CHAPTER XXVI.

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, with the exception of South Africa, 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 generally 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. Consequently, 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 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. However, it is not considered 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. Until 1956, scallops were taken commercially in Tasmanian waters only, but since then, they have been taken also in Queensland.

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. Two whaling stations operate in Western Australia (Babbage Island near Carnarvon and Cheynes Beach near Albany), one in New South Wales (Byron Bay) and one in Queensland (Moreton Island). The company operating at Byron Bay (N.S.W.) also opened a station at Norfolk Island in 1956.

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 within the three-mile limit are administered by State Departments while the Commonwealth Fisheries Office, a division of the Department of Primary Industry, administers fisheries in extra-territorial waters, co-ordinates fisheries administration and develops the extra-territorial fisheries of Australia.

The administration of the fisheries was discussed in greater detail in Official Year Book No. 41, p. 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 in later years 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 1947, 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 1955–56, four 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 in 1954–55 the catch of edible sharks was 7,800,000 lb. round weight. Great impetus was given to the fishery during the war years by the demand for livers for fish oil production for medicinal purposes. Demand eased with the return of cod-liver oil and availablity of synthetic vitamin "A". The shark fishery is still important, however, as the 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 and also as far north as Moreton Bay. Commercial catches have been made with lampara nets and to a lesser extent with purse seines. Anchovies are caught in Port Phillip Bay and also in Lakes Entrance and are used for processing. 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 bluefin 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 as 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, giving further support to the tuna fishery.

Southern bluefin tuna occurs all along the southern coastline of the continent. In addition, albacore, yellowfin, striped (skipjack) and northern bluefin tuna occur, but the taking of these fish has not been developed.

(ii) *Production.* The statistics of production published in this chapter are in terms of "round" or "gross" weights. Round weights are calculated from recorded weights using conversion factors which allow for the fact that the weights of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Publication on a round weight basis has been made possible in recent years 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 1954–55 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.	1954–55.
New South Wales	26,333	28,331	32,660	32,332	26,441
Victoria (*a*)	12,044	13,285	13,069	13,820	13,833
Queensland	9,454	9,594	11,354	10,525	9,368
South Australia	6,874	7,856	8,102	8,317	8,154
Western Australia	8,652	7,344	9,225	10,913	9,393
Tasmania (*a*)	7,924	5,162	6,882	2,821	3,115
Northern Territory ..	56	62	87	100	118
Total	**(*b*) 71,337**	**71,634**	**81,379**	**78,828**	**70,422**

(*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 by States in terms of equivalent round weight for the year 1954–55. As an aid to identification, scientific names have been listed in addition to common names.

FISH—RECORDED PRODUCTION BY SPECIES, 1954-55.

(EQUIVALENT ROUND WEIGHT.)

('000 lb.)

Species.	N.S.W.	Vic.(*a*)	Qld.	S.A.	W.A.	Tas.(*a*)	Aust.
Mullet— *Mugil dobula, Aldrichetta forsteri, Moolgarda argentea, Myxus elongatus, Mugil caeruleomaculatus*	6,206	634	4,451	477	731	29	12,528
Australian Salmon— *Arripis trutta*	575	1,099	..	876	4,435	430	7,415
Shark— *Galeorhinus australis, Emissola antarctica, Flakeus megalops, Pristiophorus cirrhatus* ..	1,818	2,895	..	2,114	276	663	7,766
Flathead— *Neoplatycephalus richardsoni, Trudis caeruleopunctatus, P. basensis, Platycephalus fuscus, P. indicus, P. arenarius, Leviprora laevigata*	3,662	1,856	210	4	27	115	5,874
Barracouta— *Thrysites atun*	86	5,378	..	(*b*)	..	1,485	6,949
Snapper— *Chrysophrys guttulatus, C. unicolor*	1,228	124	151	465	1,229	..	3,197
Morwong, Jackass-Fish, Perch, Queen Snapper— *Nemadactylus macropterus, N. valenciennesi, Other N. spp., Cheilodactylus spp.* ..	2,900	1	..	..	3	9	2,913
Leatherjacket— *Aluteridae*	1,764	16	6	1	22	(*b*)	1,809
Whiting— *Sillago ciliata, S. maculata, S. bassensis, Sillaginodes punctatus*	163	154	505	1,211	419	..	2,452
Mackerel— *Scomberomorus commerson, S. queenslandicus*	..	..	1,199	..	14	..	1,213
Other Species	8,039	1,676	2,846	3,006	2,237	384	(*c*) 18,306
Total	**26,441**	**13,833**	**9,368**	**8,154**	**9,393**	**3,115**	**70,422**

(*a*) Catch by Victorian fishermen in Tasmanian waters is included in Victoria. (*b*) Less than 500 lb. (*c*) 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 1939–45 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 20.2 million lb. in 1954–55.

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 oversea 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 1954–55 was 10,454,000 lb. (in shell). Scallops are taken by dredge in the D'Entrecasteaux Channel in Tasmania and recently they have been taken by trawl in Hervey Bay, Queensland.

Details of production of crustaceans and molluscs are shown by States in the table below on a gross (in-shell) weight basis for the year 1954–55.

RECORDED PRODUCTION OF CRUSTACEANS AND MOLLUSCS, 1954-55.

(GROSS (IN-SHELL) WEIGHT.)

('000 lb.)

Item.	N.S.W.	Vic.(a)	Qld.	S. Aust.	W. Aust.	Tas.(a)	Aust.
Crustaceans—							
Crayfish	545	1,263	9	4,589	10,906	2,895	20,207
Crabs ..	237	..	556	1	19	...	813
Prawns ..	4,603	19	2,000	..	26	...	6,648
Total ...	*5,385*	*1,282*	*2,565*	*4,590*	*10,951*	*2,895*	*27,668*
Molluscs—							
Oysters ..	10,198	15	158	..	39	44	10,454
Scallops ..	..	..	..	..	..	5,406	5,406
Other ..	..	32	27	..	12	..	71
Total ..	*10,198*	*47*	*185*	..	*51*	*5,450*	*15,931*

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

3. **Pearl-shell and Trochus.**—The industry, which ceased operations on Japan's 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. 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. 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.

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 has operated in prescribed waters since 1954.

Australian production of pearl-shell and trochus-shell was 2,489,000 lb. and 2,784,000 lb. respectively in 1954–55. In addition, Japanese pearlers took 2,105,000 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, is made on p. 1031 of Official Year Book No. 37.

§ 3. Marketing and Distribution.

1. **Marketing.**—Most of the fish taken in Australian waters 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 1954–55 is estimated at 94.2 million lb. edible weight (10.4 lb. per head) as compared with 87.8 million lb. edible weight (9.9 lb. per head) in the previous year. This is equivalent to approximately 186.5 million lb. fresh round weight (20.5 lb per head) and 174.4 million lb. fresh round weight (19.6 per head) respectively.

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, prawns and scallops 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, p. 967. 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 1954–55 nine factories processed 10,585,052 lb., valued at £341,240.

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 production has fallen to a low level in recent years.

§ 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, p. 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, p. 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, p. 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, p. 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. In 1956, legislation was passed to dissolve the Commission, and its assets were sold to Nor' West Whaling Company. From the proceeds of the sale a Fisheries Development Trust Account was set up to foster the development of 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 1956, the company operating the Byron Bay station established a station at Norfolk Island. In the same year, the station operating at Pt. Cloates (W.A.) closed down. In

1955, the five stations operating processed 1,840 whales, producing whale oil and other products valued at £1,953,000. 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, 1954-55.

Particulars.	Unit.	N.S.W.	Vic.(a)	Qld.	S.A.	W.A.	Tas.(a)	Aust.(b)
Fish—								
Equivalent Round Weight	'000 lb.	26,441	13,833	9,368	8,154	9,393	3,115	70,422
Gross Value	£'000	1,824	866	499	768	510	153	4,632
Crustaceans—								
Gross Weight	'000 lb.	5,385	1,282	2,565	4,590	10,951	2,895	27,668
Gross Value	£'000.	755	147	279	396	1,099	253	2,929
Molluscs—								
In-shell Weight	'000 lb.	10,198	47	185	..	51	5,450	15,931
Gross Value	£'000.	669	1	7	..	2	150	829
Shark Livers—								
Gross Weight	'000 lb.	..	60	..	110	..	..	170
Gross Value	£'000.	..	8	..	14	..	..	22
Pearl-shell(c)—								
Weight	'000 lb.	..	..	896	..	1,250	..	2,489
Gross Value	£'000.	..	..	202	..	356	..	647
Trochus-shell(c)—								
Weight	'000 lb.	..	..	2,775	..	9	..	2,784
Gross Value	£'000.	..	..	349	..	1	..	350

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria. (b) Includes Northern Territory; 118,000 lb. of fish valued at £12,000 and 343,000 lb. of pearl-shell valued at £89,000. (c) Western Australia season ended 15th December. Northern Territory season ended 31st January.

RECORDED FISHERIES PRODUCTION: QUANTITY AND GROSS VALUE OF TAKE, 1950-51 TO 1954-55.

Particulars.	Unit.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.
Fish—						
Equivalent Round Weight	'000 lb.	(a) 71,337	71,634	81,379	78,828	70,422
Gross Value	£'000.	3,317	3,810	4,514	4,716	4,632
Crustaceans—						
Gross Weight	'000 lb.	17,657	17,260	19,722	22,265	27,668
Gross Value	£'000.	1,290	1,863	2,106	2,510	2,929
Molluscs—						
In-shell Weight	'000 lb.	8,632	9,761	11,719	13,570	15,931
Gross Value	£'000.	369	436	487	641	829
Shark Livers—						
Gross Weight	'000 lb.	(a) 250	199	308	254	170
Gross Value	£'000.	(a) 25	25	40	34	22
Pearl-shell—(b)						
Weight	'000 lb.	2,441	1,906	2,048	2,337	2,489
Gross Value	£'000.	479	459	487	595	647
Trochus-shell—(b)						
Weight	'000 lb.	2,883	2,634	2,238	3,057	2,784
Gross Value	£'000.	228	234	146	260	350

(a) Incomplete; excludes catch by Victorian fishermen in Tasmanian waters, details of which are not available. (b) 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, 1954-55.

Particulars.	Unit.	N.S.W.	Vic.	Qld.	S.A.	W.A. (a)	Tas.	N.T.	Aust.
General Fisheries—(b)									
Boats Engaged ..	No.	2,280	726	4,331	1,439	616	621	17	10,030
Value of Boats and Equipment	£'000	1,668	776	1,561	510	1,245	(c) 475	5	6,240
Persons Engaged ..	No.	2,239	1,018	9,157	5,037	1,069	1,126	39	19,685
Edible Oyster Fisheries—									
Boats Engaged ..	,,	1,038	4	52	..	..	10	..	1,104
Value of Boats and Equipment	£'000	113	(d)	10	..	..	(c)	..	123
Persons Engaged ..	No.	783	5	109	..	15	10	..	922
Leases Granted ..	,,	(e)5,291	5	364	..	..	..	..	5,660
Length of Foreshore in Leases	'000 yds	(f)1,027	16	(g)	..	..	..	..	(h)1,043
Pearl, Pearl-shell and Trochus-shell Fisheries—									
Boats Engaged ..	No.	..	..	88	..	30	..	9	127
Value of Boats and Equipment	£'000	..	..	367	..	147	..	50	564
Persons Engaged ..	No.	..	..	1,114	..	314	..	78	1,506
Total, All Fisheries—									
Boats Engaged ..	No.	3,318	730	4,471	1,439	646	631	26	11,261
Value of Boats and Equipment	£'000	1,781	776	1,938	510	1,392	475	55	6,927
Persons Engaged ..	No.	3,022	1,023	10,380	5,037	1,398	1,136	117	22,113

(a) Year ended 31st December, 1954. (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, 1955. (f) Also, 6,547 acres offshore. (g) Not available. (h) Incomplete.

FISHERIES : BOATS AND EQUIPMENT IN USE AND PERSONS ENGAGED, 1950-51 TO 1954-55.

Particulars.	Unit.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.
General Fisheries—(a)						
Boats Engaged	No.	8,628	8,872	9,407	9,877	10,030
Value of Boats and Equipment	£'000	4,149	4,613	5,028	5,936	6,240
Persons Engaged	No.	14,870	16,602	17,401	18,598	19,685
Edible Oyster Fisheries—						
Boats Engaged	No.	1,020	1,114	1,079	978	1,104
Value of Boats and Equipment	£'000	90	98	103	129	123
Persons Engaged	No.	664	901	871	700	922
Leases Granted	,,	5,403	5,495	5,543	5,634	5,660
Length of Foreshore in Leases(b)(c) ..	'000 yds.	1,016	1,006	1,039	1,020	1,043
Pearl, Pearl-shell and Trochus-shell Fisheries—						
Boats Engaged	No.	154	132	114	124	127
Value of Boats and Equipment	£'000	558	523	441	502	564
Persons Engaged	No.	1,621	1,516	1,152	1,386	1,506
Total, All Fisheries—						
Boats Engaged	No.	9,802	10,118	10,600	10,979	11,261
Value of Boats and Equipment	£'000	4,797	5,234	5,572	6,567	6,927
Persons Engaged	No.	17,155	19,019	19,424	20,684	22,113

(a) Includes Crustacean and Scallop Fisheries. (b) Incomplete; details for Queensland are not available. (c) Also (in N.S.W.) 5,628 acres offshore in 1950–51; 5,749 in 1951–52; 5,888 in 1952–53; 6,296 in 1953–54; and 6,547 in 1954–55.

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.	1951.	1952.	1953.	1954.	1955.
Seasonal Quota(*a*)	No.	1,250	1,850	2,000	2,040	1,840
Whales Taken	„	1,224	1,787	2,001	(*b*) 2,039	1,840
Whales Processed	„	1,220	1,780	2,001	(*b*) 2,039	1,840
Average Length of Whales Processed ..	ft.	40.3	40.1	40.0	39.8	40.8
Average Oil Production per Whale Processed	Barrel *c*	45.9	51.3	51.2	49.1	51.8
Persons Employed—At Sea	No.	48	110	110	114	124
Persons Employed—Ashore	„	230	390	390	420	433
Whale Oil Produced—Quantity	Barrel *c*	56,051	91,360	102,354	100,068	95,258
Whale Products—Value	£'000	1,601	1,670	1,803	1,960	1,953

(*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*) Includes one blue whale. (*c*) 6 barrels = 1 ton.

3. **Value of Production.**—(i) *Gross and Local Values*, 1954–55. 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 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, 1954-55. (£'000.)

State.	Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Place of Production.
New South Wales	3,268	529	2,739
Victoria	1,002	153	849
Queensland	1,436	161	1,275
South Australia	1,178	132	1,046
Western Australia	2,192	43	2,149
Tasmania	556	..	556
Northern Territory	113	..	113
Total	**9,745**	**1,018**	**8,727**

(ii) *Local Values*, 1934–35 *to* 1938–39 (*Average*) *and* 1950–51 *to* 1954–55. 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 1950–51 to 1954–55. 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.
			LOCAL VALUE. (£'000.)				
Average, 1934–35 to 1938–39 ..	588	159	292	182	229	80	1,530
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
1954–55 ..	2,739	849	1,275	1,046	2,149	556	(a) 8,727
			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
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
1954–55 ..	15 10	6 10	19 3	25 11	66 3	35 6	(a) 19 3

(a) Includes Northern Territory.

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 and was at approximately the same level in 1954–55.

In addition to the canning of fish, other fish products are produced. In 1954–55, these included 66,000 lb. of smoked fish, 1,055,000 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 1950–51 to 1954–55.

PRODUCTION OF CANNED FISH(a): AUSTRALIA.

Particulars.	1938–39.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.
Number of factories operating	3	18	17	13	11	9
Quantity produced lb.	603,302	7,279,033	7,294,622	7,705,081	6,604,587	6,645,552
Value .. £	13,700	723,689	965,100	1,020,307	838,179	834,090

(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 1954–55 was £62,416, compared with £66,420 in 1953–54 and £34,273 in 1938–39. Of the total of £62,416 in 1954–55, New South Wales collected £30,037, Victoria £4,031, Queensland £13,057, South Australia £4,779, Western Australia (year ended December, 1954) £5,596, Tasmania £4,843 and Northern Territory £73.

§ 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 1954–55 was 34 per cent. of the total consumption. Particulars of the imports of fish are shown below for the years 1950–51 to 1954–55 in comparison with 1938–39.

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

Classification.	1938–39.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.
Fresh or preserved by cold process	84,028	103,926	150,972	86,397	140,769	165,072
Potted or concentrated	9,435	1,959	1,766	583	1,359	1,388
Preserved in Tins—						
Fish—						
Herrings	38,917	95,227	88,149	20,030	61,277	60,542
Salmon	166,695	14,923	20,387	24,855	27,339	57,897
Sardines, Sild and Pilchards	29,372	81,575	74,375	3,842	41,695	51,050
Other	14,306	4,535	15,455	916	3,459	5,574
Crustaceans and Molluscs—						
Crustaceans	6,829	6,194	3,308	2,150	4,141	4,922
Oysters	1,939	121	198	115	272	496
Other	(a)	74	225	113	137	
Smoked or Dried (not salted)	8,122	64,099	56,235	55,929	50,291	60,485
Other (including salted)	7,987	8,655	11,911	6,878	11,296	12,294

(a) Not recorded separately.

The value of fish and fish products imported during 1954–55 amounted to £5,571,000, compared with £4,104,000 in 1953–54.

Canned fish (total imports of which in 1954–55 were valued at £3,532,000) accounted for most of the imports; salmon from the U.S.S.R. and Japan, herrings from the United Kingdom and Norway and sardines from Norway were the chief varieties imported. A considerable proportion of the fresh fish imported in 1954–55 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 and the United Kingdom.

2. **Exports of Fish.**—During 1954–55, the exports of fish of Australian origin were as follows:—Fresh or frozen crayfish tails, 39,906 cwt., £1,673,110; other fish (including shell fish), fresh or preserved by cold process, 9,163 cwt., £92,562; oysters in shell, 475 cwt., £4,322; potted or concentrated, 21 cwt., £515; fish preserved in tins, 3,737 cwt., £77,666; shell fish in tins, 446 cwt., £15,114; smoked or dried, 99 cwt., £1,942.

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 1950–51 to 1954–55.

PEARL, TROCHUS AND OTHER SHELL: EXPORTS FROM AUSTRALIA.

Article.		1938–39.	1950–51.	1951–52.	1952–53.	1953–54.	1954–55.
Pearl-shell	cwt.	52,532	22,877	14,473	24,714	23,020	23,924
	£	244,266	485,685	370,096	694,029	653,797	690,204
Trochus-shell	cwt.	9,108	27,460	42,815	34,751	47,415	36,414
	£	34,166	231,580	515,067	247,483	591,511	578,876
Other shell	cwt.	4	621	2,531	5,732	5,853	4,938
	£	151	6,517	35,933	58,713	69,283	68,035