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.

At certain times of the year whales of various species appear off our 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 off Crowdy Head to south of Cape Everard and further off the east Tasmanian coast off Babel Island southwards to Storm Bay. Other demersal grounds are known to exist in the Great Australian Bight but as yet are not 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. Horse mackerel is found in the waters of eastern Tasmania, the south-east coast of New South Wales, and Western Australia. Concentrations of other pelagic groups, including tuna and clupeoid species, are reported over the continental shelf at various points.

The pearl oyster inhabits 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 found 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.

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.

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. Large nets, chiefly of the purse seine type, for pelagic fisheries have been tested experimentally by the Council for Scientific and Industrial Research in its exploratory work.

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, while 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 at present are administered by State Departments implementing State laws. This administration includes licensing of men and boats, and restriction on 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 a Commonwealth Fisheries Office in the Department of Commerce and Agriculture to co-ordinate fisheries administration. This office took over the responsibilities of the Controller of Fisheries who operated in the Ministry of Post-war Reconstruction.

Special legislation exists for the pearl-shell and bêche-de-mer fisheries and for whaling.

§ 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. Since the war, vessels requisitioned by the Services have returned to this fishery, and in 1946 licences were issued to 13 steam trawlers and 120 Danish seine vessels. Many of these vessels made very satisfactory catches when they first entered the industry, but by the end of 1946 signs of serious depletion of fish stocks had appeared. It seems that the catch should be limited to from 10 to 12 million lb. per annum to ensure economic production.

In about 1929–30 Queensland fishermen turned their attention to Spanish mackerel, and this fishery rapidly developed, with Townsville as principal centre. Production of this fishery rose to about 1 million lb. in 1942, but catches since that year have been considerably lower.

At about the same time (1930) a fishery for snapper shark in southern waters began to expand. This fishery rapidly extended its area of operations and the catch increased from 23,131 lb. in 1930 to 3,150,000 lb. in 1942–43. Greater impetus was given to the fishery during war years by the demand for livers for fish oil production for medicinal purposes. The catch of shark in south-east Australia has been stabilized at about three million pounds. Livers have been used for the production of about 15,000 gallons of vitamin oil, and the flesh is sold for the most part in Melbourne Fish Market.

The presence of stocks of tuna of various species in Australian waters has been established, but despite extensive experiments, no commercial quantities have yet been taken. However, following experimental work by the Council for Scientific and Industrial Research, a Commonwealth crew, operating an American mackerel purse seine net, made two catches of approximately 15 tons each of horse mackerel in Tasmanian waters in 1947. After considerable alterations to the net, experiments were made on the southern New South Wales coast, and three catches of about 20 tons each were made. Further experiments will be made on the Tasmanian coast in the 1948 season, and these results should give useful information for the development of a commercial fishery on this species, which is of particular interest for canning.

(ii) *Production.* Production for the year 1945–46 is considerably higher than for previous years, being about 75 million lb. This is due to the fact that steam trawlers and Danish seine vessels operating on the south-east coast of Australia have made large catches on the grounds that were rested for the period of the war, and also due to the general expansion in the industry following the war when so many of the larger vessels were requisitioned by the Services.

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. Peak production of 44,723 bags was reached in 1938.

Cray fisheries have developed greatly in recent years The catch for 1945–46 was considerably higher than in previous years in Tasmania, South Australia, and Western Australia: in each of these States it exceeded a million lb.

3. **Pearl-shell and Bêche-de-mer.**—Before the war pearl shelling was carried out in the tropical waters of Queensland, Northern Territory, and Western Australia, mainly by Japanese and Malay divers, using diving apparatus, in waters varying from 4 to 20 fathoms in depth. During the war practically all of these operations were discontinued. After the war the policy of the Commonwealth Government was to prohibit indentured labour, but despite this restriction, by the middle of 1947, there were 24 boats again in commission off the Western Australian coast, operated by 223 men, of whom about 70 per cent. were Asiatics. In North Queensland, pearling operations are centred at Thursday Island, where, by June, 1947, 19 boats were being operated by Europeans, with 169 men, of whom 65 per cent. were Torres Straits Islanders. In addition, Island owners were operating 20 luggers and 20 cutters. Because of the warmer water the Thursday Island divers dispense with the heavy diving dress and boots used by divers in the Broome area, and use only a helmet and corselet.

§ 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 15 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 the fish to local centres and to inland country districts, and send any balance of fish they may have 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 equivalent of about 145 million lb. of round fish, or 20.7 lb. per person. About 65 million lb. was produced locally and the remainder was imported; that is, the average Australian ate about 9.3 lb. of Australian fish a year and the equivalent of 11.4 lb. of overseas fish. The per capita consumption in the United Kingdom in 1937 was 49.8 lb., in New Zealand 23.8 lb. and in Japan 110 lb. During the 1939–45 War, however, the quantity of fish entering civilian consumption in Australia was reduced to approximately 4 lb. 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 during the period of meat rationing fish was in increased demand, it is not, as in many countries, a staple item in the diet of Australia, and is still regarded rather as a luxury.

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 all States there has been a development of facilities for light processing of fish, particularly for smoking.

There are six canneries operating in Tasmania, two in New South Wales, three in Western Australia and one in South Australia. The output from these for 1946–47 was 6,356,000 lb., and it is estimated that these figures will be doubled in 1947–48. The whole of this production is absorbed by the home market, and it is estimated that even the doubled production will find ready sale in Australia.

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.**—Australian fishing industries have been the subject of numerous inquiries seeking explanation of the very slow rate of development, of the unfortunate conditions prevailing within the industry and of the paucity of supplies available to the public. To meet the situation revealed, various research programmes have been instituted.

2. **Conference 1927–1929.**—With the object of reviewing the potentialities of the fishing industry of Australia the Development and Migration Commission convened a meeting of State and Commonwealth representatives. The Conference, which was held in Melbourne during September, 1927, affirmed :—

(1) The importance of establishing a Marine Biological Institution to study the scientific problems connected with Australian fisheries, and to collect and disseminate authoritative information and give advice on matters concerning the fisheries;

(2) the desirability of establishing an experimental trawling unit to explore the fisheries resources of Australia.

Committees were formed to deal with important problems concerning the preservation, transportation, marketing and distribution of fish, the canning and curing of fish, the production of fish by-products, the factors of destruction in fisheries, the development of the oyster industry, etc. The reports prepared by these Committees were submitted to a further conference held in July, 1929, at which the Commonwealth and all State Governments were represented; it was then unanimously recommended that investigation work should be undertaken by the Commonwealth Government.

3. **Council for Scientific and Industrial Research, Division of Fisheries.**—Acting on the recommendation of the 1927–1929 Conference, the Commonwealth Government entrusted to the Council for Scientific and Industrial Research the task indicated by the Conference. In its original plans the Council provided a sum of £80,000, spread over a period of five years, for the following purposes :—(i) to procure a vessel specially designed for the exploration of pelagic or surface-swimming fish, but which could also carry out certain investigations of demersal or bottom-dwelling species; (ii) to undertake experiments in the canning of fish and the determination of the chemical composition of fish thought to be suitable for the manufacture of fish by-products; (iii) to determine, by tests, the best methods of curing and preserving fish, especially the more common varieties; and (iv) in co-operation with the State authorities, to undertake a study of the systems of distribution of fish in each State with a view to improving existing transport and marketing facilities. A research vessel constructed at a cost of £17,000 was commissioned in 1938 and a programme of work was laid down extending over a period of five years. During the first three years the investigation was confined to the south-eastern portion of the Australian coast; part of the work was extended later to the south-western portion of the Continent. A modern biological laboratory was established at Port Hacking in New South Wales.

The early work led the Council to place this programme on a permanent basis, and the Division of Fisheries has increased its staff and its work to include (1) an exploratory programme designed to survey new areas and study oceanographical, hydrological and planktological conditions and new fisheries, and (2) a biological programme designed to study the important existing fisheries, both marine and freshwater, shell fisheries, and seaweed resources.

Portions of this programme have already been completed, and much information regarding the pelagic fish (tuna, Australian salmon, horse mackerel or cowanyoung, kingfish, pilchards, anchovies and sprats) has been collected. As a result of this work commercial catches of sprats are now being made in Tasmania, and the Division's purse seine net has been used by a commercial fishing crew to take several catches of horse mackerel in Tasmanian and southern New South Wales waters.

An experimental shipment of the Pacific oyster from Japan is at present under observation in Australian waters to determine whether this oyster could be successfully transplanted to Australia.

Surveys have been made of beds of the seaweed *Gracilaria* and this weed, and other seaweeds, have been used in the experimental production of agar. As a result of these experiments agar is now being produced commercially in sufficient quantities to supply the Australian market.

4. **Tariff Board Inquiry.**—The Tariff Board, after an inquiry held in 1941, concluded that the development of a prosperous fishing industry would be an important contribution to the war effort, that the possibilities of commercial exploitation were established, and that the stage had been reached when additional governmental assistance was desirable. It recommended that assistance to the Council for Scientific and Industrial Research be continued and that a Commonwealth Fisheries Authority be established with the necessary authority to carry out its functions.

5. **War-time Control.**—A conference between representatives of the Council for Scientific and Industrial Research and State Departments administering fisheries was held in October, 1941, for the purpose of inquiring into the constitution of the proposed Commonwealth Authority and other related matters.

No action arose from this Conference. In 1942 the Division of Fisheries, Council for Scientific and Industrial Research, prepared, on behalf of the Director-General of Man-power, a register of man-power in the industry and made suggestions for the rationalization of the industry under war-time conditions. As a result of these suggestions a Controller of Fisheries was appointed to co-ordinate and organize the industry. The programme of the Controller included the setting of production goals, control of the allocation of man-power, fuel and equipment, organization of co-operatives within the industry, rationalization of marketing and distribution and general supervision of development.

6. **Commonwealth Fisheries Authority.**—As a practical outcome of the recommendations of the Tariff Board and negotiations by the Controller of Fisheries, the Commonwealth Government appointed a Director of Fisheries and the staff of the Commonwealth Fisheries Office, which is located in the Department of Commerce and Agriculture. This Fisheries Authority was appointed to administer all fisheries matters which are the concern of the Commonwealth Government, having as special responsibilities the co-ordination of fisheries administration of the States by conference of officials, the administration of legislation concerned with extra-territorial waters, the oversight of development of all commercial fisheries, the designing of a co-ordinated marketing scheme, the extension work for the industry, which was to include publicity through a journal, and also a school for fishermen. The last portion of the programme has been carried out and the "Fisheries Newsletter", with a distribution of 16,000, is despatched to all licensed fishermen in the Commonwealth, and to a large number of overseas fisheries institutions. The Fisheries School for ex-Servicemen under the Commonwealth Reconstruction Training Scheme is the responsibility of this Department for staffing and general administration.

7. **Pearl-shell Fishery Royal Commission.**—In accordance with the "White Australia" policy it was originally determined that the employment of Asiatic labour in the pearl-shelling industry should be restricted, and ultimately cease, and it was proposed that after 31st December, 1913, permits to bring in Asiatics for the pearling fleet should no longer be issued. In view, however, of the disorganization of the industry occasioned by the 1914–18 War, the time was extended to the 30th June, 1918, after which date permits to introduce Asiatic labour were to be granted only in cases where the diver and tender of a boat were Europeans. The Royal Commission appointed in March, 1912, presented its final report in 1916. The Commissioners stated that, though it might be practicable, they did not consider it advisable or profitable to attempt to transfer the industry from Asiatics to Europeans. They further stated that, while the labour employed is almost entirely Asiatic, they did not consider that the "White Australia" policy would be weakened or imperilled by allowing the industry to continue as then conducted.

8. **Pearl-shell Fishery Tariff Board Inquiry.**—Arising out of an application for the payment of a bounty on pearl-shell gathered by fishing vessels registered in Australia, the industry was the subject of an inquiry by the Tariff Board which presented its report in 1935. The Board did not approve the granting of a bounty but recommended some relief to the industry in the form of the remission of primage and customs duty.

9. **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. 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 :—

GENERAL FISHERIES, 1945–46.

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust. (c)	W.Aust. (c)	Tas.	N. Ter.	Australia.
No. of boats engaged ..		1,873	1,194	2,823	1,575	569	560	(f)	8,594
Value of boats and equipment ..	£	688,974	372,388	368,115	490,000	143,872	130,000	(f)	2,193,349
No. of men engaged ..		(a)6,047	2,329	4,955	2,812	(d)1,086	1,200	(f)	18,429
Total take of—									
Fish ..	cwt.	273,829	106,456	90,800	52,750	30,001	77,462	(f)	640,298
	£	951,719	543,719	428,949	241,900	200,208	151,045	(f)	2,517,540
Crayfish ..	doz.	7,427	2,313	..	18,365	e 27,118	e 69,078	(f)	124,301
	£	18,485	4,164	..	22,780	16,850	34,815	(f)	97,094
Prawns ..	cwt.	11,133	..	1,568	..	45	..	(f)	12,746
	£	74,106	..	14,068	..	250	..	(f)	88,424
Crabs ..	doz.	29,418	..	17,052	..	(e) 4,530	..	(f)	51,000
	£	4,257	..	b 18,867	..	1,760	..	(f)	24,884

(a) Fishermen's licences issued. (b) Includes £2, the value of 17 turtles. (c) Year ended December, 1945. (d) Includes 726 full-time operatives. (e) Estimated. (f) Not available.

Figures for Australia for the years 1938–39 and 1942–43 to 1945–46 are shown in the table below :—

GENERAL FISHERIES : AUSTRALIA.

Particulars.		1938–39.	1942–43.	1943–44.	1944–45.	1945–46
No. of boats engaged		5,462	6,156	6,867	8,086	8,594
Value of boats and equipment	£	649,026	776,434	967,598	1,455,001	2,193,349
No. of men engaged		9,081	10,106	12,400	14,612	18,429
Fish obtained—						
Quantity	cwt.	612,735	467,547	479,971	568,661	640,298
Gross value ..	£	1,385,281	1,920,293	1,929,329	2,168,676	2,517,540
Crustaceans obtained—Gross value	£	134,866	227,775	246,576	213,343	210,402

(ii) *Edible Oyster Fisheries.* Edible oyster fisheries are of small dimensions outside New South Wales and Queensland. During 1945–46 the available returns show the following takes :—New South Wales, 55,203 cwt., value £193,210 ; Queensland, 6,512 cwt., value £14,131. In Tasmania the scallop is far more important than the oyster. In 1945–46 the scallops taken in Tasmania were valued at £30,750 and oysters at only £630.

Figures for Australia for the years 1938–39 and 1942–43 to 1945–46 are shown in the following table :—

EDIBLE OYSTER FISHERIES : AUSTRALIA.

Particulars.		1938–39.	1942–43.	1943–44.	1944–45.	1945–46.
Boats engaged ..	No.	754	715	816	861	892
Men engaged	,,	850	728	790	813	883
Oysters obtained—						
Quantity	cwt.	89,145	79,885	50,482	57,489	62,205
Gross value (a) ..	£	132,201	171,754	137,698	204,465	238,919

(a) Includes scallops in Tasmania, valued at £14,500 in 1938 ; £14,583 in 1942–43 ; £15,428 in 1943–44 £16,300 in 1944–45 ; and £30,750 in 1945–46.

(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. The latest available particulars of equipment used and production are shown in the table following :—

PEARL, PEARL-SHELL AND BÊCHE-DE-MER FISHERIES.(a)

State or Territory.	Number of Boats Engaged.	Value of boats and Equipment.	Number of Men Engaged.	Pearl-shell.		Gross Value of Pearls obtained. (b)	Gross Value of Bêche-de-mer obtained.	Gross Value of Tortoise shell obtained.
				Quantity obtained.	Gross Value.			
	No.	£	No.	Tons.	£	£	£	£
1940–41—								
Queensland(c) ..	88	95,036	924	1,187	160,335	..	6,890	6
Western Australia(d) (e)	65	55,981	536	700	73,903	1,584	24	15
Northern Territory(f)	9	5,000	80	131	11,434	..	..	..
Total ..	162	156,017	1,540	2,018	245,672	1,584	6,914	21
1941(g)—								
Western Australia ..	57	55,398	487	616	96,127	2,360	..	..
1944–45—								
Queensland(h) ..	10	9,500	(j)123	15	2,738	..	..	..
1945–46—								
Queensland(i) ..	150	51,250	(j)717	53	31,800	..	..	..

(a) No pearl-shell industry in New South Wales, Victoria, South Australia and Tasmania. (b) Incomplete; as returned. (c) Also 276 tons of trochus-shell valued at £19,286. (d) Year ended December, 1940. (e) Also 3 cwt. trochus-shell valued at £10. (f) Year 1939–40. (g) Queensland and Northern Territory not available for 1941–42. (h) Also 122 tons of trochus shell valued at £15,278. (i) Also 371 tons of trochus shell valued at £48,795. (j) Includes Torres Strait Islanders and other Australian natives.

(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 three years ended 1940–41 and for 1944–45 and 1945–46. Particulars of tortoise shell and trochus shell have been omitted because they are regarded as incomplete.

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

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

Particulars.		1938–39.	1939–40.	1940–41.	1944–45. (c)	1945–46. (c)
Boats engaged ..	No.	181	167	162	10	150
Value of boats and equipment	£	168,133	164,456	156,017	9,500	51,250
Men engaged	No.	1,750	1,408	1,540	123	717
Pearl-shell obtained—						
Quantity	tons	2,543	2,149	2,018	15	53
Value	£	222,281	198,264	245,672	2,738	31,800
Value of—						
Pearls obtained(b) ..	£	3,397	2,620	1,584	..	..
Bêche-de-mer obtained	£	8,145	669	6,914	..	..

(a) See notes to previous table. (b) Incomplete; as returned. (c) Queensland only available.

2. **Value of Production—Gross and Local.**—(i) *General.* 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.

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)
			1944–45.		
	£	£	£	£	£
New South Wales ..	1,220,000	197,000	1,023,000	23,000	1,000,000
Victoria..	400,720	61,677	339,043	(b)	(b)
Queensland	352,000	75,000	277,000	70,000	207,000
South Australia	189,097	25,633	163,464	(b)	(b)
Western Australia ..	165,109	10,582	154,527	43,575	110,952
Tasmania	277,660	..	277,660	(b)	(b)
Total (c)	2,604,586	369,892	2,234,694	(b)	(b)
			1945–46.		
New South Wales ..	1,242,000	196,000	1,046,000	25,000	1,021,000
Victoria..	548,081	82,456	465,625	(b)	(b)
Queensland	557,000	120,000	437,000	110,000	327,000
South Australia	264,680	34,049	230,631	(b)	(b)
Western Australia ..	219,068	15,614	203,454	62,590	140,864
Tasmania	217,240	..	217,240	(b)	(b)
Total (c)	3,048,069	448,119	2,599,950	(b)	(b)

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

(ii) *States,* 1935–36 *to* 1945–46. In the following table the local value of fisheries production and the local value per head of population are given by States for the years 1935–36 to 1945–46. 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)				
	£	£	£	£	£	£	£
1935–36 ..	583,000	146,946	287,000	151,800	179,405	71,040	1,419,191
1936–37 ..	650,000	161,999	336,000	184,669	224,432	80,900	1,638,000
1937–38 ..	548,000	168,095	296,000	209,234	286,580	87,050	1,594,959
1938–39 ..	620,000	176,919	277,000	220,401	269,894	90,350	1,654,564
1939–40 ..	508,000	199,632	285,000	202,009	252,837	109,910	1,557,388
1940–41 ..	517,000	244,444	330,000	227,987	251,529	96,830	1,667,790
1941–42 ..	619,000	387,462	185,000	245,301	226,945	109,570	1,773,278
1942–43 ..	830,000	377,418	242,000	277,014	117,202	86,450	1,930,084
1943–44 ..	728,000	345,756	272,000	240,347	160,088	221,350	1,967,541
1944–45 ..	1,023,000	339,043	277,000	163,464	154,527	277,660	2,234,694
1945–46 ..	1,046,000	465,625	437,000	230,631	203,454	217,240	2,599,950
			LOCAL VALUE PER HEAD OF MEAN POPULATION.				
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1935–36 ..	4 5	1 7	5 11	5 2	8 0	6 2	4 3
1836–37 ..	4 9	1 9	6 10	6 3	9 11	7 0	4 10
1937–38 ..	4 0	1 10	5 11	7 1	12 6	7 5	4 8
1938–39 ..	4 6	1 11	5 6	7 5	11 8	7 8	4 9
1939–30 ..	3 8	2 1	5 7	6 9	10 10	9 2	4 5
1940–41 ..	3 9	2 7	6 4	7 7	10 8	8 0	4 9
1941–42 ..	4 5	4 0	3 7	8 1	9 7	9 2	5 0
1942–43 ..	5 11	3 10	4 8	9 0	4 11	7 2	5 4
1943–44 ..	5 1	3 6	5 2	7 9	6 8	18 2	5 5
1944–45 ..	7 1	3 4	5 2	5 3	6 4	22 6	6 1
1945–46 ..	7 2	4 7	8 1	7 3	8 3	17 5	7 0

(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, has continued to operate, and small quantities of fish have been canned from time to time. For particulars of recent developments *see* page 1029.

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 1942–43 to 1945–46.

PRODUCTION OF CANNED FISH : AUSTRALIA.

Particulars.		1938–39.	1942–43.	1943–44.	1944–45. (a)	1945–46.
Quantity ..	lb.	603,302	1,286,307	533,740	1,038,771	1,683,612
Value	£	13,700	65,912	43,856	102,607	147,016

(a) Incomplete.

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 in each State during the year 1945–46 is shown hereunder :—

FISHERIES : REVENUE, 1945–46.

State or Territory.	Licences.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ..	6,325	10,560	757	2,026	19,668
Victoria	2,175	68	188	5	2,436
Queensland	6,716	2,328	376	149	9,569
South Australia (*a*) ..	2,841	..	36	2,625	5,502
Western Australia (*a*) ..	1,222	1,315	12	13	2,562
Tasmania	2,278	..	..	4,722	7,000
Northern Territory (*b*) ..	..	..	..	..	..
Total	21,557	14,271	1,369	9,540	46,737

(*a*) Year ended December, 1945. (*b*) Not available.

Similar particulars for Australia for the years 1938–39 and 1942–43 to 1945–46 are given in the following table :—

FISHERIES : REVENUE, AUSTRALIA.

Particulars.	1938–39.	1942–43.	1943–44.	1944–45.	1945–46.
	£	£	£	£	£
Licences	15,563	10,587	14,300	17,021	21,557
Leases	12,446	13,217	13,670	12,724	14,271
Fines and Forfeitures ..	1,397	828	1,092	612	1,369
Other Sources	4,867	913	656	861	9,540
Total	34,273	25,545	29,718	31,218	46,737

§ 6. Oversea Trade in Fishery Products.

1. **Imports of Fish.**—The large importations of fish and fish products each year give further evidence of the desirability of developing the fishing industry of Australia. Imports for the years 1942–43 to 1946–47 in comparison with 1938–39 are shown below :—

FISH AND FISH PRODUCTS : IMPORTS INTO AUSTRALIA.

Classification.	1938–39.	1942–43.	1943–44.	1944–45.	1945–46.	1946–47.
	QUANTITY.					
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Fish—						
Fresh or preserved by cold process—						
Oysters in shell ..	635	400	117	..	..	..
Other	83,393	21,162	19,033	22,711	23,268	46,196
Potted or concentrated ..	9,435	..	..	18	112	2,153
Preserved in Tins—						
Fish—						
Herrings	38,917	6,453	49,894	362	9,305	45,373
Pilchards	(a)	(a)	(a)	(a)	2,958	68
Salmon	166,695	45,188	36,098	57,423	31,785	10,540
Sardines (including Sild)	29,372	..	12,455	265	1,849	7,780
Other	14,306	43,786	17,196	52,913	6,607	9,942
Shell Fish—						
Crustaceans ..	6,829	150	65	99	260	301
Oysters	1,939	862	581	2	294	4
Other	(a)	(a)	(a)	(a)	111	194
Smoked or Dried (not salted)	8,122	..	17	122	400	6,870
N.E.I. (including salted) ..	7,987	1,149	1,339	1,032	3,879	6,309
	VALUE IN AUSTRALIAN CURRENCY.					
	£A.	£A.	£A.	£A.	£A.	£A.
Fish—						
Fresh or preserved by cold process—						
Oysters in Shell ..	704	279	741	4	..	..
Other	273,289	112,801	108,211	135,029	161,932	295,818
Potted or concentrated ..	122,250	1	..	1,010	6,805	42,492
Preserved in Tins—						
Fish—						
Herrings	138,391	4,078	215,119	2,393	78,864	333,190
Pilchards	(a)	(a)	(a)	(a)	19,669	6,227
Salmon	716,164	375,290	244,841	416,117	178,718	103,403
Sardines (including Sild)	182,336	1	46,805	4,648	25,728	130,549
Other	63,996	266,884	96,331	381,488	127,977	127,624
Shell Fish—						
Crustaceans ..	70,328	2,303	897	1,552	4,494	4,937
Oysters	13,995	7,832	4,850	23	4,146	19
Other	(a)	(a)	(a)	(a)	872	1,961
Smoked or Dried (not salted)	23,603	..	125	803	1,772	44,044
N.E.I. (including salted) ..	10,948	9,669	11,799	9,291	31,917	37,476
Total	1,616,004	779,138	729,719	952,358	642,894	1,127,740

(a) Not recorded separately.

Canned fish constituted by far 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 1946–47; 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 1946–47 the exports of fish of Australian origin were as follows:—oysters in shell, 170 cwt., £1,280; other fresh or preserved by cold process, 2,688 cwt., £41,512; potted or concentrated, 568 cwt., £12,613; fish preserved in tins, 7,889 cwt., £73,175; shell fish in tins, 1,250 cwt., £19,516; smoked or dried, 822 cwt., £7,607 and other fish, 9 cwt., £9,590.

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 1942–43 to 1946–47:—

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

Article.		1938–39.	1942–43.	1943–44.	1944–45.	1945–46.	1946–47.
Pearl-shell	cwt.	52,532	645	51	401	959	5,535
	£	244,266	7,525	489	5,198	16,917	149,975
Tortoise-shell	cwt.	4	..	1	..	..	3
	£	151	..	97	469	36	155
Trochus-shell	cwt.	9,108	6,779	2,925	3,481	5,466	16,424
	£	34,166	33,558	17,192	23,040	39,280	81,154