

CHAPTER XX.

FISHERIES.*

§ 1. General.

1. **Fish Stocks.**—Australia possesses an abundant and varied fish fauna, which embraces both tropical and temperate varieties and includes destructive as well as valuable species. In rivers and lakes both indigenous and imported varieties thrive. The latter have been introduced and acclimatized for industrial and sporting purposes by Governments and angling societies. Exploitation of the fishing areas—for some classes of fish for the whole year, for others during the breeding season only, or until a certain size is attained—is, where necessary, forbidden; proclaimed localities are closed against net-fishing, and a minimum size of mesh for nets is fixed. The sea-fishermen in some districts have made regulations in their own interests for the purpose of controlling the market supply.

2. **Progress of Industry.**—(i) *Transport and Marketing.* Despite the abundance of edible fish, the progress of the fishery industry in Australia has been slow, and transport and marketing of the proved supplies have not been satisfactorily dealt with.

In New South Wales, as shown in § 5 herein and § 6 of this Chapter in Official Year Book No. 17, the matter of exploiting trawlable fish was undertaken by the State Government, which also took steps to improve the conditions under which ordinary coastal fishing is carried on. In Queensland, State trawling was undertaken in 1919, and good trawling areas have been located and charted between Cape Moreton and Caloundra.

(ii) *Economic Investigations.* Although valuable work has been done by the State Governments in the way of experiment and culture, a uniform policy of development for Australia is desirable, and recommendations have been made that the Fisheries Departments of the various States should co-operate with the Federal Government with a view to increasing the productiveness of Australian waters, and bringing about uniformity in fisheries laws. All live fish imported into Australia are examined on shipboard in order to prevent the importation of undesirable fish. With the object of ascertaining the movements of oceanic fishes, and of estuarine fishes which make periodical oceanic migrations, reports are furnished regarding the various kinds of fishes, etc., and their movements along the coast. Details regarding the activities of the States in fish-culture were given in Official Year Book No. 6, pp. 471–2. By arrangement with the Commonwealth Fisheries Department some years ago members of the staff of the Australian Museum, Sydney, accompanied the F.I.S. *Endeavour* on various cruises. Specimens were collected, mounted for scientific purposes, and distributed to other Australian Museums, a considerable number being put aside for the Commonwealth Fishery Museum. As pointed out in § 4, however, this vessel was lost with all hands in 1914, and has not since been replaced.

3. **Consumption of Fish.**—It has been said that the Australians are not an "ichthyophagous" race, seeing that the annual consumption of fish per head of population in Great Britain is set down at 42 lbs., while in Australia it has been estimated at only 13 lbs. The heavy imports of dried and preserved fish indicate, however, that there is scope for the development of the industry, which now seems to be ill-managed, the price to the consumer being high, while the fisherman's gain is uncertain, and the system of distribution lacks method.

* A specially contributed article dealing with the Marine and Fresh Water Fisheries of Australia appeared as § 6 of this Chapter in Official Year Book No. 17 (*vide* pp. 752 to 767 therein).

4. **Oyster Fisheries.**—Natural oyster beds exist on the foreshores in the shallow waters of inlets and estuaries in several parts of Australia. By husbanding the natural crop, and by judicious transplanting, the output has been very materially augmented. The areas are leased by the Government to private persons, lengths of foreshore being taken up under oyster leases. In New South Wales and Queensland the industry has thriven, and small yields are obtained in South Australia, Victoria, and Tasmania.

5. **Pearl-shell, Pearls, Bêche-de-Mer, etc.**—(i) *General.* Pearl-shelling is carried on in the tropical waters of Queensland, the Northern Territory, and Western Australia. The pearl-oyster inhabits the northern and western coastal waters from Cape York to Shark Bay, a length of shore of over 2,000 miles. The shells are marketed in considerable quantities, and pearls also are obtained in Queensland, Western Australia and the Northern Territory. The fishing is generally conducted with the aid of diving apparatus, in water varying from 4 to 20 fathoms in depth. In Queensland and the Northern Territory the bêche-de-mer industry is carried on, and tortoise-shell is obtained on the coasts. Experiments have been made in cultivating the pearl-oyster on suitable banks. In October, 1911, a pearl weighing 178 grains, and valued at £3,000, was obtained at Broome. Further details regarding pearl-shelling are given in Official Year Book No. 6, p. 463. Trochus-shell to the value of £10,008 and £13,600 was raised in Queensland during 1922 and 1923 respectively.

(ii) *Royal Commission on Pearl-shelling Industry.* 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 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 now 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 at present conducted.

§ 2. The Fishery 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 have been incorporated in the tables hereunder:—

GENERAL FISHERIES, 1923.

State or Territory.	No. of Boats Engaged.	Value of Boats and Equip-ment.	No. of Men Em-ployed.	Total Take of—		Value of Take.	
				Fish.	Spiny Lobster (Crayfish).	Fish.	Spiny Lobster (Crayfish).
	No.	£	No.	cwt.	doz.	£	£
New South Wales	1,080	96,598	f 2,905	6157,518	6,654	6507,461	c 33,418
Victoria (e) ..	812	101,921	1,234	80,007	17,385	145,554	15,101
Queensland ..	669	39,837	1,249	48,610	..	101,162	g 2,220
South Australia ..	800	48,000	1,110	(a)	(a)	(a)	(a)
Western Australia	258	34,089	533	26,111	7,126	73,111	3,563
Tasmania (d) ..	145	20,350	391	doz. 55,484	8,860	14,512	5,560
Northern Territory	2	(a)	(a)	957	..	3,554	..
Total (d) ..	3,766	340,795	7,422	..	40,025	845,354	59,862

(a) Not available. (b) Including 6,084 cwt. fish, valued at £12,777, obtained by State trawlers, (c) Including £21,602, the value of 2,860 cwt. prawns and 3,800 dozen crabs. (d) Incomplete (e) Year ended 30th June, 1924. (f) Number of licensed fishermen. (g) Crabs.

Returns for the past five years are given in the table below :—

GENERAL FISHERIES.—AUSTRALIA, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
No. of boats engaged	3,838	3,624	3,684	3,873	3,776
No. of men employed	7,774	7,634	7,846	7,771	7,422
Fish obtained—					
Quantity cwt.	a387,680	a397,250	a377,614	a350,350	a319,148
Value £	a629,120	a689,568	a708,670	a793,263	a845,354
Lobsters obtained—Value	£ a26,896	a44,885	a43,329	a54,796	a59,862

(a) Exclusive of South Australia.

(ii) *Edible Oyster Fisheries.* The returns from oyster fisheries are given in the next table.

EDIBLE OYSTER FISHERIES (a), 1923.

State or Territory.	Number of Boats Engaged.	Value of Boats and Equip-ment.	Number of Men Em-ployed.	Number of Leases.	Oysters Taken.	
					Quantity.	Value.
	No.	£	No.	No.	cwt.	£
New South Wales	562	22,682	566	4,265	48,698	83,910
Victoria (b)	35	4,688	76	12	1,136	1,516
Queensland	97	10,050	126	645	27,023	37,448
South Australia (c) .. ..	..	..	..	..	..	..
Tasmania	4	600	19	..	380,000 (doz.)	d 4,943
Total	698	38,020	787	4,922	..	127,817

(a) Practically no oyster fisheries in Western Australia and Northern Territory. (b) Year ended 30th June, 1924. (c) Included with General Fisheries. (d) Including £4,183, value of scallops.

Returns for Australia for the last five years are given in the appended table :—

EDIBLE OYSTER FISHERIES.—(c) AUSTRALIA, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.(a)	1923.(a)
No. of boats engaged	(b) 503	(b) 532	(b) 591	624	694
No. of men employed	(b) 492	(b) 539	(b) 602	667	763
Oysters obtained—					
Quantity cwt.	78,430	72,767	63,804	68,516	76,857
Value £	100,910	108,694	96,808	110,305	122,874

(a) Exclusive of Tasmania.

(b) Exclusive of Victoria.

(c) Exclusive of South Australia.

(iii) *Pearl and Bêche-de-Mer Fisheries.* The pearling industry is carried on in the tropical waters of Queensland, Western Australia, and the Northern Territory Bêche-de-mer is obtained in Queensland and the Northern Territory, the product being exported to China. Particulars for the year 1923 are as follows :—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES, (a), 1923.

State or Territory.	Number of Boats Engaged.	Value of Boats and Equipment.	Number of Men Employed.	Quantity of Pearl-shell obtained.	Value of Pearl-shell obtained.	Value of Pearls obtained.	Value of Bêche-de-mer obtained.	Value of Tortoise-shell obtained.
	No.	£	No.	Tons.	£	£	£	£
Queensland (b) ..	153	70,000	1,304	847	103,640	(c)	33,370	578
Western Australia ..	233	115,571	1,701	1,433	183,549	60,717	..	..
Northern Territory ..	2	(c)	(c)	12	1,500	(c)	..	..
Australia ..	388	185,571	3,005	2,292	288,689	60,717	33,370	578

(a) No pearl-shelling industry in New South Wales, Victoria, South Australia, and Tasmania.

(b) Also trochus-shell to the value of £13,600.

(c) Not available.

For obvious reasons the returns in regard to the value of pearls obtained can be regarded as rough approximations only. The trochus-shell raised in Queensland is used principally in the manufacture of "pearl" buttons.

Particulars regarding these fisheries for the last five years are given below:—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES.—AUSTRALIA.
1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
No. of boats engaged ..	471	515	334	356	388
No. of men employed ..	3,453	3,738	2,403	2,639	3,005
Pearl-shell obtained—					
Quantity .. tons	2,300	2,126	1,422	2,271	2,292
Value .. £	387,034	337,917	189,276	303,452	288,689
Pearls obtained (a)—					
Value .. £	74,212	68,610	36,163	38,163	60,717
Bêche-de-mer obtained —					
Quantity .. tons	308	(b)	(b)	(b)	(b)
Value .. £	42,721	70,898	52,201	65,679	33,370
Tortoise-shell obtained—					
Quantity .. lbs.	172	552	2,112	992	896
Value .. £	96	302	1,080	663	578
Trochus-shell obtained—					
Value .. £	30,280	41,698	7,383	10,008	13,600

(a) Incomplete; but as returned.

(b) Not returned.

2. Fish Preserving.—To encourage the industry, the Federal Parliament provided a bounty of $\frac{1}{2}$ d. per lb. for fish preserved as prescribed during the ten years 1907–8 to 1916–17. The payment, which amounted to only £3,005 during the period, or at the rate of £300 per annum, failed to develop the industry, and the bounty was not renewed on its expiration in 1916–17.

3. State Revenue from Fisheries.—The revenue from fisheries in each State during the year 1923 is given hereunder:—

FISHERIES.—REVENUE, 1923.

State or Territory.	Licences.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ..	1,303	8,842	289	2,697	13,131
Victoria (a) ..	483	42	190	15	730
Queensland ..	2,517	3,282	96	12	5,907
South Australia ..	983	..	..	..	983
Western Australia ..	3,989	1,252	235	386	5,862
Tasmania ..	719	1	219	60	999
Northern Territory ..	19	..	..	..	19
Total ..	10,013	13,419	1,029	3,170	27,631

(a) Year ended 30th June, 1921.

Similar particulars for Australia for the last five years are given in the following table :—

FISHERIES.—REVENUE, AUSTRALIA, 1919 TO 1923.

Particulars.	1919.	1920.	1921.	1922.	1923.
	£	£	£	£	£
Licences	10,959	11,760	9,164	9,092	10,013
Leases	11,969	13,432	13,106	14,181	13,419
Fines and Forfeitures ..	523	536	472	663	1,029
Other Sources	3,919	524	586	1,076	3,170
Total	27,370	26,252	23,328	25,012	27,631

§ 3. Oversea Trade in Fishery Products.

1. *Imports of Fish.*—The development of the local fishing industry leaves much to be desired, as is evident from the large imports. For the last five years the imports were as follows :—

FISH.—IMPORTS, AUSTRALIA, 1919–20 TO 1923–24.

Classification.		1919-20.	1920-21.	1921-22.	1922-23.	1923-24.
Fresh (oysters) ..	{ cwt.	520	2,092	2,297	2,927	415
	{ £	762	2,708	3,675	4,091	301
Fresh, or preserved by cold process	{ cwt.	9,444	17,558	25,130	38,508	50,718
	{ £	39,796	81,126	107,999	127,172	165,948
Potted	{ cwt.	(a)	(a)	(a)	(a)	(a)
	{ £	97,340	64,310	72,788	69,422	101,085
Preserved in tins	{ cwt.	148,684	103,505	163,034	175,322	233,318
	{ £	989,742	649,610	885,781	867,708	1,158,048
Smoked, dried, and n.e.i.	{ cwt.	6,106	10,179	13,170	13,633	15,592
	{ £	38,298	52,774	59,038	56,190	63,167
Total	{ cwt. (b)	164,754	133,334	203,631	230,390	300,043
	{ £	1,165,938	850,528	1,129,281	1,124,583	1,488,549

(a) Not available.

(b) Exclusive of potted fish.

Tinned fish constitutes by far the largest proportion of the imports, most of it consisting of salmon from the United States of America, Canada, Norway, and Alaska. The potted fish comes chiefly from the United Kingdom. New Zealand supplies the largest proportion of the fresh fish, the bulk of the remainder coming from the United Kingdom and South African Union. The small import of oysters is supplied by New Zealand.

2. *Exports of Fish.*—The exports of local fish produce for the five years 1919–20 to 1923–24 are given hereunder :—

FISH (AUSTRALIAN PRODUCE).—EXPORTS, 1919–20 TO 1923–24.

Classification.	1919-20.	1920-21.	1921-22.	1922-23.	1923-24.
Fish, fresh, smoked, or preserved by cold process	{ cwt. 790 £ 6,017	10,193 86,474	9,865 89,095	9,692 66,104	5,681 33,259
Preserved, in tins, dried, salted, etc.	{ cwt. 9,259 £ 66,255	102 195	78 306	162 433	476 1,185
Total ..	{ cwt. 10,049 £ 72,272	10,295 86,669	9,943 89,401	9,854 66,537	6,157 34,444

The quantity of fresh fish exported from Australia is trifling, and the amount of £33,259 shown in the table above consists chiefly of cured bêche-de-mer exported to Hong Kong from Queensland.

3. Exports of Pearl and Other Shell.—The exports of pearl, tortoise, and trochus-shell, of Australian origin, are given hereunder for the five years 1919-20 to 1923-24 :—

PEARL, TORTOISE, AND TROCHUS-SHELL.—EXPORTS, AUSTRALIA,
1919-20 TO 1923-24.

Article.		1919-20.	1920-21.	1921-22.	1922-23.	1923-24.
Pearl-shell	cwt.	45,040	31,480	38,900	41,027	48,017
	£	462,152	319,143	317,623	320,602	377,313
Tortoise-shell	lbs.	1,542	2,922	1,938	2,812	3,308
	£	1,011	1,864	1,243	2,012	2,574
Trochus-shell	cwt.	26,000	11,900	14,320	13,186	12,072
	£	105,894	37,602	26,285	25,095	23,142

The bulk of the pearl-shell exported during 1923-24 was consigned to the United States of America and the United Kingdom, the respective values of the shipments amounting to £301,199 and £65,127, while trochus-shell to the value of £19,684 was dispatched to Japan.

§ 4. The Commonwealth Department of Fisheries.

In 1907 the Commonwealth Government decided to demonstrate what might be attained commercially by the application of modern methods in fishery. A Federal Investigation Ship, the *Endeavour*, was constructed specially for the work, and a Director of Fisheries was appointed. Experimental cruises were undertaken, which showed that Australia possesses an asset of considerable value in her sea fisheries. The *Endeavour* was unfortunately lost at sea with all on board at the end of 1914, and has not been replaced. A description of the trawling grounds discovered, data regarding oceanography to the east of Australia, and a list of the publications of the Department are given in pp. 333 to 335 of Year Book No. 14.

§ 5. The State Trawling Industry—New South Wales.

The State Trawling Industry was established in 1915, and fishing operations were conducted with seven steel steam trawlers. The catches were landed at Sydney and Newcastle, and the fish distributed through retail shops, of which there were fourteen in the Metropolitan area, one in Newcastle, and five in country towns. During the year ended 30th June, 1922, the State trawlers landed 2,413 tons of fish, valued at £101,337. Early in the year 1923 the Government decided to discontinue trawling operations, as the venture was not a commercial success, the accumulated net loss amounting to £210,518, and the assets have since been disposed of.