

## CHAPTER XXV.

## FISHERIES.

## § 1. General.

1. *Fish Resources.*—The waters surrounding the Australian continent contain a great variety of marine fauna. Despite this, the fish stocks of Australia, in common with those of other countries of the Southern Hemisphere, are small by comparison with the stocks in the Northern Hemisphere. The reasons for this comparative shortage have not been fully explained but it seems clear that the basic factors involved are the absence of large expanses of shallow water and the much lower fertility of the oceans of the Southern Hemisphere.

The existence of greater fish stocks largely explains why approximately 98 per cent. of the world production of fish comes from the Northern Hemisphere. Nevertheless the Australian catch is low even after making allowance for the smaller resources available. Further explanation must be sought in terms of the socio-economic factors which determine the demand for and supply of fish.

By comparison with the populations of other countries, notably those in the Northern Hemisphere, Australians are not large fish eaters. As a result, there is not the pressure on resources so necessary to induce expansion in the fishing industry and to encourage the investment of large amounts of capital. On the other hand, even this somewhat restricted Australian demand for fish cannot be met from purely local sources of supply. The result is that large quantities of fish are imported each year.

This apparent paradox is explained by the fact that the Australian fishing industry has consistently over-exploited some sources of supply and under-exploited others.

Thus, on the one hand, the fisheries in the estuaries of the Australian coasts (the so-called estuarine fisheries) and those offshore for fish that dwell on the bottom of the sea (the demersal fisheries) have frequently been overfished with a consequent diminution of stocks. On the other hand, those species of fish which dwell near the surface of the sea (the pelagic species) have barely been exploited at all.

It is anticipated that the greatest future development of the Australian fishing industry will take place in the pelagic fisheries. However, no great contribution to the supplies of fresh fish can be expected from this source since most of the pelagic species caught are canned or processed.

An increase in the supply of fresh fish available to the Australian consumer will therefore have to come largely from an expansion of the estuarine and demersal fisheries. In view of the over-exploitation of existing estuarine and demersal fisheries, such an expansion will require the development of new fishing areas.

While it is known that promising fishing grounds exist to the south and north of Australia, it appears that the trawling grounds of the Great Australian Bight are the most suitable for development. It is not considered, however, that any great expansion of production can come from this source.

2. *Fishing Areas.*—The principal fishing areas at present are the coastal lakes, streams, estuaries and beaches, from Cairns in Queensland to Ceduna in South Australia, and from Esperance to Geraldton in Western Australia. For the most part, these fishing grounds are associated with the coastal streams. The demersal grounds fall into two classes—(a) the reefs from which cod, snapper, etc. are taken; and (b) the grounds from which flathead, morwong, etc., are taken. The reefs extend intermittently from northern Queensland around the southern part of the continent to Shark Bay in Western Australia. The flathead grounds lie on the continental shelf off south-east Australia, chiefly from Crowdy Head to south of Cape Everard and further off the east Tasmanian coast from Babel Island southwards to Storm Bay. As mentioned in the previous section other demersal grounds exist in the Great Australian Bight but would require large modern trawlers for commercial exploitation. The demersal shark grounds lie principally in Bass Strait and on the continental shelf off eastern South Australia. Other grounds have been located off southern Western Australia.

The grounds of existing pelagic fisheries include that for the Spanish mackerel off the north-eastern coast from about Coff's Harbour to Cairns and that for barracouta in Bass Strait and off eastern Tasmania. Jack mackerel is found in the waters of eastern Tasmania,

the south-east coast of New South Wales, and Western Australia. Tuna is now being taken in commercial quantities on the New South Wales coast.

Of the crustaceans exploited in Australia, crayfish are the most important and are taken on reefs of the continental shelf in the waters of all southern States, the fishery extending (with a major interruption in the Bight) from Port Macquarie in New South Wales to Geraldton in Western Australia. Considerable development has taken place in the crayfish fisheries, particularly in South Australian and Western Australian waters, owing to the opening up of markets in the United States of America for frozen crayfish tails. Crabs of various species are found in practically all coastal waters. Prawns are taken in the temperate waters of Queensland and New South Wales.

In the mollusc group, edible oysters are found in the temperate waters of Queensland, New South Wales and Victoria. Some cropping of natural resources takes place in Queensland, but the principal cultivation grounds are found in New South Wales. The scallop is taken commercially only in Tasmanian waters.

Pearlshell is fished from Cooktown in Northern Queensland, and from Thursday Island, round the north coast of Australia to Exmouth Gulf in Western Australia. Trochus shell is obtained from Mackay in Queensland round the north coast to King Sound in Western Australia.

Whales emigrating from Antarctic waters to their breeding grounds in the warmer waters of low latitudes pass up both the western and eastern coasts of Australia, returning to the Antarctic in the spring. Three whaling stations operate in Western Australia (Pt. Cloates, Babbage Island near Carnarvon and Cheynes Beach near Albany), one in New South Wales (Byron Bay) and one in Queensland (Moreton Bay).

3. **Fishing Boats and Equipment.**—The fishing equipment includes almost every possible type of gear, and appropriate boats are employed. The on-shore equipment includes mesh-nets, trawl-nets, and traps of various types. The demersal reef-fishery is worked with traps, hand lines and long lines. The demersal flathead fishery is worked by both otter trawl (with Vigneron-Dahl gear) and Danish seine; in addition some hand-lining is carried out. The demersal shark fishery is worked by long lines. The pelagic mackerel fishery employs trolling gear with lures of various types, while the pelagic barracouta fishery employs principally barbless jigs. Tuna is taken by trolling and, more recently, by pole fishing with live bait.

The boats for the on-shore fisheries are almost invariably small vessels fitted with low-power petrol engines. The vessels working the reefs are larger (up to 50 feet) and have more power. The otter trawl vessels are steam trawlers, and the Danish seine vessels are 40 to 70 feet in length with diesel engines. The shark boats have diesel power and range from 35 to 50 feet in length.

4. **Administration.**—The fisheries are administered by State Departments while the Commonwealth Fisheries Office, a division of the Department of Primary Industry, co-ordinates fisheries administration and develops the fisheries of Australia.

The administration of the fisheries was discussed in greater detail in Official Year Book No. 41, page 844 and in earlier issues.

## § 2. Development and Present Condition of the Fishery.

1. **Fisheries Proper.**—(i) *General.* The development of Australian fisheries has almost invariably followed the same sequence at each centre. The earliest fisheries were on-shore followed by demersal reef fishing using long lines. Trawling operations have followed line fishing in suitable areas and more recently again the exploitation of pelagic fisheries has commenced.

Until about 1900 the expansion of the industry consisted chiefly of the extension of on-shore and demersal fishing with long lines into areas previously unworked. Barracouta was fished in Tasmanian waters at least by 1880, if not earlier, although the main development of this fishery occurred towards the end of the 1939-45 War and post-war to meet demands for canned fish.

The first major development of the industry came with the institution of trawling operations off the New South Wales coast in 1918 by the New South Wales Government. The State enterprise failed, but the fishery was found very profitable by private enterprise.

In 1936 the use of Danish seine vessels began and the fleet of these vessels rapidly expanded, and in 1946 (after the return of vessels requisitioned in war-time) a peak was reached when thirteen steam trawlers and 120 Danish seine vessels were licensed. The total catch of trawled fish in 1946-47 was 16,000,000 lb. Of the species taken by the trawl fishery, tiger flathead, morwong and nannygai are the most important and of these flathead may be regarded as the prime fish and commands a higher price. Since 1917 the composition of the catch has changed, because of depletion of the flathead stocks, and the lower-priced fish have become a larger proportion of the catch. In 1954-55 six steam trawlers (all based at Sydney but fishing right down the coast to Bass Strait) and a considerably larger number of Danish seine vessels in New South Wales and Victoria were engaged in the trawl fishery.

In Queensland waters since 1930 the Spanish mackerel has been taken by line fishermen, operating in off-shore waters out to the Barrier Reef between Gladstone and Cairns.

In 1930 also, fishing for snapper shark commenced in south-eastern waters, particularly off the Victorian and Tasmanian coasts. This fishery rapidly extended its area of operations, and by 1953-54 the catch of edible sharks had reached 8,600,000 lb. round weight. Great impetus was given to the fishery during war years by the demand for livers for fish oil production for medicinal purposes. Demand eased with the return of cod-liver oil and availability of synthetic vitamin "A". In 1955, processors ceased accepting shark livers because of availability of imported oils and synthetics at cheaper prices. The shark fishery is still important, however, as its flesh, which is sold as "flake", brings substantial prices, mainly in Melbourne.

As far as pelagic fisheries are concerned, pilchards occur in the southern waters of Australia from Port Stephens to the south-west of Western Australia. Commercial catches have been made with lampara nets and to a lesser extent with purse seines. Anchovies in Port Phillip Bay and sprats in Tasmanian waters are caught in payable quantities, though there is usually some difficulty in finding a market for them. Jack mackerel have been caught in commercial quantities off the east coast of Tasmania and off Eden in New South Wales.

The tuna fishery was established on the New South Wales coast during 1949, when fishermen, using improvised trolling gear, caught 1,000 tons of southern blue-fin tuna. The catch was canned at Eden and Narooma and some was frozen raw and sold direct to Californian canneries. The American-owned tuna clipper *Senibua*, whose operations were subsidized by the Commonwealth, demonstrated that Australian tunas could be caught by pole fishing with live bait. In 1955, 40 tuna boats were operating on the south coast of New South Wales, but their catch was limited by the canneries to quantities which could be marketed in canned form in Australia and overseas. The price of raw tuna in California was reduced below the level necessary to make export profitable. In 1955, a new plant on the south coast of New South Wales began producing smoked and cooked tuna, this giving further support to the tuna fishery.

Southern blue-fin tuna occurs all along the southern coastline of the continent. In addition, albacore, yellow-fin, striped (skipjack) and northern bluefin tuna occur, but their capture has not been developed.

(ii) *Production.* The statistics of production published in this issue of the Official Year Book are not fully comparable with those published in earlier issues. Previously production has been shown in "recorded" weights, whereas in this issue "round" or "gross" weights have been used. The change to round weights makes use of conversion factors, which allow for the fact that weights as recorded are frequently the weight of the fish in a gutted, headed and gutted, or otherwise reduced condition.

Publication on a round weight basis has been made possible largely as a result of the efforts of the Commonwealth Fisheries Office.

In interpreting Australian fisheries statistics, allowance should be made for the incomplete coverage. Returns are collected in most States from licensed professional fishermen only, and as a result the published totals fall short of total fish production to the extent of the catch by amateur fishermen, the commercial catch by persons not licensed as professional fishermen and unrecorded catch by professional fishermen.

Production by States for the years 1950-51 to 1953-54 is shown in the following table on a round weight basis.

**RECORDED PRODUCTION OF FISH.**  
(EQUIVALENT ROUND WEIGHT.)  
(‘000 lb.)

State.	1950-51.	1951-52.	1952-53.	1953-54.
New South Wales .. ..	26,333	28,331	32,660	32,332
Victoria(a) .. ..	12,044	13,285	13,069	13,820
Queensland .. ..	9,454	9,594	11,354	10,525
South Australia .. ..	6,874	7,856	8,102	8,317
Western Australia .. ..	8,652	7,344	9,225	10,913
Tasmania(a) .. ..	7,924	5,162	6,882	2,821
Northern Territory .. ..	56	62	87	100
Total .. ..	(b) 71,337	71,634	81,379	78,828

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria from 1951-52 onwards.

(b) Incomplete, excludes catch by Victorian fishermen in Tasmanian waters.

In the following table total Australian recorded production of fish by species is shown in terms of equivalent round weight for each of the years 1950-51 to 1953-54, details by States also being shown for the latter year. As an aid to identification scientific names have been listed in addition to common names. Data on catch by species is not available for years prior to 1950-51 and has not been published in previous issues of the Year Book.

**FISH—RECORDED PRODUCTION BY SPECIES.**  
(EQUIVALENT ROUND WEIGHT.)  
(‘000 lb.)

Species.	1950-51.	1951-52.	1952-53.	1953-54.						
				N.S.W.	Vic.a	Qld.	S.A.	W.A.	Tas.a	Aust.
Mullet—										
<i>Mugil dobula</i> , <i>Aldrichetta forsteri</i> , <i>Moolgarda argentea</i> , <i>Myrus elongatus</i> , <i>Mugil caeruleomaculatus</i>	10,449	11,155	13,969	6,288	751	4,561	500	691	10	12,807
Australian Salmon—										
<i>Arripis trutta</i> .. ..	6,845	6,629	8,118	2,578	1,427	..	1,000	6,011	382	11,398
Shark—										
<i>Galeorhinus australis</i> , <i>Emissola antarctica</i> , <i>Flokeus megalops</i> , <i>Pristiophorus cirratus</i> ..	5,824	6,707	7,698	1,903	3,149	..	2,100	318	1,116	8,580
Flathead—										
<i>Neoplatycephalus richardsoni</i> , <i>Truidis caeruleopunctatus</i> , <i>P. bassensis</i> , <i>Platycephalus fuscus</i> , <i>P. indicus</i> , <i>P. arenarius</i> , <i>Leviprora laevigata</i> .. ..	6,256	5,887	6,661	4,011	1,696	214	..	23	106	6,050
Barraclouta—										
<i>Thryxites atun</i> .. ..	8,336	8,151	9,275	337	4,632	..	..	..	799	5,768
Snapper—										
<i>Chrysophrys guttulatus</i> , <i>C. unicolor</i> .. ..	3,875	2,872	3,501	1,301	163	241	470	1,224	..	3,390
Morwong, Jackass-Fish, Perch, Queen Snapper—										
<i>Nemadactylus macropterus</i> , <i>N. rosenblatti</i> , <i>N. niger</i> , <i>N. spp.</i> , <i>Cheilodactylus spp.</i> .. ..	2,437	2,606	3,320	2,772	..	..	..	1	11	2,784
Leatherjacket—										
<i>Aluteridae</i> .. ..	3,350	4,719	3,187	2,667	13	6	..	23	(c)	2,700
Whiting—										
<i>Sillago ciliata</i> , <i>S. maculata</i> , <i>S. bassensis</i> , <i>Sillaginodes punctatus</i> ..	3,006	3,001	2,941	130	176	493	1,000	395	..	2,194
Mackerel—										
<i>Scomberomorus commersoni</i> , <i>S. queenslandicus</i> .. ..	1,450	1,560	2,303	..	..	1,980	..	17	..	1,997
Other Species .. ..	19,500 (d)	18,247 (d)	20,406 (d)	10,345	1,813	3,030	3,247	2,210	397	21,142 (d)
Total .. ..	71,337	71,634	81,370	32,332	13,820	10,525	8,317	10,913	2,821	78,828

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria.

(b) Incomplete; excludes catch by Victorian fishermen in Tasmanian waters, details of which are not available.

(c) Less than 500 lb.

(d) Includes Northern Territory production—species details not available.

2. **Crustaceans and Molluscs.**—Crayfish are taken (in pots) in all States other than Queensland. Cray fisheries have developed greatly since the War to take advantage of the market in the United States of America for frozen crayfish tails, the total catch increasing from approximately 3 million lb. in 1945-46 to 17.4 million lb. in 1953-54.

Prawns are taken by otter trawl in the waters of New South Wales, Queensland and Western Australia. Prawns have been found in considerable quantity in the ocean waters of northern New South Wales and southern Queensland. An important development is anticipated with improvement of handling and distribution and opening up of overseas markets.

Initially the Australian oyster fisheries depended solely upon the harvesting of naturally grown stock in littoral and submarine areas. However, the stocks soon deteriorated and attention was turned to methods of cultivation. This is carried on mainly in New South Wales where there has been constant improvement in methods, and the present technique in certain areas is highly efficient. The production for Australia in 1953-54 was 9,688,000 lb. (in shell). Scallops are taken by dredge in the D'Entrecasteaux Channel in Tasmania.

Details of production of crustaceans and molluscs are shown in the table below on a gross (in-shell) weight basis for each year 1950-51 to 1953-54, details by States being also shown for the latter year.

**RECORDED PRODUCTION OF CRUSTACEANS AND MOLLUSCS.**  
(GROSS (IN-SHELL) WEIGHT.)  
(‘000 lb.)

Item.	1950-51.	1951-52.	1952-53.	1953-54.						
				N.S.W.	Vic.(a)	Qld.	S.A.	W.A.	Tas.(a)	Aust.
<i>Crustaceans—</i>										
Crayfish ..	12,463	14,590	15,806	601	1,519	8	3,850	9,224	2,218	17,420
Crabs ..	568	466	580	131	..	395	..	16	..	542
Prawns ..	4,626	2,204	3,336	3,558	..	700	..	43	..	4,303
<b>Total ..</b>	<b>17,657</b>	<b>17,260</b>	<b>19,722</b>	<b>4,290</b>	<b>1,519</b>	<b>1,103</b>	<b>3,850</b>	<b>9,285</b>	<b>2,218</b>	<b>22,265</b>
<i>Molluscs—</i>										
Oysters ..	6,809	8,098	8,276	9,283	71	275	..	..	59	9,688
Scallops ..	1,803	1,628	3,229	..	..	..	..	..	3,779	3,779
Other ..	20	35	214	48	25	22	..	8	..	103
<b>Total ..</b>	<b>8,632</b>	<b>9,761</b>	<b>11,719</b>	<b>9,331</b>	<b>96</b>	<b>297</b>	<b>..</b>	<b>8</b>	<b>3,838</b>	<b>13,570</b>

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria. (b) Incomplete; excludes catch by Victorian fishermen in Tasmanian waters, details of which are not available.

3. **Pearl-shell and Trochus.**—The industry, which ceased operations on Japan entry into the war in December, 1941, did not resume on a commercial basis at Queensland centres until late in 1945, and at Western Australian centres until 1946, while operations off the Northern Territory coast were not resumed until 1948.

Before the war a large proportion of the key men were Japanese; the others included Malays, Chinese, Koepangers, Filipinos, Papuans and Torres Straits Islanders. On the resumption of operations without the Japanese, the labour available was, with few exceptions, inefficient. Queensland with a more ready source of labour from the Torres Strait Islands and mainland was able to expand its fishing more rapidly, and in the 1949 season, achieved its second highest pearl shell production on record. The expansion of the industry at Darwin has been retarded by the fact that the key men lack the local knowledge acquired by the Japanese. Western Australian centres also suffered from lack of skilled labour. In 1953 the Commonwealth permitted the employment at Broome, under certain conditions, of 35 Japanese divers, tenders and engine-drivers.

In 1953 a Japanese fleet, which had been pearling in the Arafura Sea while a Japanese Mission in Canberra was discussing a fisheries agreement with the Australian Government, moved into an area in which they had been asked not to fish. Their action was regarded

as having broken off the negotiations, and proclamations were issued in September 1953 declaring Australia's sovereign rights over the natural resources of the sea bed and sub-soil of the Continental Shelf adjoining Australia, its territories and the Trust Territory of New Guinea. In September the Pearl Fisheries Act 1952-53, providing for licensing and control of pearling, was brought into operation.

Japan disputed Australia's right to apply this legislation to foreign ships, and Australia agreed to refer the dispute to the International Court of Justice on condition that meantime Japanese pearling in Australian waters would be conducted in conformity with the Australian Government's policy of regulation and conservation, and that Japan would abide by the Court's decision. On these conditions, a Japanese pearling fleet operated in prescribed waters in 1954 and again in 1955.

Australian production of pearl-shell and trochus-shell was 2,337,000 lb. and 3,057,000 lb. respectively in 1953-54. In addition, Japanese pearlers took 2,110,000 lb. of pearl-shell in Australian waters.

Reference to inquiries into the pearl-shell fishing industry by a Royal Commission in 1912, and by the Tariff Board in 1935, appears on page 1031 of Official Year Book No. 37.

### § 3. Marketing and Distribution.

1. **Marketing.**—The greater portion of Australian fish is sold in metropolitan markets. In Queensland, fish marketing is under the control of a Fish Board, which has representatives of producers, wholesalers and consumers, and a Government nominee as chairman. A central market is located in Brisbane and there are branch markets or depots at fourteen centres along the coast. The organization ensures that all fish is marketed through these channels, and the board has encouraged to a very marked extent the steadily increasing fish production of the State. The fish marketing methods in this State have proved successful. In New South Wales the central market in Sydney is conducted by the Chief Secretary's Department, and the port depots in various centres along the coast by fishermen's co-operatives. These co-operatives distribute some of their fish to local centres and to inland country districts, and send the balance to the central market in Sydney. In Victoria, South Australia and Western Australia, fish is sold in central markets by agents. The greater part of the catch of fish in Tasmania is either processed in canneries in that State or exported to the mainland. There is some interstate export of fish from the northern rivers of New South Wales to Queensland, from Tasmania to New South Wales and Victoria, and from South Australia to Victoria.

2. **Consumption of Fish.**—Prior to the 1939-45 War, Australians consumed annually the fresh and canned equivalent of about 131 million lb. of round fish, or 19.0 lb. per person. About 70 million lb. were produced locally and the remainder was imported. Total consumption (including canned and cured) during 1953-54 is estimated at 87.3 million lb. edible weight (9 8 lb. per head) as compared with 69.9 million lb. edible weight (8 0 lb. per head) in the previous year. This is equivalent to approximately 172.3 million lb. fresh round weight (19.4 lb. per head) and 141.8 million lb. fresh round weight (16.2 lb. per head) respectively. Fish is not, as in many countries, a staple item in the diet of Australians and, away from the seaboard, is still regarded as rather a luxury.

3. **Processing, including Canning.**—The equipment for handling fish was in the past rather inadequate, but in most States cold storage facilities have been improved and increased in recent years. In Queensland and New South Wales, particularly, the depots which have been established at fishing ports have been equipped with cold storage space. In several States there has been a development of establishments equipped for snap freezing of fish, in particular the freezing of crayfish tails for export. A number of vessels have been equipped with freezing plants to process crayfish at sea.

In all States there has been a development of facilities for light processing of fish.

Reference to the production of processed fish and number of factories operating will be found in § 5, para. 4, page 980. Considerable expansion has taken place in the industry, particularly since 1945-46. In 1938-39, three factories processed 1,472,592 lb. of fish valued at £29,581, whereas in 1953-54 eleven factories processed 10,988,393 lb., valued at £350,114.

4. **By-products.**—Processing of offal for fish-meals, etc., has been established in certain States. The processing of livers for vitamin-rich oils was undertaken in several States but as mentioned previously has now been discontinued.

## § 4. Inquiries and Research.

1. **General.**—The Australian fishing industry has been the subject of a number of official inquiries seeking an explanation of the very slow rate of development and the unfortunate conditions prevailing within the industry as well as the paucity of supplies available to the public. Details of the inquiries undertaken, the recommendations arising from them, and subsequent developments will be found in Official Year Book No. 38, page 1082.

2. **Commonwealth Scientific and Industrial Research Organization, Division of Fisheries and Oceanography.**—Details of the establishment, organization and functions of the Division of Fisheries of the Commonwealth Scientific and Industrial Research Organization will be found in Official Year Book No. 38, page 1083. The scientific basis on which the work of the Division is carried out has now been widened, and to provide for this, the name of the Division has been amended to "Division of Fisheries and Oceanography".

Research carried out by the Division has assisted greatly in the development and preservation of Australian fisheries. Details may be found in Official Year Book No. 41 page 848 and in previous issues.

3. **Commonwealth Fisheries Office.**—The Commonwealth Fisheries Office, a division of the Department of Primary Industry, arose out of a Tariff Board recommendation in 1941, following a public inquiry into the fishing industry, that a Commonwealth developmental authority should be established. Details of the establishment, organization and functions of the office will be found in Official Year Book No. 38, page 1084.

In accordance with the Tariff Board report, scientific research, as distinct from developmental and administrative functions, was left to the Commonwealth Scientific and Industrial Research Organization which had established a Division of Fisheries for this purpose in 1937.

The Commonwealth is responsible for extra-territorial waters, whaling, pearling, rehabilitation of ex-servicemen in the fishing industry, fishery training schools, commercial development of fisheries, promotion of uniform conditions governing catches of various species of fish, statistics, information and publications.

4. **North Australia Development Committee.**—In 1946 the North Australia Development Committee recommended that a hydrological and oceanographical survey should be made of North Australian waters. It also suggested that a biological survey should be made of the pearl oyster with particular reference to the possibility of instituting pearl culture.

Further reference to these and other recommendations may be found in Official Year Book No. 41, p. 848.

The C.S.I.R.O. Division of Fisheries subsequently set up a biological research station on Thursday Island, mainly for the pearl and pearl-shell investigations. Since 1951 a research vessel has been based on Thursday Island and is used for diving, biological and hydrological work.

5. Whaling.—The Commonwealth Fisheries Office carried out extensive investigational and preparatory work for the establishment of an Australian whaling industry. In 1949 a privately-owned station began operating at Pt. Cloates, Western Australia. The same year the Australian Whaling Commission was established. The Commission built a station at Babbage Island, near Carnarvon, Western Australia, but it did not begin operating until almost the end of the 1950 season. Legislation has now been passed to provide for the dissolution of the Commission, for the sale of its assets to the company operating at Pt. Cloates and for the use of the proceeds of the sale in developing the Australian fishing industry. There is also a small station in Western Australia at Cheynes Beach near Albany. A large station began operating in 1952 at Moreton Island (Queensland), and in 1954 a small station began operating at Byron Bay (New South Wales). In 1954 these five stations processed 2,039 whales, producing whale oil and other products valued at £1,960,000. A table showing statistics of whaling operations appears in §5, para. 2 following.

The Director of Fisheries represents Australia on the International Whaling Commission, which controls whaling throughout the world.

### § 5. The Fishing and Whaling Industry—Statistics.

1. Fisheries.—(i) *Quantity and Gross Value of Take.* Recorded production for all fisheries is shown in the following table.

#### RECORDED FISHERIES PRODUCTION: QUANTITY AND GROSS VALUE OF TAKE.

Particulars.	Unit.	1950-51.	1951-52.	1952-53.	1953-54.						
					N.S.W.	Vic. (a)	Qld.	S.A.	W.A.	Tas. (a)	Aust. (b)
<b>Fish—</b>											
Equivalent Round Weight ..	'000 lb.	6 71,337	71,634	81,379	32,332	13,820	10,525	8,317	10,913	2,821	78,828
Gross Value ..	£'000	3,317	3,810	4,514	1,082	896	530	700	474	124	4,716
<b>Crustaceans—</b>											
Gross Weight—											
Crayfish ..	'000 lb.	6 12,463	14,597	15,806	601	1,519	8	3,850	9,224	2,218	17,420
Crabs ..	"	568	466	580	131	..	395	..	16	..	542
Prawns ..	"	4,626	2,204	3,336	3,558	..	700	..	45	..	4,303
Total ..	"	17,057	17,266	19,722	4,290	1,519	1,103	3,850	9,285	2,218	22,265
Gross Value ..	£'000.	1,200	1,863	2,106	675	167	111	427	936	191	2,510
<b>Molluscs—</b>											
In-shell Weight—											
Oysters ..	'000 lb.	6,809	8,098	8,276	9,283	71	275	..	..	56	9,688
Scallops ..	"	1,803	1,628	3,229	..	..	..	..	..	3,779	3,779
Other(d) ..	"	20	35	214	48	25	22	..	8	..	103
Total ..	"	8,632	9,761	11,719	9,331	96	297	..	8	3,838	13,570
Gross Value ..	£'000	369	436	487	522	1	13	..	..	105	641
<b>Shark-livers—</b>											
Gross Weight ..	'000 lb.	(c) 250	199	308	..	52	..	133	..	69	254
Gross Value ..	£'000.	(c) 25	25	40	..	7	..	18	..	9	34
<b>Pearl-shell—(e)</b>											
Weight ..	'000 lb.	2,441	1,906	2,048	..	..	965	..	1,001	..	2,337
Gross Value ..	£'000	479	450	487	..	..	215	..	285	..	569
<b>Trochus-shell—(e)</b>											
Weight ..	'000 lb.	2,883	2,634	2,238	..	..	3,046	..	11	..	3,057
Gross Value ..	£'000	228	234	146	..	..	259	..	1	..	260

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria. (b) Includes Northern Territory; 100,000 lb. of fish valued at £10,000 and 371,000 lb. of pearl-shell valued at £60,000. (c) Incomplete; excludes catch by Victorian fishermen in Tasmanian waters, details of which are not available. (d) Squid, clam and pipi. (e) Western Australia. season ended 15th December. Northern Territory, season ended 31st January.

(ii) *Boats and Men Engaged, etc.* The following table shows particulars of boats and equipment used and persons engaged in the various fisheries. Details relating to oyster leases are also shown.



## FISHERIES: BOATS AND EQUIPMENT IN USE AND PERSONS ENGAGED.

Particulars.	Unit.	1953-54.										
		1950-51.	1951-52.	1952-53.	N.S.W.	Vic.	Qld.	S.A.	W.A. (a)	Tas.	N.T.	Aust.
<i>General Fisheries—(b)</i>												
Boats Engaged	No.	8,625	8,872	9,407	2,540	715	3,950	1,300	600	635	16	9,877
Value of Boats and Equipment	£'000	4,149	4,613	5,025	1,877	695	1,374	477	1,055	150	5	5,936
Persons Engaged	No.	14,876	16,602	17,461	2,243	1,045	8,684	4,310	1,125	1,144	35	18,598
<i>Edible Oyster Fisheries—</i>												
Boats Engaged	"	1,020	1,114	1,079	905	4	63	..	..	6	..	978
Value of Boats and Equipment	£'000	90	95	103	119	(d)	10	..	..	(c)	..	129
Persons Engaged	No.	664	901	871	557	5	132	..	..	6	..	700
Leases Granted	"	5,403	5,195	5,513	5,233	5	396	..	..	..	..	5,634
Length of Foreshore in Leases(f)(g)	'000 yds	1,016	1,006	1,039	1,004	16	(f)	..	..	..	..	1,020
<i>Pearl, Pearl-shell and Trochus-shell Fisheries—</i>												
Boats Engaged	No.	154	132	114	..	..	87	..	27	..	10	124
Value of Boats and Equipment	£'000	558	523	441	..	..	373	..	84	..	45	502
Persons Engaged	No.	1,621	1,516	1,152	..	..	1,034	..	275	..	77	1,386
<i>Total, All Fisheries—</i>												
Boats Engaged	No.	9,802	10,118	10,606	3,445	749	4,100	1,388	627	644	26	10,979
Value of Boats and Equipment	£'000	4,797	5,234	5,572	1,996	698	1,757	477	1,139	450	50	6,567
Persons Engaged	No.	17,155	19,019	19,424	2,800	1,050	9,850	4,310	1,400	1,150	115	20,684

(a) Year ended 31st Dec., 1953. (b) Includes Crustacean and Scallop Fisheries. (c) Value of boats engaged in Oyster Fisheries is included in General Fisheries. (d) Less than £500. (e) As at 30th June, 1954. (f) Length of foreshore in leases not available for Queensland. (g) Also (in N.S.W.) 5,628 acres offshore in 1950-51; 5,749 in 1951-52; 5,888 in 1952-53; and 6,296 in 1953-54.

2. Whaling.—The information summarized in the table below was supplied by the Commonwealth Fisheries Office. Details relate to seasons extending from about May to October of each year.

## WHALING STATISTICS, AUSTRALIA.

Particulars.	Unit.	1950.	1951.	1952.	1953.	1954.
Seasonal Quota(a)	No.	(b)	1,250	1,850	2,000	2,040
Whales Taken	..	388	1,224	1,787	2,001	(c) 2,039
Whales Processed	..	387	1,220	1,780	2,001	(c) 2,039
Average Length of Whales Processed	ft.	40.4	40.3	40.1	40.0	39.8
Average Oil Production per Whale Processed	Barrel d	42.6	45.0	51.3	51.2	49.1
Persons Employed—at Sea	No.	48	48	110	110	114
Persons Employed—Ashore	..	170	230	390	390	400
Whale Oil Produced—Quantity	Barrel d	16,494	56,051	91,360	102,354	100,068
Whale Products—Value	£'000	362	1,601	1,670	1,803	1,960

(a) In terms of humpback whales, as determined by the Minister for Primary Industry, acting on the advice of the Director of Fisheries. For quota purposes, 1 blue whale is taken as equivalent to 2 fin whales, 2½ humpback whales or 6 sei whales. (b) Quotas did not operate. (c) Includes one blue whale. (d) 6 barrels = 1 ton.

3. Value of Production.—(i) *Gross and Local Values, 1953-54.* Although statistics of the value of production of the fishing industry have been on an established basis for some years, attention is drawn to the fact that the actual collection of statistics of the quantity of fish taken presents many difficulties and consequently any defects which may occur in the collection must necessarily be reflected in the value of production. Particulars of the value of other materials used in the process of production are not available for all

States, so the values can only be stated at the point of production and not on a net basis as has been done with other industries. Variations in the relative proportions of marketing costs to gross production suggest that complete uniformity in method has not yet been attained.

### GROSS AND LOCAL VALUE OF PRODUCTION ; FISHING AND WHALING, 1953-54.

(£'000.)

State.					Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Place of Production.
New South Wales	..	..	..	..	3,179	537	2,642
Victoria	..	..	..	..	986	152	834
Queensland	..	..	..	..	1,221	270	951
South Australia	..	..	..	..	1,143	128	1,015
Western Australia	..	..	..	..	1,904	37	1,867
Tasmania	..	..	..	..	432	..	432
Total	..	..	..	..	8,865	1,124	7,741

(ii) *Local Values, 1934-35 to 1938-39 (Average) and 1949-50 to 1953-54.* In the following table the local value of fisheries production and the local value per head of population are shown by States for the average of years 1934-35 to 1938-39 and for each of the years 1949-50 to 1953-54. Local value is gross value less marketing costs and is the value at the place of production. Because the value of materials used in the course of production is not available for all States it is not possible to show a comparison of net values.

### LOCAL VALUE OF FISHING AND WHALING PRODUCTION.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
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LOCAL VALUE.  
(£'000.)

Average, 1934-35 to 1938-39 ..	588	159	292	182	229	80	1,530
1949-50 ..	1,449	615	760	287	697	426	4,234
1950-51 ..	1,730	700	812	404	812	411	4,869
1951-52 ..	1,821	706	835	701	1,225	441	5,729
1952-53 ..	2,233	753	844	851	1,610	606	6,897
1953-54 ..	2,642	834	951	1,015	1,867	432	7,741

### LOCAL VALUE PER HEAD OF POPULATION.

(s. d.)

Average, 1934-35 to 1938-39 ..	4 5	1 9	5 11	6 3	10 0	6 11	4 6
1949-50 ..	9 2	5 8	12 11	8 3	25 7	31 0	10 7
1950-51 ..	10 8	6 3	13 5	11 2	28 6	29 0	11 9
1951-52 ..	10 11	6 1	13 5	18 11	41 6	30 1	13 6
1952-53 ..	13 3	6 4	13 3	22 3	52 8	40 1	15 11
1953-54 ..	15 6	6 10	14 7	25 10	59 2	27 11	17 6

4. *Fish Preserving.*—The attempt to establish the fish preserving industry at the commencement of this century met with little success although a bounty was paid to encourage production. The industry, however, continued to operate, but there was

no marked development until about 1945-46 when the production of canned fish amounted to 1,700,000 lb. After that year production increased considerably and reached a peak of 10,900,000 lb. in 1948-49, but by 1950-51 it had declined to 7,300,000 lb. It increased again to 7,700,000 lb. in 1952-53, but declined again to 6,600,000 lb. in 1953-54.

In addition to the canning of fish, other fish products are produced. In 1953-54 these included 286,000 lb. of smoked fish, 1,128,000 lb. of fish paste and a considerable quantity of frozen crayfish tails for export.

In 1939 New South Wales and Tasmania were the only States canning fish, but the industry has since been extended to Victoria, South Australia and Western Australia. Details of production are given in the following table for the years 1938-39 and 1949-50 to 1953-54.

#### PRODUCTION OF CANNED FISH (a) : AUSTRALIA.

Particulars.	1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54.
Number of factories operating ..	3	15	18	17	13	11
Quantity produced lb.	603,302	7,442,521	7,279,033	7,294,622	7,705,081	6,604,587
Value .. £	13,700	676,812	723,689	965,100	1,020,307	838,179

(a) Including the canning of fish loaf and crustaceans.

The varieties canned in the several States differ according to the species caught, but separate details for each variety are not available. In New South Wales, Australian salmon and tuna are the principal varieties. Barracouta is of major importance in Victoria and Tasmania; and Australian salmon predominates in South Australia and Western Australia; herrings are also important in the latter State.

5 State Revenue from Fisheries.—The revenue from fisheries during the year 1953-54 was £66,420, compared with £63,552 in 1952-53 and £34,273 in 1938-39. Of the total of £66,420 in 1953-54, New South Wales collected £31,779, Victoria £3,980, Queensland £13,181, South Australia £4,397, Western Australia (year ended December, 1953) £7,734, Tasmania £5,204 and Northern Territory £145.

## § 6. Oversea Trade in Fishery Products.

NOTE.—Values of Australian oversea trade shown in this section are expressed in £A. f.o.b., port of shipment.

1. Imports of Fish.—The equivalent, in the round, of imported fish consumed in Australia in 1953-54 was 33 per cent. of the total consumption. Particulars of the imports of fish are shown below for the years 1949-50 to 1953-54 in comparison with 1938-39.

#### FISH (INCLUDING SHELL FISH) : IMPORTS INTO AUSTRALIA.

(Cwt.)

Classification.	1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54.
Fresh or preserved by cold process ..	84,028	59,152	103,926	150,972	86,397	140,787
Potted or concentrated ..	9,435	1,908	1,959	1,766	583	1,359
Preserved in Tins—						
Fish—						
Herrings ..	38,917	81,569	95,227	88,149	20,030	61,277
Pilchards ..	(a)	735	930	4,041	462	845
Salmon ..	166,695	14,848	14,923	20,387	24,855	27,339
Sardines (including Sild)	29,372	50,253	80,645	70,334	3,380	40,850
Other ..	14,306	5,974	4,535	15,455	916	3,459
Shell Fish—						
Crustaceans ..	6,829	2,386	6,194	3,308	2,150	4,141
Oysters ..	1,939	59	121	198	115	272
Other ..	(a)	201	74	225	113	137
Smoked or Dried (not salted)	8,122	70,524	64,099	56,235	55,929	50,291
Other (including salted) ..	7,987	8,577	8,655	11,911	6,878	11,296

(a) Not recorded separately.

The value of fish and fish products imported during 1953-54 amounted to £4,104,000, compared with £1,470,854 in 1938-39.

Canned fish (total imports of which in 1953-54 were valued at £2,442,768) constituted the largest proportion of the imports; salmon from the U.S.S.R. and Japan, herrings from the United Kingdom and Norway, pilchards from the Union of South Africa and sardines from Norway were the chief varieties imported. A considerable proportion of the fresh fish imported in 1953-54 came from the United Kingdom, the Union of South Africa and New Zealand, and the potted fish came chiefly from the United Kingdom; the bulk of the remainder came from South Africa, the United Kingdom and New Zealand.

2. **Exports of Fish.**—During 1953-54 the exports of fish of Australian origin were as follows:—Fresh or frozen crustaceans, 38,625 cwt., £1,553,667; other fish, fresh or preserved by cold process, 395 cwt., £4,284; oysters in shell, 261 cwt., £5,365; potted or concentrated, 67 cwt., £2,101; fish preserved in tins, 5,771 cwt., £137,432; shell fish in tins, 541 cwt., £22,238; smoked or dried, 91 cwt., £1,316, and other fish, 74 cwt., £1,304.

3. **Exports of Pearl and other Shell.**—The exports of pearl, trochus and other shell of Australian origin are shown hereunder for the years 1938-39 and 1949-50 to 1953-54.

**PEARL, TROCHUS AND OTHER SHELL : EXPORTS FROM AUSTRALIA.**

Article.			1938-39.	1949-50.	1950-51.	1951-52.	1952-53.	1953-54.
Pearl-shell	..	cwt.	52,532	33,840	22,877	14,473	24,714	23,020
		£	244,266	624,517	485,685	370,096	694,029	653,797
Trochus-shell	..	cwt.	9,108	10,765	27,460	42,815	34,751	47,415
		£	34,166	49,170	231,580	515,067	247,483	591,511
Other shell	..	cwt.	4	1,239	621	2,531	5,732	5,853
		£	151	16,225	6,517	35,933	58,713	69,283