the grouping in Japanese sources or in subsequent tables of this report. Production from aquiculture has been added to that of coastal and inland fishing, and the production from whaling has been divided according to areas of catch. In order to indicate areas of operation accurately, production from offshore and overseas fisheries would have to be broken down, as some of these fisheries were carried on relatively close to Japan and others at great distances. Although lack of data prevents this further breakdown, it should be recognized that much of the offshore fishing and a small part of the overseas fishing were in waters relatively close to Japan. Japan Proper here includes, for all years except 1946, the four main islands, Honshu, Kyushu, Shikoku, and Hokkaido, and small offshore islands plus the Kuril and Ryukyu islands. The 1946 production is that of only the four main islands and small offshore islands. In order more nearly to complete totals for the fisheries based on Japan Proper estimates have been made for certain fisheries for 1911-22 and for 1940-43. The other tables show the recorded data.

b/ Includes fisheries of coastal and inland waters. Seaweed collection is considered a fishing operation.

c/ Includes production of fish, shellfish, and other water animals, and seaweed raised in ponds, rice fields, and shallow coastal waters.

d/ Offshore fisheries are reported to have started in 1909 but were small producers not reported separately until 1915. Presumably prior to 1915 production was included in that of coastal fisheries.

e/ So-called coastal whaling of Japan Proper

f/ Whaling in Antarctic and northern waters

g/ Includes aquiculture which was approximately five percent of the production

h/ Included in fishing operations

i/ Total production of the categories of overseas fisheries for which data are available (See Table 9). Production is included in these figures for all important areas except Korean waters for which there are no data and little information concerning the probable production. This production may have been included in coastal fisheries for these years. If not, the total here for overseas fishing may be too low by as much as 15,000-60,000 metric tons on the basis of information that this fishery was established early and gradually increased production during 1908-22.

j/ These totals may be too low by 30-50 percent as the overseas figure may err this amount (See footnote i). For 1909-14 the small production from offshore fishing, for which data are lacking, is omitted.

k/ These totals include estimates for overseas fisheries which makes up about four percent of the total.

l/ Estimate based upon production data for Soviet territory, salmon and crab floating factories, and trawling, and upon estimates of the production from waters of Korea, Kwantung peninsula, Formosa, and the mandated islands. Korean production is estimated at 20,000 metric tons annually for 1940-42 and at 5,000 tons for 1943. The production from the other areas is estimated at 8,000 tons annually for 1940-42 and is considered as having completely stopped in 1943. The 1944 production figure is the production of Soviet waters (See Table 9).

m/ Remainder after subtracting estimate for offshore fisheries from combined production figure for these years.

n/ Estimated production. Reported data for aquiculture for these years are not comparable to production data for other years (See Table 8).

o/ Estimate based upon proportion of offshore fisheries of the combined coastal and offshore production for 1935-40 and information concerning the offshore fisheries for 1941-43. The 1941-42 production of offshore fisheries is estimated as 23 percent of the combined production and that for 1943, when some offshore fishing was curtailed, as 18 percent.

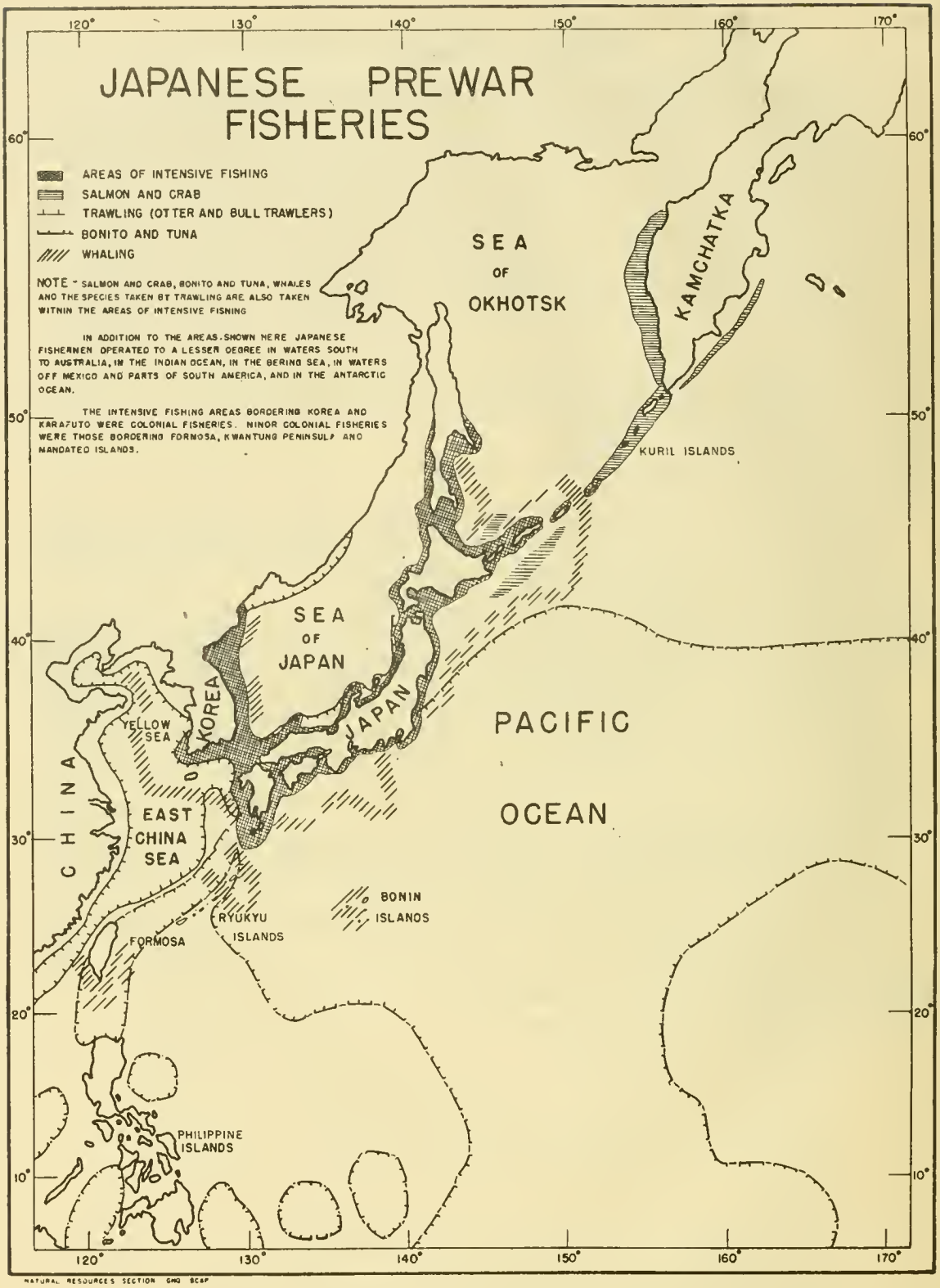
p/ Reported production. Actual production was higher as some landings of marine products were unreported in these years. The unreported landings were highest in 1946 when they are estimated as about 40-45 percent of the actual production.

q/ Included in production of coastal fisheries. Production from overseas fisheries consisted of a small production from otter trawling.

r/ Weight of whales landed for 1946-47 Antarctic expedition

ND: No data available

Inc: Incomplete data. Totals are marked incomplete in cases where the data are so incomplete as to make reasonably accurate estimates impossible.


JAPANESE PREWAR FISHERIES
AREAS OF INTENSIVE FISHING
SALMON AND CRAB
TRAWLING (OTTER AND BULL TRAWLERS)
BONITO AND TUNA
WHALING
NOTE - SALMON AND CRAB, BONITO AND TUNA, WHALES AND THE SPECIES TAKEN BY TRAWLING ARE ALSO TAKEN WITHIN THE AREAS OF INTENSIVE FISHING
IN ADDITION TO THE AREAS SHOWN HERE JAPANESE FISHERMEN OPERATED TO A LESSER DEGREE IN WATERS SOUTH TO AUSTRALIA, IN THE INDIAN OCEAN, IN THE BERING SEA, IN WATERS OFF MEXICO AND PARTS OF SOUTH AMERICA, AND IN THE ANTARCTIC OCEAN.
THE INTENSIVE FISHING AREAS BORDERING KOREA AND KARAFUTO WERE COLONIAL FISHERIES. MINOR COLONIAL FISHERIES WERE THOSE BORDERING FORMOSA, KWANTUNG PENINSULA AND MANDATED ISLANDS.
SEA OF OKHOTSK
KAMCHATKA
KURIL ISLANDS
SEA OF JAPAN
KOREA
JAPAN
YELLOW SEA
CHINA
EAST CHINA SEA
PACIFIC OCEAN
BONIN ISLANDS
RYUKYU ISLANDS
FORMOSA
PHILIPPINE ISLANDS
120°
130°
140°
150°
160°
170°
60°
50°
40°
30°
20°
10°
NATURAL RESOURCES SECTION GHQ SCAP

COASTAL FISHERIES

1. The coastal fisheries, which include production from coastal and inland waters but exclude aquiculture, are the mainstay of the Japanese fishing industry. They provided about 6[illegible] percent of the marine products landed in Japan Proper in prewar years. During 1931-3[illegible] these fisheries accounted for an average of 2,897,000 metric tons of fish, shellfish, crustaceans, and edible seaweed annually. Peak production was 3,861,000 tons in 1933.

2. Production of the coastal fisheries from 190[illegible] until about 1933 tended upward, but in more recent years it has levelled off and decreased (Figure 3). This tendency, despite sustained fishing efforts, suggests that future increases may not be possible 8/.

3. In the fluctuations of production, 1933 and to a lesser degree, 1936 and 1941 are above the general production level. In these years certain pelagic species (especially sardines and herring) were caught in large quantities 9/.

4. Fish constitute 71 percent of the coastal production (Table 2). Sardines, herring, mackerel, cod, tuna, bonito, sea bream, and flatfish are the chief species (Table 3). Shellfish and other aquatic animals (chiefly crustaceans and octopi) and seaweed are, however, important contributions to the Japanese food supply (Tables 4, 5, and 6).

8/ The number of fishermen and fishing boats engaged in coastal fishing remained constant up to about 1943, and during the decade 1933-42 the number of powered boats operating in coastal waters increased. The levelling off of production which antedates the reduced operations of these fisheries during the latter part of World War II (1944-45) is therefore considered suggestive of full use of coastal resources. Some Japanese scientists consider that depletion of resources of the coastal waters has begun but the evidence is inconclusive.

9/ See section on "The Importance of Sardines and Herring in Japanese Fisheries" for further discussion.

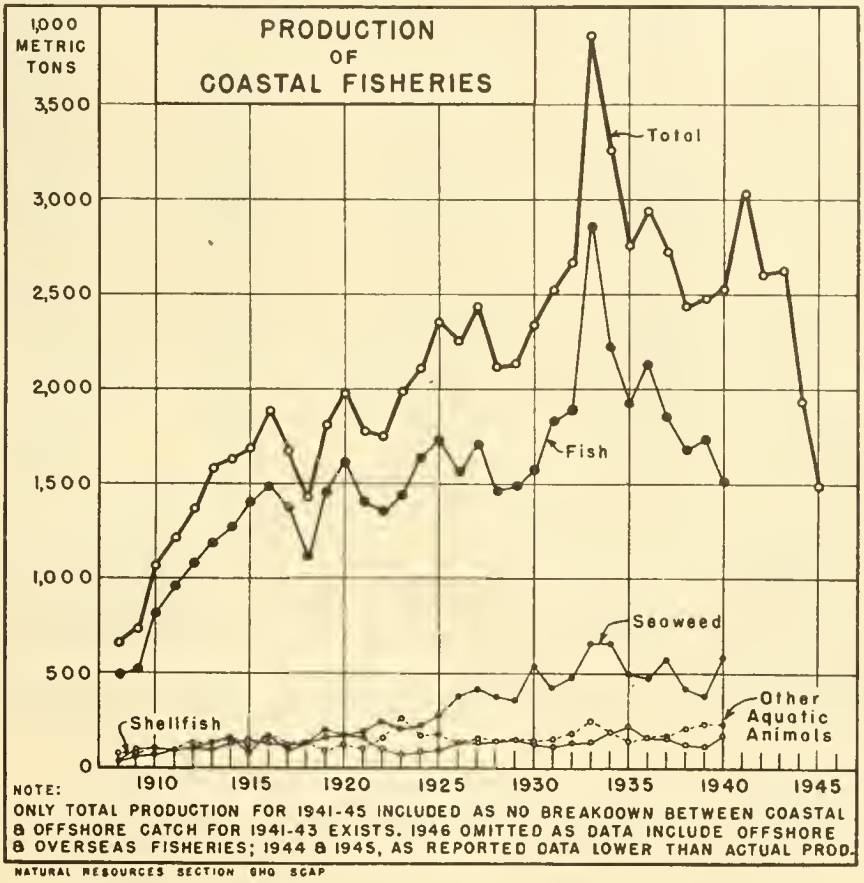


Figure 3

TABLE 2.- PRODUCTION OF COASTAL FISHERIES
(metric tons)

Year	Total	Fish	Shellfish	Other Aquatic Animals	Seaweed
1908	652,100 a/	496,998 a/	49,863 a/	60,431 a/	44,808 a/
1909	732,700 a/	519,293 a/	83,201 a/	64,548 a/	65,658 a/
1910	1,071,300 a/	824,195 a/	97,961 a/	78,262 a/	70,882 a/
1911	1,222,100 a/	953,061 a/	95,276 a/	93,573 a/	80.190 a/
1912	1,370,858 b/	1.092,784 a/	101,021 a/	120,046 a/	102,165 a/
1913	1,508,180 b/	1,194,116 a/	98,910 a/	130,796 a/	126,073 a/
1914	1,626,570 b/	1,273,121 a/	123,922 a/	133,435 a/	147,022 a/
1915	1,694,277 b/	1,417,780 a/	141,112 a/	104,550 a/	86,358 a/
1916	1,884,361 b/	1,499,919 a/	131,407 a/	153,532 a/	158,242 a/
1917	1,675,362 b/	1,374,020 a/	121,747 a/	132,798 a/	107,335 a/
1918	1,431,823 b/	1,120,629 a/	128,771 a/	122,778 a/	123,022 a/
1919	1,806,357 b/	1,448,527 a/	156,033 a/	82,353 a/	188,587 a/
1920	1,981,973 b/	1,620,807 a/	160,432 a/	124,346 a/	150,825 a/
1921	1,765,303 b/	1,405,065 a/	152,400 a/	100,995 a/	183,810 a/
1922	1,756,344 b/	1,356,029 a/	85,721 a/	152,130 a/	238,072 a/
1923	1,961,312	1,446,195	68,670	260,452	205,995
1924	2,102,411	1,644,257	70,393	165,093	222,663
1925	2,368,194	1,740,577	97,226	267,442	262.949
1926	2,255,029	1,575,473	129,120	175,545	374,891
1927	2,442,220	1,719,594	130,215	173,007	419,404
1928	2,127,106	1,472,467	143,981	134,751	375,907
1929	2.138,017	1,491,760	138,825	149,292	358.140
1930	2,340,817	1,577,382	123,097	136,740	503,598
1931	2,528,277	1,835,306	118,729	148,647	425.595
1932	2,668,793	1,887,657	125,307	178,998	476.831
1933	3,861,477	2,862,113	135,567	204,330	659,467
1934	3,256,642	2,229,131	130,014	190,456	657,041
1935	2,767,341	1,931,153	204,514	136,149	495,525
1936	2,936,328	2,143,470	152,310	157,980	482,568
1937	2,726,513	1,855,633	141,142	153,270	576,468
1938	2,430,736	1,687,033	120,244	211,621	411,840
1939	2,476,218	1,746,093	113,148	228,256	388,721
1940	2,504,904	1,512,939	175,724	227,176	589,065
1941	3,751,009 c/	2,937,806 c/	177,558	277,115	358,530
1942	3,336,540 c/	2,482,687 c/	241,785	256,958	355,110
1943	3,038,658 c/	2,140,517 c/	254,224	297,275	346,642
1944	1,719,300 d/	1,106,100 d/	201,900 d/	208,500 d/	202,800 d/
1945	1,375,100 d/	843,100 d/	110,200 d/	164,400 d/	257,400 d/
1946	1,737,150 c/ d/	1,333,313 c/ d/	158,172 d/	157,236 c/ d/	88,429 d/

a/ Production from aquiculture, which amounts to about 3-4 percent of total, is included (see table 8 for aquiculture production for these years).

b/ Total shown is lower than the sum of the items, as production from aquiculture is included in the itemized data but not in the total.

c/ Includes production from offshore fisheries for the years 1941-43 and production from offshore fisheries and trawling in 1946.

d/ Reported production. Actual production was higher as some marine products were landed without being reported. The largest unreported landings were in 1946 when they are estimated as about 40-45 percent of the actual production.

TABLE 3.- PRODUCTION OF IMPORTANT SPECIES OF FISH IN COASTAL WATERS a/
(metric tons)

Year	Total	Herring (Nishin)	Sardine (Iwashi)	Bonito (Katsuo)	Tuna (Maguro)	Mackerel (Saba)	Yellow-tail (Buri)	Cod and Pollack (Tara)	Shark (Fuka and Same)	Sea Bream (Tai)	Flatfish (Hirame and Karei)	Horse Mackerel (Aji)	Skipper (Samma)	Salmon (Sake and Masu)	Trout (Masu)	Others
1908	496,998 b/	8,917	159,320	50,100	11,156 c/	18,123	22,511	20,215	3,660	18,558	19,019	10,893	6,281	3,134	2,508 b/	142,099 b/
1909	519,293 b/	18,892	172,120	51,528	14,935 c/	25,706	18,573	14,369	5,013	18,145	16,495	12,712	14,797	2,760	3,240 b/	130,048 b/
1910	824,195 b/	193,905	186,352	41,386	13,770 c/	28,683	17,583	56,748	5,812	19,615	24,719	12,097	13,950	9,982	12,363 b/	187,228 b/
1911	953,061 b/	104,812	186,801	49,466	15,982 c/	30,000	19,410	50,245	6,352	20,137	42,390	11,700	16,323	14,925	21,926 b/	362,562 b/
1912	1,092,784 b/	250,406	251,384	49,863	12,015 c/	33,510	22,410	64,732	11,017	20,152	53,009	11,861	59,820	11,895	19,815 b/	220,895 b/
1913	1,194,116 b/	404,527	268,300	42,241	14,156 c/	34,263	24,596	66,134	6,642	21,509	49,417	10,896	35,073	8,478	33,794 b/	174,016 b/
1914	1,273,121 a/	405,963	316,870	53,767	16,402 c/	36,952	22,983	63,412	5,673	19,368	38,549	10,661	19,410	9,817	8,820 b/	244,444 b/
1915	1,417,780 b/	447,435	325,770	72,018	14,898 c/	39,270	27,228	62,025	7,841	22,619	45,430	10,451	20,296	15,986	29,193 b/	277,318 b/
1916	1,499,919 b/	517,762	364,806	35,538	11,186 c/	44,542	32,133	69,195	7,301	22,436	47,591	14,190	14,010	7,271	11,467 b/	300,491 b/
1917	1,374,020 b/	331,575	449,849	33,247	6,881 c/	44,823	22,552	54,746	9,052	21,404	50,268	13,822	8,025	9,532	22,331 b/	295,913 b/
1918	1,120,629 a/	296,643	330,486	28,856	12,525 c/	57,442	21,566	57,821	7,301	18,296	37,083	11,422	3,086	11,587	11,741 b/	214,834 b/
1919	1,448,527 b/	463,901	372,547	25,050	10,998 c/	53,216	22,350	91,803	6,495	20,328	38,010	13,087	3,813	11,943	18,090 b/	296,896 b/
1920	1,620,807 b/	512,921	448,804	35,767	13,282 c/	46,972	33,768	95,546	12,288	27,063	42,258	13,155	7,293	11,298	10,158 b/	310,164 b/
1921	1,405,065 b/	420,180	376,465	30,652	11,253 c/	49,638	21,757	98,572	10,560	22,811	36,090	15,296	8,055	10,925	15,776 b/	277,035 b/
1922	1,356,029	392,778	380,177	19,410	10,755	48,258	15,596	94,072	9,581	24,393	42,532	13,317	6,411	10,567	8,055 b/	278,127 b/
1923	1,446,195	383,606	407,072	20,028	10,192	59,493	31,841	73,945	9,915	24,093	30,438	16,166	7,743	18,348	12,585	340,830
1924	1,644,257	464,448	485,582	22,863	15,405	61,458	20,085	87,007	11,452	23,005	33,540	20,512	7,732	8,745	10,612	371,811
1925	1,740,577	470,655	546,993	21,971	14,628	64,912	22,196	83,857	13,076	22,856	40,623	17,137	18,416	32,467	12,611	358,249
1926	1,575,473	550,593	473,771	14,737	16,912	54,000	28,766	144,356	14,523	20,572	25,320	23,073	11,227	14,898	17,242	165,483
1927	1,719,594	653,293	577,421	13,433	11,043	63,480	30,547	88,612	20,566	20,857	24,082	20,122	11,137	12,483	12,843	169,595
1928	1,472,467	412,830	579,378	11,141	15,127	54,206	22,575	94,038	18,546	19,177	23,778	19,897	9,453	7,545	12,408	178,368
1929	1,491,760	307,301	676,923	11,985	17,762	54,157	24,371	86,272	14,550	17,204	22,410	20,561	7,271	12,288	36,660	182,045
1930	1,577,382	327,603	715,046	11,126	20,793	48,637	25,485	83,013	12,206	15,974	24,056	19,706	7,980	16,717	17,868	231,172
1931	1,835,306	405,217	911,771	11,366	19,361	55,181	25,938	79,267	11,711	15,510	17,302	23,377	4,976	17,460	41,163	195,706
1932	1,847,657	419,718	993,866	13,706	19,965	52,012	33,401	84,495	10,616	14,658	18,333	22,515	3,457	10,541	12,948	177,423
1933	2,562,113	1,007,553	1,314,763	12,153	21,487	69,641	36,922	93,840	14,741	16,263	19,563	29,415	4,162	18,461	20,812	182,332
1934	2,229,131	383,178	1,278,116	15,975	22,110	67,991	32,130	99,952	16,203	16,110	20,321	26,703	4,125	26,355	36,172	183,390
1935	1,931,153	229,353	1,095,757	10,916	34,256	73,042	31,248	103,575	9,821	15,794	19,143	27,285	6,003	29,696	44,358	200,276
1936	2,143,470	142,953	1,302,307	15,232	33,783	84,787	37,248	108,708	11,685	16,143	21,273	30,896	9,851	66,386	58,597	203,621
1937	1,855,633	116,073	1,005,611	12,232	25,170	98,220	31,072	95,861	13,406	15,761	19,705	28,608	7,106	64,590	111,405	210,913
1938	1,687,033	43,413	938,561	16,350	17,422	102,585	29,655	97,965	13,057	14,984	18,765	29,388	4,732	72,787	76,530	210,539
1939	1,746,093	122,557	568,455	14,257	34,575	129,206	22,428	94,421	13,930	15,213	23,426	31,353	8,400	50,208	104,070	213,694
1940	1,512,939	185,111	649,087	20,238	43,166	79,897	33,243	97,807	15,183	15,558	27,423	48,472	13,462	47,111	23,812	212,739
1941	2,937,806 a/	173,767	1,198,695 d/	91,627 d/	46,125 d/	143,160 d/	30,626 d/	185,491 d/	54,491 d/	33,277 d/	84,071 d/	88,552 d/	13,845 d/	85,631 d/	152,328 d/	555,720 d/
1942	2,482,687 d/	200,576	860,940 d/	79,713 d/	45,682 d/	105,108 d/	39,371 d/	205,785 d/	64,481 d/	54,536 d/	110,384 d/	53,040 d/	15,671 d/	53,186 d/	56,958 d/	537,252 d/
1943	2,110,517 d/	312,097	586,545 d/	51,690 d/	38,898 d/	132,686 d/	45,379 d/	152,523 d/	61,777 d/	27,463 d/	90,011 d/	49,612 d/	16,695 d/	31,031 d/	77,126 d/	466,984 d/
1944	1,719,300 e/	376,000 e/	259,300 e/	25,100 e/	18,800 e/	62,500 e/	19,600 e/	73,500 e/	43,200 e/	18,500 e/	65,100 e/	28,200 e/	ND	ND	ND	ND
1945	1,375,100 e/	323,600 e/	199,400 e/	11,900 e/	10,900 e/	41,500 e/	13,400 e/	53,300 e/	27,200 e/	14,900 e/	47,600 e/	27,200 e/	ND	ND	ND	ND
1946	1,333,313 d/e/	309,165 e/	292,372 d/e/	37,023 d/e/	f/	40,027 d/e/	16,551 d/e/	59,787 d/e/	50,480 d/e/	13,348 d/e/	75,159 d/e/	12,428 d/e/	f/	f/	f/	426,979 d/e/

a/ Includes production of inland waters. Data are given only if production of the species reached 15,000 metric tons in one or more years. Other important species include Spanish mackerel, mullet, gizzard shad, flying fish, and, in recent years, atka mackerel.
b/ Production from aquiculture included
c/ Includes swordfish (kaziki). After 1921 swordfish is included in "Others". From 1931-38 swordfish production averaged about 1600 tons annually.
d/ Includes production of offshore fisheries
e/ Reported production, Actual production was higher as some landings were unreported in these years. The unreported landings were highest in 1946. The items for 1944 and 1945 do not add to the totals given because the data for some species are lacking.
f/ Included in "Others"
ND: No data available

TABLE 4.- PRODUCTION OF SHELLFISH IN COASTAL WATERS a/
(metric tons)

Year	Total	Abalone (Awabi)	Oyster (Kaki)	Hard Clam (Hamaguri)	Topshell (Sazae)	Cockle (Torigai)	Arkshell (Akagai)	Clam (Hokkigai)	Little Neck Clam (Asari)	Others b/
1908	49,863	3,041	12,352	5,925	ND	ND	ND	ND	ND	ND
1909	83,201	3,675	15,198	7,102	c/	9,517	c/	c/	14,178	33,531
1910	97,961	5,373	15,847	5,670	c/	8,066	c/	c/	18,255	44,750
1911	95,276	4,781	14,636	6,645	c/	7,095	c/	c/	18,450	43,664
1912	101,021	4,087	20,553	6,300	c/	7,458	c/	c/	20,141	42,482
1913	93,910	4,788	24,787	5,336	c/	7,143	c/	c/	11,400	45,456
1914	123,922	4,380	23,733	5,230	c/	8,178	c/	c/	21,660	60,691
1915	141,112	4,987	29,092	5,151	2,985	10,203	c/	c/	23,932	65,762
1916	131,407	3,918	38,021	3,937	4,233	8,013	c/	c/	24,847	48,438
1917	121,747	4,158	35,775	3,742	3,900	4,601	c/	c/	26,940	42,631
1918	128,771	4,443	34,788	4,507	3,251	6,982	c/	c/	28,556	46,244
1919	156,033	4,211	44,355	7,042	2,996	6,840	c/	c/	27,412	64,177
1920	160,432	4,110	40,035	7,102	3,795	8,628	c/	c/	30,573	66,189
1921	152,400	5,032	36,551	5,707	3,311	15,236	c/	c/	29,376	56,737
1922	85,721	5,628	12,288	3,461	3,382	16,488	1,931	2,347	9,307	30,889
1923	68,670	6,405	8,261	5,374	3,266	2,977	2,017	2,921	11,505	25,944
1924	70,398	5,238	7,620	5,083	3,866	2,006	2,280	4,901	9,356	30,043
1925	97,226	4,792	7,023	6,033	5,831	3,232	3,157	2,373	19,376	35,409
1926	129,120	6,137	11,512	7,005	5,191	2,992	2,426	3,690	12,821	75,982
1927	130,215	6,277	11,752	6,986	5,831	2,475	3,431	3,945	18,172	71,332
1928	143,981	6,577	9,761	6,228	6,453	2,606	5,475	4,736	17,868	84,258
1929	138,825	5,666	12,086	5,096	8,137	1,646	6,963	7,136	15,866	76,215
1930	123,097	6,311	9,045	5,628	7,530	2,051	5,557	3,840	16,725	66,401
1931	118,729	4,368	11,801	6,843	6,825	2,658	5,010	5,265	16,346	59,613
1932	125,307	4,953	11,043	10,192	6,885	15,131	4,470	4,860	19,323	48,450
1933	135,567	4,710	9,397	11,452	6,870	6,382	3,495	4,338	21,176	57,747
1934	130,014	6,138	10,042	12,817	6,783	5,981	4,451	5,253	16,983	111,566
1935	204,514	7,222	11,692	10,683	6,723	6,086	3,292	5,501	48,750	104,565
1936	152,310	6,258	11,966	8,400	7,038	6,037	2,647	6,123	18,776	85,065
1937	141,142	5,651	7,586	6,667	7,263	10,792	1,237	6,097	17,977	77,872
1938	120,241	4,507	8,347	5,636	6,626	12,348	1,076	6,900	19,503	55,301
1939	113,143	4,327	7,083	4,833	5,677	8,872	1,597	5,617	19,601	55,541
1940	175,724	4,417	7,162	3,937	5,253	6,457	1,488	5,955	20,688	120,367
1941	177,558	5,043	17,025	11,032	4,830	1,503	3,465	12,678	41,377	80,605
1942	241,785	8,460	14,396	10,976	9,003	7,151	6,331	11,467	34,072	139,379
1943	254,221	6,097	14,745	11,175	4,983	12,311	5,156	4,005	70,117	125,635
1944	201,900 c/	d/	32,300	e/	d/	d/	d/	e/	77,800 f/	91,800
1945	110,200 c/	d/	16,800	e/	d/	d/	d/	e/	71,000 f/	22,400
1946	158,172 c/	ND	ND	ND	ND	ND	ND	ND	ND	ND

a/ Production of shellfish from aquiculture included for 1907-25
b/ Important among the species included here in the production of recent years is scallop (hotategai).
c/ Reported production. Actual production, especially in 1946, was higher as some shellfish were landed without being reported.
d/ Included in "Others"
e/ Included in little neck clam
f/ Includes hard clam and clam
ND: No data available

TABLE 5.- PRODUCTION OF AQUATIC ANIMALS OTHER THAN FISH AND SHELLFISH IN COASTAL WATERS a/

(metric tons)

Year	Total	Cuttlefish and Squid (Ika)	Octopus (Tako)	Shrimp (Ebi)	Spiny Lobster (Ise-ebi)	Crab (Kani)	Sea Cucumber (Namako)	Others
1908	60,431	28,494	6,982	15,266	705	b/	3,446	5,538
1909	64,548	29,672	9,198	13,537	783	b/	5,021	6,337
1910	78,262	37,851	10,650	16,215	637	b/	4,102	8,817
1911	93,573	44,076	10,762	22,653	787	b/	7,897	7,398
1912	120,046	72,099	10,140	22,968	832	b/	4,211	9,796
1913	130,796	82,345	10,492	21,352	971	b/	5,253	10,383
1914	138,435	86,058	11,681	21,562	1,042	b/	5,456	12,636
1915	104,550	54,727	12,202	20,400	1,135	2,163	6,461	7,112
1916	153,532	94,379	13,038	22,785	1,203	3,367	7,575	11,185
1917	132,798	78,254	12,645	19,826	1,151	3,412	6,337	11,164
1918	122,778	41,808	10,601	19,335	1,226	3,817	5,152	40,839
1919	82,353	33,149	11,940	18,360	1,263	4,920	4,590	8,131
1920	124,346	70,991	12,127	18,753	1,323	7,192	5,178	8,782
1921	100,995	52,016	14,235	13,811	1,316	4,612	5,231	9,774
1922	152,130	93,280	15,176	17,085	1,365	10,331	5,043	9,850
1923	260,452	197,602	16,072	17,910	1,342	9,453	6,360	11,714
1924	165,093	103,980	15,168	17,373	1,575	9,810	7,440	9,747
1925	267,442	203,422	16,728	19,005	1,278	5,201	8,437	13,371
1926	175,545	115,541	18,108	18,453	1,548	6,090	5,643	10,162
1927	173,007	110,685	17,182	16,983	1,443	7,080	5,763	13,871
1928	134,751	65,208	20,310	19,050	1,196	6,195	7,706	15,086
1929	149,292	76,916	20,583	19,571	1,173	4,410	10,353	16,286
1930	136,740	59,958	22,110	20,748	1,203	7,796	8,542	16,383
1931	148,647	72,566	21,097	18,258	1,353	8,471	9,510	17,392
1932	178,998	103,136	20,640	19,852	1,353	8,497	6,650	18,870
1933	204,330	114,735	20,853	23,726	1,278	16,642	6,318	20,778
1934	190,456	98,418	20,902	17,992	1,136	18,825	7,140	26,043
1935	136,149	41,126	22,912	21,281	1,203	20,730	7,976	20,921
1936	157,980	71,096	20,373	17,688	1,548	16,241	8,396	22,638
1937	153,270	53,557	23,070	17,388	1,593	19,942	7,608	30,112
1938	211,621	105,858	23,775	17,456	1,256	24,693	9,873	28,710
1939	228,256	126,347	23,673	17,133	1,320	27,225	9,532	22,526
1940	227,176	133,567	24,626	16,128	1,248	17,730	7,991	25,886
1941	277,115	172,893	32,737	18,165 c/	d/	408	7,087	45,825
1942	256,958	125,801	31,608	21,063 c/	d/	10,650	6,783	61,053
1943	297,275	155,347	38,456	19,998 c/	d/	9,746	3,152	65,576
1944	208,500 e/f/	111,400 e/	17,900 e/	16,000 e/	4,300 e/	15,300 e/	b/	43,400 e/
1945	164,400 e/f/	100,800 e/	11,700 e/	10,400 e/	2,200 e/	11,100 e/	b/	28,200 e/
1946	157,236 f/	ND	ND	ND	ND	ND	ND	ND

a/ For 1908-22 production from aquiculture included
b/ Included in "Others"
c/ Includes spiny lobster
d/ Included in data for shrimp
e/ Estimated
f/ Reported production. Actual production, especially in 1946, was higher as some of these products were landed without being reported.
ND: No data available

TABLE 6.- PRODUCTION OF SEAWEED IN COASTAL WATERS
(metric tons)

Year	Total	Tangle (Kombu)	Wakame	Laver (Amanori).	Tengusa	Funori	Others
1908	44,808	18,453	a/	a/	2,958	1,132	22,265
1909	65,653	23,696	a/	a/	3,446	1,203	37,313
1910	70,882	26,718	a/	a/	4,365	1,751	38,048
1911	80,190	40,065	a/	a/	6,011	2,208	31,906
1912	102,165	49,106	a/	a/	4,980	3,195	44,884
1913	126,078	51,000	a/	a/	4,897	2,722	67,459
1914	147,022	43,376	a/	a/	4,785	2,002	96,859
1915	86,358	48,562	a/	8,696	5,422	2,137	21,541
1916	158,242	106,020	a/	9,108	6,375	5,568	31,171
1917	107,835	60,228	a/	12,232	5,396	2,415	27,564
1918	123,022	69,975	a/	12,513	5,463	2,295	32,776
1919	188,587	113,002	a/	10,278	5,576	2,602	57,129
1920	150,825	91,138	a/	13,856	4,477	2,568	38,736
1921	183,810	118,233	a/	12,022	4,166	2,411	46,978
1922	238,072	160,965	18,652	14,985	4,758	2,895	35,817
1923	205,995	132,528	15,037	2,103	6,146	4,012	46,169
1924	222,663	141,596	13,788	2,572	5,422	4,117	55,168
1925	262,949	197,407	13,301	1,548	6,296	2,786	41,611
1926	374,891	170,876	14,205	1,972	7,871	4,188	175,779
1927	419,404	206,250	18,840	2,966	6,761	4,256	180,331
1928	375,907	221,415	18,832	2,306	8,463	3,435	121,456
1929	358,140	209,122	23,373	1,860	8,707	3,270	111,808
1930	503,598	356,782	18,153	1,908	8,115	3,840	114,800
1931	425,595	272,640	21,877	1,833	9,772	3,480	115,993
1932	476,831	306,836	21,232	1,166	10,117	4,923	132,557
1933	659,467	469,200	26,163	2,100	10,728	3,731	147,545
1934	657,041	475,316	30,697	2,175	10,833	5,062	132,958
1935	495,525	333,420	29,553	2,133	11,861	4,893	113,665
1936	482,568	293,283	44,598	2,242	12,000	4,593	125,852
1937	576,468	396,401	29,002	3,060	14,542	7,121	126,342
1938	411,840	243,461	34,233	2,422	11,441	4,155	116,128
1939	388,721	225,851	42,932	2,726	12,648	3,840	100,674
1940	589,065	455,850	35,463	5,853	10,818	3,780	77,301
1941	358,530	204,037	29,846	22,920	10,275	4,582	86,870
1942	355,110	136,747	36,540	74,508	17,527	3,022	86,766
1943	346,642	131,595	55,203	23,355	7,706	3,735	125,048
1944	202,800 b/	ND	ND	ND	ND	ND	ND
1945	257,400 b/	ND	ND	ND	ND	ND	ND
1946	88,429 b/	ND	ND	ND	ND	ND	ND

a/ Included in "Others"
b/ Reported production. Actual production, especially in 1946, was higher as some seaweed was taken without being reported.
ND: No data available

OFFSHORE FISHERIES

1. Offshore fisheries began to be important about 1915, concomitant with the development of power fishing boats. From the comparatively insignificant amount of about 43,000 metric tons in 1915, average annual production increased to about 768,000 metric tons during 1931-38. Peak production was 975,000 tons in 1936 (Table 7) 10/.

2. Production of these fisheries was greatly curtailed after 1942, owing to the requisitioning of boats by the navy, the limited supplies of gasoline and oil for fishing boats, the unfavorable prices for the seller under price control, and, in the last year of the war, fear of bombs and submarines. In 1945 production was reported as 297,000 tons, or about 39 percent of the 1931-38 annual average.

3. The population of fish in the waters utilized in these fisheries is sufficient to support a catch as great and perhaps slightly greater than prewar production, assuming that the sardine run returns to its prewar magnitude. The catch from small motor boat trawling (kisensokobiki) was probably at the peak of sustained production in 1934-35, but the bonito and tuna operations and possibly the purse seining for pelagic species can be intensified. Even though the average yield may be increased, fluctuations in production can be expected because sardines, which constitute a large proportion of the catch, are subject to wide variations in population (see section on "The Importance of Sardines and Herring in Japanese Fisheries).

10/ The peak production of 1936 is closely related to the exceptionally large catch of sardines in that year (see section on "The Importance of Sardines and Herring in Japanese Fisheries").

TABLE 7 - PRODUCTION OF IMPORTANT SPECIES FROM OFFSHORE FISHERIES
(metric tons)

Year	Total	Sardine (Iwashi)	Bonito (Katsuo)	Tuna (Maguro)	Mackerel (Saba)	Cod (Tara)	Shark (Same and Fuke)	Sea Bream (Tai)	Flatfish (Karei and Hirame)	Skipper (Sanma)	Spanish Mackerel (Sawara)	Others
1915	43,205	465	29,726	3,603	1,215	1,173	52	120	a/	4,545	3	2,003
1916	55,721	2,287	25,372	3,292	2,756	1,957	2,497	1,530	a/	10,113	7	5,910
1917	87,510	8,145	49,548	4,273	5,088	3,997	1,803	832	a/	10,428	52	3,044
1918	66,637	5,621	41,235	4,397	1,597	1,053	1,832	2,437	a/	3,337	56	4,522
1919	89,081	12,731	39,345	9,037	1,695	2,820	3,476	4,897	a/	3,881	82	11,117
1920	112,575	8,718	52,428	8,073	3,330	5,058	3,821	10,593	a/	6,206	37	14,281
1921	129,213	8,396	50,940	7,522	3,146	7,545	10,815	10,252	a/	13,942	183	16,472
1922	218,291	22,601	45,870	7,001	6,150	11,107	9,333	35,823	a/	12,873	142	61,391
1923	241,176	31,151	47,756	15,933	5,755	15,285	14,771	30,558	a/	14,632	405	64,927
1924	262,707	31,173	45,412	16,526	6,581	21,060	18,795	18,258	a/	26,141	375	78,386
1925	320,170	31,807	47,565	18,427	10,620	12,903	22,462	34,602	a/	45,678	1,732	94,363
1926	411,266	54,375	54,030	27,341	16,503	17,263	37,545	34,807	37,462	26,302	5,733	99,900
1927	413,079	30,116	72,213	29,467	26,561	19,905	24,146	27,862	36,423	30,161	243	120,942
1928	493,683	96,723	65,946	28,732	28,005	20,142	30,862	24,120	37,548	17,531	37	143,797
1929	582,238	90,060	60,150	42,562	23,220	27,795	45,273	21,885	55,571	14,321	90	201,311
1930	537,150	73,665	57,663	42,303	23,231	28,331	46,391	16,631	52,852	13,057	495	182,501
1931	585,964	113,737	68,977	45,768	27,030	37,792	41,190	12,536	44,430	10,387	75	184,042
1932	626,983	159,465	53,437	39,967	30,776	34,773	43,511	11,223	42,292	8,685	82	202,772
1933	737,077	210,172	65,152	41,681	39,831	51,596	40,567	10,263	50,448	12,371	75	214,871
1934	753,892	189,033	68,940	36,007	37,961	96,255	39,446	11,478	50,043	12,382	176	212,171
1935	814,572	281,876	61,965	34,215	41,055	76,181	39,326	9,172	47,598	11,265	78	211,841
1936	974,246	325,957	85,800	42,176	41,126	109,991	64,470	10,931	52,533	17,598	56	224,208
1937	861,701	202,335	93,075	36,993	38,291	108,773	56,167	8,325	40,211	15,498	45	261,975
1938	788,439	145,830	104,463	39,952	30,288	96,173	51,101	12,363	42,611	19,372	48	246,228
1939	784,486	222,630	86,261	51,312	24,393	82,533	51,255	6,135	43,668	11,295	339	204,345
1940	792,562	216,607	96,108	42,922	42,120	71,816	42,900	6,176	47,216	13,200	96	213,401
1941	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
1942	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
1943	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/
1944	488,300 c/	77,800	25,300	5,600	7,500	5,500	13,200	500	10,100	a/	a/	341,800 c/
1945	297,000 c/	59,800	5,900	2,200	4,100	3,800	7,000	400	5,800	a/	a/	208,000 c/
1946	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/	b/

a/ May be included in production of "Others"
b/ Included in production of coastal fisheries (see Table 3)
c/ May include production from trawling

AQUICULTURE

1. Separate statistics for aquiculture date from 1912 when aoout 45,000 tons of fish, shellfish, and seaweed were produced. Aquiculture production gradually increased, and during 1931-38 it averaged about 140,000 tons annually (Table 8). The main products are carp, eel, mullet, and trout, oysters, clams, and other edible shellfish, and seaweed.

2. Aquiculture production, unlike the other fisheries, reached its peak during World War II when a wartime shortage of food and the curtailment of some sea fisheries brought about a concerted effort by the Japanese Government to increase fish culture. About 250,000 tons were produced by this means in 1943. In late 1944 and 1945, however, despite continued government encouragement, aquiculture production declined because of a shortage of the food used in feeding fish raised in ponds and rice fields 11/.

11/ The main foods used for fish in ponds and rice fields are sanagi (silkworm chrysalises) and nuka (rice husks). During the latter part of the war the silk industry was curtailed by diverting mulberry land to rice fields, thus reducing the supply of silkworm chrysalises. Rice husks were eaten by the people and to some degree even silkworm chrysalises, which are rich in B vitamins, were also eaten.

TABLE 8.-PRODUCTION FROM AQUICULTURE
(metric tons)

Year	Total	Fish							Shellfish		Seaweed a/	Others b/
		Carp				Eel	Mullet	Trout	Oyster	Clam		
		Total Carp	Rice Paddies	Culture Ponds	Ponds and Lakes							
1912	45,158	2,265	592	c/	1,673	530	836	28	14,222	13,539	8,014	5,724
1913	41,820	2,320	599	c/	1,721	501	860	30	15,172	6,169	8,401	5,259
1914	55,930	2,433	621	c/	1,812	609	660	134	18,090	20,206	7,837	3,962
1915	55,523	2,905	839	c/	2,066	731	385	328	19,961	16,675	8,294	6,244
1916	58,739	3,272	355	c/	2,117	906	727	84	21,105	17,645	8,533	6,165
1917	61,038	3,170	756	c/	2,414	698	728	86	20,692	15,701	10,530	6,370
1918	63,377	3,065	795	c/	2,270	576	653	99	21,736	21,800	9,644	5,504
1919	69,143	3,169	752	d/	2,417	1,062	620	65	30,117	19,628	8,851	5,631
1920	74,437	3,345	975	c/	2,370	1,213	625	66	29,522	19,281	13,459	6,923
1921	76,967	5,639	919	c/	4,720	3,388	631	84	30,500	19,543	10,928	6,254
1922	75,604	4,242	1,119	c/	3,123	1,556	750	103	24,901	22,599	14,111	7,337
1923	62,830	5,303	1,206	c/	4,097	2,566	679	79	14,977	20,453	15,042	3,901
1924	68,623	5,100	1,334	c/	4,006	2,341	896	134	13,612	18,239	23,741	4,260
1925	77,300	5,730	1,140	c/	4,290	2,063	797	105	14,023	24,285	25,493	4,799
1926	74,655	6,311	1,358	2,693	2,260	2,208	809	87	18,618	19,702	22,283	4,635
1927	86,587	7,349	1,522	3,305	2,522	2,500	880	93	20,937	25,615	23,837	5,376
1928	93,955	7,940	1,528	3,916	2,496	3,002	902	94	21,416	30,445	24,322	5,834
1929	98,098	8,047	1,643	3,904	2,410	3,283	740	83	25,495	31,164	23,172	6,089
1930	80,631	8,882	1,927	4,201	2,754	3,531	836	107	19,037	24,596	15,515	5,000
1931	101,221	9,106	1,935	4,585	2,986	4,028	968	112	25,861	28,432	26,200	6,284
1932	100,783	9,892	1,805	4,828	3,259	4,702	1,003	159	26,123	29,530	24,117	6,257
1933	109,163	10,888	1,923	5,571	3,394	5,657	1,191	169	26,874	35,275	22,409	6,777
1934	140,213	11,790	2,094	6,154	3,542	6,163	1,031	75	43,228	38,522	30,649	6,705
1935	167,295	11,916	1,933	6,212	3,771	6,637	1,122	149	59,943	43,840	33,207	10,381
1936	164,164	12,649	1,910	6,927	4,712	6,913	1,055	186	59,029	42,595	31,539	10,192
1937	185,597	12,592	1,963	6,043	4,626	7,090	1,326	236	56,060	61,723	35,047	11,523
1938	157,730	11,157	1,567	5,717	3,873	7,307	1,071	217	45,545	51,767	30,875	9,793
1939	161,426	11,275	1,317	5,667	3,791	7,625	1,052	234	41,567	55,084	34,623	10,026
1940	167,956	10,502	1,268	5,879	3,355	7,543	1,166	283	46,337	59,822	31,875	10,428
1941	160,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1942	200,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1943	250,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1944	180,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1945	120,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1946	130,000 d/	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

a/ Chiefly laver (amanori)
b/ Includes other fish and shellfish, frogs, and turtles
c/ Included in figure for ponds and lakes
d/ Estimate. These figures are much lower than those in Japanese official publications for 1941-43 and lower than those submitted by the Japanese Bureau of Fisheries for 1944-46. The official figures for the years since 1941 are not comparable to those for earlier years, as seedlings planted and fry released were added to the weight of actual production. The figures presented here are estimates on a basis comparable to the production data for earlier years.
ND: No data available

1. Japanese overseas fisheries (excluding whaling) prior to World War II consisted of operations in Soviet territory from land bases as permitted by treaty; operations in waters off the Kwantung Peninsula, Korea, Formosa, and the Mandated Islands; factory vessel fishing for crab and salmon in the waters of the Okhotsk and Bering seas; trawling in the East China, South China, and Yellow seas; and small-scale operations in other parts of the world (Figure 4 and Table 9) 12/.

2. With the exception of the fishing in Russian waters, these fisheries first became important about 1915 with the development of power fishing vessels. From this time until shortly before World War II, the general trend of production was upward as areas of operation expanded and vessels and equipment were increased and improved. The production rose to an average of about 258,000 tons for 1931-35. During World War II production from these fisheries dropped, and since 1943 it has been unimportant.

3. The population of fish in the overseas areas is sufficient to permit recovery of these fisheries to the highest prewar level and probably to even higher levels. What overseas areas, if any, will be available for Japanese operations remains a matter to be settled by international agreements.

12/ The Japanese also carried on trawling off Mexico, South America, India, Australia, and the Straits Settlements and in Bering Sea in 1933-40. The part of these catches landed in Japan is included here in the figures for "trawling". The amount of fish landed in foreign countries and consumed there is included in the production statistics of those countries and not in the data given here.

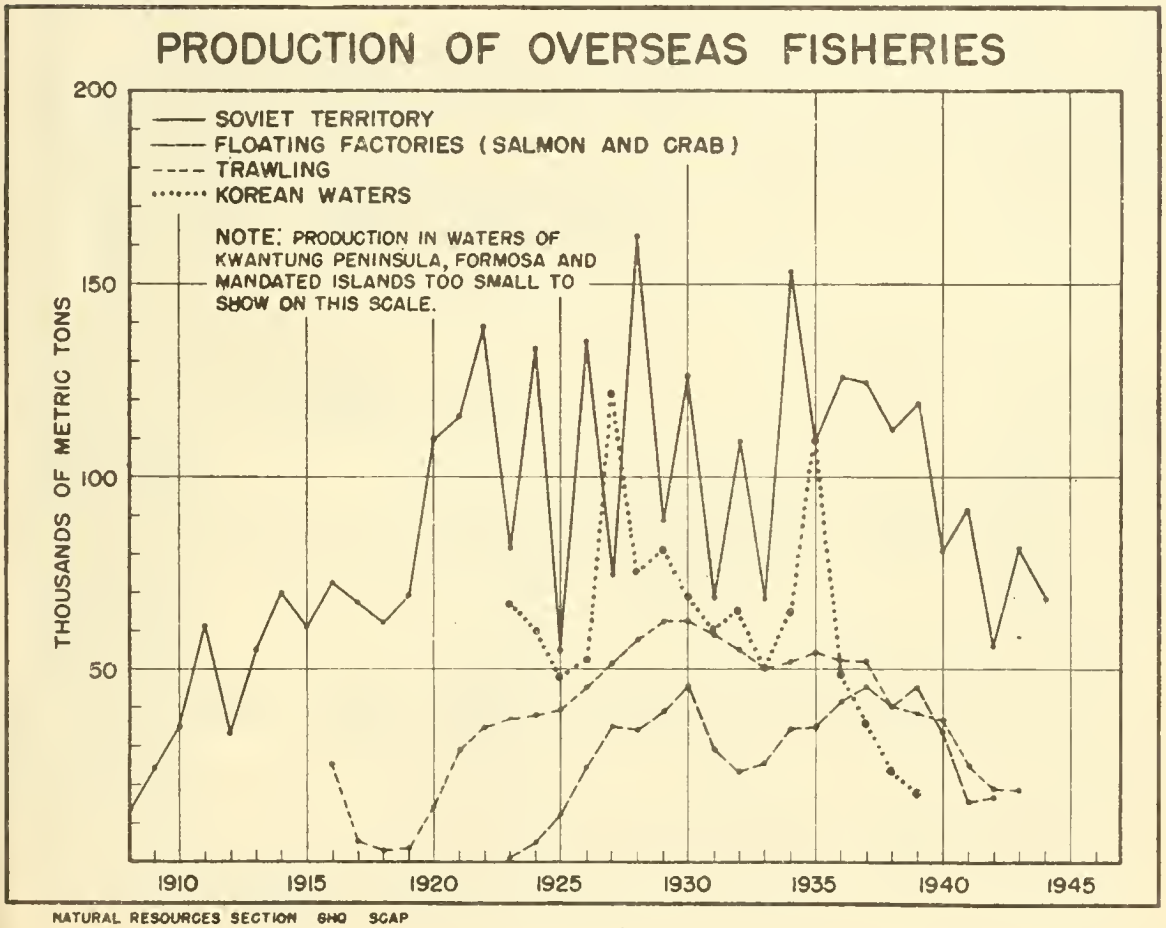


Figure 4

TABLE 9.- PRODUCTION OF OVERSEAS FISHERIES a/
(metric tons)

Year	Total	Soviet Territory	Salmon Floating Factories	Crab Floating Factories	Trawling b/	Korea c/	Kwantung Peninsula c/	Formosa c/	Mandated Islands c/
1908	Inc	13,427	0	0	0	ND	ND	ND	0
1909	Inc	23,914	0	0	0	ND	ND	ND	0
1910	Inc	36,113	0	0	0	ND	ND	ND	0
1911	Inc	60,897	0	0	0	ND	ND	ND	0
1912	Inc	33,718	0	0	0	ND	ND	ND	0
1913	Inc	54,957	0	0	ND	ND	ND	ND	0
1914	Inc	68,917	0	0	ND	ND	ND	ND	0
1915	Inc	61,236	0	0	ND	NO	ND	ND	0
1916	Inc	72,023	0	0	26,411	ND	1,650	ND	0
1917	Inc	66,591	0	0	6,180	ND	5,100	ND	0
1918	Inc	61,863	0	0	3,318	ND	1,481	ND	0
1919	Inc	69,053	0	0	3,540	ND	1,726	ND	0
1920	Inc	109,836	0	0	14,310	ND	1,747	ND	0
1921	Inc	116,353	0	0	29,077	ND	ND	ND	0
1922	Inc	138,266	0	0	34,293	ND	ND	ND	0
1923	187,881	80,658	0	750	37,443	67,149	1,881	ND	0
1924	236,877	132,036	0	4,605	37,647	60,393	2,196	ND	0
1925	158,458	56,388	0	11,735	39,498	47,940	2,897	ND	0
1926	261,078	136,185	0	24,445	45,559	52,203	2,686	ND	0
1927	286,305	75,656	0	36,865	50,103	121,492	2,189	ND	0
1928	332,105	161,218	0	33,855	58,228	75,844	2,966	ND	0
1929	275,678	88,124	15	38,665	62,318	81,401	3,986	1,136	0
1930	307,608	127,416	1,109	45,195	62,356	69,183	2,349	ND	0
1931	219,849	68,921	2,266	27,344	58,951	60,118	1,496	753	0
1932	258,812	108,000	4,829	18,640	56,798	65,759	3,591	1,195	0
1933	198,893	68,168	9,016	17,031	50,365	49,162	4,040	1,111	0
1934	305,798	150,575	16,142	17,875	51,744	65,042	3,978	442	0
1935	315,739	109,590	15,753	20,397	53,821	110,223	5,864	91	0
1936	273,372	126,294	15,971	25,106	52,466	47,642	3,770	157	1,966
1937	265,404	124,245	18,438	26,843	50,586	36,415	4,510	515	3,852
1938	224,114	111,512	16,848	23,364	40,070	23,538	4,772	387	3,623
1939	230,855	118,575	20,627	25,612	39,764	17,692	4,367	1,634	2,584
1940	Inc	80,051	17,931	15,402	37,029	ND	3,418	ND	ND
1941	Inc	91,980	17,861	0	25,820	ND	ND	ND	ND
1942	Inc	57,134	11,049	6,894	19,626	ND	ND	ND	ND
1943	Inc	81,760	0	0	19,077	ND	ND	ND	ND
1944	Inc	68,126	0	0	d/	ND	NO	ND	ND
1945	Inc	0	0	0	d/	ND	ND	ND	ND
1946	Inc	0	0	0	d/	0	0	0	0

a/ The statistics start with the first year of recorded quantity data. Operations sometimes preceded these years, as some value figures are available for earlier years.

b/ Otter trawling only. In Japanese official statistics "trawling" means otter trawling. The production in 1916 and the few years prior was from Japanese waters. Trawling in overseas fisheries began on a small scale in 1917-18 and reached its peak in 1928-32 when the Korean Strait and the Yellow and East China seas were the main areas fished.

c/ Catch landed in Japan caught in waters off these areas

d/ Estimates based on data from trawling companies indicate that production from trawling was about 4,400 metric tons in 1944, 3,900 tons in 1945, and 6,300 tons in 1946. Data for 1944 and 1945 may be included in production from offshore fisheries, and 1946 production is included in figure for coastal fisheries.

ND: No data available

Inc: Incomplete data

1. Records of whale production date from 1910, when 968 whales, having an estimated weight of 38,720 tons, were reported taken in Japanese waters. In the following year, production records for colonial areas started. Since that time the production statistics for all whaling operations are complete (Table 10 and Figure 5).

2. The catch in Japanese home waters has fluctuated between 39,000 and 100,000 metric tons over a period of many years. Average annual production for 1910-45 is about 54,000 metric tons.

3. The colonial catch, from whaling operations off Korea, Formosa, Karafuto, and the Kwantung Peninsula, ranged from 5,000 to 24,000 metric tons prior to 1945, with the production level somewhat higher before 1930 than later. The major part of the colonial catch was always from Korean waters.

4. In 1934-35 Japan entered Antarctic whaling operations using factory vessels. Production from these operations reached a peak of 700,000 tons in 1940-41 13/. In this year when Japan's production of whales was 827,000 tons, the Antarctic operations accounted for about 85 percent of the total.

5. During 1940 and 1941 Japan also operated whaling factory ships off the Kuril Islands, Kamchatka, and in the Bering Sea. In 1940 they extended these northern operations into the Arctic Ocean. The production from this region averaged 43,500 tons annually.

6. Production since 1940 has been small, as operations have been confined to whaling off Japan Proper and colonies. During World War II the six large factory vessels formerly used in both the Antarctic and northern whaling were destroyed, as were many of the catcher boats used in conjunction with the factory vessels.

7. From December 1946 until March 1947 two whaling fleets containing factory vessels (converted oil tankers), catcher boats, and refrigeration ships, operated in the Antarctic under the direction of Supreme Commander for the Allied Powers. These operations produced 1,175 whales or a landed weight of 82,250 metric tons 14/.

13/ Shown in the accompanying statistics as 1940. The production is really divided between two calendar years as the Antarctic season lasts from November to March. In this report each season's catch is credited to the year in which operations started.

14/ This expedition, as well as the expedition for 1947-48, authorized under the supervision of Natural Resources Section, Supreme Commander for the Allied Powers, was permitted in order to provide food needed in Japan and oil for both Japan and other countries, and does not establish a precedent for future operations. Whether Japan will be permitted to pursue whaling in the Antarctic, the northern waters, or other areas in the future awaits international settlement.

TABLE 10.- JAPANESE WHALE PRODUCTION a/

(metric tons)

Year	Total	Overseas		Japan Proper c/	Colonies c/
		Antarctic Region b/	Northern Region		
1910	Inc	0	0	38,720	ND
1911	77,520	0	0	61,720	15,800
1912	63,600	0	0	48,200	15,400
1913	112,400	0	0	99,880	12,520
1914	80,960	0	0	68,080	12,880
1915	84,040	0	0	68,600	15,440
1916	72,120	0	0	57,240	14,880
1917	67,880	0	0	51,600	16,280
1918	87,080	0	0	71,560	15,520
1919	66,840	0	0	54,400	12,440
1920	51,040	0	0	39,080	11,960
1921	59,320	0	0	43,880	15,440
1922	60,520	0	0	48,480	12,040
1923	69,440	0	0	47,080	22,360
1924	57,440	0	0	49,600	7,840
1925	58,360	0	0	48,680	9,680
1926	64,880	0	0	54,720	10,160
1927	62,720	0	0	47,760	14,960
1928	60,200	0	0	46,840	13,360
1929	71,880	0	0	48,200	23,680
1930	82,360	0	0	68,400	13,960
1931	59,800	0	0	37,000	22,800
1932	41,440	0	0	33,200	8,240
1933	42,400	0	0	34,400	8,000
1934	57,720	14,000	0	38,800	4,920
1935	93,000	44,000	0	42,320	6,680
1936	184,680	136,000	0	41,920	6,760
1937	144,400	390,000	0	49,040	9,360
1938	593,440	525,000	0	61,000	7,440
1939	581,200	490,000	0	85,400	5,800
1940	827,400	700,000	46,000	76,120	5,280
1941	134,960	0	41,000	88,520	5,440
1942	45,920	0	0	39,040	6,880
1943	59,640	0	0	54,440	5,200
1944	86,760	0	0	80,080	6,680
1945	21,240	0	0	18,440	2,800
1946	156,770	92,250	0	74,520	0

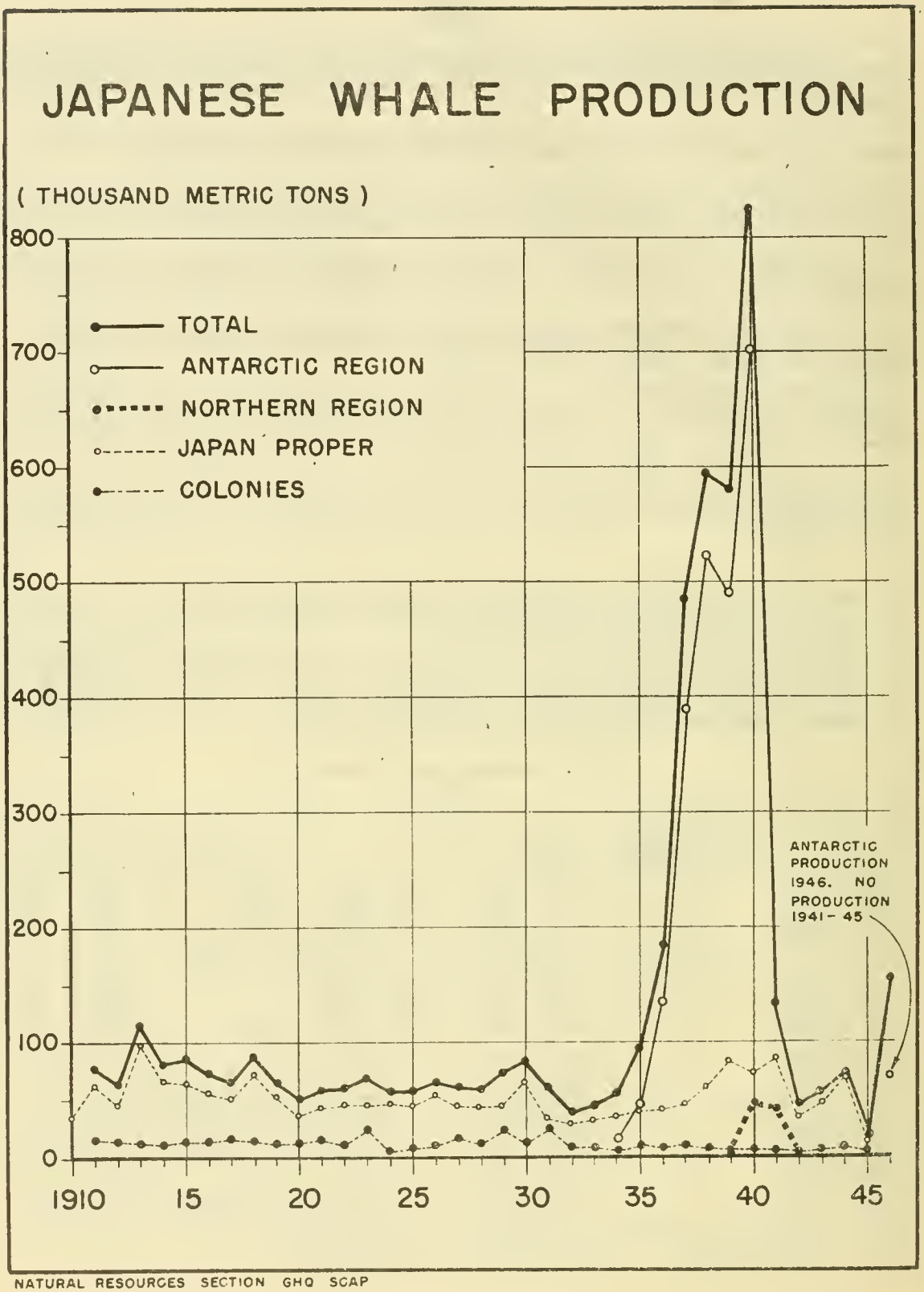
a/ Production is considered to be the number of whales times the average weight, based on the following conversion figures: one whale in Antarctic and northern regions equals 70 tons, one whale in waters of Japan Proper and colonies equals 40 tons. (See Introduction for basis of conversions)

b/ Each Antarctic whaling season (Nov-Mar) is divided between two calendar years. The production here has been recorded for the year in which the operations began, i e the 1934-35 production here is recorded for 1934, the 1935-36 production is recorded for 1935, etc.

c/ Whaling in waters of Japan Proper and colonies includes only the catch of whales by registered whaling vessels. Whales caught by smaller non-registered vessels and also mink whales, dolphins, or porpoises are included in the production data for fish.

ND: No data available
Inc: Incomplete data

JAPANESE WHALE PRODUCTION



NATURAL RESOURCES SECTION GHQ SCAP

COLONIAL FISHERIES

1. The fisheries of Japanese colonies prior to World War II consisted of those of Korea, Karafuto, Formosa, the Mandated Islands, and the Kwantung Peninsula (Table 11 and Figure 6). Production data for the colonies are incomplete.

2. Korea was much the largest colonial producer, averaging 1,461,000 tons annually in 1931-38. The bulk of this catch consisted of sardines, most of which were converted into oil and meal. The Karafuto production averaged 144,000 tons, the Formosan production 88,750 tons, and the Kwantung Peninsula 50,925 tons for 1931-38. The commercial catch of the Mandated Islands during 1936-39 averaged about 25,000 tons, most of which was bonito dried and processed as bonito sticks (katsuobushi).

3. Although the colonial fisheries contributed to the production from the Japanese Empire, much of their yield did not supply Japan Proper. Korea was the largest colonial supplier, exporting about 42 percent of its production to Japan 15/. A considerable part of the Formosan catch was consumed domestically or sent to southern China, and much of the Kwantung catch was consumed in Manchuria. Although most of the catch of the Mandated Islands was sent to Japan, in exchange Japan supplied the Mandated Islands with canned and salted fish.

15/ Exports were largely sardine oil and meal. This percentage was calculated in terms of raw materials, ie, fish weight as landed.

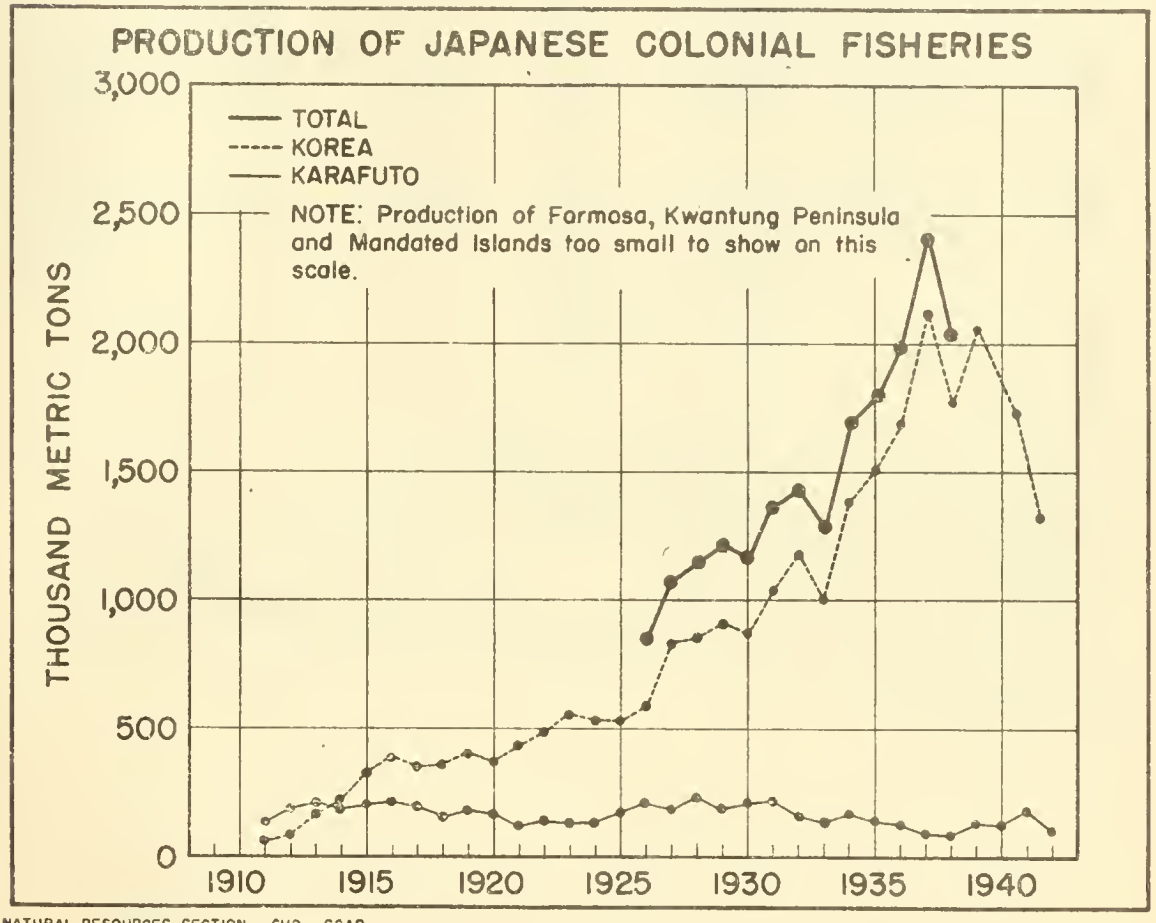


Figure 6

TABLE II.- PRODUCTION OF JAPANESE COLONIAL FISHERIES a/
(metric tons)

Year	Total	Korea b/	Karafuto c/	Formosa d/	Kwantung Peninsula e/	Mandated Islands f/
1911	Inc	66,356	146,430	ND	ND	ND
1912	Inc	89,190	189,630	ND	ND	ND
1913	Inc	166,331	209,646	ND	ND	ND
1914	Inc	218,261	197,676	ND	ND	ND
1915	Inc	328,597	200,268	ND	ND	ND
1916	Inc	394,076	211,482	ND	9,760	ND
1917	Inc	350,767	199,980	ND	ND	ND
1918	Inc	357,153	158,436	ND	ND	ND
1919	Inc	407,355	178,722	ND	ND	ND
1920	Inc	379,526	162,428	ND	ND	ND
1921	Inc	442,233	128,016	ND	10,975	ND
1922	Inc	490,368	140,310	ND	ND	9 g/
1923	Inc	551,985 h/	137,700	ND	ND	7 g/
1924	Inc	538,908 h/	142,542	33,669	ND	17 g/
1925	Inc	537,382 h/	172,692	36,691	ND	36 g/
1926	851,009	586,593 h/	211,194	38,555	14,575	92 g/
1927	1,082,177	830,517 h/	185,058	43,072	23,478	52 g/
1928	1,149,164	851,659 h/	228,264	45,889	23,189	163 g/
1929	1,211,258	908,362 h/	190,926	59,551	51,950	469 g/
1930	1,173,481	869,499 h/	209,196	57,598	35,853	1,335 g/
1931	1,360,256	1,043,088 h/	212,760	66,395	35,197	2,816 g/
1932	1,440,388	1,171,357 h/	153,126	69,157	41,887	4,861 g/
1933	1,288,697	1,011,177 h/	136,764	87,060	46,807	6,889 g/
1934	1,694,289	1,397,423 h/	163,080	88,348	43,926	1,512 g/
1935	1,796,996	1,507,244 h/	140,796	92,537	47,463	8,956 g/
1936	1,993,125	1,673,355 h/	122,292	123,204	56,834	17,440 g/
1937	2,413,055	2,121,154 h/	97,218	93,780	61,270	39,633 g/
1938	2,036,315	1,765,466 h/	87,714	89,520	74,036	19,579 g/
1939	Inc	2,052,015 h/	131,022	79,545	ND	23,333 g/
1940	Inc	1,741,160 h/	123,660	ND	ND	ND
1941	Inc	1,325,850 h/	174,402	ND	ND	ND
1942	Inc	ND	107,730	ND	ND	ND
1943	Inc	ND	ND	ND	ND	ND
1944	Inc	ND	ND	ND	ND	ND
1945	Inc	ND	ND	ND	ND	ND
1946	0 i/	0	0	0	0	0

a/ No production data are available for any colony prior to 1911.
b/ Korea became part of the Japanese Empire in 1910.
c/ Karafuto became part of the Japanese Empire in 1905.
d/ Formosa became part of the Japanese Empire in 1895 but the only data on fisheries production prior to 1924 are value figures.
e/ Kwantung was leased from China in 1915.
f/ The Mandated Islands came under the jurisdiction of Japan following World War I. The statistics are for commercial fisheries only, which are almost entirely operated by Japanese. Data on subsistence fishing by natives for their own consumption are not available.
g/ Bonito only, but this was the main commercial catch
h/ Includes whales
i/ Not Japanese colonies after 1945
ND: No data available
Inc: Incomplete data

PRODUCTION OF COASTAL AND OFFSHORE FISHERIES BY REGIONS

1. Table 12 summarizes for a five-year period (1936–40) the landings from coastal and offshore fisheries by prefectures and Japanese administrative regions (see Figure 7 for reference) Although fishing is widespread throughout Japan and important in all coastal districts, three regions stand out as areas of major production: (1) Hokkaido which provides more than one-third of the total; (2) the eastern coast of Honshu north of Shizuoka (parts of the Tohoku and Kanto regions); and (3) the western coast of Kyushu and extreme southern Honshu (including Nagasaki and Yamaguchi prefectures)

2. Inclusion of the overseas fisheries production would not change this over-all picture of regional landings, since the volume of the overseas fisheries was smaller than that of the coastal and offshore waters, and the prewar catch from overseas was largely landed in the same three regions. Ports of Hokkaido, western Kyushu and the southwestern tip of Honshu were the important landing points for the overseas fisheries.

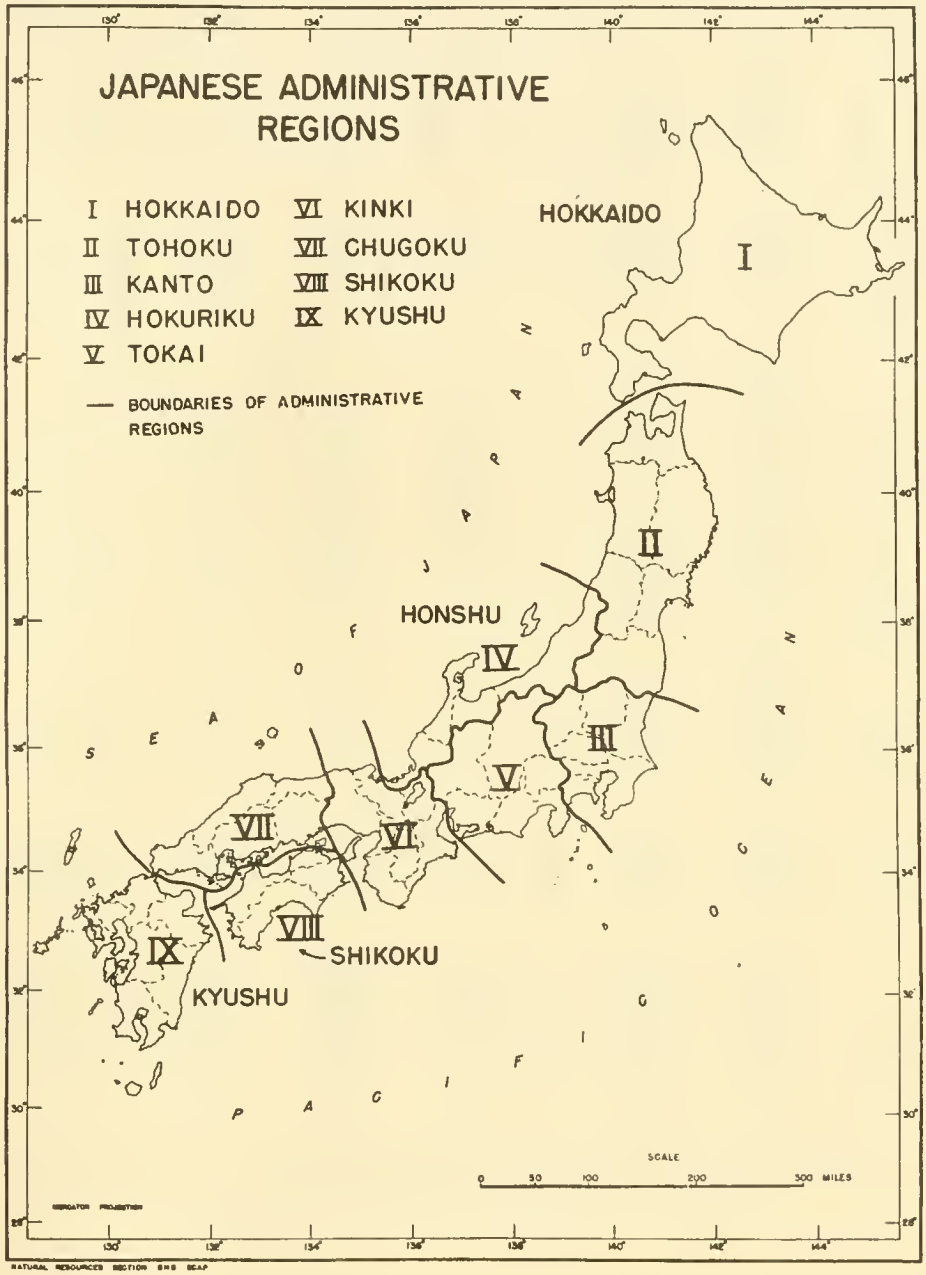


TABLE 12.- PRODUCTION OF MARINE PRODUCTS FROM COASTAL AND OFFSHORE FISHERIES, 1936-40 a/
(metric tons)

Region and Prefecture	Average 1936-40			1936			1937		
	Total	Coastal Fisheries	Offshore Fisheries	Total	Coastal Fisheries	Offshore Fisheries	Total	Coastal Fisheries	Offshore Fisheries
Hokkaido	1,297,952	1,122,524	175,359	1,322,137	1,127,843	194,294	1,459,294	1,252,136	207,158
Percent of total	37%	43%	20%	34%	39%	19%	41%	46%	24%
Tohoku									
Aomori	88,842	77,011	11,831	93,125	88,083	5,042	73,961	61,412	12,549
Iwate	124,507	105,279	19,228	212,028	186,775	25,253	103,561	85,452	18,109
Miyagi	94,059	34,955	59,105	131,960	56,230	75,730	77,375	24,910	52,465
Akita	12,127	8,791	3,336	14,576	10,603	3,973	11,047	7,597	3,450
Yamagata	6,194	3,315	2,879	5,733	3,401	2,332	5,420	2,968	2,452
Fukushima	96,070	57,497	37,573	108,694	102,998	5,696	103,496	93,065	10,431
Total Tohoku	420,709	286,848	133,952	566,116	448,090	118,026	374,860	275,404	99,456
Percent of total	12%	11%	16%	14%	15%	12%	10%	10%	12%
Kanto									
Ibaraki	108,376	96,834	11,542	206,433	174,989	31,444	114,147	106,490	7,657
Tochigi	461	461	0	511	511	0	477	477	0
Gumma	352	352	0	397	397	0	430	430	0
Saitama	320	320	0	322	322	0	318	318	0
Chiba	227,843	52,582	175,262	331,773	68,787	262,986	238,078	52,526	185,552
Tokyo	21,538	20,773	765	24,149	23,166	983	21,815	20,809	1,006
Kanagawa	30,159	26,809	3,350	30,571	27,369	3,202	31,906	27,955	3,951
Total Kanto	349,049	198,131	190,919	594,156	295,541	298,615	407,171	209,005	198,166
Percent of total	11%	7%	23%	15%	10%	31%	11%	8%	23%
Hokuriku									
Niigata	24,128	20,634	3,494	21,295	17,702	3,593	21,888	18,438	3,450
Toyama	32,278	31,998	280	52,252	52,043	209	23,247	23,016	231
Ishikawa	56,645	54,774	1,871	83,765	82,251	1,514	53,861	52,580	1,281
Fukui	24,540	23,599	941	29,672	28,284	1,388	25,491	24,665	826
Total Hokuriku	137,591	131,005	6,586	186,984	180,280	6,704	124,527	118,739	5,788
Percent of total	4%	5%	1%	5%	6%	1%	3%	4%	1%
Tokai									
Yamanashi	153	153	0	131	131	0	162	162	0
Nagano	997	997	0	870	870	0	1,004	1,004	0
Gifu	1,063	1,063	0	1,019	1,019	0	1,183	1,183	0
Shizuoka	119,647	74,460	45,186	114,036	72,677	41,359	109,479	59,717	49,762
Aichi	32,660	31,879	781	43,855	43,218	637	34,654	33,765	889
Total Tokai	154,520	108,552	45,968	159,911	117,915	41,996	146,482	95,831	50,651
Percent of total	4%	4%	5%	4%	4%	4%	4%	4%	6%
Kinki									
Mie b/	56,963	38,668	18,295	56,925	40,478	16,447	54,647	39,164	15,483
Shiga	33,568	33,568	0	36,713	36,713	0	38,784	38,784	0
Kyoto	29,089	28,630	458	29,637	29,277	360	31,455	30,965	490
Osaka	11,932	11,932	0	12,882	12,882	0	9,901	9,901	0
Hyogo	40,541	33,625	6,916	42,674	34,784	7,890	37,973	30,009	7,964
Nara	182	182	0	177	177	0	187	187	0
Wakayama	30,101	24,888	5,213	37,135	31,860	5,275	32,269	26,741	5,528
Total Kinki	202,375	171,493	30,882	216,143	186,171	29,972	205,216	175,751	29,465
Percent of total	6%	7%	4%	6%	6%	3%	6%	6%	3%
Chugoku									
Tottori	11,397	10,021	1,376	12,129	9,899	2,230	10,360	8,571	1,789
Shimane	42,391	29,821	12,571	40,137	30,977	9,160	40,827	28,119	12,708
Okayama	10,108	10,088	20	9,565	9,542	23	10,721	10,721	0
Hiroshima	19,169	19,167	2	21,050	21,047	3	19,098	19,096	2
Yamaguchi	111,753	42,829	61,923	116,702	48,810	67,892	123,975	50,367	73,608
Total Chugoku	194,818	118,925	75,892	199,583	120,275	79,308	204,981	116,874	88,107
Percent of total	6%	4%	9%	5%	4%		6%	4%	10%
Shikoku									
Tokushima	19,665	16,180	3,485	22,867	16,091	6,776	15,653	13,548	2,105
Kagawa	10,841	9,376	1,465	12,640	10,796	1,844	12,067	10,717	1,350
Ehime	59,704	56,761	2,942	64,704	60,379	4,325	60,439	57,203	3,236
Kochi	40,877	28,849	12,028	38,138	25,007	13,131	40,882	26,396	13,486
Total Shikoku	131,087	111,166	19,920	138,349	112,273	26,076	128,241	108,864	20,177
Percent of total	4%	4%	2%	3%	4%	3%	3%	4%	2%
Kyushu									
Fukuoka	91,021	30,994	60,027	92,640	30,742	61,898	90,200	30,100	60,100
Saga	29,045	19,438	9,607	37,715	23,101	14,614	30,379	22,052	8,327
Nagasaki	240,763	190,944	49,819	239,481	176,866	62,615	249,266	201,172	48,094
Kumamoto	23,833	22,711	1,122	20,657	19,310	1,377	27,738	26,476	1,262
Oita	28,400	26,152	2,248	34,834	29,633	5,201	29,137	24,105	5,032
Miyazaki	31,755	21,998	9,757	28,998	21,808	7,190	29,758	18,220	11,538
Kagoshima	68,159	44,426	23,733	60,498	39,184	21,314	67,769	43,685	24,084
Total Kyushu	512,976	356,663	156,313	514,853	340,644	174,209	524,247	365,810	158,437
Percent of total	15%	14%	19%	13%	12%	18%	15%	13%	18%
Okinawa	12,451	7,789	4,662	12,608	7,336	5,362	11,948	7,620	4,328
Percent of total	1%	1%	1%	1%	1%	1%	1%	1%	1%
TOTAL	3,453,528	2,613,096	840,432	3,911,230	2,936,368	974,862	3,546,967	2,725,234	861,733

Continued on next page

TABLE 12.- PRODUCTION OF MARINE PRODUCTS FROM COASTAL AND OFFSHORE FISHERIES, 1936-40 a/ (CONT'D)

(metric tons)

Region and Prefecture	1938			1939			1940		
	Total	Coastal Fisheries	Offshore Fisheries	Total	Coastal Fisheries	Offshore Fisheries	Total	Coastal Fisheries	Offshore Fisheries
Hokkaido	1,174,008	995,876	178,132	1,229,797	1,073,551	156,246	1,304,065	1,163,210	140,855
Percent of total	37%	40%	25%	38%	43%	20%	40%	46%	18%
Tohoku									
Aomori	81,274	67,814	13,460	119,835	104,121	15,717	76,012	63,627	12,385
Iwate	100,337	87,416	12,921	117,630	97,044	20,586	88,976	69,702	19,274
Miyagi	97,983	28,570	69,413	81,316	31,036	50,280	81,661	34,028	47,633
Akita	13,639	9,371	4,268	11,891	9,720	2,171	9,480	6,664	2,816
Yamagata	6,218	3,185	3,033	7,471	3,623	3,848	6,132	3,400	2,732
Fukushima	74,791	55,373	19,418	97,280	24,714	72,566	91,086	11,333	79,753
Total Tohoku	374,242	251,729	122,513	435,426	270,258	165,168	353,347	188,754	64,593
Percent of total	12%	10%	16%	13%	11%	21%	11%	7%	20%
Kanto									
Ibaraki	69,513	63,141	6,372	70,353	64,875	5,478	81,432	74,673	6,759
Tochigi	485	485	0	458	458	0	375	375	0
Gumma	351	351	0	309	309	0	275	275	0
Saitama	337	337	0	330	330	0	295	295	0
Chiba	179,431	53,246	126,185	197,238	42,237	145,001	202,696	46,113	156,583
Tokyo	19,571	19,171	400	20,982	20,634	348	21,175	20,085	1,090
Kanagawa	28,799	25,015	3,784	28,001	24,434	3,567	31,522	29,276	2,246
Total Kanto	298,487	161,746	136,741	317,671	153,277	154,394	337,770	171,090	166,680
Percent of total	9%	7%	17%	9%	6%	20%	10%	7%	21%
Hokuriku									
Niigata	24,262	20,459	3,803	28,352	25,628	2,724	24,841	20,941	3,900
Toyama	21,953	21,286	667	38,857	38,738	119	25,042	24,866	176
Ishikawa	47,580	46,548	1,032	57,859	55,737	2,122	40,162	36,752	3,410
Fukui	26,796	25,023	1,773	23,385	22,793	592	17,356	17,232	124
Total Hokuriku	120,591	113,316	7,275	148,453	142,896	5,557	107,401	99,791	7,610
Percent of total	4%	5%	1%	4%	6%	1%	3%	4%	1%
Tokai									
Yamanashi	188	188	0	147	147	0	136	136	0
Nagano	956	956	0	1,069	1,069	0	1,085	1,085	0
Gifu	1,016	1,016	0	1,074	1,074	0	1,025	1,025	0
Shisuoke	132,173	82,651	49,522	99,724	60,927	38,797	142,816	96,326	46,490
Aichi	33,093	32,509	584	25,486	24,593	893	26,211	25,310	901
Total Tokai	167,426	117,320	50,106	127,500	87,810	39,690	171,273	123,882	47,391
Percent of total	5%	5%	6%	4%	3%	5%	5%	5%	6%
Kinki									
Mie b/	59,536	40,780	18,756	52,202	34,482	17,720	61,504	38,437	23,067
Shiga	35,095	35,095	0	29,459	29,459	0	27,791	27,791	0
Kyoto	28,239	27,898	341	27,046	26,624	422	25,065	24,389	676
Osaka	14,399	14,399	0	9,442	9,442	0	13,036	13,036	0
Hyogo	36,481	28,282	8,199	41,714	36,054	5,660	43,462	38,996	4,466
Nara	207	207	0	186	186	0	151	151	0
Wakeyama	29,398	23,968	5,430	24,521	20,461	4,060	27,185	21,402	5,773
Total Kinki	203,355	170,629	32,726	184,570	156,708	27,862	202,594	165,212	34,382
Percent of tota	6%	7%	4%	6%	6%	3%	6%	7%	4%
Chugoku									
Tottori	10,663	9,539	1,124	11,289	10,444	845	12,543	11,651	892
Shimane	45,816	33,730	15,086	41,068	28,591	12,477	40,809	27,683	13,126
Okayama	9,641	9,633	8	10,499	10,481	18	10,118	10,065	53
Hiroshima	20,234	20,230	4	18,010	18,010	0	17,454	17,454	0
Yamaguchi	115,087	54,482	62,605	105,333	53,506	51,827	97,662	41,979	55,683
Total Chugoku	204,441	127,614	76,827	186,199	121,032	65,167	178,586	108,832	69,754
Percent of total	6%	5%	10%	6%	5%	8%	5%	4%	9%
Shikoku									
Tokushima	18,149	14,746	3,703	20,039	16,685	3,354	21,319	19,829	1,490
Kagawa	10,300	8,726	1,574	10,309	8,638	1,671	8,890	8,002	888
Ehime	64,530	62,065	2,465	61,798	59,451	2,347	47,047	44,708	2,339
Kochi	42,666	31,086	11,580	40,830	28,940	11,890	42,471	32,619	10,252
Total Shikoku	135,745	116,623	19,122	132,976	113,714	19,262	120,127	105,158	14,969
Percent of total	4%	5%	2%	4%	5%	2%	4%	4%	2%
Kyushu									
Fukuoka	89,725	35,164	54,561	89,467	30,314	59,153	93,068	28,648	64,420
Saga	26,931	18,413	8,518	25,305	16,838	8,467	24,899	16,788	8,111
Nagasaki	261,710	198,998	62,712	243,357	197,372	45,985	209,995	180,307	29,688
Kumamoto	21,778	20,651	1,127	18,123	17,015	1,108	30,843	30,105	738
Oita	28,655	28,284	371	24,605	24,268	337	24,771	24,470	301
Miyazaki	32,513	22,358	9,655	27,845	13,712	9,133	39,662	28,384	11,278
Kagoshima	62,147	38,647	23,760	66,153	43,496	22,657	83,932	57,080	26,852
Total Kyushu	523,759	363,055	160,704	494,855	343,015	146,840	507,170	365,792	141,378
Percent of total	16%	15%	20%	15%	14%	19%	15%	15%	18%
Okinawa	12,132	7,823	4,309	11,908	7,578	4,330	13,570	8,587	4,983
Percent of total	1%	1%	1%	1%	1%	1%	1%	1%	1%
TOTAL	3,214,186	2,425,731	788,455	3,259,355	2,474,839	784,516	3,295,903	2,503,308	792,595

a/ Includes production of fish, shellfish, other marine animals, and seaweed. These figures do not total exactly the same as figures given in Table 2 (Coastal Fisheries) and Table 7 (Offshore Fisheries), but in all cases totals are approximately the same.

b/ Mie Prefecture, included here in Kinki, is considered in more recent years as part of Tokai.

VALUE OF JAPANESE FISHERIES PRODUCTION

1. Value data 16/ concerning Japanese fisheries production are available only for 1920-40 (Table 13).

2. The production of Japanese fisheries has frequently been presented in terms of values. Figure 8, in which production in terms of tonnage is superimposed on the value figures, clearly indicates the limitations of value data for this purpose. The two curves follow a similar trend during 1932-37 but show little correlation in 1920-32. During 1929-31, when value of fisheries production was declining, the tonnage of the catch was increasing.

3. It should be noted that overseas fisheries are relatively more important by value than by volume. The higher value is due largely to canned crab and canned salmon which were produced for export.

16/ The value figures presented here are the best which can be derived from Japanese statistics. It should be recognized that they are derived by adding figures which are not entirely comparable. In some cases the value is for products as landed, but in others the value is for processed products. The value data after 1941, which are considered misleading because of government controlled price conditions, are omitted.

TABLE 13.- VALUE OF JAPANESE FISHERIES PRODUCTION a/

(thousand yen)

Year	Total	Coastal Fisheries	Offshore Fisheries	Aquiculture	Overseas Fisheries	Whaling
1920	348,740	270,294 b/	38,608	c/	37,202	2,636
1921	348,145	258,226 b/	48,243	c/	39,629	2,047
1922	358,762	235,840	56,619	14,221	50,164	1,918
1923	376,933	247,411	63,974	15,557	47,950	2,046
1924	387,647	251,176	62,458	17,652	54,213	2,148
1925	390,502	254,004	72,284	18,183	44,097	1,934
1926	391,428	225,353	85,435	17,282	61,211	2,117
1927	390,285	229,138	78,500	22,921	57,638	2,088
1928	392,888	209,264	80,872	23,566	77,049	2,137
1929	383,176	204,498	89,534	22,316	64,796	2,032
1930	308,981	162,928	66,547	18,509	59,138	1,859
1931	267,426	147,806	57,979	19,129	41,370	1,142
1932	269,064	145,736	54,020	18,470	49,642	1,196
1933	304,195	170,614	65,987	19,283	46,735	1,576
1934	337,299	173,137	69,428	22,318	69,508	2,908
1935	356,961	181,802	74,261	25,535	69,986	5,377
1936	422,748	212,648	87,483	25,552	85,306	11,759
1937	461,253	219,649	89,337	28,974	104,013	18,730
1938	534,481	248,895	110,542	30,110	117,034	27,900
1939	764,546	378,431	142,557	43,026	139,276	61,256
1940	914,354	458,300	194,611	46,774	103,837	80,832
1941	Inc	d/	d/	d/	Inc	19,237 e/
1942	Inc	d/	d/	d/	Inc	13,607 e/
1943	Inc	d/	d/	d/	Inc	21,694 e/
1944	Inc	d/	d/	d/	Inc	38,352 e/
1945	Inc	d/	d/	d/	Inc	15,559 e/
1946	Inc	d/	d/	d/	Inc	ND

a/ Excluding fishery production of colonies for which data are incomplete. Although this is an attempt to present the value of marine products as landed, in some cases the value figures of processed products have been used. For coastal and offshore fisheries and aquiculture the value is of marine products as landed; for the overseas fisheries the figures are based partly on the value of products as landed and partly on the value of processed products; for whaling the figures are the value of processed products.

b/ Includes aquiculture

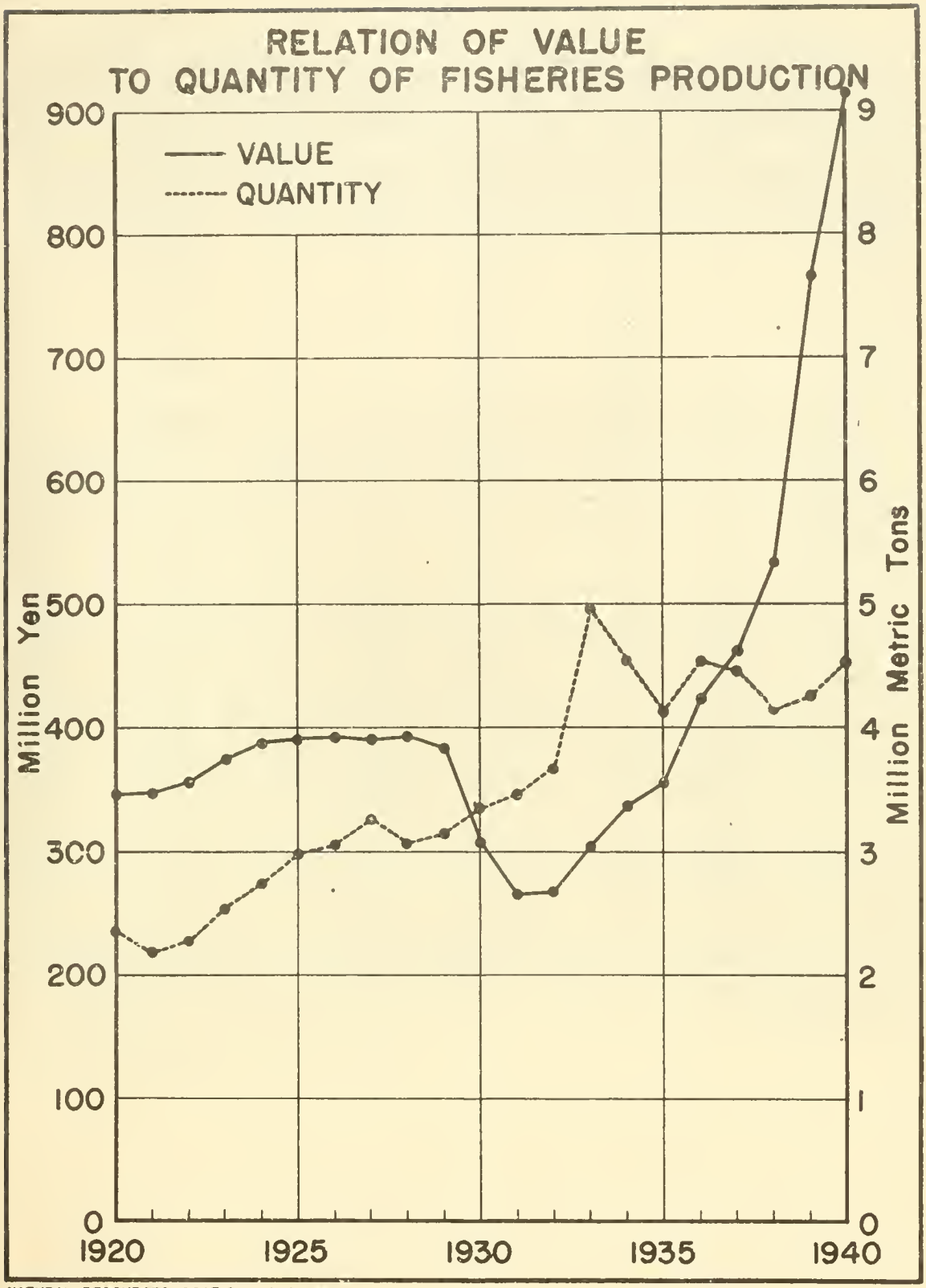
c/ Included in coastal fisheries

d/ No comparable data. After the inauguration of new price control regulations in 1941 the value figures do not represent the value of the total catch and are omitted from the Japanese Government's official statistics.

e/ Calculated on the basis of statistics from the whaling companies

ND: No data available

Inc: Incomplete data



NATURAL RESOURCES SECTION GHQ SCAP

Figure 8

FISHERMEN AND FISHING BOATS

1. More than 1,237,000 persons were engaged full-or part-time in fishing and aquiculture operations based on Japan Proper during 1931-38. An additional 263,000 persons were engaged in processing, making a total of about 1,500,000 persons closely dependent upon the Japanese fishing industry (Table 14). The number engaged in these activities has remained relatively constant for many years. Even during 1921-25 the total number occupied in fishing, aquiculture, and processing was more than 1,400,000.

2. An average of 363,000 fishing boats were reported annually during 1931-38. About 85 percent of these were unpowered. At an earlier period, 1921-25 for example, the total number of boats was slightly higher (an average of 366,000), but 97 percent of these were unpowered. Powered boats increased from an average of 9,230 during 1921-25 to more than 55,000 during 1931-38 (Table 15).

TABLE 14.- NUMBER OF JAPANESE EMPLOYED IN FISHING, AQUICULTURE, AND PROCESSING a/

Year	Total Fishing, Aquiculture, and Processing	Fishing and Aquiculture									Processing		
		Total			Fishing			Aquiculture					
		Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time	Total	Full-Time	Part-Time
1915	1,376,750	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1916	1,365,954	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1917	1,394,479	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1918	1,390,526	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1919	1,365,458	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1920	1,335,555	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1921	1,391,871	1,193,584	615,586	577,998	1,135,200	609,175	526,025	58,384	6,411	51,973	198,287	77,528	120,759
1922	1,369,955	1,169,508	614,453	555,025	1,109,116	608,584	500,532	60,392	5,899	54,493	200,477	77,858	122,619
1923	1,416,841	1,196,502	631,271	565,231	1,131,199	625,039	506,160	65,303	6,232	59,071	220,339	87,212	133,127
1924	1,411,504	1,187,120	623,440	563,680	1,115,480	616,651	498,829	71,640	6,789	64,851	224,384	89,484	134,900
1925	1,421,700	1,189,082	628,295	560,787	1,116,565	620,081	496,484	72,517	8,214	64,303	235,618	94,641	140,977
1926	1,451,039	1,214,992	639,579	575,413	1,112,435	630,171	482,264	102,557	9,408	93,149	236,047	101,142	134,905
1927	1,479,776	1,239,256	657,597	581,659	1,125,983	643,611	482,372	113,273	13,986	99,287	240,520	104,634	135,886
1928	1,500,261	1,251,305	663,022	588,283	1,130,430	649,623	480,807	120,875	13,399	107,476	248,956	109,589	139,367
1929	1,490,726	1,232,935	658,598	574,337	1,112,002	644,506	467,496	120,933	14,092	106,841	257,791	115,493	142,298
1930	1,482,355	1,230,236	658,468	571,768	1,109,700	643,772	465,928	120,536	14,696	105,840	252,119	115,435	136,684
1931	1,482,515	1,235,407	662,329	573,078	1,110,506	645,870	464,636	124,901	16,459	108,442	247,108	111,566	135,542
1932	1,499,014	1,248,248	667,672	580,576	1,106,854	643,723	463,131	141,394	23,949	117,445	250,796	113,959	136,837
1933	1,499,175	1,241,909	669,212	572,697	1,097,254	643,805	453,449	144,655	25,407	119,248	257,266	117,889	139,377
1934	1,521,916	1,254,353	673,802	580,551	1,103,326	649,026	454,300	151,007	24,776	126,231	267,563	122,228	145,335
1935	1,521,477	1,254,192	672,296	571,896	1,098,999	654,387	444,612	155,203	27,909	127,284	267,275	120,720	146,555
1936	1,534,432	1,257,129	668,749	568,380	1,102,502	662,591	439,911	154,627	26,158	128,469	277,303	130,600	146,703
1937	1,501,882	1,230,368	674,950	555,409	1,078,142	649,257	428,885	152,126	25,902	126,224	271,314	133,669	137,645
1938	1,442,713	1,180,013	646,315	533,698	1,035,873	622,267	413,611	144,135	24,048	120,087	262,700	125,394	137,306
1939	1,411,460	1,154,009	638,940	515,060	1,014,472	614,449	400,023	139,537	24,500	115,037	257,451	125,012	132,439
1940	1,423,001	1,154,963	648,135	506,828	1,027,170	624,739	402,431	127,793	23,396	104,397	268,038	131,674	136,364
1941	1,412,762	1,146,000	585,000	461,000	925,000	563,000	362,000	121,000	22,000	99,000	266,000	131,000	135,000
1942	1,312,211	988,000	552,000	436,000	873,000	531,000	342,000	115,000	21,000	94,000	262,000	129,000	133,000
1943 b/	1,170,000	910,000	508,000	402,000	802,000	498,000	304,000	108,000	20,000	88,000	260,000	128,000	132,000
1944 b/	1,057,000	799,000	443,000	356,000	698,000	425,000	273,000	101,000	18,000	83,000	258,000	127,000	131,000
1945 b/	975,000	721,000	398,000	323,000	626,000	381,000	245,000	95,000	17,000	78,000	254,000	125,000	129,000
1946	ND.	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

a/ The numbers given here for each year are based on data as of 31 December from 1915 through 1940 and as of 1 August for the other years.
b/ Estimated data for these years
ND: No data available

TABLE 15.- NUMBER OF JAPANESE FISHING BOATS, 1908-46 a/

Year	Grand Total	Total less than 5 tons gross	Total more than 5 tons gross	Without Power		With Power	
				Less than 5 tons gross	More than 5 tons gross	Less than 5 tons gross	More than 5 tons gross
1908	427,685	b/	b/	427,652 c/	ND	ND	33 d/
1909	419,593	b/	b/	419,302 c/	ND	ND	291 d/
1910	424,906	b/	b/	424,322 c/	ND	ND	584 d/
1911	420,815	b/	b/	419,769 c/	ND	ND	1,046 d/
1912	419,166	b/	b/	417,933 c/	ND	ND	1,233 d/
1913	414,967	b/	b/	413,320 c/	ND	ND	1,647 d/
1914	408,104	b/	b/	406,084 c/	ND	ND	2,020 d/
1915	395,589	b/	b/	380,843	12,230	ND	2,516 d/
1916	394,701	b/	b/	380,618	11,283	ND	2,800 d/
1917	387,220	b/	b/	373,358	10,884	ND	2,978 d/
1918	385,120	b/	b/	372,168	9,686	ND	3,266 d/
1919	384,609	b/	b/	371,576	9,001	ND	4,032 d/
1920	383,565	b/	b/	369,384	8,396	ND	5,785 d/
1921	382,200	b/	b/	362,970	13,013	ND	6,217 d/
1922	363,971	b/	b/	348,265	8,544	ND	7,162 d/
1923	364,742	351,372	13,370	347,847	7,827	3,525	5,543
1924	361,239	346,119	15,120	341,165	9,133	4,954	5,937
1925	356,920	342,055	14,865	335,367	8,740	6,688	6,125
1926	350,943	332,091	18,852	326,161	8,870	5,930	9,982
1927	354,554	334,451	20,103	324,880	8,877	9,571	11,226
1928	360,126	339,374	20,752	326,500	8,131	12,874	12,571
1929	359,961	336,932	23,029	319,584	9,274	17,348	13,755
1930	359,295	335,920	23,375	314,400	8,528	21,520	14,547
1931	360,690	337,288	23,402	309,987	8,456	27,301	14,946
1932	360,686	336,539	24,147	306,137	9,080	30,402	15,067
1933	363,473	340,095	23,378	306,381	8,053	33,714	15,325
1934	364,582	340,395	24,187	303,342	8,211	37,053	15,976
1935	366,019	341,309	24,710	300,651	7,890	40,658	16,820
1936	366,267	341,572	24,695	296,798	7,300	44,774	17,395
1937	364,260	338,839	25,421	290,734	7,227	48,105	18,194
1938	356,482	331,960	24,522	281,849	6,478	50,111	18,044
1939	354,729	330,430	24,299	276,663	6,427	53,767	17,872
1940	354,215	329,816	24,399	273,032	5,986	56,784	18,413
1941	326,959	304,991	21,968	255,044	2,762	49,947	19,206
1942	333,774	311,668	22,106	259,862	2,707	51,806	19,399
1943	326,749	307,256	19,493	251,519	2,673	55,737	16,820
1944	311,823	ND	ND	241,128	2,719	ND	67,976 d/
1945	ND	ND	ND	ND	ND	ND	ND
1946	294,991	ND	ND	227,152 c/	ND	ND	67,839 d/

a/ The numbers given here are for registered fishing boats. Figures for the actual number operating each year are not available. For the period 1908 through 1940 the registered boats are as of 31 December each year; from 1941-44 the number registered is as of 1 August. The 1946 figure is as of 31 December.

b/ No breakdown by tonnage available for 1908-22

c/ Includes non-powered boats more than 5 tons

d/ Includes powered boats less than 5 tons

ND: No data available

THE IMPORTANCE OF SARDINES AND HERRING IN JAPANESE FISHERIES

1. Table 16 and Figure 9 are presented to indicate the close relationship between the catch of sardines and herring and the total production of Japanese coastal and offshore fisheries. These pelagic species have for many years constituted a major part of the catch; they accounted for one-third to one-half of the total tonnage of coastal and offshore fisheries during 1931-38.

2. In the years when the catch of these species has been high the over-all Japanese production, strongly influenced by these species, has also been high. In 1916, 1920, 1927, 1933, 1936 and 1941 total production reached peaks above the general trend line; each of these years was also a peak year for herring or sardines or for both. 17/

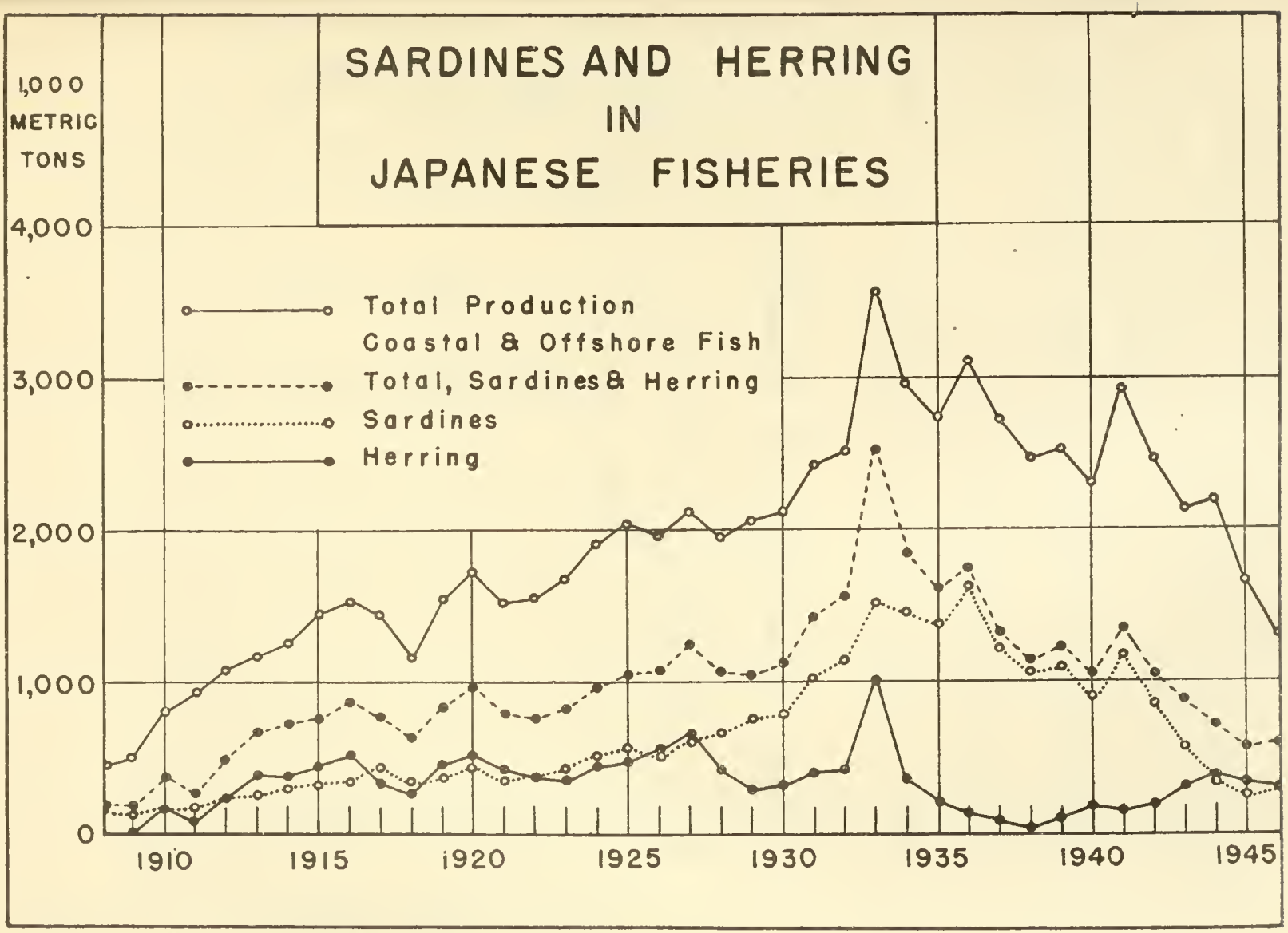
3. The close correlation between the production of these species and total production should be recognized and taken into account in predicting future production. Further study to determine dominant year classes should aid in future predictions.

17/ Although sardines and herring are produced mainly for food, they are also used for the production of oil and fertilizer. In years of abnormally high catch the surplus of these species was used chiefly for non-edible purposes and thus did not contribute directly to the nation's food supply.

TABLE 16.- PRODUCTION OF SARDINES AND HERRING OF JAPAN PROPER a/ (metric tons)

Year	Total	Sardines	Herring
1908	168,737	159,820	8,917
1909	191,072	172,180	18,892
1910	380,257	186,352	193,905
1911	291,613	186,801	104,812
1912	501,790	251,384	250,406
1913	672,827	268,300	404,527
1914	722,833	316,870	405,963
1915	773,670	326,235	447,435
1916	884,855	367,093	517,762
1917	789,869	458,294	331,575
1918	632,750	336,107	296,643
1919	849,179	385,278	463,901
1920	970,483	457,562	512,921
1921	805,041	384,861	420,180
1922	795,556	402,778	392,778
1923	821,829	438,223	383,606
1924	981,203	516,755	464,448
1925	1,049,485	578,800	470,685
1926	1,078,739	528,146	550,593
1927	1,260,835	607,537	653,298
1928	1,088,931	676,101	412,830
1929	1,074,284	766,983	307,301
1930	1,116,314	788,711	327,603
1931	1,430,725	1,025,508	405,217
1932	1,573,049	1,153,331	419,718
1933	2,532,493	1,524,940	1,007,553
1934	1,850,327	1,467,149	383,178
1935	1,607,016	1,377,633	229,383
1936	1,771,217	1,628,264	142,953
1937	1,324,022	1,207,949	116,073
1938	1,127,804	1,084,391	43,413
1939	1,213,642	1,091,085	122,557
1940	1,050,805	865,694	185,111
1941	1,372,462	1,198,695	173,767
1942	1,061,516	860,940	200,576
1943	898,642	586,545	312,097
1944	713,100 b/	337,100 b/	376,000 b/
1945	582,800 b/	259,200 b/	323,600 b/
1946	601,538 b/	292,373 b/	309,165 b/

a/ Includes catch of both coastal and offshore fisheries
b/ Reported production. Actual production, especially in 1946, was higher.



NATURAL RESOURCES SECTION GHQ SCAP

Figure 9

OVERFISHING: TRAWLING FOR SEA BREAM (TAI)

1. If Japan is to maintain a high level of fisheries production in the future, care must be taken to prevent overfishing. An outstanding example of the balance between natural production and catch being upset is that of the offshore and overseas catch of sea bream (tai).

2. Tai is a favorite food fish of Japan. It has long been taken in coastal waters and about 1915 became the object of otter trawlers and small motor boat trawlers (kisensokobiki) in waters west of Japan. Complete data are not available for the entire period of this trawl fishing but enough are presented in Table 17 and Figure 10 to show a rapid exhaustion of resources under conditions of continued fishing effort 18/.

3. During 1924-29 good catches were obtained in the East China and Yellow seas, with 1928 the peak year of production for small trawlers operating east of longitude 130°E and 1926 the peak year west of longitude 130°E. For the otter trawlers 1923 was the year of highest yield followed by a rapid decline after 1930.

4. With the depletion of the valuable tai resources of these waters, the transfer of Japanese trawling operations to new species and new areas was necessary.

18/ The number of vessels is given to show that there was a sustained effort. More accurate information concerning fishing effort (such as the number of hauls) is not available.

TABLE 17.- JAPANESE TRAWLING FOR SEA BREAM (TAI) a/

Year	Small Motor Boat Trawl Fishing (Kisensokobiki Gyogyo)						Otter Trawling	
	East of 130°E b/			West of 130°E b/				
	Number of Vessels	Tonnage	Catch of Tai (metric tons)	Number of Vessels	Tonnage	Catch of Tai (metric tons)	Number of Vessels c/	Catch of Tai (metric tons)
1921	ND	ND	ND	ND	ND	ND	70	3,067
1922	ND	ND	ND	ND	ND	ND	70	3,307
1923	ND	ND	ND	ND	ND	ND	70	4,057
1924	1,223	18,687	2,940	472	13,939	28,815	70	3,877
1925	1,334	21,572	4,807	495	15,182	29,798	76	3,750
1926	1,409	23,021	4,350	609	18,053	30,454	69	2,985
1927	1,307	23,808	6,554	978	25,353	21,275	70	1,736
1928	1,591	26,849	8,774	813	28,267	15,643	67	2,130
1929	1,824	30,012	3,746	757	43,727	18,137	69	1,909
1930	1,941	30,818	4,083	845	35,129	12,546	72	521
1931	1,748	29,872	3,435	845	32,186	9,100	71	345
1932	1,646	29,674	2,805	820	32,134	8,418	70	259
1933	1,674	32,676	2,350	879	33,658	7,413	71	128
1934	1,609	32,113	3,690	859	36,596	7,788	74	135
1935	1,485	37,147	3,495	817	32,112	5,677	75	199
1936	ND	ND	ND	ND	ND	ND	76	101
1937	1,233	26,228	2,696	703	33,423	5,628	74	86

a/ This does not include all the production of tai as this species is taken by other gear in the coastal and offshore waters.

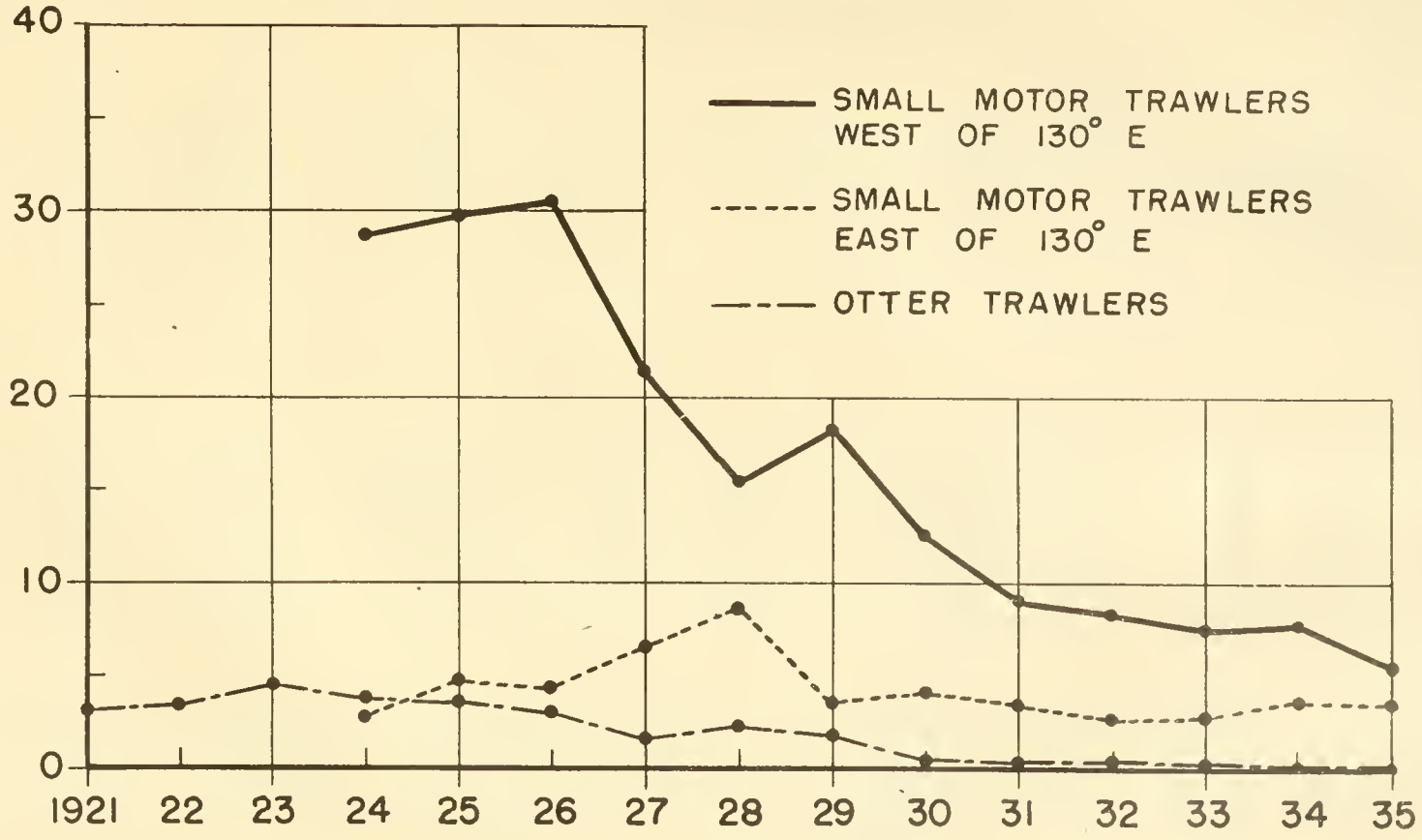
b/ The small trawlers, under Japanese law, were registered for the area east of 130°E separately from those west of 130°E. Boats were confined to the area of registry.

c/ Tonnage figures for these vessels are not available, but most of the otter trawlers are about 250 tons.

ND: No data available

PRODUCTION OF SEA BREAM (TAI) BY TRAWLING

(THOUSAND METRIC TONS)



NATURAL RESOURCES SECTION GHQ SCAP

Figure 10

APPENDIX

In order to avoid misunderstanding in the use of names employed in the tables, the following list of English, Japanese, and scientific names is given.

English Name	Japanese Name	Scientific Name	Remarks
FISH			
bonito	katsuo	Katsuwonus pelamis	Coastal and offshore fisheries Also known in English as skipjack or oceanic bonito
carp	koi	Cyprinus carpio	Aquiculture
cod	tara	Gadus macrocephalus	Coastal and offshore fisheries
eel	unagi	Anguilla japonica	Aquiculture
flatfish	hirame and karei (general names)	Fish of the families Soleidae, Cynoglossidae and Pleuronectidae	Coastal and offshore fisheries Many species are taken including those translated as sole, turbot, and plaice
herring	nishin	Clupea pallasii	Coastal fisheries
horse mackerel	aji, (general name) ma-aji muro-aji	 Trachurus japonicus Decapterus species	Coastal fisheries
mackerel	saba	Scomber japonicus	Coastal and offshore fisheries
mullet	bora	Mugil cephalus	Aquiculture
pollack	sukeso or suketodara	Theragra chalcogramma	Coastal and offshore fisheries
salmon chum or dog	sake and masu (general names) sake	 Oncorhynchus keta	Coastal, offshore fisheries (chiefly coastal, including rivers)
king red silver pink or humpback salmon-trout	masu-nosuke benimasu ginmasu Karafuto masu masu	O. tschawytscha O. nerka O. kisutch O. gorbuscha O. masou	Coastal, offshore and overseas fisheries
sardine	iwashi (general name)		Includes true sardine, anchovy, and a herring
	ma-iwashi	Sardinia melanosticta	Coastal and offshore fisheries
	katakuchi-iwashi	Engraulis japonicus	Coastal fisheries
	urame-iwashi	Etrumeus micropus	Coastal fisheries
sea bream	tai (general name)		Also known in English as porgy and snapper
	madai	Pagrosomus major	Coastal, offshore and overseas (trawling)
	chidai	Evynnis japonicus	Coastal, offshore and overseas (trawling)
	kidai	Taius tumifrons	Coastal and offshore (trawling)

English Name	Japanese Name	Scientific Name	Remarks
shark	fuka, same or zame (general names) hiragashira yoshikiri mejirozame aburazame hoshizame	 Scoliodon walbeehni Galeus glaucus Carcharinus japonicus Squalus suckleyi Mustelus manazo	Many species are included in the catch of which only a few of the important ones are listed here. Sharks are taken in coastal and offshore fisheries.
skipper	aamna	Colobis saira	Coastal and offshore fisheries
Spanish mackeral	sawara	Sawara niphonia	Offshore fisheries
trout	masu (general name)	Same species listed as salmon plus the following: Salmo irideus Salvelinus fontinalis	Coastal, offshore, overseas fisheries and aquiculture. Caught only in inland waters or raised by aquiculture.
tuna bluefin tuna albacore big eyed tuna yellowfin tuna swordfish marlin	maguro (general name) kuro maguro or meji binnaga maguro mebachi maguro kiwada maguro kajiki mazara	 Thunnus orientalis Germo germo Parathunnus sibi Neothunnus itosibi Xiphias gladius Makaira mazara M. mitsukurii	Includes the various species listed which in addition to tunas include swordfish and marlins. All except binnaga maguro (albacore) are caught in both coastal and offshore waters. Binnaga is taken only in the offshore fisheries.
yellowtail	buri	Seriola quinqueradiata	Coastal fisheries
SHELLFISH			
abalone	awabi	Haliotis gigantea	Coastal fisheries
arkshell	akagai	Andara inflata	Coastal fisheries and aquiculture
clam	hokkigai	Mactra sachalinensis	Coastal fisheries
cockle	torigai	Cardium muticum	Coastal fisheries and aquiculture Also translated as heart clam
hard clam	hamaguri	Meretrix meretrix	Coastal fisheries and aquiculture
little neck clam	asari	Paphia philippinarum	Coastal fisheries and aquiculture
oyster	kaki (general name) magaki a/ itabogaki	 Ostrea gigas O. denselamellosa	Coastal fisheries and aquiculture
top-shell	sazae	Turbo cornutus	Coastal fisheries Also translated as spiny whelk or conch

English Name	Japanese Name	Scientific Name	Remarks
OTHER AQUATIC ANIMALS			
crab	kani (general name)		Coastal fisheries
	gazami (or watarigani) a/	Portunus trituberculatus	Nokogirigazami also produced by aqui-
	janomegazami	P. sanguinolentis	culture
	mokuzugani	Eriochir japonica	
	nokogirigazami	Scylla serrata	
	zuwaigani a/	Chionecetes phalangium	
	tarabagani a/	Paralithodes camtschaticus	Offshore and overseas fisheries, (especially factory vessels and Soviet territory)
cuttlefish and squid	ika (general name)		
	aori-ika	Sepioteuthis lessoniana	Coastal fisheries
	hari-ika	Sepia esculenta	
	hotaru-ika	Watasenia scintillans	
	kensaki-ika a/	Loligo kensaki	
	me-ika	Sepiella maindroni	
	mehikari-ika	Loligo edulis	
	mimi-ika	Eunprymna morsei	
	sode-ika	Thysenoteuthis rhombus	
	surume-ika a/	Ommastrephes sloanipacificus	
octopus	tako (general name)	Polypus species	Coastal fisheries
sea cucumber	namako (general name)		
	namako a/	Stichopus japonicus	Coastal fisheries
	fuji-namako	Holothuria monacaria	
	kinko	Cucumaria japonicus	
shrimp	ebi (general name)		The name ebi is also used to include spiny lobster.
	aka-ebi	Penacopsis akaebi	Coastal fisheries, including fresh water inland fisheries. Suji-ebi and tenaga-ebi are the fresh water species.
	akaza	Nephrops japonicus	
	futomizo-ebi	Penaeus latisulcatus	
	kuma-ebi	P. semisulcatus	
	kuruma-ebi a/	P. japonicus	
	nuka-ebi	Xiphocaridina compressa	
	sakura-ebi	Sergestes phosphoreus	
	shiba-ebi	Penacopsis joyneri	
	shira-ebi	Pasiphaea sivado	
	suji-ebi	Leander paucidens	
	tenaga-ebi	Macrobrachium nipponense	
	ushi-ebi	Penaeus carinatus	
	yoshi-ebi	Penacopsis monocerot	
	korai-ebi or taisho-ebi	Penaeus orientalis	Overseas fisheries (especially trawling in East China Sea)
spiny lobster	ise-ebi	Panulirus japonicus	Coastal fisheries
whale	kujira (general name)		
blue	shiro-nagasu-kujira	Balaenoptera musculus	The first five species are those taken in largest quantities in all areas of Japanese operations; offshore and former colonial waters, the Antarctic and the Northern seas. The gray and right whales were taken in earlier years in whaling of Japan Proper and colonies.
fin	nagasu-kujira	B. physalus	
sei	iwashi-kujira	B. borealis	
sperm	makko-kujira	Physeter catodon	
humpback	zeto-kujira	Megaptera nodosa	
gray	ko-kujira	Rhachianectes glauces	
right	semi-kujira	Balaena glacialis	

English Name	Japanese name	Scientific Name	Remarks
SEAWEED			
laver	amanori (general name)	Porphyra species	All types of seaweed are taken in coastal waters. Amanori and tengusa are also cultivated. There are no English equivalents for the last three seaweeds.
tangle	kombu	Laminaria species	
	funori	Gloiopeltis furcata G. tenax Gymnogongrus species	
	tengusa (general name)	Gelidium species especially G. amansii	
	wakame	Undaria species	

a/ More important than other species listed under same name