CHAPTER XXIII.

FISHERIES.

§ 1. General.

1. **Fish Stocks.**—Australia possesses a varied native fauna of freshwater and marine fish, including tropical and temperate species. In addition, certain exotic species have become acclimatized in the freshwater streams. The commercial fisheries exploit on-shore, demersal (bottom) and pelagic (surface) stocks. The on-shore stocks are at present of greatest importance.

The Australian marine fauna includes also a number of mollusca (oysters, scallops) and crustacea (crabs, prawns, crayfish) groups which are commercially exploited.

In winter whales of various species, of which the humpback is the most common, appear off the western and eastern coasts.

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. There are interruptions of variable size; 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 and other tropical species are taken in tropical waters, and snapper in temperate waters; 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's 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. Other demersal grounds exist in the Great Australian Bight but have only begun to be exploited. 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 off the south coast of New South Wales, and off the western and South Australian coasts.

Pearl shell and trochus are fished in the northern and western coastal waters from Cape York to Shark Bay. 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.

Crabs of various species are found in practically all coastal waters. Prawns are taken in the temperate waters of Queensland and New South Wales. Crayfish 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.

The whale appearances occur off the south of the continent, extending as far north as southern Queensland in the east and to beyond Shark's Bay in the west. Two whaling stations are operating on the Western Australian coast, one at Pt. Cloates and the other at Babbage Island, near Carnarvon.

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 other long lines. The demersal flathead-fishery

is worked by both otter trawl (with V.-D. 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, and jack mackerel and pilchards are taken with purse-seine and lampara nets.

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. For the operation of the purse-seine nets larger vessels are used.

4. **Administration.**—The fisheries are administered by State Departments implementing State laws. This administration includes licensing of men and boats, and restriction of fishing by prohibitions against fishing at certain times and places and by certain methods. In some States the quantity, type and construction of gear is subject to limitations and legal minimum sizes are prescribed.

In October, 1946 the Commonwealth Government appointed a Director of Fisheries and established the Commonwealth Fisheries Office as a division of the Department of Commerce and Agriculture to co-ordinate fisheries administration and develop the fisheries of Australia.

The Commonwealth Scientific and Industrial Research Organization, through its Fisheries Division, is responsible for fishery research (*see* § 4, par. 2 hereafter).

§ 2. Development and Present Condition of the Fishery.

1. **Fisheries Proper.**—(i) *General.* The earliest Australian fishery was on-shore. To this was soon added the demersal reef fishery using lines. At each centre of population this sequence has almost invariably been followed, and expansion of the industry up to about the year 1900 consisted chiefly of the extension of these operations into hitherto unworked areas. The taking of barracouta in Tasmanian waters was begun at least by 1880, if not earlier, but the main development of this fishery occurred between 1915 and 1925.

The first major development of the fishery came with the institution of trawling operations off the New South Wales coast in 1918 by the New South Wales Government, as a consequence of the results obtained from the exploratory work of the Federal Investigation ship *Endeavour*. The State enterprise failed, but the fishery was found very profitable by private enterprise, which had as many as sixteen steam trawlers operating at one time. In 1936 the use of Danish seine vessels began and the fleet of these vessels rapidly expanded, being given an exceptional opportunity by the requisitioning of the steam trawlers by the Navy. Subsequently, practically all the Danish seine vessels were also requisitioned. After the war, vessels requisitioned by the Services were returned to the industry and in 1946 a peak was reached and thirteen steam trawlers and 120 Danish seine vessels were licensed. The total catch of trawled fish in 1946-47 was 16,000,000 lb. However, by the end of 1947 many of these vessels, which had made satisfactory catches in 1946, found that the fish stocks, particularly of flathead, appeared to be seriously depleted. 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 1951 twelve steam trawlers (all in New South Wales) and 105 Danish seine vessels (76 in New South Wales and 29 in Victoria) were registered.

In Queensland waters the Spanish mackerel is taken by line fishermen, operating in off-shore waters out to the Barrier Reef between Gladstone and Cairns, with Townsville as the centre. This fishery started in 1930 and by 1942 production had risen to about 1,000,000 lb. The catch decreased considerably during the war and post-war period, but in 1949–50 it had increased again to the 1942 level of approximately 1,000,000 lb.

In 1930 the fishery for snapper shark was started in south-eastern waters, particularly off the Victorian and Tasmanian coasts. This fishery extended rapidly its area of operations, particularly in the Bass Strait area and the south-east coast of South Australia, and the catch increased from 23,131 lb. in 1930 to a steady 3,000,000 lb. catch in each year since 1942. Great impetus was given to the fishery during war years by the demand for livers for fish oil production for medicinal purposes. This demand has eased with the return of cod-liver oil, and the production overseas of synthetic vitamin "A". However, shark is still fished for the flesh, which is sold as "flake", mainly in the Melbourne Fish Market.

Pilchards occur in the southern waters of Australia from Port Stephens to the south-west of Western Australia. Catches have been made by commercial crews using a lampara net and a small purse-seine at Jervis Bay on the New South Wales coast, in Port Phillip Bay in Victoria, at Coffin Bay in South Australia and at Albany in Western Australia. 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 the second half of 1949, when fishermen, using improvised trolling gear, caught 1,000 tons of southern blue-fin tuna. The catch was canned at Narooma and Eden, and samples of both canned and frozen fresh tuna were sent to California, where it met with approval. Owing to adverse marine conditions, 1950 was a very poor tuna year. The American-owned tuna clipper *Senibua*, whose operations were subsidized by the Commonwealth, proved that Australian tuna could be caught by pole fishing with live bait. As tuna come close to the coast, ice can be used instead of refrigeration to preserve the catch to the landing port. This means that smaller and less expensive vessels can be used.

(ii) *Production.* Production of fresh fish, which for the year 1947–48 was about 76,000,000 lb., fell slightly to 75,000,000 in 1948–49 and further to 70,000,000 in 1949–50.

Production for the years 1938–39 and 1945–46 to 1949–50 is shown by States, in the following table:—

RECORDED PRODUCTION OF FRESH FISH.

('000 lb.)

State.	1938–39.	1945–46.	1946–47.	1947–48.	1948–49.	1949–50.
New South Wales ..	(a)29,382	30,668	34,157	32,813	29,506	27,985
Victoria	12,840	11,923	11,538	9,745	9,907	9,722
Queensland	9,182	10,170	10,779	10,508	10,129	10,124
South Australia(a) ..	8,960	5,908	5,927	4,750	5,264	5,799
Western Australia(a) ..	5,841	4,368	5,035	6,953	9,254	8,910
Tasmania	(a) 2,393	8,676	7,479	11,288	11,302	7,376
Northern Territory ..	28	(b)	(b)	112	52	52
Total ..	68,626	71,713	74,915	76,169	75,414	69,958

(a) Year ended December previous. (b) Not available.

2. **Oysters and Shell Fisheries.**—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. These have not been successful in Queensland, but in New South Wales there has been constant improvement in methods and the present technique in certain areas is highly efficient. The production for Australia in 1949–50 was 83,097 cwt. Scallops are taken by dredge in the D'Entrecasteaux Channel in Tasmania.

Cray fisheries have developed greatly in recent years and the development has been such as to permit an export trade of crayfish tails to America to meet the off-season demand for frozen tails. The catch of 412,172 dozen for 1949–50 was a record. Details of production in each State for the years 1938–39 and 1945–46 to 1949–50 are shown in the following table:—

RECORDED PRODUCTION OF CRAYFISH.

(doz.)

State.	1938–39.	1945–46.	1946–47.	1947–48.	1948–49.	1949–50.
New South Wales ..	(a)13,467	7,427	7,681	13,021	22,021	19,063
Victoria	6,436	2,313	3,956	2,614	14,771	26,297
Queensland	..	..	..	..	..	..
South Australia(a) ..	22,000	18,365	23,375	30,174	27,896	53,571
Western Australia(a) ..	56,202	27,118	53,237	97,328	116,867	213,365
Tasmania	(a)65,652	69,077	92,186	115,791	135,042	99,876
Total ..	163,757	124,300	180,435	258,928	316,597	412,172

(a) Year ended December previous.

3. **Pearl-shell, Trochus and Bêche-de-mer.**—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. Queensland with a more ready source of labour from the Torres Strait Islands and the 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, with so few proficient key men and lacking a source of labour suitable for training are also experiencing difficulties.

Tables showing the principal statistics relating to pearl-shell, trochus and bêche-de-mer are shown in § 5, para. 1, sections (ii) and (iii) hereafter.

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, consumers, and a Government nominee as chairman. A central market is located in Brisbane and there are branch markets or depots at 14 centres along the coast. The organization ensures that all fish is marketed through the correct channels, and the board has encouraged to a very marked extent the steadily increasing annual fish production of the State. The fish marketing methods in this

State have proved most 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 movement 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 131,000,000 lb. of round fish, or 19.0 lb. per person. About 70,000,000 lb. was produced locally and the remainder was imported; that is, the average Australian ate about 10.2 lb. of Australian fish a year and the equivalent of 8.8 lb. of imported fish. During the 1939–45 War, however, the quantity of fish entering civilian consumption in Australia was reduced to approximately 6 lb. (weight in the round) per person annually owing to the decline in local production, the steep drop in the imports of canned fish and the allocation of supplies for the Services and other priority needs. Although fish was in increased demand during the period of meat rationing, it is not, as in many countries, a staple item in the diet of Australians, and is still regarded rather as a luxury. The consumption per head of population during 1949–50 amounted to 6.2 lb. edible weight of fresh fish and 2.8 lb. of canned fish or a total of 16.4 lb. expressed in terms of fish in the round. This represents a total quantity consumed of 132,000,000 lb. in the round, of which nearly 82,000,000 lb. was produced locally.

3. **Processing, including Canning.**—The equipment for handling fish has in the past been rather inadequate, but in most States since the war cold storage facilities have been improved and increased. 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 has 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, par. 3 hereafter. Considerable expansion has taken place in the industry, particularly since 1945–46. In 1938–39, three factories processed 603,302 lb. of fish valued at £13,700, whereas in 1949–50 fifteen factories processed 7,442,521 lb., valued at £676,812.

4. **By-Products.**—Processing of offal for fish-meals, etc., has been established in certain States. The processing of livers for vitamin-rich oils has been undertaken in several States and oil-production has been favourably developed.

§ 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.**—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.

Since its inception, the work of the Division has extended, and there are field stations at Melbourne, Perth, Hobart, Dunwich (Queensland) and Thursday Island. The Division has three research vessels, F.R.V. *Warreen*, working in Western Australian waters, F.R.V. *Derwent Hunter*, working in South Australian waters and a ketch recently commissioned as a pearling lugger in the Thursday Island area.

As a result of the exploratory investigations and the research of the Division, together with the collaboration of commercial fishermen, it has been shown that important species of pelagic fish can be taken in commercial quantities in Australia. It has been shown too that crayfish, mullet, shark, white bait and New South Wales trawl fish stocks need the protection of regulations to preserve them. In all but the last mentioned, restrictions have been imposed by the administrative departments to preserve the stocks.

Research on oysters has been aimed at cultivation methods, including the fertilization of mud to increase the output. It has been determined that the Pacific oyster from Japan can be established and grown satisfactorily in Tasmanian waters. Experiments are being carried out with Australian species of pearl-shell in the Thursday Island area to determine whether the cultivation methods used in Japan can be established.

3. **Commonwealth Fisheries Authority.**—The Commonwealth Fisheries Office, a section of the Department of Commerce and Agriculture, was established as a result of a recommendation in 1941 by the Tariff Board, after a public inquiry into the fishing industry, that a Commonwealth developmental authority should be established. Details of the establishment, organization and functions of the Authority 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 the purpose in 1937.

After the revocation of the Commonwealth war-time powers, the Commonwealth and State spheres were fixed at an interstate conference in February, 1947. 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 gave considerable attention to the fisheries resources of North Australia and recommended that a hydrological and oceanographical survey should be made of the area. It also suggested that a biological survey should be made of pearl shell with particular reference to the possibility of instituting pearl shell culture. It recommended that all information regarding the area should be compiled and made available for scientific workers. It also recommended that an economic survey of the fisheries resources should be made, comparing them particularly with those of the Netherlands East Indies.

5. **Whaling.**—The Commonwealth Fisheries Office carried out extensive investigational and preparatory work for the establishment of an Australian whaling industry. A commission of three members was established in 1949, and a station was built at Babbage Island in Western Australia. Operations did not begin until the 1950 season, when 40 whales were processed. In 1951, with three catcher boats, it was expected that 600 whales would be processed.

Other companies have begun operations in Western Australia, and whaling stations have been established at Pt. Cloates and Albany. At Pt. Cloates, 190 whales were treated during the 1949 season, and 348 were treated in the 1950 season. A catch of 600 whales was expected in 1951. In addition, stations have been established at Moreton Island (Queensland) and Byron Bay (New South Wales).

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

§ 5. The Fishing Industry.

1. **Boats and Men Engaged, and Take.**—(i) *General Fisheries.* The returns have been compiled from particulars supplied by the State Departments, and while the data do not generally lend themselves to presentation on a uniform basis, the principal facts are shown in the following tables. The number of men employed during 1949–50 was 1,803 less than during the previous year, the reductions occurring in New South Wales, Victoria and Tasmania. There were increases in South Australia and Western Australia, while numbers in the Northern Territory remained unchanged. In this connexion it should be noted that the New South Wales element in this figure relates to the number of fishermen's licences issued and not to the number of men engaged. This marked decrease in fishermen's licences was due principally to the enforcement of the law restricting the issue of such licences to persons deriving a substantial portion of their income from personal exertion from the capture and sale of fish. The decline in the number and value of boats engaged and the number of men engaged during 1949–50 is due, in part, to the fact that from December, 1949, new regulations were issued in Victoria providing for two types of licences, viz., " amateur " and " professional ". Figures for Victoria for 1949–50 relate to " professional " fishermen only, whereas previously they had included " amateur " also.

GENERAL FISHERIES, 1949–50.

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust. (a)	W.Aust. (a)	Tas. (b)	Nor. Terr.	Australia.
No. of boats engaged	..	2,065	793	3,158	1,652	762	890	9	9,329
Value of boats and equipment	£	1,562,511	617,844	642,312	448.000	478,464	350,000	5,000	4,104,131
No. of men engaged	..	(c) 2,724	1,049	5,813	3,357	1,589	1,082	23	15,637
Total take of—									
Fish	cwt.	249,870	86,800	90,400	51,780	79,562	65,855	465	624,732
	£	1,005.777	568,845	d 443,306	248,000	330,141	276,590	3,900	2,876,559
Crayfish	doz.	19,063	26,297	..	53,571	213,365	99,876	..	412,172
	£	76,394	55,234	..	81,250	256,037	125,680	..	594,595
Prawns	cwt.	25,031	..	2,649	..	171	..	..	27,851
	£	260,616	..	30,661	..	1,198	..	..	292,475
Crabs	doz.	14,248	..	27,678	..	355	..	..	42,281
	£	3,301	..	21,244	..	1,986	..	..	26,531

(a) Year ended December, 1949. (b) Year ended March, 1950. (c) Fishermen's licences issued. (d) Excludes £1,050 the value of 115 dugongs.

Figures for Australia for the years 1938–39 and 1945–46 to 1949–50 are shown in the table below :—

GENERAL FISHERIES : AUSTRALIA.

Particulars.	1938–39.	1945–46.	1946–47.	1947–48.	1948–49.	1949–50.
No. of boats engaged	5,462	8,594	10,868	11,059	10,160	9,329
Value of boats and equipment £	649,026	2,193,349	3,763,998	4,222,310	3,668,270	4,104,131
No. of men engaged(a)	9,081	18,429	19,002	18,378	17,440	15,637
Fish obtained—						
Quantity.. cwt.	612,735	640,298	668,885	680,081	673,339	624,732
Gross value £	1,385,281	2,517,540	2,851,936	2,827,110	3,159,588	2,876,559
Crustaceans obtained—						
Gross value £	134,866	210,402	332,799	456,779	664,268	913,601

(a) *See* letterpress above.

(ii) *Edible Oyster Fisheries.* Edible oyster fisheries are of small dimensions outside New South Wales and Queensland. The available returns show the following takes during 1949–50 in these States :—New South Wales, 72,661 cwt., value £381,472 ; Queensland, 6,165 cwt., value £20,601. In Tasmania the scallop is far more important than the oyster, and in 1949–50 the take was valued at £23,580.

Figures for Australia for the years 1938–39 and 1945–46 to 1949–50 are shown in the following table :—

EDIBLE OYSTER FISHERIES : AUSTRALIA.

Particulars.	1938–39.	1945–46.	1946–47.	1947–48.	1948–49.	1949–50.
No. of boats engaged	754	892	845	815	833	1,132
No. of men engaged ..	850	883	666	626	768	878
Oysters obtained—						
Quantity (*a*) cwt.	89,145	71,062	75,632	72,456	63,060	83,097
Gross value (*b*) £	132,201	238,919	266,815	295,763	291,470	425,745

(*a*) Includes scallops in Tasmania, 8,857 cwt. in 1945–46 ; 7,920 cwt. in 1946–47 ; 7,470 cwt. in 1947–48 ; 5,969 cwt. in 1948–49 ; and 4,211 cwt. in 1949–50 ; 1938–39 weight not available. (*b*) Includes scallops in Tasmania, valued at £14,500 in 1938–39 ; £30,750 in 1945–46 ; £37,256 in 1946–47 ; and £33,115 in 1947–48 ; £26,460 in 1948–49 ; and £23,580 in 1949–50.

(iii) *Pearls, Pearl-shell and Bêche-de-mer—States.* At the outbreak of war in the Pacific in December, 1941, the pearling industry ceased to operate. Operations were resumed in Queensland in 1944–45 but in Western Australia and Northern Territory not until 1946–47. There is no pearl-shell industry in the other States. The following table shows particulars of equipment used, men engaged and production for the year 1949–50 :—

PEARL, PEARL-SHELL AND BÊCHE-DE-MER FISHERIES, 1949–50.

State or Territory.	Boats Engaged.	Value of Boats and Equipment.	Men employed.	Pearl-shell.		Gross Value of Pearls obtained. (*c*)	Gross Value of Bêche-de-Mer obtained.	Trochus-shell.	
				Quantity obtained.	Gross Value.			Quantity obtained.	Gross Value.
	No.	£	No.	Tons.	£	£	£	Tons.	£
Queensland ..	97	324,789	(*a*) 1,123	1,191	423,079	..	..	559	50,548
W. Australia(*b*)	26	68,350	230	312	109,136	1,040	..	18	1,134
Nor. Territory ..	3	11,000	30	39	19,500	..	..	..	..
Australia ..	126	404,139	1,383	1,542	551,715	1,040	..	577	51,682

(*a*) Includes Torres Strait Islanders and Australian aboriginals. (*b*) Year ended December 1949. (*c*) Incomplete ; as returned.

(iv) *Australia.* A summary of the principal statistics relating to pearl, pearl-shell and bêche-de-mer fisheries is given in the following table for the years 1938–39 and 1945–46 to 1949–50.

Details of exports of these items are given in § 6, par. 3 hereafter.

PEARL, PEARL-SHELL AND BÊCHE-DE-MER FISHERIES : AUSTRALIA.

Particulars.	1938–39.	1945–46. (*a*)	1946–47.	1947–48.	1948–49.	1949–50.
Boats engaged No.	181	150	127	123	141	126
Value of boats and equipment £	168,133	51,250	170,820	247,150	387,550	404,139
Men engaged No.	1,750	717	1,141	1,245	1,417	1,383
Pearl-shell obtained—						
Quantity.. tons	2,543	53	309	723	1,346	1,542
Value .. £	222,281	31,800	186,584	415,325	573,785	551,715
Value of—						
Pearls obtained(*b*) £	3,397	..	810	1,294	1,930	1,040
Bêche-de-mer obtained .. £	8,145	..	2,610	500	..	..
Trochus-shell obtained—						
Quantity tons	321	371	669	272	414	577
Value .. £	23,823	48,795	59,335	18,729	28,170	51,682

(*a*) Queensland only available. (*b*) Incomplete ; as returned.

2. **Value of Production.**—(i) *Gross and Local Values, 1949–50.* 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 their 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 FISHERIES PRODUCTION, 1949–50.

(£'000.)

State.	Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Place of Production.	Value of other Materials used in process of Production.	Net Value of Production.(a)
New South Wales ..	1,728	279	1,449	157	1,292
Victoria..	727	112	615	(b)	(b)
Queensland	990	230	760	210	550
South Australia	329	42	287	(b)	(b)
Western Australia ..	716	19	697	118	579
Tasmania	426	..	426	(b)	(b)
Total (c)	4,916	682	4,234	(b)	(b)

(a) No deduction has been made for depreciation and maintenance. (b) Not available. (c) Excludes production in the Northern Territory.

(ii) *Local Values, 1934–35 to 1949–50.* In the following table the local value of fisheries production and the local value per head of population are shown by States for the years 1934–35 to 1938–39 and 1945–46 to 1949–50. Local value is gross value less marketing costs and is the value at the place of production. The value of materials used in the course of production is not available for all States and consequently production is valued at that point. These values therefore overstate the net values by the extent of these costs.

LOCAL VALUE OF FISHERIES PRODUCTION.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
			LOCAL VALUE.(a)				
			(£'000.)				
Average, 1934–35 to 1938–39 ..	588	159	292	182	229	80	1,530
1945–46 ..	1,046	466	437	231	203	217	2,600
1946–47 ..	1,302	535	543	253	373	347	3,293
1947–48 ..	1,224	451	561	214	564	490	3,503
1948–49 ..	1,479	522	704	232	679	558	4,174
1949–50 ..	1,449	615	760	287	697	426	4,234

LOCAL VALUE OF FISHERIES PRODUCTION—*continued.*

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
LOCAL VALUE PER HEAD OF MEAN POPULATION.							
			(*s. d.*)				
Average, 1934-35 to 1938-39 ..	4 5	1 9	5 11	6 3	10 0	6 11	4 6
1945-46 ..	7 2	4 7	8 1	7 4	8 4	17 4	7 0
1946-47 ..	8 9	5 3	9 11	7 11	12 7	27 3	8 9
1947-48 ..	8 2	4 4	10 1	6 7	22 2	37 5	9 2
1948-49 ..	9 8	4 11	12 5	7 0	26 1	41 7	10 8
1949-50 ..	9 2	5 8	13 1	8 4	25 7	30 9	10 6

(*a*) No deduction has been made for depreciation and maintenance.

3. **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. Since that year production has increased considerably and reached a peak of 10,886,254 lb. in 1948–49 but dropped to 7,442,521 lb. in 1949–50.

In addition to the canning of fish, other fish products are obtained. The quantities produced during 1949–50 were 946,482 lb. of smoked fish and 1,039,294 lb. of fish paste.

In 1939 New South Wales and Tasmania were the only producing States, but by 1941 the industry had been extended to South Australia and Western Australia. Details of production are given in the following table for the years 1938–39 and 1945–46 to 1949–50.

PRODUCTION OF CANNED FISH : AUSTRALIA.

Particulars.	1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Number of factories operating(*a*) ..	3	11	12	16	16	15
Quantity .. lb.	603,302	1,683,612	3,717,248	9,731,702	10,886,254	7,442,521
Value .. £	13,700	147,016	326,078	727,660	973,027	676,812

(*a*) Including factories engaged in the canning of fish loaf.

The varieties canned in the various States differ according to the catch available, but separate details for each variety are not available. In New South Wales salmon is the principal variety, while in South Australia there are more varieties, including mullet, salmon, garfish, etc. In Western Australia herrings, crayfish and mullet are included, and in Tasmania salmon and crayfish.

4. **State Revenue from Fisheries.**—The revenue from fisheries during the year 1949–50 was £45,554 compared with £45,010 in 1948–49 and £34,273 in 1938–39. Of the total of £45,554 in 1949–50 New South Wales collected £22,050, Victoria £3,483, Queensland £10,243, South Australia (year ended December, 1949) £3,384, Western Australia (year ended December, 1949) £3,644, Tasmania (year ended March, 1950) £2,559 and Northern Territory £191.

§ 6. Oversea Trade in Fishery Products.

1. **Imports of Fish.**—The equivalent, in the round, of imported fish consumed in Australia in 1949–50, was 38 per cent. of the total consumption. Particulars of the imports of fish are shown below for the years 1945–46 to 1949–50 in comparison with 1938–39.

FISH AND FISH PRODUCTS: IMPORTS INTO AUSTRALIA.

Classification.	1938–39.	1945–46.	1946–47.	1947–48.	1948–49.	1949–50.
			QUANTITY (CWT.)			
Fish—						
Fresh or preserved by cold process—						
Oysters in shell ..	635	..	..	..	3	..
Other	83,393	23,268	46,196	73,060	100,899	59,152
Potted or concentrated ..	9,435	112	2,153	12,909	3,012	1,908
Preserved in Tins—						
Fish—						
Herrings	38,917	9,305	45,373	47,236	95,994	81,569
Pilchards	(a)	2,958	68	36,329	3,740	735
Salmon	166,695	31,785	10,540	12,031	2,544	14,848
Sardines (including Sild)	29,372	1,849	7,780	58,733	61,962	50,253
Other	14,306	6,607	9,942	24,432	8,682	5,974
Shell Fish—						
Crustaceans ..	6,829	260	301	4,627	1,623	2,386
Oysters	1,939	294	4	1	29	59
Other	(a)	111	194	297	100	201
Smoked or Dried (not salted)	8,122	400	6,870	26,090	32,331	70,524
N.E.I. (including salted) ..	7,987	3,879	6,309	3,202	3,319	8,577
			VALUE (£.)			
Fish—						
Fresh or preserved by cold process—						
Oysters in Shell ..	641	..	..	..	62	..
Other	248,742	147,386	269,247	417,971	631,549	408,654
Potted or concentrated ..	111,269	6,194	38,676	265,114	68,077	45,853
Preserved in Tins—						
Fish—						
Herrings	125,961	71,780	303,263	470,549	961,471	712,448
Pilchards	(a)	17,902	5,668	303,488	29,798	5,790
Salmon	651,838	162,665	94,115	124,824	26,406	267,575
Sardines (including Sild)	165,959	23,417	118,823	1,061,647	1,269,532	966,161
Other	58,247	116,482	116,160	253,791	124,705	75,761
Shell Fish—						
Crustaceans ..	64,011	4,090	4,494	81,584	31,335	61,398
Oysters	12,738	3,774	17	19	500	1,323
Other	(a)	794	1,785	2,351	1,278	2,475
Smoked or Dried (not salted)	21,483	1,613	40,088	146,628	172,694	432,062
N.E.I. (including salted) ..	9,965	29,050	34,110	16,125	23,025	35,403
Total	1,470,854	585,147	1,026,446	3,144,091	3,340,432	3,014,903

(a) Not recorded separately.

Canned fish constituted the largest proportion of the imports; salmon from Canada, herrings from Canada and the United Kingdom, pilchards from the Union of South Africa and sardines from Norway were the chief varieties imported. The potted fish came chiefly from the United Kingdom and New Zealand, which also supplied a considerable proportion of the fresh fish imported in 1949-50; the bulk of the remainder came from the Union of South Africa. The small import of oysters was supplied by New Zealand, which has also furnished the bulk of the crustaceans imported in recent years.

2. **Exports of Fish.**—During 1949-50 the exports of fish of Australian origin were as follows :—oysters in shell, 888 cwt., £6,668; other fresh or preserved by cold process, 18,029 cwt., £414,108; potted or concentrated, 147 cwt., £7,576; fish preserved in tins, 19,256 cwt., £200,917; shell fish in tins, 293 cwt., £7,002; smoked or dried, 143 cwt., £1,838 and other fish, 13 cwt., £163.

3. **Exports of Pearl and other Shell.**—The exports of pearl, tortoise and trochus-shell of Australian origin are shown hereunder for the years 1938-39 and 1945-46 to 1949-50 :—

PEARL, TORTOISE AND TROCHUS-SHELL : EXPORTS FROM AUSTRALIA.

Article.		1938-39.	1945-46.	1946-47.	1947-48.	1948-49.	1949-50.
Pearl-shell ..	cwt.	52,532	959	5,535	15,915	27,885	33,840
	£	244,266	16,917	149,975	408,681	606,767	624,517
Tortoise-shell ..	cwt.	4	..	3	134	..	3
	£	151	36	155	470	35	448
Trochus-shell ..	cwt.	9,108	5,466	16,424	10,096	15,547	10,765
	£	34,166	39,280	81,154	49,888	73,012	49,170
Other	cwt.	..	243	37	135	157	1,234
	£	..	3,037	770	1,240	1,564	15,777