

SECTION XVI.

SHIPPING.

§ 1. General.

1. **Legislation.**—The shipping of the Commonwealth has hitherto been conducted partly under Imperial Acts, consolidated in the Merchants Shipping Act of 1894, and amendments of these, and partly under Acts of the several States of the Commonwealth. Since the scope of the local enactments differs materially in the different States, to define the proper limits of the jurisdiction of the Imperial and State laws cannot here be attempted.

By section 93, Part IV., of the Commonwealth Constitution Act, the power to make laws with respect to trade and commerce was extended to navigation and shipping, and in pursuance of this power a Bill for an Act relating to Navigation and Shipping was introduced into the Senate on the 17th March, 1904, but was not proceeded with.

On the 29th June, 1904, a Royal Commission was appointed to inquire into the Bill and report upon its provisions and any matter incidental thereto. In March and April, 1907, a conference between representatives of the United Kingdom, the Commonwealth of Australia, and New Zealand was held in London on the subject of merchant shipping legislation. The result of the deliberations was that an amended Bill was introduced into the Senate on the 12th September, 1907. Owing to pressure of Parliamentary business, however, the consideration of the Bill was held over. It was reintroduced into the Senate on the 17th September, 1908, but had not been passed into law when the session of 1909 was closed. The Bill was drawn largely on the Merchants Shipping Acts and the Acts of New Zealand and New South Wales, and, as introduced, contains 417 sections divided into eleven parts, as follows:—I. Introductory. II. Masters and Seamen. III. Foreign Seamen. IV. Ships and Shipping. V. Passengers. VI. The Coasting Trade. VII. Wrecks and Salvage. VIII. Pilots and Pilotage. IX. Courts of Marine Inquiry. X. Legal Proceedings. XI. Miscellaneous.

2. **Record of Shipping before Federation.**—Prior to Federation it was customary for each State to regard the matter of shipping purely from the State standpoint, and vessels arriving from or departing to countries beyond Australia, via other Australian States, were recorded as if direct to the oversea country. Thus a mail steamer from the United Kingdom, which made Fremantle her first port of call in Australia, would be recorded not only there, but also again in Adelaide, Melbourne and Sydney, as an arrival from the United Kingdom. Consequently any aggregation, especially of the recent shipping records of the different States, would repeatedly include a large proportion of the shipping visiting Australia. In earlier years, when many vessels sailed from the

various State ports direct for their destination, the error of repeated inclusion was less serious, but as the commerce of Australia developed, more and more ports of call were included in the voyage of each vessel, and this made the mere aggregation of State records correspondingly misleading. It has, as a matter of fact, led to some erroneous publications of statistical results and deductions.

3. Shipping since Federation.—With the inauguration of the Commonwealth, the statistics of its shipping, especially of its oversea shipping, became of greater intrinsic importance. As an index of the position of Australia among the trading countries of the world, such statistics had a constitutional importance commensurate with Commonwealth interests, and correspondingly greater than those of individual States. And the nationality of the shipping trading with Australia became also a matter of greater moment.

4. Difficulties of Comparisons of Total Shipping.—From what was said in paragraph 2 above, it is obviously impossible now to obtain results for Australia not subject to the defect of repeated inclusions of the same vessels. Unfortunately the statistical records of the first three years of federal history are subject to the same defect, and do not admit of direct comparison with those now kept. A careful estimate of the extent and effect of repeated inclusion has been made and applied to the records of the earlier years, so as to extend the comparative results to those years. The error of such estimation will be negligible for comparative purposes.

5. Present System of Record.—The present system of record treats Australia as a unit, and counts, therefore, only one entry and one clearance for each visit to the Commonwealth. Repeated voyages of any vessel are of course included.

On arrival of every vessel at a port in the Commonwealth, whether from an oversea country or from another port within the Commonwealth, the master is required to deliver to the Customs officer a form giving all particulars, necessary for statistical purposes, in regard to the ship and crew, and also the port of embarkation and nationality of any passengers carried. Similarly on departure from a port a form containing corresponding information is lodged. These forms, which provide a complete record of the movements of every vessel in Commonwealth waters, are at the end of each month forwarded by the Customs officer at each port to this Bureau, and furnish the material for the compilation of the Shipping and Migration Returns.

Under the system previously in force it was found that the estimates of population, in so far as they were based on seaward movement, were rather unsatisfactory, and it is believed that the method referred to above will give a result as nearly correct as is possible.

§ 2. Oversea Shipping.

1. Total Oversea Shipping.—In order to extend, as indicated, the comparison of the oversea shipping to the earliest years for which any records are available, an estimate of its probable amount has been made. This estimate is based on a comparison of the results obtained by merely aggregating State statistics with the defect of multiple records, and the results obtained under the present system, which avoids the multiple record. From the nature of the case, it is obvious that the ratio of repeated inclusion to the total traffic has been continually advancing, and this fact has been duly taken into account in deducing the results in the following table:—

**TOTAL OVERSEA SHIPPING ENTERED AND CLEARED THE COMMONWEALTH, 1822
to 1908 (MULTIPLE RECORD EXCLUDED BY ESTIMATION PRIOR TO 1904).**

Year.	Vessels.	Tons.	Year.	Vessels.	Tons.	Year.	Vessels.	Tons.
1822	73	30,683	1851	1,576	515,061	1880	3,078	2,177,877
1823	76	30,543	1852	1,806	844,243	1881	3,284	2,549,364
1824	71	29,029	1853	3,364	1,490,422	1882	3,652	3,010,944
1825	80	30,786	1854	3,781	1,744,251	1883	3,857	3,433,102
1826	65	23,587	1855	3,230	1,449,657	1884	4,315	4,064,947
1827	95	29,301	1856	2,669	1,195,794	1885	4,052	3,999,917
1828	124	38,367	1857	2,842	1,530,202	1886	3,793	3,853,246
1829	185	56,735	1858	2,607	1,378,050	1887	3,454	3,764,430
1830	195	56,185	1859	2,759	1,403,210	1888	3,933	4,461,895
1831	185	52,414	1860	2,464	1,288,518	1889	3,897	4,460,426
1832	206	59,628	1861	2,466	1,149,476	1890	3,363	4,150,027
1833	241	72,647	1862	2,917	1,389,231	1891	3,778	4,726,307
1834	249	77,068	1863	3,378	1,564,369	1892	3,432	4,239,500
1835	310	96,928	1864	3,344	1,537,433	1893	3,046	4,150,433
1836	310	93,974	1865	3,005	1,317,934	1894	3,397	4,487,546
1837	442	113,432	1866	3,378	1,470,728	1895	3,331	4,567,883
1838	471	132,038	1867	2,927	1,277,679	1896	3,309	4,631,266
1839	652	191,507	1868	3,080	1,350,573	1897	3,279	4,709,697
1840	915	277,335	1869	3,107	1,472,837	1898	3,222	4,681,398
1841	900	278,738	1870	2,877	1,381,878	1899	3,356	5,244,197
1842	862	232,827	1871	2,748	1,312,642	1900	3,719	5,894,173
1843	736	183,427	1872	2,788	1,380,466	1901	4,028	6,541,991
1844	629	155,654	1873	3,159	1,609,067	1902	3,608	6,234,460
1845	735	164,221	1874	3,153	1,728,269	1903	3,441	6,027,843
1846	888	211,193	1875	3,437	1,914,462	1904	3,700	6,682,011
1847	1,033	245,358	1876	3,295	1,863,343	1905	4,088	7,444,417
1848	1,182	305,840	1877	3,157	1,930,494	1906	4,155	7,966,657
1849	1,137	355,886	1878	3,372	2,127,518	1907	4,394	8,822,866
1850	1,300	425,206	1879	3,344	2,151,338	1908	4,051	8,581,151

It will be borne in mind that while the above figures in themselves have no absolute significance, nevertheless, on the assumption that the element of duplication has been in fairly constant ratio, they furnish the best available indication of the growth of Australian oversea shipping.

2. Comparison with other Countries.—The place of Australia among various countries in regard to oversea shipping is indicated in the following table, both absolutely and in respect of tonnage per head of population:—

OVERSEA SHIPPING OF VARIOUS COUNTRIES.

Country.	Year.	Tonnage Entered and Cleared.		Country.	Year.	Tonnage Entered and Cleared.	
		Total.	Per Inhabitant.			Total.	Per Inhabitant.
Argentine Rep.	1906	21,568,988	4.0	Italy	1905	39,849,276	1.1
Belgium	1906	25,860,373	3.6	Japan	1906	38,134,376	0.8
Canada	1906	16,843,429	2.8	Natal	1907	5,054,059	4.3
Cape Colony	1907	5,813,305	2.3	New Zealand	1908	2,692,352	2.8
Commonwealth	1908	8,581,151	2.0	Norway	1906	9,137,368	3.9
Denmark	1906	15,160,263	5.9	Sweden	1906	19,248,937	3.6
France	1906	49,074,468	1.3	United K'dom	1908	131,446,196	3.0
Germany	1906	40,542,044	0.7	United States	1908	60,642,022	0.7

3. Shipping Communication with various Countries.—Particulars of the number and tonnage of vessels recorded between Australia and various countries, distinguishing

British from foreign countries, are given in the following tables; the table below shewing the tonnage of vessels which were recorded as having entered the Commonwealth from the particular countries mentioned, that on page 655 shews the tonnage of vessels which were recorded as having cleared the Commonwealth for the particular countries, while on page 656 is shewn the total number and tonnage of vessels recorded as entered and cleared from and to the countries named.

SHIPPING TONNAGE ENTERED AND CLEARED FROM AND TO VARIOUS COUNTRIES.

ENTERED.

Country.	1904.	1905.	1906.	1907.	1908.
United Kingdom ...	965,420	1,003,226	997,344	1,093,866	1,146,118
Canada ...	48,128	57,499	64,506	87,686	87,682
Cape Colony ...	215,647	218,257	165,691	128,498	55,779
Fiji ...	34,146	43,625	48,760	56,861	44,016
Hong Kong ...	45,329	94,268	128,480	104,959	66,114
India and Ceylon ...	67,193	75,973	89,199	69,705	95,709
Mauritius ...	13,027	24,889	23,461	8,005	8,137
Natal ...	70,552	111,971	89,360	68,541	32,898
New Zealand ...	584,204	637,094	647,862	702,373	794,488
Papua ...	26,629	7,220	12,046	16,438	30,369
South Sea Islands ...	15,285	25,305	48,765	34,049	57,694
Straits Settlements ...	99,036	81,791	118,049	72,407	133,601
Other British Countries ...	699	6,894	9,801	18,909	13,889
Total British Countries ...	2,185,295	2,388,012	2,443,324	2,462,297	2,565,994
Africa, Portuguese East ...	68,865	58,774	81,389	29,350	32,180
Belgium... ..	5,334	3,327	11,062	...	17,242
Chile ...	54,268	45,196	147,761	414,804	238,460
Dutch East Indies ...	21,207	31,420	63,258	20,364	27,831
France ...	45,354	82,054	76,217	101,439	81,713
Germany ...	200,911	198,363	275,676	287,850	270,135
Hawaiian Islands ...	8,966	18,569	20,787	53,584	21,138
Japan ...	86,416	156,697	180,314	189,747	185,633
Mexico ...	27,077	17,026	18,201	50,208	21,562
New Caledonia ...	55,309	73,359	64,296	64,401	57,630
Norway ...	43,912	37,322	44,894	29,000	29,417
Peru ...	9,965	19,123	25,573	75,850	47,247
Philippine Islands ...	41,272	91,699	114,897	118,904	174,042
South Sea Islands (foreign)...	32,156	19,427	15,656	19,661	30,899
Sweden ...	9,983	4,004	16,108	25,193	33,589
United States ...	399,416	391,731	332,516	411,636	354,625
Other Foreign Countries ...	33,993	88,983	74,216	122,778	106,342
Total Foreign Countries...	1,144,404	1,337,074	1,562,821	2,009,769	1,729,685
Total all Countries ...	3,329,699	3,725,086	4,006,145	4,472,066	4,295,679

SHIPPING TONNAGE ENTERED AND CLEARED, ETC.—(Continued).

CLEARED.

Country.	1904.	1905.	1906.	1907.	1908.
United Kingdom ...	1,155,731	967,499	1,024,906	1,077,830	963,548
Canada ...	30,961	31,490	36,483	43,423	51,248
Cape Colony ...	104,253	120,341	68,714	53,073	36,980
Fiji ...	52,108	53,613	54,167	67,750	66,890
Hong Kong ...	46,096	117,561	113,787	100,056	66,083
India and Ceylon ...	113,503	145,479	143,451	129,064	173,530
Mauritius ...	21,973	13,469	23,483	1,992	2,687
Natal ...	36,579	50,984	35,048	18,384	13,559
New Zealand ...	595,203	751,280	757,414	821,719	873,077
Papua ...	21,056	7,269	14,400	18,313	25,232
South Sea Islands ...	18,054	29,404	38,425	22,886	50,397
Straits Settlements ...	80,320	79,065	155,004	101,750	165,313
Other British Countries ...	4,390	2,167	...	4,452	...
Total British Countries	2,280,227	2,369,621	2,465,282	2,460,692	2,488,544
Africa, Portuguese East ...	22,869	24,935	14,511	25,103	8,535
Belgium ...	25,638	37,264	33,500	65,890	102,187
Chile ...	291,240	290,491	403,900	556,005	457,477
Dutch East Indies ...	19,658	23,177	34,608	24,099	59,412
France ...	44,954	113,034	66,756	85,710	81,226
Germany ...	170,860	186,537	234,325	236,617	252,881
Hawaiian Islands ...	42,706	79,499	48,097	42,245	46,009
Japan ...	46,265	40,004	54,822	56,243	110,486
Mexico ...	16,191	28,993	46,650	21,166	31,455
New Caledonia ...	57,737	76,191	80,606	59,805	67,668
Peru ...	37,480	81,270	87,641	78,664	59,530
Philippine Islands ...	76,583	116,274	155,214	151,202	178,631
South Sea Islands (foreign)	18,162	16,846	13,698	32,769	34,452
Sweden ...	...	...	1,411	...	2,530
United States ...	166,375	160,733	120,454	395,192	200,628
Other Foreign Countries	35,367	74,462	99,038	59,398	103,821
Total Foreign Countries	1,072,085	1,349,710	1,495,231	1,890,108	1,796,928
Total all Countries	3,352,312	3,719,331	3,960,513	4,350,800	4,285,472

The figures in the above table represent the tonnage of shipping recorded as having cleared the Commonwealth from the particular countries named. For the purpose of comment, however, countries have been grouped according to larger geographical divisions in the following section.

SHIPPING TONNAGE ENTERED AND CLEARED FROM AND TO VARIOUS COUNTRIES

1904 TO 1908.

Country.	1904.	1905.	1906.	1907.	1908.
United Kingdom ...	2,121,151	1,970,725	2,022,250	2,171,696	2,109,666
Canada ...	79,089	88,989	100,989	131,109	138,930
Cape Colony ...	319,900	338,598	234,405	181,571	92,759
Fiji ...	86,254	97,238	102,927	124,611	110,906
Hong Kong ...	91,425	211,829	242,267	205,015	132,197
India and Ceylon ...	180,696	221,452	232,650	198,769	269,239
Mauritius ...	35,000	38,358	46,944	9,997	10,824
Natal ...	107,131	162,955	124,408	86,925	46,457
New Zealand ...	1,179,407	1,388,374	1,405,276	1,524,092	1,667,565
Papua ...	47,685	14,489	26,446	34,751	55,601
South Sea Islands ...	33,339	54,709	87,190	56,935	108,091
Straits Settlements ...	179,356	160,856	273,053	174,157	298,914
Other British Countries ...	5,089	9,061	9,801	23,361	13,389
Total British Countries ...	4,465,522	4,757,633	4,908,606	4,922,989	5,054,538
Africa, Portuguese East ...	91,734	83,709	95,900	54,453	40,715
Belgium ...	30,972	40,591	44,562	65,890	119,429
Chile ...	345,508	335,687	551,661	970,809	695,937
Dutch East Indies ...	40,865	54,597	97,866	44,463	87,243
France ...	90,308	195,088	142,973	187,149	162,939
Germany ...	371,771	384,900	510,001	524,467	523,016
Hawaiian Islands ...	51,672	98,068	68,884	95,829	67,147
Japan ...	132,681	196,701	235,136	245,990	296,119
Mexico ...	43,268	46,019	64,851	71,374	53,017
New Caledonia ...	113,046	149,550	144,902	124,206	125,298
Norway ...	43,912	37,322	44,894	29,000	29,417
Peru ...	47,445	100,393	113,214	154,514	106,777
Philippine Islands ...	117,855	207,973	270,111	265,106	352,673
South Sea Islands (foreign) ...	50,318	36,273	29,354	52,430	65,351
Sweden ...	9,983	4,004	17,519	25,193	36,119
United States ...	565,791	552,464	452,970	806,828	555,253
Other Foreign Countries ...	69,360	163,445	173,254	182,176	210,163
Total Foreign Countries ...	2,216,489	2,686,784	3,058,052	3,899,877	3,526,613
Total all Countries ...	6,682,011	7,444,417	7,966,658	8,822,866	8,581,151

In respect of these tables it may be pointed out that the statistics for any country do not fully disclose the extent of its shipping communication with particular countries. The reason of this is that vessels are recorded as arriving from, or departing to, a particular country, whereas, as a matter of fact, many regular lines of steamers call and transact business at the ports of several countries in the course of a single voyage. The lines of steamers trading between Australia and Japan, for example, often call at New Guinea, the Philippine Islands, China, etc., but, being intermediate ports, these countries are not referred to in the statistical records. Similarly in the case of the large mail steamers passing through the Suez Canal. A steamer may call at Colombo, Aden, Port Said, Genoa, Marseilles, London, Antwerp, and Bremerhaven, yet obviously can only be credited as cleared for one of these ports to the consequent exclusion of all the other ports from the records. Further reference is made in the following paragraphs to the more important of those countries with which the shipping of the Commonwealth is not fully represented in the foregoing tables.

4. **General Trend of Shipping.**—(i.) *General.* A grouping of countries into larger geographical divisions, as in the following tables, shews more readily the general

direction of Australian shipping, and, to some extent, avoids the limitations of the records in relation to particular countries, by covering more closely the main trade routes.

It has already been shewn in the opening section of this chapter, that direct comparisons of the annual oversea shipping of the Commonwealth are possible only since the beginning of 1904.

A comparison of the total tonnage of shipping which entered and cleared the Commonwealth during 1908 with similar records for 1904 shews an increase of 1,899,140, or 28.41 per cent., vessels with cargo having increased by 1,279,468 tons, or 21.95 per cent., and vessels in ballast by 619,672, or 72.60 per cent. This increase has been general in all directions except that of Africa, the largest increase during the period being with Asiatic countries and Islands in the Pacific.

(ii.) *Shipping with the United Kingdom and European Countries.* The shipping between the Commonwealth and the United Kingdom and European countries during the past five years shews that steady increase which indicates the consistent development of a well-established trade. The shipping in this direction during 1908 amounted to 3,005,953 tons, or 35.0 per cent. of the total oversea shipping of the Commonwealth, and was recorded against the several countries as follows:—United Kingdom, 2,109,666 tons (70.2 per cent.); Germany, 523,016 tons (17.4 per cent.); France, 162,939 tons (5.4 per cent.); Belgium, 119,429 tons (4.0 per cent.); other European countries, 90,903 tons (3.0 per cent.).

The figures in the foregoing table appear to shew that while the tonnage between the United Kingdom and the Commonwealth has remained practically the same during the past five years, the shipping between European continental countries has very much increased. This, however, to a large extent, is due to the fact that an increasing number of vessels, which include both British and continental ports in the same voyage, have been recorded as to or from the latter ports.

The failure of the statistical records to present, in all cases, the full measure of the shipping communication between particular countries is illustrated by the case of Italy. Although the mail steamers which pass through the Suez Canal call at Naples and Genoa, and during 1908 embarked or landed at those ports 3887 passengers for or from Australia, and also carried a direct trade valued at £569,412 between Italy and the Commonwealth, the records for the year shew only four vessels as passing between the two countries. Italian merchants complain that the space at their disposal in the mail boats is frequently insufficient, and a direct line of subsidised steamers is contemplated.

(iii.) *Shipping with New Zealand.* The tonnage of shipping between the Commonwealth and New Zealand shews a very satisfactory expansion from 1,179,407 tons in 1904 to 1,667,565 tons in 1908, an increase of 488,158 tons, or 41.4 per cent., during the four years, while the figures for the later year are 143,473 tons, or 9.41 per cent., greater than in 1907. The shipping with New Zealand represented 19.4 per cent. of the total shipping of the Commonwealth during 1908.

(iv.) *Shipping with Asiatic Countries and Islands in the Pacific.* The total tonnage between the Commonwealth and Eastern countries during 1908 amounted to 2,033,490 tons, or 23.7 per cent. of the whole, representing an increase of 891,452 tons, or 78.1 per cent., as compared with 1904. The principal countries responsible for this increase and the amount of the same due to each, were:—Philippine Islands, 234,818 tons; Hong Kong, 40,772 tons; Japan, 163,438 tons; Straits Settlements, 119,558 tons; South Sea Islands (including Ocean Island), 89,785 tons; India and Ceylon, 88,543 tons; Dutch East Indies, 46,378 tons; Fiji, 24,652

tons; and Hawaiian Islands, 15,475 tons. Owing to the limitation of the records, already alluded to, the figures given in the tables do not represent the full volume of the shipping between the Commonwealth and the Philippines. In addition to the shipping recorded to the Philippine Islands the regular steam lines between the Commonwealth and Japan make Manila a regular port of call, and it is by these vessels that the general trade—apart from the coal trade—is chiefly carried. The whole of the shipping which was recorded as entered the Commonwealth during 1908 from the Philippines (174,042 tons) was in ballast, and of the 178,631 tons which was recorded as cleared for that country, 137,269 tons cleared from Newcastle with coal.

(v.) *Shipping with Africa.* The shipping tonnage recorded between the Commonwealth and African countries during 1908 amounted to only 225,798 tons, a decrease as compared with 1904 of 339,961 tons. Much of the trade between South Africa and Australia, however, is carried by steamers calling at ports in the former country on their voyages between the Commonwealth and the United Kingdom, and which are not shewn in relation to African ports in the shipping returns. Shipping tonnage with African countries—mainly confined to Cape Colony, Natal, and Portuguese East Africa—rose from 565,759 tons in 1904, to 649,802 tons in 1905, but fell to 527,574 tons in 1906, to 350,581 tons in 1907, and to 225,798 in 1908.

Of the 147,404 tons of shipping which entered the Commonwealth from Africa during 1908, 133,898 tons, or 90.8 per cent.—equal to 59.3 per cent. of the total tonnage recorded between the two countries—was in ballast.

(vi.) *Shipping with North and Central America.* The shipping of the Commonwealth with these countries during 1908 amounted to 753,126 tons (8.8 per cent. of the whole) representing an increase of 56,965 tons, or 8.2 per cent., as compared with 1904. Compared with 1907, however, there is a decline of 266,222 tons, or 26.1 per cent. The large tonnage between the Commonwealth and North America during 1907 was due to unusually heavy exports of coal to the United States. The 753,126 tons of shipping with North and Central America during 1908 were recorded against the several countries as follows:—United States, 555,253 tons (73.7 per cent.); Canada, 138,930 tons (18.5 per cent.); Mexico, 53,017 tons (7.0 per cent.); and Panama, 5926 tons (0.8 per cent.).

(vii.) *Shipping with South America.*—The shipping between the Commonwealth and South American countries during 1908—895,219 tons—was more than double that of 1904, though less than 1907 by 319,367 tons, or 26.3 per cent. The shipping in this direction during 1908 was mainly engaged in the carriage of coal and wheat to Chile and Peru, and its decline as compared with 1907 is due to the smaller exports of wheat. Of the total shipping tonnage between the Commonwealth and South America during 1908, 691,637 tons, or 77.3 per cent., is credited to the coal port of Newcastle, 217,223 tons having entered and 474,414 tons having cleared at that port, while of the same total 77,467 tons entered and 42,884 tons cleared at the port of Sydney. Of the South American countries, Chile is responsible for 695,937 tons (77.7 per cent.); Peru, 106,777 tons (11.9 per cent.); Uruguay, 29,957 tons (3.4 per cent.); Argentine Republic, 23,264 tons (3.2 per cent.); Ecuador, 23,351 tons (2.6 per cent.); and Brazil, 10,933 tons (1.2 per cent.).

An important fact, from its bearing on freight rates and its consequent possible effect on the coal trade of New South Wales with South America, is the absence of back freights from that country. Of the 336,725 tons of shipping which entered the Commonwealth from South America during 1908, only four vessels, totalling 9565 tons, carried cargo.

GENERAL DIRECTION OF THE SHIPPING OF THE COMMONWEALTH.

TONNAGE ENTERED.

Countries.	—	1904.	1905.	1906.	1907.	1908.
United Kingdom & European Countries	Cargo...	1,243,845	1,263,010	1,350,946	1,418,211	1,443,331
	Ballast	33,415	84,364	76,946	124,681	142,454
New Zealand	Cargo...	464,404	505,898	529,494	547,065	606,555
	Ballast	119,800	131,196	118,368	155,308	187,933
Asiatic Countries & Islds. in the Pacific	Cargo...	388,850	390,154	479,032	485,703	551,319
	Ballast	153,493	355,994	466,893	381,509	413,089
Africa	Cargo...	44,241	45,335	33,348	22,830	13,506
	Ballast	323,850	380,424	341,761	220,908	133,898
North and Central America	Cargo...	392,612	355,821	372,306	351,223	418,775
	Ballast	83,319	121,402	42,917	200,417	45,094
South America	Cargo...	2,118	1,714	2,154	3,754	9,565
	Ballast	74,752	89,774	191,980	560,467	327,160
		Cargo...	2,536,070	2,561,932	2,767,280	2,828,786
		Ballast	793,629	1,163,154	1,238,865	1,643,280
Total		3,329,699	3,725,086	4,006,145	4,472,065	4,295,679

TONNAGE CLEARED.

United Kingdom & European Countries	Cargo...	1,396,385	1,315,543	1,382,948	1,479,952	1,414,973
	Ballast	4,655	—	74	6,188	5,195
New Zealand	Cargo...	576,448	664,411	712,153	742,257	814,667
	Ballast	18,755	86,869	45,261	79,462	58,410
Asiatic Countries & Islds. in the Pacific	Cargo...	565,748	777,016	906,065	791,069	999,148
	Ballast	28,947	33,721	32,998	23,946	66,934
Africa	Cargo...	191,881	220,560	152,465	106,843	75,559
	Ballast	5,787	3,483	—	—	2,835
North and Central America	Cargo...	218,502	202,523	192,590	392,118	212,355
	Ballast	1,728	29,425	19,807	75,600	76,902
South America	Cargo...	343,476	376,654	508,972	639,544	545,225
	Ballast	—	9,126	7,180	10,821	13,269
		Cargo...	3,292,440	3,556,707	3,855,193	4,154,783
		Ballast	59,872	162,624	105,320	196,017
Total		3,352,312	3,719,331	3,960,513	4,350,800	4,285,472

TONNAGE ENTERED AND CLEARED.

Countries.	1904.	1905.	1906.	1907.	1908.	1908 Compared with 1904.
United Kingdom & European Countries	2,678,300	2,662,917	2,810,914	3,029,032	3,005,953	+ 327,653
New Zealand	1,179,407	1,388,374	1,405,276	1,524,092	1,667,565	+ 488,158
Asiatic Countries and Islands in the Pacific	1,142,038	1,556,885	1,884,988	1,685,227	2,033,490	+ 891,452
Africa	565,759	649,802	527,574	350,581	225,798	- 339,961
North and Central America	696,161	709,171	627,620	1,019,348	753,126	+ 56,965
South America	420,346	477,268	710,286	1,214,586	895,219	+ 474,873
Cargo	5,828,510	6,118,639	6,622,473	6,983,569	7,107,978	+ 1,279,468
Ballast	853,501	1,325,778	1,344,185	1,839,297	1,473,173	- 619,672
Total	6,682,011	7,444,417	7,966,658	8,822,866	8,581,151	+ 1,899,140

5. **Nationality of Oversea Shipping.**—As will be seen from the following table, the greater part of the shipping visiting the Commonwealth is of British nationality. During 1908 British shipping represented 73.63 per cent. of the total tonnage which entered and cleared the Commonwealth; although somewhat less than in 1904, this shews an improvement on the immediately preceding years.

NATIONALITY OF ALL VESSELS WHICH ENTERED AND CLEARED THE COMMONWEALTH FROM AND TO OVERSEA COUNTRIES, 1904 to 1908.

Nationality.	Tonnage.				
	1904.	1905.	1906.	1907.	1908.
BRITISH—					
Australian ...	548,039	569,210	642,422	624,658	657,833
United Kingdom...	3,827,883	4,201,185	4,341,502	4,944,495	4,715,893
New Zealand ...	646,287	752,325	800,402	817,389	926,669
Other British ...	12,813	22,642	18,626	13,842	18,726
Cargo ...	4,472,216	4,670,049	4,929,499	5,250,818	5,437,831
Ballast ...	562,806	875,313	873,453	1,149,566	880,790
Total British ...	5,035,022	5,545,362	5,802,952	6,400,384	6,318,621
Per cent. to total	75.35	74.49	72.84	72.54	73.63
FOREIGN—					
Austrian ...	9,103	—	9,982	6,121	4,341
Danish ...	11,082	20,310	11,758	15,656	11,869
Dutch ...	15,085	19,989	20,392	29,118	56,162
French ...	296,179	517,154	475,839	561,151	521,235
German ...	597,795	633,197	836,793	851,237	910,289
Italian ...	128,575	106,017	81,195	130,569	88,364
Japanese ...	14,981	—	61,054	78,157	82,209
Norwegian ...	224,391	263,103	366,978	479,932	463,705
Russian ...	44,581	41,033	55,138	50,721	39,999
Swedish ...	17,351	29,963	31,085	35,141	35,117
United States ...	230,198	268,289	208,228	173,588	106,888
Other Foreign ...	7,668	—	5,264	11,091	42,352
Cargo ...	1,356,294	1,448,590	1,692,974	1,732,751	1,670,147
Ballast ...	290,695	450,465	470,732	689,731	592,383
Total Foreign ...	1,646,989	1,899,055	2,163,706	2,422,482	2,262,530
Per cent. to total	24.65	25.51	27.16	27.46	26.37
Cargo ...	5,828,510	6,118,639	6,622,473	6,983,569	7,107,978
Per cent. to total...	87.23	82.19	83.12	79.15	82.83
Ballast ...	853,501	1,325,778	1,344,185	1,839,297	1,473,173
Per cent. to total...	12.77	17.81	16.88	20.85	17.17
Grand Total ...	6,682,011	7,444,417	7,966,658	8,822,866	8,581,151

The tonnage of Australian-owned vessels engaged in the oversea trade represents 7.67 per cent. of the total, and the tonnage of New Zealand vessels 10.80 per cent. Both are engaged mainly in the trade with New Zealand and eastern countries. An examination of the figures in the above table shews that, of the increase in tonnage in 1908 as compared with 1904, viz., 1,899,140 tons, 1,283,599 tons (*i.e.*, 67.59 per cent.) was British and 615,541 tons (*i.e.*, 32.41 per cent.) was foreign. But to sustain the proportion of British tonnage as in 1904 it was necessary that 75.35 per cent. of the increase should be British.

If, however, the tonnage of ships carrying cargo only is considered as indicating more closely the proportion of the actual carrying trade done, the proportion of British vessels is practically the same in 1908 as in 1904. The relative proportion of British and foreign tonnage which entered and cleared the Commonwealth with cargo during the past five years was as follows:—

**PROPORTION OF TONNAGE OF BRITISH AND FOREIGN NATIONALITY ENTERED
AND CLEARED THE COMMONWEALTH WITH CARGO, 1904 to 1908.**

Nationality.	1904.	1905.	1906.	1907.	1908.
British	76.73	76.30	74.42	75.19	76.50
Foreign	23.27	23.70	25.58	24.81	23.50
Total	100.00	100.00	100.00	100.00	100.00

That the proportion of foreign tonnage should increase is the natural corollary of the extension of the trade of the Commonwealth with foreign countries. This is particularly patent in regard to Germany and France. Both of these countries desire to increase their mercantile marine, and it is therefore natural that the increased direct trade between themselves and Australia should be carried by their own vessels rather than by the vessels of a third country. Recently, too, the Royal Dutch Packet Company has established a line of steamers between Java and other islands of the East Indies and Australia.

The more important competitors for the Australian shipping trade among the foreign nations are Germany, France, and Norway, and it is therefore of interest to consider the general direction of their activity. It is well to bear in mind, when comparing the figures in the table on the next page, that the French shipping from and to France and to New Caledonia is practically identical with the steamers of the Messageries Maritimes, which maintain a regular service between France and New Caledonia via Australian ports, and that the German shipping from and to Germany consists mainly of the vessels of two lines, the Norddeutscher Lloyd, and the German-Australian Steamship Company, which have had regular and frequent services to Australian ports for the past twenty-five years:—

SHIPPING OF PRINCIPAL FOREIGN NATIONS BETWEEN AUSTRALIA AND OTHER COUNTRIES DURING 1908.

Countries.	Nationality.					
	French.		German.		Norwegian.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
EUROPEAN COUNTRIES—	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
United Kingdom ...	56,939	11,825	4,267	15,648	902	21,074
Belgium ...	7,615	3,520	...	11,915	...	4,717
France ...	76,665	46,605	...	...	1,268	1,183
Germany ...	10,125	...	248,315	232,656	...	...
Norway ...	...	...	2,672	...	12,453	...
Sweden ...	...	...	14,068	...	4,616	...
Other European Countries ...	1,694	5,051	...	...	4,385	...
NEW ZEALAND ...	762	3,082	3,248	3,248	15,536	15,537
ASIATIC COUNTRIES AND ISLANDS IN THE PACIFIC—						
Japan ...	3,250	11,129	25,294	14,909	7,364	...
New Caledonia ...	55,065	52,091	...	3,026	...	11,392
Philippine Islands ...	...	...	...	2,837	20,828	22,828
South Sea Islands ...	9,000	10,800	1,078	1,078	34,116	39,750
Straits Settlements ...	...	...	...	11,393	...	838
Other Asiatic Countries ...	...	11,257	10,981	15,817	4,608	11,196
AFRICAN COUNTRIES—						
Africa, Portuguese East ...	...	...	1,231	...	3,960	3,699
Cape Colony ...	2,293	...	2,909	1,637	13,184	10,103
Natal ...	...	...	...	...	7,091	2,194
Other African Countries ...	...	...	2,481	...	1,432	3,221
NTH. AMERICAN COUNTRIES—						
United States ...	27,361	81,297	36,004	1,630	16,152	...
Other Nth. Amer. Countries...	...	...	13,938	2,686	16,210	3,293
STH. AMERICAN COUNTRIES—						
Chile ...	7,916	23,949	35,447	81,079	28,910	53,202
Peru ...	...	...	3,557	1,649	19,086	26,663
Other Sth. Amer. Countries ...	1,944	...	1,670	1,921	16,025	4,689
With Cargo ...	121,024	150,526	330,002	400,066	101,739	218,162
In Ballast ...	139,605	110,080	77,158	3,063	126,387	17,417
Total ...	260,629	260,606	407,160	403,129	228,126	235,579

A further analysis is appended, distinguishing between steam and sailing vessels of British and foreign nationality, which entered and cleared the Commonwealth during the years 1904-8. Steam tonnage during 1908 was 2,475,526 greater than in 1904, 1,980,790 tons (*i.e.*, 80.02 per cent.) of the increase being British, and 494,736 tons (*i.e.*, 19.98 per cent.) being foreign. The tonnage of sailing vessels shows a decrease during the same period of 576,386 tons, for while British tonnage fell by 697,191 tons, that of foreign nations increased by 120,805 tons.

The following table shews also the proportion of steam and sailing vessels engaged in the Australian trade. As might be expected, the proportion of sailing vessels is shewn to be a decreasing one, falling during the period under review from 33 per cent. to 19 per cent. of the total tonnage, and it is in this branch of shipping that the foreign element is stronger than the British.

STEAM AND SAILING VESSELS ENTERED AND CLEARED, 1904 to 1908.

Description and Nationality of Vessels.	1904.		1905.		1906.		1907.		1908.	
	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.	Ton-nage.	Percen-tages.
Steam—										
British ...	3,742,498	83	4,368,183	83	4,743,416	80	5,290,986	82	5,723,288	82
Foreign ...	764,978	17	901,202	17	1,186,767	20	1,162,413	18	1,259,714	18
Total steam	4,507,476	100 (67)	5,269,385	100 (71)	5,930,183	100 (74)	6,453,399	100 (73)	6,983,002	100 (81)
Sailing—										
British ...	1,292,524	59	1,177,179	54	1,059,536	52	1,109,396	47	595,333	37
Foreign ...	882,011	41	997,853	46	976,939	48	1,260,069	53	1,002,816	63
Total sailing	2,174,535	100 (33)	2,175,032	100 (29)	2,036,475	100 (26)	2,369,467	100 (27)	1,598,149	100 (19)
Steam and Sailing—										
British ...	5,035,022	75	5,545,362	74	5,802,952	73	5,400,384	73	6,318,621	74
Foreign ...	1,646,989	25	1,899,055	26	2,163,706	27	2,422,482	27	2,262,530	26
Total ...	6,682,011	100	7,444,417	100	7,966,658	100	7,822,866	100	8,581,151	100

6. **Tonnage in Ballast.**—The following table shews the tonnage of oversea vessels which entered and cleared the Commonwealth in ballast during the years 1904-8. Of the total British tonnage which entered during 1908, 25.05 per cent. was in ballast, and of foreign tonnage 40.51 per cent. was in similar condition. Of the total tonnage which entered the Commonwealth during 1908, 29.09 per cent. was in ballast, while of the tonnage cleared 5.22 per cent. only was without cargo:—

TONNAGE ENTERED AND CLEARED IN BALLAST, 1904 to 1908.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
1904 ...	508,237	285,392	793,629	54,569	5,303	59,872
1905 ...	772,423	390,731	1,163,154	102,890	59,734	162,624
1906 ...	808,190	430,675	1,238,865	65,263	40,057	105,320
1907 ...	1,043,383	599,897	1,643,280	106,183	89,834	196,017
1908 ...	794,745	454,883	1,249,628	86,045	137,500	223,545

PROPORTION OF TOTAL BRITISH AND FOREIGN TONNAGE WHICH ENTERED AND CLEARED IN BALLAST, 1904 to 1908.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
1904 ...	20.15	35.35	23.84	2.17	0.63	1.79
1905 ...	27.84	41.08	31.22	3.71	6.30	4.37
1906 ...	27.28	39.88	30.92	2.30	3.70	2.66
1907 ...	32.23	48.60	36.75	3.36	7.56	4.51
1908 ...	25.05	40.51	29.09	2.74	12.07	5.22

Vessels in search of freights arrive in Australia from all parts of the world. The tonnage which entered each State of the Commonwealth, in ballast, during 1908 was as follows:—

**TONNAGE OF OVERSEA VESSELS IN BALLAST WHICH ENTERED EACH STATE OF
THE COMMONWEALTH DURING THE YEAR 1908.**

State	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.
Tonnage	883,257	9,721	40,643	110,849	75,533	129,625	1,249,628
Percentage of total ...	70.68	0.78	3.25	8.87	6.05	10.37	100

The large exports of coal from New South Wales afford special inducements to vessels in search of freights. During 1908, 883,257 tons, or 70.7 per cent. of all ballast tonnage arriving in Australia, entered in New South Wales, 705,369 tons having entered at the coal port of Newcastle. The relatively large tonnage in ballast recorded in Tasmania is mainly due to French vessels—sailing under the bounty system—calling at Hobart for orders.

§ 3. Shipping of Ports.

1. **Shipping of Ports.**—Appended is an abstract of the total shipping tonnage—over-sea and coastwise—which entered the more important ports of Australia during the year 1908, together with similar information in regard to some of the ports of New Zealand and of the United Kingdom :—

SHIPPING OF PORTS, AUSTRALIA AND VARIOUS COUNTRIES.

Port.	Tonnage Entered.	Port.	Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney	6,126,332	London	18,287,467
Melbourne	4,859,545	Liverpool (inc. Birkenhead) ...	14,179,078
Port Adelaide	2,466,994	Tyne ports	11,687,479
Newcastle	2,601,281	Cardiff	11,294,786
Brisbane... ..	2,015,584	Southampton	5,951,869
Fremantle	1,531,515	Hull	4,761,821
Townsville	1,067,650	Newport	3,312,949
Hobart	868,412	Sunderland	2,893,172
Albany	858,176	Middlesbrough	2,819,099
Rockhampton	693,294	Swansea	2,748,326
Mackay	678,791	Plymouth	2,531,704
Cairns	580,501	Blyth	2,412,158
Port Pirie	479,002	Manchester	2,240,084
Bowen	396,803	Dover	1,777,709
Geelong	376,430	Grimsby	1,693,438
Launceston	273,018		
Bunbury	226,978	SCOTLAND—	
NEW ZEALAND—		Glasgow	5,549,974
Wellington	2,908,956	Leith	2,150,083
Lyttelton	2,079,539	IRELAND—	
Auckland	1,594,425	Belfast	2,966,146
Dunedin	1,041,430	Dublin	2,610,054

From the figures above it may be seen that the shipping business of the port of Sydney is only exceeded by that of four ports in the United Kingdom, viz., London, Liverpool, Cardiff, and the Tyne.

§ 4. Vessels Built and Registered.

1. **Vessels Registered.**—The number and net tonnage of steam and sailing vessels on the registers at the various ports of the Commonwealth at the end of each of the years 1901 to 1908 are as follows:—

VESSELS ON THE REGISTER, 1901 to 1908.*

Year.	Steam.		Sailing.		Total.	
	Number.	Net Tonnage.	Number.	Net Tonnage.	Number.	Net Tonnage.
1901 ...	943	203,541	1,433	141,722	2,376	345,263
1902 ...	965	208,043	1,483	141,125	2,448	349,168
1903 ...	1,004	219,985	1,578	136,888	2,582	356,873
1904 ...	1,011	223,558	1,700	129,801	2,711	353,359
1905 ...	1,052	222,551	1,690	129,291	2,742	351,842
1906 ...	1,082	238,742	1,644	128,288	2,726	367,030
1907 ...	1,108	249,600	1,555	126,402	2,663	376,002
1908 ...	1,148	255,249	1,571	129,392	2,719	384,641

Prior to 1904 vessels registered in the Northern Territory of South Australia are not included.

2. **Vessels Built.**—The following table shews the number and net tonnage of steam and sailing vessels built and registered in Australia during the years 1901 to 1908:—

VESSELS BUILT AND REGISTERED, 1901 to 1908.

Year.	Steam.		Sailing.		Total.	
	Number.	Net Tonnage.	Number.	Net Tonnage.	Number.	Net Tonnage.
1901 ...	16	1,533	35	960	51	2,493
1902 ...	21	1,195	58	1,574	79	2,769
1903 ...	35	1,536	51	1,160	86	2,696
1904 ...	16	730	54	1,079	70	1,809
1905 ...	29	1,375	12	417	41	1,792
1906 ...	28	874	17	1,109	45	1,983
1907 ...	26	1,108	19	593	45	1,701
1908 ...	20	1,014	20	424	40	1,438

§ 5. Interstate Shipping.

1. **Total Vessels and Tonnage.**—In the following table are shewn the number and tonnage of vessels recorded as having entered each State of the Commonwealth from any other State therein, and similarly the number and tonnage clearing from each State to other Commonwealth States. The table gives results for the quinquennial intervals since 1886. The shipping on the Murray River, between the States of New South Wales, Victoria and South Australia, is not included:—

INTERSTATE SHIPPING, 1886 to 1908.—NUMBER OF VESSELS.

ENTERED.

State.	1886.	1891.	1896.	1901.	1906.	1908.
New South Wales	1,603	1,692	1,470	1,611	1,575	1,815
Victoria	1,433	1,525	1,280	1,502	1,561	1,675
Queensland	615	376	439	430	478	524
South Australia and Northern Territory	550	611	823	650	752	746
Western Australia	187	149	520	446	335	321
Tasmania	576	680	567	713	840	875
Commonwealth	4,964	5,033	5,099	5,352	5,541	5,956

CLEARED.

New South Wales	1,402	1,415	1,275	1,473	1,417	1,634
Victoria	1,615	1,733	1,380	1,569	1,610	1,786
Queensland	712	389	455	395	431	496
South Australia and N. Territory	620	716	918	756	802	838
Western Australia	156	158	496	456	363	339
Tasmania	615	679	573	694	809	823
Commonwealth	5,120	5,090	5,097	5,343	5,432	5,916

TOTAL.

New South Wales	3,005	3,107	2,745	3,084	2,992	3,449
Victoria	3,048	3,258	2,660	3,071	3,171	3,461
Queensland	1,327	765	894	825	909	1,020
South Australia and N. Territory	1,170	1,327	1,741	1,406	1,554	1,584
Western Australia	343	307	1,016	902	698	660
Tasmania	1,191	1,359	1,140	1,407	1,649	1,698
Commonwealth	10,084	10,123	10,196	10,695	10,973	11,872

TONNAGE.—ENTERED.

State.	1886.	1891.	1896.	1901.	1906.	1908.
New South Wales	1,181,495	1,617,559	1,589,753	2,031,089	2,456,269	3,135,008
Victoria	1,072,381	1,392,818	1,486,624	1,956,900	2,473,771	2,698,183
Queensland	355,930	267,753	343,026	545,469	692,354	759,921
S. Aust. and N. Ter.	437,502	658,600	1,051,893	1,124,499	1,582,802	1,642,578
Western Australia	127,098	237,708	683,918	973,474	968,664	985,578
Tasmania	221,061	371,205	281,029	485,023	721,240	855,460
Commonwealth	3,395,467	4,545,643	5,436,243	7,116,454	8,895,100	10,076,728

TONNAGE—(Continued).

State.	1886.	1891.	1896.	1901..	1906.	1908.
CLEARED.						
New South Wales	1,014,900	1,314,339	1,341,635	1,856,501	2,177,496	2,715,100
Victoria ...	1,257,967	1,692,189	1,599,065	2,038,424	2,617,966	2,940,190
Queensland ...	411,275	302,723	359,046	440,659	578,561	745,069
S. Aust. and N. Ter.	485,368	829,616	1,203,830	1,365,668	1,772,356	1,902,312
Western Australia	116,101	269,256	687,632	977,846	1,051,629	1,023,886
Tasmania ...	251,620	352,406	250,557	433,735	636,944	732,689
Commonwealth ...	3,537,231	4,760,529	5,441,765	7,112,833	8,834,952	10,059,246
TOTAL.						
New South Wales	2,196,395	2,931,898	2,931,388	3,887,590	4,633,765	5,850,108
Victoria ...	2,330,348	3,085,007	3,085,689	3,995,324	5,091,737	5,638,373
Queensland ...	767,205	570,476	702,072	986,128	1,270,915	1,504,990
S. Aust. and N. Ter.	922,870	1,488,216	2,255,723	2,490,167	3,355,158	3,544,890
Western Australia	243,199	506,964	1,371,550	1,951,320	2,020,293	2,009,464
Tasmania ...	472,681	723,611	531,586	918,758	1,358,184	1,588,149
Commonwealth ...	6,932,698	9,306,172	10,878,008	14,229,287	17,730,052	20,135,974

The figures presented in the above table include overseas vessels—largely mail boats—passing from one State to another. This renders them somewhat unsatisfactory.

In the earlier part of this section attention was drawn to the custom in vogue prior to Federation of recording vessels from or to "oversea countries via other Commonwealth States" as *direct* from or to the oversea country. At each port in Australia these vessels were, on the inward voyage (to Australia), entered as from the oversea country, and cleared to the next Australian port as "interstate"; on the return journey—the outward voyage—they were entered as "interstate," and cleared as for the oversea country. In order to preserve the continuity of the records of the shipping communication of the several States with oversea countries this method has been followed by the Department of Trade and Customs in continuation of the pre-existing practice, excepting that vessels arriving or departing via other Commonwealth States are now so recorded instead of as "direct."

From the above it will be seen that while certain movements of the vessels referred to are included in the interstate shipping, other movements of the same vessels, between the same ports, are not so included.

To ascertain the aggregate movement of shipping between the States during the year 1908, including the total interstate movements of overseas vessels, the figures in the following table must be added to those of the preceding one:—

**SHIPPING ENTERED AND CLEARED FROM AND TO OVERSEA COUNTRIES VIA
OTHER COMMONWEALTH STATES, 1908.**

State.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ...	449	1,466,320	491	1,597,276	940	3,063,596
Victoria ...	381	1,250,088	412	1,327,414	793	2,577,502
Queensland ...	182	562,669	166	544,799	348	1,107,468
South Australia ...	250	863,830	150	524,416	400	1,388,246
Western Australia ...	...	...	1	1,233	1	1,233
Tasmania ...	...	...	30	119,973	30	119,973
Commonwealth (1908)	1,262	4,142,907	1,250	4,115,111	2,512	8,258,018
(1906)	1,045	3,349,036	1,107	3,442,747	2,152	6,791,783

2. **Total Interstate Movement of Shipping.**—The table hereunder shews the total interstate shipping, including all interstate movements of vessels from and to oversea countries, via other Commonwealth States, for the year 1908:—

TOTAL INTERSTATE MOVEMENT OF SHIPPING, 1908.

State.	Entered		Cleared		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ...	2,264	4,601,328	2,125	4,312,376	4,389	8,913,704
Victoria ...	2,056	3,948,271	2,198	4,267,604	4,254	8,215,875
Queensland ...	706	1,322,590	662	1,289,868	1,368	2,612,458
South Australia ...	996	2,506,408	988	2,426,728	1,984	4,933,136
Western Australia ...	321	985,578	340	1,025,119	661	2,010,697
Tasmania ...	875	855,460	853	852,662	1,728	1,708,122
Commonwealth ... (1908)	7,218	14,219,635	7,166	14,174,357	14,384	28,393,992
(1906)	6,586	12,244,136	6,539	12,277,699	13,125	24,521,835

The necessary data are not available to enable a similar adjustment to be made for earlier years.

3. **Vessels Engaged Solely in Interstate Trade.**—The elimination of the element of oversea vessels, included in the interstate shipping returns, cannot be accurately effected; nevertheless a close approximation is furnished if it be assumed that vessels *entered* in the several States as from "oversea countries via other Commonwealth States" have really been *cleared* from other States as "interstate," and further, that the vessels *cleared* to "oversea countries via other Commonwealth States" have likewise been *entered* elsewhere as "interstate." Applying this suggestion, and also eliminating all interstate movements of oversea vessels, the number and tonnage of vessels engaged solely in the interstate trade during the years 1906, 1907, and 1908 will be found to be as follows:—

**NUMBER AND TONNAGE OF VESSELS ENGAGED SOLELY IN INTERSTATE TRADE,
1906, 1907 and 1908.**

Year.	Entered.		Cleared.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1906 ...	4,434	5,452,353	4,387	5,485,916	8,821	10,938,269
1907 ...	4,614	5,582,571	4,566	5,580,963	9,180	11,163,534
1908 ...	4,706	5,961,617	4,654	5,916,339	9,360	11,877,956

This treatment cannot be extended to the individual States, as the records do not disclose the particular relationship of the States concerned.

4. **Interstate and Coastal Services.**—The foundation of the coastal steamship services in Australia dates back to the year 1851, when a regular trade was established between Melbourne and Geelong by the small screw steamer "Express." Early in the fifties a company was formed in Tasmania with a capital of £40,000 for the purpose of purchasing steamboats, and employing them in the carriage of passengers and goods between Hobart and Melbourne. This service was commenced in 1852, and was thus the first regular interstate service in Australia. About this time the great influx of population and the increase in commerce, caused chiefly by the gold discoveries, emphasised the desirability of establishing more regular and quicker means of communication between the principal ports of Australia, and in 1862 the regular interstate service between New South Wales and Victoria was inaugurated by the s.s. *You Yangs*, which was put into commission in regular service between Melbourne, Sydney, and Newcastle. In 1875 a company was formed in Adelaide for the purpose of supplying suitable steamers for the requirements of the trade between Adelaide and Melbourne. The first two steamers of the company were named the *South Australian* and the *Victorian*, and were small vessels of only 400 tons burthen. From the start success attended these enterprises, and the services thus initiated were rapidly extended and their operations broadened. Numerous other companies were formed to cope with the increasing trade between ports in the Commonwealth, and the companies engaged from time to time added to their fleets of steamers by the acquisition of more modern and rapid vessels, until at the end of the year 1908 the total net tonnage owned by the eleven companies from whom returns have been received amounted to 145,917 tons. A summary of the various mail services carried on during the year 1908 is given in Section XVIII. of this work.

The subjoined table gives particulars, so far as they are available, of all steamships engaged in regular interstate or coastal services at the end of each of the years 1901 and 1903 to 1908 :—

**PARTICULARS OF STEAMSHIPS ENGAGED IN REGULAR INTERSTATE AND
COASTAL SERVICES IN THE COMMONWEALTH, 1901 to 1908.**

Particulars.	1901.	1903.	1904.	1905.	1906.	1907.	1908.
Number of companies making returns	11	11	11	11	11	11	11
Number of steamships	113	114	113	117	122	131	135
Tonnage { Gross	184,574	193,262	195,057	198,338	207,320	227,605	242,766
Net	114,080	118,514	118,612	120,470	125,560	137,573	145,917
Horse-power { Nominal	18,237	18,828	19,031	19,180	20,258	21,735	22,699
Indicated	122,519	133,125	138,422	141,054	149,345	163,166	175,270
Number of passengers { 1st class	4,617	5,314	5,536	5,764	6,077	6,399	6,689
for which licensed to { 2nd class and carry	4,490	5,404	5,645	5,745	5,906	6,026	6,115
Complement { Masters and officers	403	408	404	410	431	458	478
of Crew { Engineers	332	342	343	343	360	388	411
Crew	2,875	3,106	3,153	3,181	3,351	3,625	3,721

§ 6. Ports of the Commonwealth.

(A.) New South Wales.

1. **Sydney** (Port Jackson).—Lat. 33° 51' S., long. 151° 12' E. *Approach.*—The least width of the entrance to Port Jackson—from Inner South Head to Inner North Head—is 5000 ft., with a depth of 72 ft. to 108 ft. at Low Water Ordinary Spring Tide. The least depth of water in the channels approaching the harbour is 33 ft. at L.W.O.S.T. in the Eastern Channel, and 22 ft. in the Western Channel. *Tide.*—The port establishment

at Fort Denison, Sydney Harbour, is 8 hours 40 minutes. *Wharves*.—The length of wharf frontage, according to the depth of water along the frontage at L.W.O.S.T., is as follows :—

Depth ... ft.	10—15	15—20	20—25	25—30	30—35	Total
Frontage ... ft.	3,067	9,873	14,556	9,993	2,707	40,196

There are 1,134,061 square feet (26 acres) covered wharves, *i.e.*, cargo sheds, and 8541 feet of wharf frontage is connected with the railway system.

Cranes and Facilities for Coaling.—At Pyrmont, on the eastern coal jetty, are two 10-ton cranes, and on the western jetty two hoists of approximately 200 tons per hour. On the wheat-loading jetty, and at Darling Harbour, Pyrmont, are electric conveyors.

GRAVING DOCKS.

Name.	Length.	Breadth.	Height of Sill.	Depth on Sill. H.W.O.S.T.
	ft.	ft.	ft. in.	ft. in.
Mort's Dock and Engineering Co. Ltd., Balmain (a)...	640	69	4 6	19 6
" " " " Parramatta River	597	83	4 0	28 0
Sutherland Dock (Government), Cockatoo Island (b)	637	84	3 6	32 0
Fitzroy Dock (Government), Cockatoo Island (c) ...	477	59	1 4	21 6

(a) Divisible in centre by caisson; has one 10-ton and two 2-ton cranes. (b) Divisible in centre by caisson; will take vessels 556 feet long; has two 5-ton travelling cranes. (c) Will take vessel 450 feet long; has one 15-ton crane.

FLOATING DOCKS.

Name.	Extreme Length.	Breadth at Entrance.	Draught of Vessel.	Lifting Capacity.
	ft.	ft. in.	ft. in.	Tons.
Mort's Dock and Engineering Co. Ltd.—				
Victoria Jubilee Dock, Johnston's Bay ...	320	44 0	14 0	1,500
Atlas Pontoon Dock, Parramatta River ...	195	60 6	Moored in	...
" " " " —Johnston's Bay	(on blocks)	23 0	30 ft. of water	150
Rowntree's, Mort's Bay ...	163	40 0	12 0	600
Drake's, Balmain ...	150	40 0	...	...

PATENT SLIPS.

Name.	Length.	Draught of Keel. L.W.O.S.T.		Lifting Capacity.
		Forward.	Aft.	
	ft.	ft. in.	ft. in.	Tons.
Mort's Dock and Engineering Co. Ltd., 1 ...	270	8 10	17 0	2,000
" " " 2 ...	200	8 0	16 0	1,500
" " " 3 ...	50	2 4	5 6	40

Miscellaneous.—Licenses issued by the Sydney Harbour Trust Commissioners in force on the 30th June, 1909:—Lighters, 233; tonnage, 10,328. Ferry steamers, 58; tonnage, 5877. Tugs, 39; tonnage, 967. Launches (steam and oil), 26; tonnage, 141. Water boats, 14; tonnage, 697. Hulks, 15; tonnage, 6131. Hoisting plant, 15; tonnage, 255.

General Characteristics of the Port.—Port Jackson is a large and safe harbour with a wide area of deep water. The entrance to the harbour is free from dangers, and the

soundings are regular. Its surrounding hills shelter the harbour from all winds, so that a heavy or high sea is never experienced in the port.

2. **Newcastle** (Hunter River).—Lat. $32^{\circ} 55' S.$, long. $151^{\circ} 49' E.$ *Approach*.—Width of entrance, 1200 ft.; least depth L.W.S.T. at entrance 22 ft. 6 in., in channel 22 ft. 3 in. *Tide*.—Full and change, 8.50 a.m. *Wharves*.—Wharf frontage, according to depth of water, is as follows:—

Depth ... ft.	Under 10	10—15	15—20	20—25	25—30	Total
Frontage ... ft.	500	2,800	9,610	2,080	3,200	18,190

Cargo sheds in course of construction, 15,000 sq. ft.; every facility for shipment of coal; 20 cranes; railway connection. *General*.—The port constitutes the mouth of the Hunter River and is liable to heavy currents from that river in flood time. The port is accessible in all but the roughest weather. There are five patent slips.

3. **Port Stephens**.—Width of entrance, 4000 ft.; least depth at entrance L.W.S.T., 24 ft. Used for shipment of timber; few facilities for handling cargo or obtaining coal, water, or other ship's necessities. Good shelter from easterly or southerly weather.

4. **Port Kembla**.—Protected by eastern breakwater, which, when complete, will be 3100 ft. long; northern breakwater in course of construction. Two coal jetties with shoots for shipping coal. Depth of water at coal shoots, up to 33 ft. L.W.O.S.T.

5. **Eden** (Twofold Bay).—Width of entrance, $1\frac{1}{2}$ miles; least depth at entrance L.W.S.T., 42 ft. *Wharves*.—Frontage, 260 ft., depth to 15 ft.; 300 ft., depth to 20 ft. One steam crane; good shelter.

6. **Kiama**.—Width of entrance, 460 ft.; least depth at entrance L.W.S.T., 10 ft. *Wharves*.—Frontage, 200 ft., depth to 15 ft.; 850 ft., depth to 20 ft. L.W.S.T.

(B.) Victoria.

1. **Melbourne** (River Yarra, Hobson's Bay, Port Phillip).—Lat. $37^{\circ} 49' S.$, long. $144^{\circ} 58' E.$ *Approach* (from General Notice to Mariners respecting Navigation in Victorian Waters—Department of Ports and Harbours).—Port Phillip is an extensive bay, about 31 miles long north and south, and 20 miles wide at the middle, where, on the west side, it forms an arm (Western Arm), extending W.S.W. for 15 miles to Geelong. At the north end of the bay the waters contract, forming the portion known as Hobson's Bay. The entrance to Port Phillip, between Points Lonsdale and Nepean, is $1\frac{1}{2}$ miles wide, but the reefs projecting from these points reduce the navigable channel to about six cables (3600 ft.). For $2\frac{1}{2}$ miles within Port Phillip Heads the entrance is deep and free from danger, after which the bay widens out and is filled with numerous sand-banks, extending 8 miles to the northward and 12 miles to the eastward. Between these banks are four channels, viz., South, Symonds', West, and Cole's. The South, West, and Cole's Channels are buoyed off and available for navigation (according to instructions). These channels are defined by lights and buoys. The South Channel is available at low water for vessels drawing 30 ft.; the West Channel is available at ordinary low water for vessels of 17 ft. draught, but the tide may fall a foot below ordinary low water during spells of easterly to northerly weather. The least depth of water in the fairway of Cole's Channel is 12 ft.

Tides.—Vulgar establishment, 2 hours 41 minutes; corrected establishment, 2 hours 10 minutes; semi-menstrual inequality, 1 hour 10 minutes. *Wharves*.—The length of wharf frontage, according to the depth of water, is as follows:—

Depth	... ft.	Under 10	10—15	15—20	20—25	25—30	Total.
Frontage	... ft.	500	700	4,250	15,370	19,460	40,280

Of the 40,280 ft. of wharf frontage, 6100 ft. are at Williamstown, 5860 ft. at Port Melbourne, 19,520 ft. in the River Yarra, and 8800 ft. in the Victoria Dock. The Victoria Dock, which is situated four miles up the River Yarra, covers an area of about 96 acres. There are 568,000 square feet (13 acres) of covered wharves (cargo sheds), of which 7 acres are closed sheds. About 4600 ft. of the Victoria Dock and 7800 ft. of bay piers at Port Melbourne and Williamstown are laid down with rails, which connect with the general railway system.

GRAVING DOCKS.

Name.	Length.	Width at Entrance.		Depth on Sill.	
		Top.	Bottom.	L.W.O.S.T.	I.W.O.S.T.
	ft.	ft.	ft.	ft.	ft.
Duke's, South Melbourne	520	71	61	20	23
Wright and Orr's, South Melbourne	430	70½	50	20	23
Alfred Graving Dock (Government) Williamstown	450	97	55½	25	27

Floating Dock (Melbourne Steamship Company, Williamstown).—Length, 216 feet; breadth at entrance or extreme, 36 feet; depth on sill ordinary high water, 13 feet; can take vessels up to 900 tons. *Patent Slips*.—Four patent slips, the largest having a lifting capacity of 500 tons. *General Characteristics*.—In the River Yarra and Hobson's Bay the weather conditions are variable; the winds do not long prevail in any quarter, a change coming usually within twenty-four hours and seldom exceeding two days. Northerly winds occasionally blow with considerable force, and a change is sometimes accompanied by heavy squalls from the south-west for a short period, after which it moderates rapidly. Strong winds of a dangerous nature are exceptionally rare in this locality, although strong westerly and southerly gales are occasionally experienced on the coast and in Port Phillip Bay. Tidal currents in Hobson's Bay are weak, and their direction mostly dominated by the prevailing wind. The mean spring tide is about 2 feet 6 inches, although double that amount has been recorded when influenced by continuous strong south to west winds, north-easterly winds having the opposite effect. The waters of the River Yarra are almost continually running outward, there being practically no flow in during flood tide, the rise of the sea level merely banking up the waters of the river and checking the outflow; under the influence of strong west to southerly winds, however, an upstream current is caused, but extends to a few feet only below the surface, and exerts little or no effect on other than very light draught vessels. The normal rate of outflow, from one to two knots per hour, is slightly accelerated by heavy rains.

2. **Geelong** (Corio Bay, Port Phillip).—Lat. 38° 8' S., long. 144° 21' E. *Approach*.—From Port Phillip Bay by the Hopetoun Channel which has a navigable width of 130 ft., (being increased to 230 ft.), with a least depth of 24 ft. 6 in. O.L.W.S. (Approach to Port Phillip—see Melbourne). *Tide*.—High water full and change 3 hrs. 17 min.; average rise 1 ft. 9 in. but is greatly influenced by winds, westerly winds increasing and easterly winds decreasing the rise. *Wharves*.—The length of wharf frontage with the

depths of water thereto is as follows:—Railway Pier, 1480 ft., depth 24 to 25 ft.; Yarra-street Pier, 1620 ft., depth 24 to 25 ft.; Moorabool Pier, 500 ft., depth 10 to 20 ft.; Eastern Pier, 200 ft., depth 10 to 15 ft.; Corio Quay, 300 ft., depth 27 ft.; Freezing works wharf, 470 ft., depth 19 to 30 ft. Corio Quay and the Railway Piers are directly connected with the main lines of railway. There are three 2-ton and one 3-ton cranes.

3. Portland (Portland Bay).—Lat. $38^{\circ} 20'$ S., long. $141^{\circ} 36'$ E. *Jetties.*—1. Frontage on the south side 500 ft., depth 14 to 17 ft.; north side, frontage 400 ft., depth 15 to 17 ft. 2. (Railway Pier).—is 40 ft. wide for 450 ft. at outer end with a least depth of 29 to 31 ft. at low water. At a distance of 95 ft. from the end of the pier the water shoals to 23 ft. L.W. Both jetties are connected with the railway system and cargo is shipped direct from railway trucks. *Tides.*—Establishment of port 0 hours 30 min; rise 3 ft. *General Characteristics.*—The port is easy of access, there being no hidden dangers in the approach. Anchorage is commodious and safe in all winds except S.E. As the holding ground is excellent a vessel with good ground tackle can ride out a S.E. gale in safety. The piers are fitted with spring piles and vessels are moored by coir hawsers and can berth at the piers in all but the worst weather.

(C.) Queensland.

1. Brisbane (Brisbane River, Moreton Bay).—Lat. $27^{\circ} 28'$ S., long. $153^{\circ} 6'$ E. *Approach.*—There are two main entrances to Moreton Bay, with depths of 24 ft. and 30 ft. respectively at Low Water Spring Tide. The approaches to Brisbane Roads have a depth from 6 to 10 fathoms L.W.S.; thence to Brisbane are artificial channels 300 ft. wide, with a depth of 24 ft. The channels in the Town and South Brisbane Reaches carry a minimum depth from 20 ft. to 24 ft. at L.W.S. At Pinkenba is a swing basin 4500 ft. long by 900 ft. wide, with a minimum depth of 24 ft. L.W.S. Brisbane is about 16 miles from the entrance to the river. *Tide.*—The correct establishment of the port is 10 hours 5 minutes, and the semi-menstrual inequality 1 hour 10 minutes. Spring tides rise from 7 ft. to 8 ft.; neaps rise from 5 ft. to 6 ft. *Wharves.*—The length of wharf frontage, according to the depth of water L.W.S., is as follows:—

Depth	...	... ft.	Under 10	10—15	15—20	20—25	Total.
Frontage	...	... ft.	710	700	1,020	6,730	9,160

The Pinkenba wharves are connected with the railways for both passenger and goods traffic, and all other wharves except the North Brisbane wharves are connected for goods traffic. With the exception of the coal wharves all wharves are amply supplied with covered cargo sheds. *Docks.*—Graving Dock (Government): Length, 430 ft.; breadth, 50 ft. at block level; depth on sill, 12 ft. 8 in. L.W.S. There are three patent slips, the largest having a cradle 200 ft. long and capable of lifting vessels up to 1000 tons with a draught of 20 ft.

2. Bowen (Port Denison).—Lat. $20^{\circ} 1'$ S., long. $148^{\circ} 15'$ E. *Approach.*—Width of entrance, 3 cables (1800 ft.); least depth, 25 ft. L.W.S. Inner harbour approached by two channels—South Channel, depth 22 ft. L.W.S., buoyed and lighted; North Channel, depth 13 ft. 6 in. L.W.S. *Tides.*—Corrected establishment, 10 hours 20 min.; semi-menstrual inequality, springs, 8 ft. to 10 ft.; neaps, 4 ft. to 8 ft. *Wharves.*—Frontage, 408 ft., with depth 21 ft. L.W.S.; 408 ft., with depth $16\frac{1}{2}$ ft. L.W.S.; connected with railways. *Cargo Sheds.*—5764 sa. ft.

3. **Cairns** (Trinity Bay).—Lat. $16^{\circ} 54'$ S., long. $145^{\circ} 44'$ E. *Approach*.—Width of entrance, 200 ft.; depth, L.W.S., 15 ft. *Tides*.—Full and change, 9 hours 30 min.; springs rise, 6 ft. to 8 ft.; neaps, 2 ft. to 4 ft. *Wharves*.—Frontage, 858 ft., with depth from 14 to 21 ft.

4. **Cooktown** (Endeavour River).—Lat. $15^{\circ} 28'$ S., long. $145^{\circ} 17'$ E. *Approach*.—Width of entrance, 200 ft., channel through bar; depth, $17\frac{1}{2}$ feet. *Tides*.—High water, full and change, 9 hours; springs rise 7 ft. to 9 ft.; neaps, 4 ft. to 6 ft. *Wharves*.—Frontage, 120 ft., depth under 10 ft.; 200 ft., depth 15 ft. to 17 ft.; covered wharves, 6675 sq. ft.; wharves are connected with railway. One 5 ton crane.

5. **Gladstone** (Port Curtis).—Lat. $23^{\circ} 52'$ S., long. $151^{\circ} 27'$ E. *Approach*.—Width of entrance about 1 mile. Channel varies in width from 1 mile to not less than 3 cables (1800 ft.), with a depth of 24 ft. *Wharves*.—Frontage, 550 ft., depth up to 20 ft. Railway connection with Government jetty.

6. **Rockhampton**.—Lat. $23^{\circ} 30'$ S., long. 151° E. *Approach*.—South Channel, width 1000 ft., depth 12 ft. L.W.O.S.T. Middle Channel, width 200 ft., depth 16 ft. L.W. Channel, 350 ft. wide, 25 ft. deep L.W.O.S.T., leads to Port Alma, about 7 miles from entrance, where is wharf frontage of 500 ft., with a depth of 26 ft., and sheds covering 18,000 square ft. At Broadmount, 10 miles from entrance to the river, by Middle Channel, is wharf and shed accommodation, with connection by rail with city. Wharf berths have a depth of 23 ft. at L.W. Between the Heads and the city the channel is 200 ft. wide and 16 ft. deep at L.W.O.S.T. *Wharves*.—Frontage, 1787 ft., with depth up to 20 ft.; area of sheds, 26,389 square ft.; city wharves connected with railways; one travelling 10-ton crane. *Docks and Slips*.—Slip will take a vessel 150 ft. long, 300 tons burthen, with draught up to 6 ft. forward. Gridiron will take a vessel 238 ft. by 36 ft., and weighing 1500 tons. The gridiron is 5 ft. above low water, and the rise of ordinary spring tide is 14 ft.

7. **Port Kennedy** (Thursday Island).—*Approach*.—Two entrances, depths 18 and 24 ft. respectively at L.W.O.S.T. The approach to the port, through the Normanby Sound, carries a minimum depth of 6 fathoms. *Tides*.—Vulgar establishment, 12 hrs.; springs rise 10 ft.; tides very irregular. *Jetties*.—One frontage, 200 ft., depth 22 ft. L.W.S. One frontage, 42 ft., depth $8\frac{1}{2}$ ft. L.W.S. *Cargo Sheds*.—6720 sq. ft.

8. **Townsville**.—Lat. $19^{\circ} 15'$ S., long. $146^{\circ} 49'$ E. *Approach*.—Channel, 8000 ft. long, 250 ft. wide, 17 ft. deep. *Wharves*.—Outer Harbour: Jetty, 1800 ft. long; depth 22 to 24 ft. L.W.O.S.T. In Harbour: Frontage, 860 ft., with depth to 8 ft.; 100 ft., with depth to 12 ft.; 320 ft., with depth to 18 ft. Covered wharves: Outer Harbour, 20,480 sq. ft.; Inner Harbour, 9600 sq. ft. *Tides*.—High water, full and change, 9 hrs. 30 min.; springs rise 8 to 12 ft., neaps rise 4 to 8 ft. *Patent Slip*.—Length of slip way, 400 ft.; cradle, 150 ft.; depth of water on cradle H.W.S., 8 ft. forward, 12 ft. aft; lifting power, 800 tons.

9. **Maryborough**.—Lat. $25^{\circ} 32'$ S., long. $152^{\circ} 46'$ E. Vessels drawing 24 ft. can enter by the northern entrance, via Hervey's Bay, and anchor with safety in 6 fathoms at White Cliffs, 28 miles from the town. The minimum depth between the heads and the town is 9 ft. at low water; spring tides rise 9 to $10\frac{1}{2}$ ft. at the town, and 10 to $12\frac{1}{2}$ ft. at the heads. *Wharves*.—Public wharves: Frontage, 754 ft., minimum depth 12 to 14 ft.; several private wharves, with minimum depth from 8 to $20\frac{1}{2}$ ft.; two cranes on Government wharf can ship 30 tons of coal per hour; shear-legs to lift 15 tons.

(D) South Australia.

1. **Port Adelaide.**—Lat. $34^{\circ} 56'$ S., long. $139^{\circ} 36'$ E. *Approach.*—Width of entrance, 400 ft., with least depth L.W.S.T. from 30 ft. to 33 ft. The channel to the inner harbour has a depth of 23 ft. L.W.S.T. *Tides.*—Vulgar establishment, 5 hrs. 10 min.; rise about $8\frac{1}{2}$ ft. *Wharves.*—The length of wharf frontage, according to depth of water L.W.S.T., is as follows:—

Depth ... ft.	Under 10	10—15	15—20	20—25	25—30	30—35	Total.
Frontage ... ft.	3,500	650	900	3,250	2,700	1,500	12,500

There are three cranes capable of lifting 30 tons. All wharves are connected with the railways. *Docks.*—No graving or floating docks. There are four patent slips, the dimensions of the largest being:—Extreme length, 720 ft.; length of cradle, 250 ft.; draught on blocks H.W.O.S., forward 13 ft., aft 20 ft. 6 in.; lifting power, 1500 tons.

2. **Port Pirie.**—Lat. $33^{\circ} 11'$ S., long. $138^{\circ} 1'$ E. *Approach.*—Channel 150 ft. wide with a depth of 15 ft. L.W.O.S. *Tides.*—High water, full and change, 7 hrs. 15 min.; rise and fall from 8 ft. to 9 ft. *Wharves.*—Length of frontage, 5926 ft., with depth from 17 ft. to 20 ft. *General.*—Good anchorage for the largest vessels in 5 to 6 fathoms L.W. springs.

3. **Wallaroo.**—Lat. $33^{\circ} 56'$ S., long. $137^{\circ} 37'$ E. *Wharves.*—Jetty 2100 ft. long, with depth to 24 ft. L.W.S.T.; hydraulic hoists; connected with railway system. *Tides.*—High water, full and change, 5 hrs. 45 min.; rise and fall about 5 ft.

(E) Western Australia.

1. **Fremantle (Swan River).**—Lat. $32^{\circ} 03'$ S., long. $115^{\circ} 45'$ E. *Approach.*—The approach to Fremantle is by Gage Roads, about 8 miles long and 5 miles wide. The Roads lie between a long line of islands and reefs and the mainland, and are open only to the north. The entrance to the Inner Harbour is protected by moles, that on the north being 4800 ft. long and that on the south 2040 ft. The channel between is 450 ft. wide and runs for a length of 3000 ft. to the Inner Harbour Basin. At its inner end this channel, for 1550 ft., widens to 575 ft. The harbour basin is about 4500 ft. long by 1400 ft. wide, with a depth throughout of 30 ft. below lowest low water. *Wharves.*—Wharf frontage, 9255 ft., of which 7955 ft. has a depth of 30 ft., 1000 ft. a depth from 22 ft. to 22 ft. 6 in., and 300 ft. a depth from 16 ft. 6 in. to 20 ft., all at extreme low water. Wharves are connected with railway system. Cargo sheds cover an area of 177,000 square feet. There are five 3-ton and one 10-ton portable electric cranes. These cranes are of the four-legged gantry type, the gantry permitting the passage of two loaded trains. Each crane is fitted with two capstans for feeding trucks through the gantry. Electric wharf capstans are installed for the movement of railway trucks. *Docks.*—A graving dock 850 ft. long, 100 ft. wide, and 33 ft. deep over sills is in course of construction. There is a patent slip 660 ft. long; cradle, 185 ft. long, 26 ft. wide; depth over blocks (H.W.O.S.), 10 ft. 9 in. forward and 18 ft. 6 in. aft; lifting capacity, 850 tons dead weight.

2. **Albany (Princess Royal Harbour).**—Lat. $35^{\circ} 2'$ S., long. $117^{\circ} 54'$ E. *Approach.*—King George's Sound, width at entrance, 660 ft.; depth (L.W.S.), 33 ft. *Wharves.*—The wharf frontage, according to the depth of water, is as follows:—

Depth ... ft.	Under 10	10—15	15—20	20—25	30—35	Total.
Frontage ... ft.	200	300	550	900	950	2,900

Wharves are connected with railway system. One 10-ton, one 5-ton, one 3-ton locomotive steam crane. Five coal hulks moored in harbour; using two hulks, 40 tons per hour can be bunkered. *Floating Dock*.—Length, 130 ft.; breadth, 22 ft. 2 in.; draught of vessel, 6 ft. 10 in.

3. **Broome** (Roebuck Bay).—*Approach*.—Least depth of water in channels approaching Roebuck deep—from N.N.W., 7 fathoms; from W.N.W., 5½ fathoms. Least depth of water at entrance to harbour, north of entrance rock, is 66 ft. *Jetty*.—Dry at low water, 22 ft. 6 in. of water on ordinary spring tides, and 12 ft. on neap tides; two berths each 340 ft. long. One 3-ton hand crane. Jetty connected with town by tramway. *Tides*.—The rise and fall of spring tides is 28 ft. Vessels can berth alongside the jetty and lie on the muddy sand when the tide is low.

4. **Bunbury**.—*Approach*.—Entered from Koombana Bay, width of entrance 4000 ft. with depth not less than 26 ft., or a width of over a mile with a depth of 24 ft. *Wharves*.—Wharf frontage, according to depth of water L.W.S.T., is as follows:—

Depth ... ft.	Under 10	10—15	15—20	20—25	Total.
Frontage ... ft.	200	760	2,050	1,150	4,160

Two 10-ton and two 5-ton locomotive cranes, one 3-ton steam gantry crane and one 3-ton derrick hand crane. Wharves are connected with the railway system. *Coaling*.—Local coal can be supplied from the shore at the rate of 60 tons per hour. *General*.—The harbour is protected from the north by a breakwater 4015 feet long, and on all sides by land.

(F) Northern Territory.

1. **Port Darwin**.—Lat. 12° 28' S., long. 130° 50' E. *Approach*.—Width of entrance, 2¼ miles; least depth at entrance, 8 fathoms (L.W.S.T.); least depth in channels approaching harbour, 6 fathoms. *Wharves*.—L-shaped jetty with berthing 558 ft.; depth of water, 21 ft. (L.W.S.T.); cargo sheds on shore; cranes up to 10 tons; railway line to jetty and coal can be shipped direct from trucks. *Docks*.—Nil. Vessels can be placed on the flats for repairs. *General*.—The harbour, of irregular shape, occupies about 8 square miles of navigable water, is land-locked, and affords the greatest security in times of storms.

(G) Tasmania.

1. **Hobart** (Sullivan Cove, River Derwent).—Lat. 42° 53' S.; long. 147° 22' E. *Approach*.—There are two approaches to the Port of Hobart from the sea, the one through Storm Bay, between the north part of Bruny Island and Tasman's Peninsula, being more generally used on account of its open character and is much to be preferred by sailing vessels; the other approach is through D'Entrecasteaux Channel. The width of the entrance, between the Derwent Light and the Pilot Station, Pierson Point, is 2¼ miles with a least depth of water (L.W.S.) of 48 ft. The estuary retains a uniform width of about 2½ miles from the entrance as far as Hobart, with a depth of from 10 to 12 fathoms to within half a mile, and at least 3 fathoms within a quarter of a mile of

either shore. Sullivan Cove has a depth of 4 fathoms 100 yards N.E. of Battery Point, deepening to 9 and 10 fathoms in the middle of the Cove. *Tides*.—High water, full and change at Hobart 8 hours 15 minutes; springs rise $4\frac{1}{2}$ ft. and neaps $3\frac{1}{2}$ ft. *Wharves*.—The length of wharf frontage, according to the depth of water at L.W.O.S.T., is as follows:—

Depth ft.	Under 10.	10—15.	15—20.	20—25.	25—30.	30—35.	Over 35.	Total.
Frontage ft.	1,500	2,300	1,300	500	1,000	2,900	1,800	11,300

The wharves are not yet connected with the railways, though the matter has been under consideration for some time. There are 70,236 square feet of covered wharves, *i.e.*, cargo sheds. *Cranes, etc., and Facilities for Coaling*.—There is a 25-ton steam crane and an 8-ton hand crane. Coaling is done mostly at the piers, but vessels can be coaled in the stream if required.

Docks and Slips.—There are no graving or floating docks. There are six patent slips, the largest having a cradle 219 ft. long by 30 ft. wide, with a depth of 13 ft. forward and 24 ft. aft, and a lifting capacity of 350 tons.

2. **Outports of Hobart.**—*Port Huon* (Huon River).—Wharf frontage, 390 ft.; depth (L.W.) 10 to 30 ft. *Port Esperance* (D'Entrecasteaux Channel).—Wharf frontage, 180 ft.; depth, 24 ft. *Southport* (D'Entrecasteaux Channel).—Wharf frontage, 200 ft.; depth, 22 ft.

3. **Launceston** (River Tamar).—Lat. $41^{\circ} 26' S.$, long. $147^{\circ} 7' E.$ The Port of Launceston is situated at the confluence of the North Esk and South Esk Rivers, and is about 42 miles from the sea, from which it is approached by the River Tamar (a tidal river). The Tamar is well lighted from the sea to Launceston and can be safely navigated by day or night. There is wharf frontage of about 5000 feet, with a depth at low water up to 16 ft.; rise and fall of tide about 11 ft.; covered cargo sheds cover an area of 41,780 sq. ft.; there are steam and hand cranes capable of lifting up to 12 tons, and a floating dock to accommodate vessels up to 160 ft. long. At Beauty Point (6 miles from the Heads) is wharf accommodation with a depth of 40 ft. at low water. This wharf is connected by tram with the town of Beaconsfield (Tasmania gold mine).

4. **Devonport** (River Mersey).—*Approach*.—Least depth approaching entrance, 24 ft. (L.W.S.T.); at entrance, 16 ft.; width of entrance, 150 ft. *Tides*.—High water, full and change, 11 hrs. 20 min.; springs rise 10 ft., neaps 8 ft. *Wharves*.—Frontage, 1500 ft.; depth, 15 to 16 ft. (L.W.S.T.). Covered wharves: Area, 700 sq. ft. (connected with railway system). Patent slip: Length of cradle, 120 ft.; width, 20 ft.; depth forward, 7 ft.; lifting power, 150 tons.

5. **Burnie** (Emu Bay).—Concrete breakwater 600 ft. long with 28 ft. 6 in. of water at sea end; also pier 600 ft. long with depth of 27 ft. 6 in. at sea end. Connected with railway system.

6. **Stanley** (Circular Head).—Lat. $40^{\circ} 45' S.$, long. $145^{\circ} 19' E.$ Breakwater 600 ft. long; breakwater pier 420 ft. long with depth of 32 ft. at seaward end and 20 ft. at inshore end of berthage space (L.W.S.). Town pier 334 ft. long with berthage space across the end of 150 ft., with depth of 17 ft. to 19 ft. (L.W.S.).

7. **Strahan** (Macquarie Harbour).—There is a bar about three-quarters of a mile from the entrance. Sea breaks heavily in strong W. or N.W. winds; in other winds the sea is smooth and the bar safe at high water for vessels drawing up to 10 ft. *Wharves*.—Frontage, 1000 ft.; depth at low water, 13 ft. to 18 ft.; crane to lift 20 tons.

§ 7. Shipwrecks.

Statement of the number and tonnage of vessels wrecked, or otherwise lost,* on the coast of the Commonwealth, or under the jurisdiction of the several States, during the years 1901 to 1907.

NUMBER AND TONNAGE OF VESSELS WRECKED, 1901 to 1908.

Year.	Class of Vessel.	Number and Tonnage of Vessels.										Passengers and Crew.	Lives Lost.
		Under 50 tons.		50 to 500 tons.		500 to 2000 tons.		Over 2000 tons.		Total.			
		No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.		
1901	Steam ...	7	189	5	949	2	2,811	...	...	14	3,949	250	40
	Sailing ...	11	217	6	725	5	5,800	...	...	22	6,802	172	10
	Total ...	18	406	11	1,734	7	8,611	...	...	36	10,751	422	50
1902	Steam ...	2	83	1	340	4	3,173	...	...	7	3,596	157	25
	Sailing ...	12	221	4	369	3	3,142	1	2,103	20	5,835	161	4
	Total ...	14	304	5	709	7	6,315	1	2,103	27	9,431	318	29
1903	Steam ...	2	61	5	1,753	2	2,377	...	...	9	4,191	200	11
	Sailing ...	18	306	4	551	2	1,924	...	...	24	2,781	217	10
	Total ...	20	367	9	2,304	4	4,301	...	...	33	6,972	417	21
1904	Steam ...	1	35	2	204	1	886	1	3,702	5	4,827	363	31
	Sailing ...	14	238	6	765	5	4,646	1	2,413	26	8,062	227	59
	Total ...	15	273	8	969	6	5,532	2	6,115	31	12,889	590	90
1905	Steam ...	3	49	2	594	...	...	1	3,325	6	3,968	417	...
	Sailing ...	10	160	5	775	3	3,678	1	2,176	19	6,789	160	57
	Total ...	13	209	7	1,369	3	3,678	2	5,501	25	10,757	577	57
1906	Steam ...	4	89	2	154	...	...	1	2,415	7	2,658	60	12
	Sailing ...	5	77	3	276	1	1,725	2	5,022	11	7,100	105	1
	Total ...	9	166	5	430	1	1,725	3	7,437	18	9,758	165	13
1907	Steam ...	3	71	4	916	3	3,572	...	...	10	4,559	204	16
	Sailing ...	8	162	6	421	5	6,895	...	...	19	7,478	170	29
	Total ...	11	233	10	1,337	8	10,467	...	...	29	12,037	374	45
1908	Steam ...	6	137	7	816	2	2,930	2	5,585	17	9,468	299	37
	Sailing ...	56	775	3	276	3	4,074	1	2,062	63	7,187	348	219
	Total ...	62	912	10	1,092	5	7,004	3	7,647	80†	16,655	647	256

* In some cases the vessels included in the above return were subsequently recovered. † The large number of wrecks, during 1908, was due to cyclones on the north west coast of Western Australia destroying a large number of the pearling vessels.