

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 £47,892 and £76,280 was exported from Australia during 1924-25 and 1925-26.

(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, 1925.

State or Territory.	No. of Boats Engaged.	Value of Boats and Equipment.	No. of Men Employed.	Total Take of—		Value of Take.	
				Fish.	Spiny Lobster (Crayfish).	Fish.	Spiny Lobster (Crayfish).
	No.	£	No.	cwt.	doz.	£	£
New South Wales ..	1,703	112,283	3,021	181,609	8,477	508,506	c 74,399
Victoria (e) ..	891	110,545	1,321	61,292	16,629	171,618	14,966
Queensland ..	647	46,669	1,258	55,300	..	129,636	d 7,932
South Australia ..	755	49,075	1,270	(a)	(a)	b150,000	(a)
Western Australia ..	256	36,248	532	34,712	9,896	90,000	4,948
Tasmania ..	145	21,370	374	doz.71,424	3,256	8,946	1,093
Northern Territory	2	(a)	10	220	..	326	..
Total ..	4,399	376,190	7,786	..	38,258	1,059,032	103,338

(a) Not available. (b) Estimate. (c) Including £63,591, the value of 8,955 cwt. prawns and 6,058 dozen crabs. (d) Crabs. (e) Year ended 30th June, 1928.

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

GENERAL FISHERIES.—AUSTRALIA, 1921 TO 1925.

Particulars.		1921.	1922.	1923.	1924.	1925.
No. of boats engaged ..	..	3,684	3,873	3,776	4,346	4,399
No. of men employed ..	..	7,846	7,771	7,422	7,885	7,786
Fish obtained—						
Quantity ..	cwt.	a377,614	a350,350	a319,148	a345,012	a341,133
Value ..	£	a708,670	a793,263	a845,354	a882,042	a909,032
Lobsters obtained—Value	£	a43,329	a54,796	a59,862	a75,893	a103,338

(a) Exclusive of South Australia.

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

EDIBLE OYSTER FISHERIES, 1925.

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 ..	655	27,857	579	4,686	49,701	92,774
Victoria (b) ..	5	1,175	8	8	103	388
Queenslan I ..	81	8,880	122	522	28,186	39,999
South Australia (c) ..	..	..	..	..	..	..
Western Australia ..	..	..	..	..	..	..
Tasmania ..	4	600	19	(a)	100,000 (doz.)	d 2,401
Total ..	745	38,512	728	5,216	..	135,562

(a) Not available.

(b) Year ended 30th June, 1926.

(c) Included with General Fisheries.

(d) Including £601, value of scallops.

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

EDIBLE OYSTER FISHERIES.—(c) AUSTRALIA, 1921 TO 1925.

Particulars.		1921.	1922.(a)	1923.(a)	1924.(a)	1925.(a)
No. of boats engaged ..	(b)	591	624	694	725	741
No. of men employed ..	(b)	602	667	768	805	709
Oysters obtained—						
Quantity ..	cwt.	63,804	68,516	76,857	67,302	77,990
Value ..	£	96,808	110,305	122,874	113,623	133,161

(a) Exclusive of Tasmania.

(b) Exclusive of Victoria.

(c) Exclusive of South Australia.

(iii) *Pearls, Pearl-shell and Trepang.*—Figures regarding the production, trade, etc., for these items, so far as they are ascertainable, are given hereunder. As regards pearls, for obvious reasons no correct estimate can be obtained of the value of those found. Pearl-shell (*Margaritifera*) is widely distributed in North Australian waters over an area facing some thousands of miles of coastline, though not intensively over the whole distance. The north-west beds are the most prolific, but those around and to the north of Cape York are also of importance. There is need for further investigation into the occurrence of this valuable shell, as well as of trochus, green snail, window-pane shell (*Placuna*), the various types of trepang or bêche-de-mer (*Holothuria*), both in tropical Australian waters and in those of Papua and the mandated area of New Guinea. Particulars as returned for the year 1925 are as follows :—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES, (a), 1925.

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 ..	155	85,000	1,601	1,150	144,284	4,305	12,688	770
Western Australia ..	246	131,896	1,746	1,409	210,201	60,290	..	..
Northern Territory	15	(b)	(b)	43	7,800	500	847	50
Australia ..	416	216,896	3,347	2,602	362,285	65,095	13,535	820

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

(b) Not available.

The figures for tortoise-shell and trochus-shell as returned are defective, as the necessary information is not collected in full detail. In the following summary of production during the past five years, export figures of Australian origin are inserted for both of these items:—

PEARL, PEARL-SHELL, AND BÊCHE-DE-MER FISHERIES.—AUSTRALIA, 1921 TO 1925.

Particulars.	1921.	1922.	1923.	1924.	1925.
No. of boats engaged ..	334	356	388	387	416
No. of men employed ..	2,403	2,639	3,005	3,043	3,347
Pearl-shell obtained—					
Quantity .. tons	1,422	2,271	2,292	2,784	2,602
Value £	189,276	303,452	288,689	444,234	362,285
Pearls obtained (a)—					
Value £	36,163	38,163	60,717	59,670	65,095
Bêche-de-mer obtained—					
Quantity .. tons	(b)	(b)	(b)	(b)	(b)
Value £	52,201	65,679	33,370	25,757	13,535
Tortoise-shell exported—					
Value £	1,243	2,012	2,574	2,025	4,730
Trochus-shell exported—					
Value £	26,285	25,095	23,142	47,892	76,280

(a) Incomplete; as returned.

(b) Not returned.

2. Fish Preserving.—To encourage the industry, the Federal Parliament provided a bounty of $\frac{1}{4}$ 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 1925 is given hereunder:—

FISHERIES.—REVENUE, 1925.

State or Territory.	Licences.	Leases.	Fines and Forfeitures.	Other Sources.	Total.
	£	£	£	£	£
New South Wales ..	1,404	11,782	272	969	14,427
Victoria (a)	660	44	177	15	896
Queensland	2,803	2,680	295	13	5,791
South Australia ..	1,125	..	..	..	1,125
Western Australia ..	3,989	1,311	22	324	5,646
Tasmania	2,551	110	15	..	2,676
Northern Territory ..	25	..	..	..	25
Total	12,557	15,927	781	1,321	30,586

(a) Year ended 30th June, 1926.

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

FISHERIES.—REVENUE, AUSTRALIA, 1921 TO 1925.

Particulars.	1921.	1922.	1923.	1924.	1925.
	£	£	£	£	£
Licences	9,164	9,092	10,013	9,551	12,557
Leases	13,106	14,181	13,419	15,944	15,927
Fines and Forfeitures	472	663	1,029	1,018	781
Other Sources	586	1,076	3,170	905	1,321
Total	23,328	25,012	27,631	27,418	30,586

§ 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, 1921-22 TO 1925-26.

Classification.		1921-22.	1922-23.	1923-24.	1924-25.	1925-26.
Fresh (oysters) ..	cwt.	2,297	2,927	415	1,646	2,899
	£	3,675	4,091	301	1,222	2,228
Fresh, or preserved by cold process	cwt.	25,130	38,508	50,718	64,409	69,855
	£	107,999	127,172	165,948	197,690	205,163
Potted	cwt.	(a)	(a)	(a)	(a)	(a)
	£	72,788	69,422	101,085	110,347	130,969
Preserved in tins	cwt.	163,034	175,322	233,318	226,263	228,226
	£	885,781	867,708	1,158,048	1,120,428	1,164,223
Smoked, dried, and n.e.i.	cwt.	13,170	13,633	15,592	13,815	11,362
	£	59,038	56,190	63,167	51,831	45,079
Total	cwt. (b)	203,631	230,390	300,043	306,133	312,342
	£	1,129,281	1,124,583	1,488,549	1,481,518	1,547,662

(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 Canada, the United States of America, Norway, and the United Kingdom. The potted fish comes chiefly from the United Kingdom, while the South African Union supplied the largest proportion of the fresh fish in 1925-26, the bulk of the remainder coming from the United Kingdom and New Zealand. The small import of oysters is supplied by New Zealand.

2. Exports of Fish.—The exports of local fish produce for the five years 1921-22 to 1925-26 are given hereunder:—

FISH (AUSTRALIAN PRODUCE).—EXPORTS, 1921-22 TO 1925-26.

Classification.		1921-22.	1922-23.	1923-24.	1924-25.	1925-26.
Fish, fresh, smoked, or preserved by cold process	cwt.	9,865	9,692	5,681	3,449	1,498
	£	89,095	66,104	33,259	23,710	7,606
Preserved, in tins, dried, salted, etc.	cwt.	78	162	476	386	261
	£	306	433	1,185	1,401	491
Total	cwt.	9,943	9,854	6,157	3,835	1,759
	£	89,401	66,537	34,444	25,111	8,097

The quantity of fresh fish exported from Australia is trifling, and the amount of £7,606 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 1921-22 to 1925-26 :—

PEARL, TORTOISE, AND TROCHUS-SHELL.—EXPORTS, AUSTRALIA,
1921-22 TO 1925-26.

Article.		1921-22.	1922-23.	1923-24.	1924-25.	1925-26.
Pearl-shell	cwt.	38,900	41,027	48,017	44,112	48,631
	£	317,623	320,602	377,313	413,095	391,695
Tortoise-shell	lb.	1,938	2,812	3,308	2,432	4,993
	£	1,243	2,012	2,574	2,025	4,730
Trochus-shell	cwt.	14,320	13,186	12,072	16,552	19,787
	£	26,285	25,095	23,142	47,892	76,280

The bulk of the pearl-shell exported during 1925-26 was consigned to the United States of America and the United Kingdom, the respective values of the shipments amounting to £232,026 and £150,537, while trochus-shell to the value of £69,131 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. Trawling in Australian Waters.

The State Trawling Industry was established in New South Wales 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 discontinued trawling operations, as the venture was not a commercial success, and the assets have since been disposed of. The operations of the Government trawlers, however, revealed some of the richest trawling areas in the world, and these grounds are being successfully exploited by private enterprise.