A U S T R A L I A N M A R I T I M E T R A N S P O R T 2 0 0 4

Prepared For The

Australian Shipowners Association

Prepared By The

Apelbaum Consulting Group PTY LTD

ABN 72 007 166 510

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1. INTRODUCTION

The Australian maritime transport compendium is prepared for the Australian Shipowners Association (ASA) by the Apelbaum Consulting Group Pty Ltd (ACG). The purpose of the compendium is to record the status of Australian shipping and provide relevant statistical data pertaining to:

- the role of Australian registered shipping in servicing Australia's transport task relative to longer term trends in international shipping and trade;
- forecasts of Australia's domestic and external maritime tasks;
- Australian shipping supply including trends in the age of the Australian fleet;
- the consumption of fuel and the impact of shipping on Australia's freight task and emissions;
- the contribution of Australian shipping to Australia's international transport earnings, the current account and gross domestic product;
- the development of Australian shipping within the international shipping market;
- the use of single and continuing voyage permits in servicing the domestic maritime task.

The compendium has been prepared for the past fourteen (14) years and has developed into a unique record of the industry.

1.1 DATA

The ACG has extensive data on many aspects of the Australian shipping industry and has applied due care and diligence in preparing the analyses. Where data has been provided by a third party, the ACG gives no warranty as to the accuracy or reliability of the data nor accepts responsibility for any errors or consequences arising therefrom.

1.2 ANALYSIS

1.2.1 Current Account

The analysis of the contribution of Australian shipping to the current account and international transport earnings is based upon unpublished data provided by the Australian Bureau of Statistics (ABS) and ACG data. To comply with confidentiality requirements, overseas transactions pertaining to international shipping and air transport have been merged by the ABS. Vessel imports and exports by vessel type data is no longer available. The subsequent disaggregation of the confidential shipping and air data has been undertaken by the ACG in accordance with our understanding of the industry and historical, empirical data.

The current account does not include all transactions generated by international shipping. The International Monetary Fund (IMF) convention excludes transactions between residents and residents or non-residents and non-residents. To the extent that Australians import or export goods in Australian vessels, the actual earnings of Australian shipping has been estimated by the ACG.

The contribution of Australian shipping to the balance on merchandise incorporates the import and export of vessels and other associated capital infrastructure. It has been assumed that the import or export of shipping infrastructure of value equal to or less than AUD 0.75 million did not relate to the trading fleet. The monetary contribution reflects the free-on-board value of the assets.

1.2.2 Single And Continuing Voyage Permits

The SVP and CVP analysis reflects the task associated with permits issued rather than the eventual task. The ACG is unable to correlate the task associated with permits issued and the actual SV/CV task.

1.2.3 Energy Consumed And Emissions

Primary energy consumed by domestic and international shipping consists of fuels expended in the propulsion of the vessels, in-port use and in the production of end use fuels. The combination of direct fuel consumed in propulsion or port use and fuel expended in production is defined as the full fuel cycle (FFC) energy consumption. Shipping consumes a variety of fuel types including automotive distillate, industrial diesel fuel, fuel oil, coal and natural gas. In order to ascertain the direct and indirect fuel consumed by shipping, FFC factors have been applied to the direct consumption. The analysis includes consideration of that component of the fuel that is not oxidised.

In order to examine the greenhouse effect arising from different gases, global warming potential (GWP) indices have been applied to derive CO_2 equivalent emissions in accordance with that prescribed by the Australian Greenhouse Office.

1.3 REPORT OUTLINE

Chapter 2 overviews the contribution of Australian-flag shipping in servicing Australia's international seaborne task, forecasts the expected domestic and international shipping task, quantifies the share of the domestic freight task undertaken by coastal shipping and details the productivity of Australia's domestic shipping services. The chapter concludes with forecasts of the domestic and international shipping tasks. The following chapter (Chapter 3) details the age distribution of the Australian and world fleets and the significance of Australian shipping in the world merchant fleet. Chapter 4 quantifies the contribution of Australian shipping to export and import earnings, the current account and the gross domestic product. The role of single and continuing voyage permits in servicing the interstate and intrastate sea freight task is outlined in Chapter 5. The final chapter examines the fuel and emissions attributes of Australian shipping, details the energy intensity of Australian shipping relative to other transport modes and forecasts expected trends in fuel consumed and emissions arising from Australian shipping activities.

2. THE AUSTRALIAN SEABORNE TASK

Key Points

With continued growth in the Australian and world economies, Australia's international seaborne trade increased by 19.3 million tonnes or 3.2 per cent to 622.5 million tonnes in 2003/04.

Australia's share of the world seaborne trade (measured in tonnes) grew from 9.5 per cent in 2001/02 to 9.8 per cent in 2002/03.

Expected growth for Australian bulk exports and indigenous demand for oil imports may increase Australia's annual external maritime trade by 216.4 million tonnes or 35.9 per cent to 819.7 million tonnes by 2012/13.

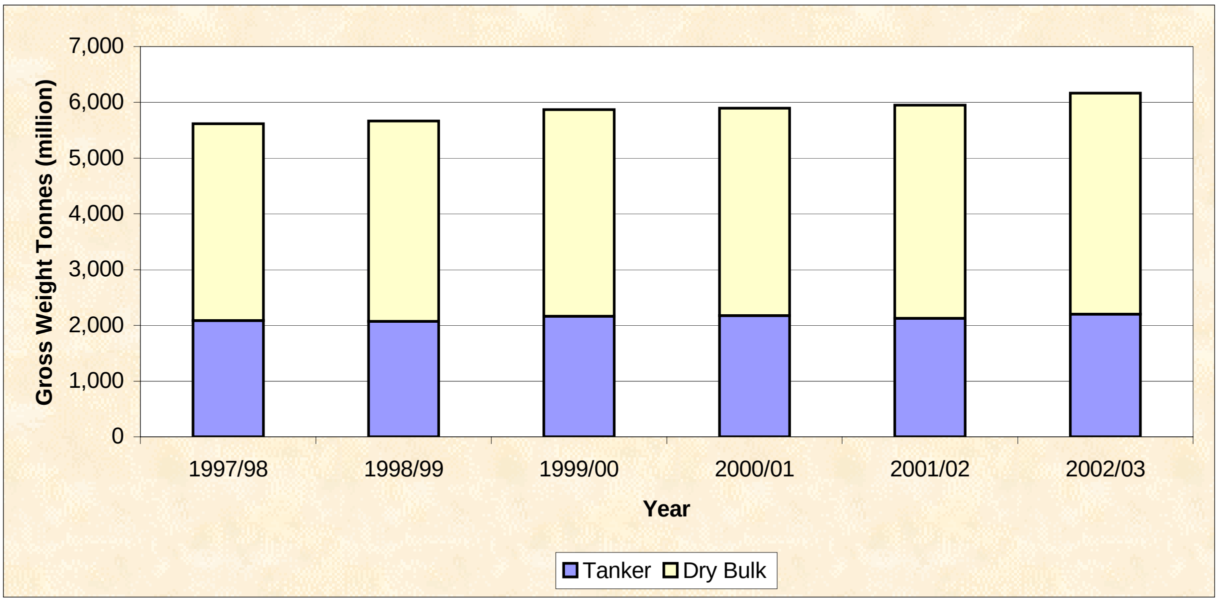
Australia's interstate and intrastate sea freight trade grew marginally (0.4 per cent) to 52.6 million tonnes in 2002/03. At the same time the interstate and intrastate maritime task increased by 2.9 per cent (or 3.2 billion tonne-kilometres) to 114.9 billion tonne-kilometres in 2002/03.

Estimates of the likely production of key commodities and shipping patterns suggest that the annual domestic shipping task may grow by an additional 5.6 billion tonne-kilometres or 4.8 per cent to 120.5 billion tonne-kilometres by 2012/13.

2.1 THE WORLD TRADE

The world seaborne trade increased by 3.7 per cent or 220.0 million tonnes to 6,168 million gross weight tonnes in 2002/03 largely due to a 3.5 per cent growth in crude oil shipments. The dry bulk and oil products trades expanded by 3.8 per cent (to 3,965 million tonnes) and 3.4 per cent (to 517 million tonnes), respectively, in 2002/03 **(see Figure 1)**.

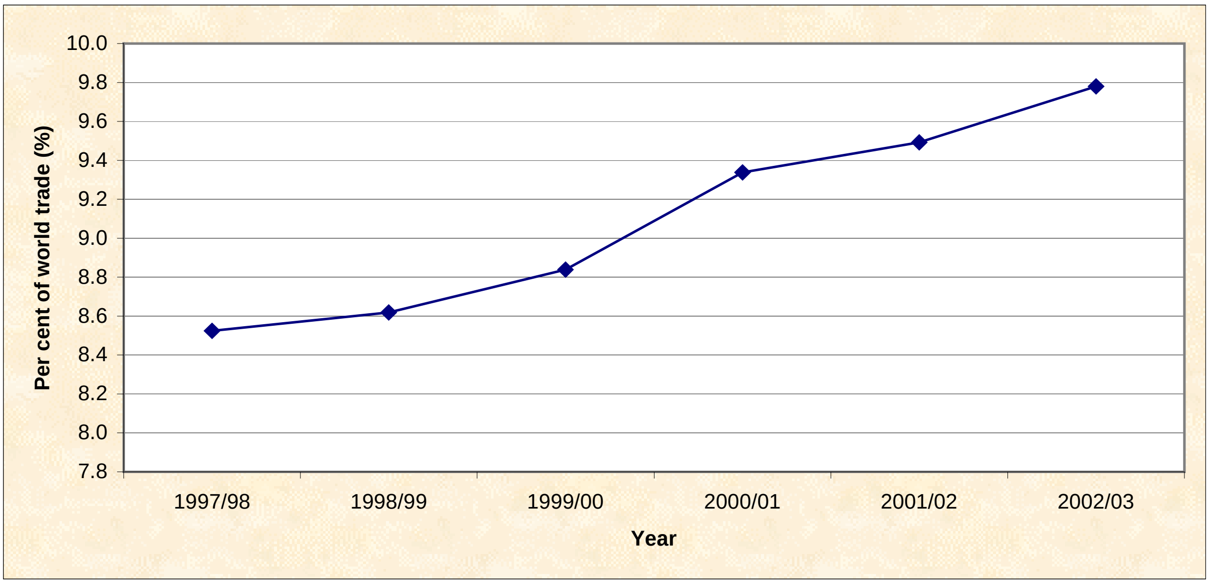
FIGURE 1: WORLD SEABORNE TRADE (MILLION GWT)



Source:
Table A-1.

Australian cargoes as a proportion of world seaborne trade (in terms of tonnes) continue to grow significantly equating to almost 10 per cent in 2002/03 (compared with 8.5 per cent in 1997/98). **Figure 2** details the Australian contribution to the world trade.

FIGURE 2: AUSTRALIAN CONTRIBUTION TO THE WORLD SEABORNE TRADE (PER CENT)



Source:
Table A-1.

2.2 AUSTRALIA'S INTERNATIONAL SEABORNE TRADE

The ACG has identified a number of inconsistencies regarding Australia's international shipping task by vessel type provided by Customs and the Australian Bureau of Statistics, particularly from 2001/02. Accordingly, Australia's seaborne task analysis has been revised to reflect two broad vessel categories (liner and tramps/bulkships/tankers) rather than the traditional four vessel categories of general cargo, tanker, bulk carrier and other vessels.

2.2.1 Aggregate Seaborne Trade By Mass

Growth in Australia's annual seaborne trade declined by 19.2 million tonnes or 3.2 per cent to 622.5 million tonnes in 2003/04, less than half the growth rate experienced in 2002/03. The major contributors to growth in 2003/04 were the bulk vessels which now constitute 93.8 per cent of the national seaborne trade compared with 92.2 per cent in the previous year. Cargoes carried by liner trades declined by 8.3 million tonnes or 17.5 per cent to 38.8 million tonnes in 2003/04.

2.2.2 Aggregate Seaborne Trade by Value

The unit value of Australia's seaborne trade continued to decline equating to $293.6 per GWT in 2003/04 compared with $312.3 per GWT in 2002/03. Despite a reduction in the mass of liner cargoes their unit value increased by $589.1 per GWT or 23.6 per cent in 2003/04.

2.2.3 Seaborne Exports by Mass

Australian exports by sea grew by 17.6 million tonnes or 3.3 per cent to 558.3 million tonnes reflecting a more competitive $A against $US and Asian currencies , increased mine supply, China's spectacular growth rate and higher farm exports. Liner exports declined by 32.0 per cent and now only constitute 3.7 per cent of national maritime exports.

2.2.4 Seaborne Exports by Value

The value of seaborne exports declined by $4.1 billion or 4.4 per cent to $89.3 billion in 2003/04. The unit value of exports diminished by 7.4 per cent to $160.0 per GWT, the third successive year that the unit value of maritime exports has declined.

2.2.5 Seaborne Imports by Mass

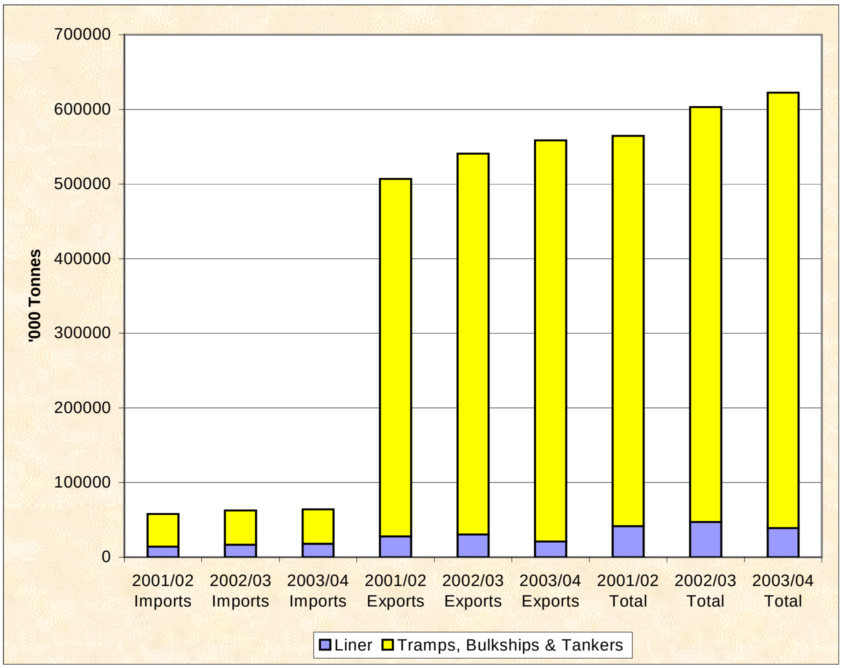
Australian seaborne imports grew by 1.6 billion tonnes (or 2.6 per cent) to 64.2 million tonnes in 2003/04, reflecting a strong surge in domestic demand, particular consumer goods. As a result, the majority of the growth in imports emanated from the liner trades (92.8 per cent).

2.2.6 Seaborne Imports by Value

A 1.6 per cent decline in the value of imports (to $93.5 m) resulted in a 4.1 per cent reduction in the unit value of imports (to $1,456.3 per GWT). The diminishing value of imports emanated from the bulk cargoes which experienced a $3.6 million reduction during 2003/04. Despite the liner vessels carrying 28.1 per cent of Australia's imports by mass they now generate 81.6 per cent of import value.

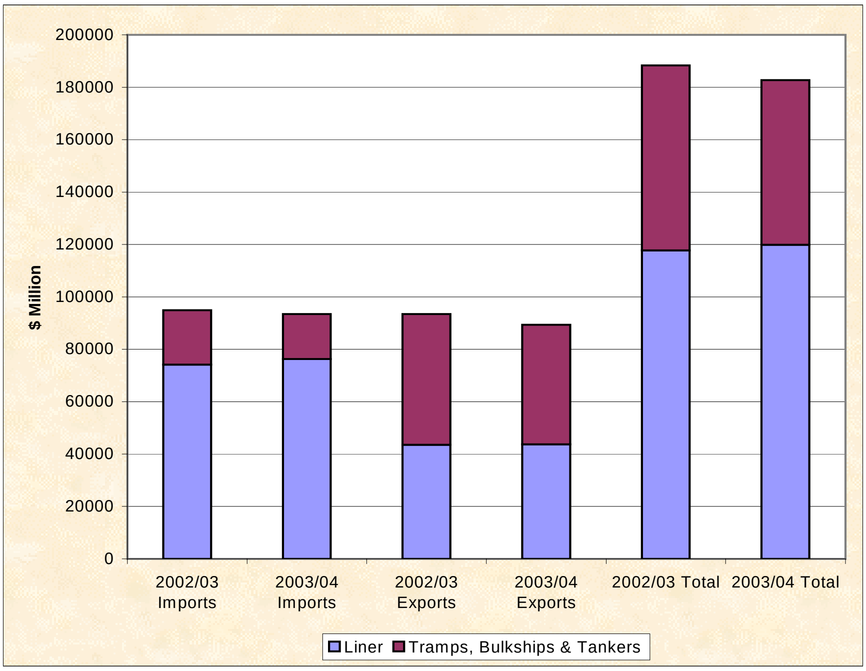
Figures 3 and 4 detail Australia's seaborne trade by task and value.

FIGURE 3: AUSTRALIA'S SEABORNE TRADE BY SHIP TYPE ('000 TONNES)



Sources:
Tables A-2 to A-4.

FIGURE 4: VALUE OF AUSTRALIA'S SEABORNE TRADE ($ MILLION)



Sources:
Tables A-2 to A-4.

2.2.7 Outlook

Expected growth in coal, iron ore, bauxite and grain exports coupled with projected demand for crude oil and petroleum product imports is projected to increase Australia's annual external maritime trade by 216.4 million tonnes or 35.9 per cent to 819.7 million tonnes by 2012/13. **Figure 5** highlights expected growth in the international seaborne trade.

FIGURE 5: OUTLOOK FOR TONNES CARRIED BY INTERNATIONAL SHIPPING (MILLION TONNES)

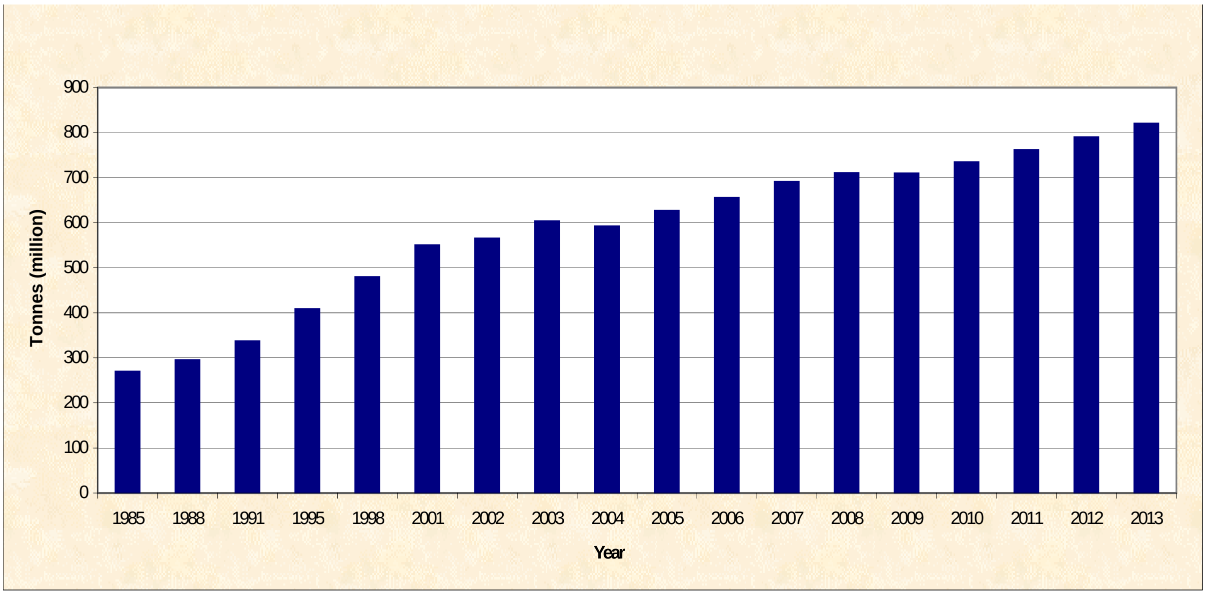


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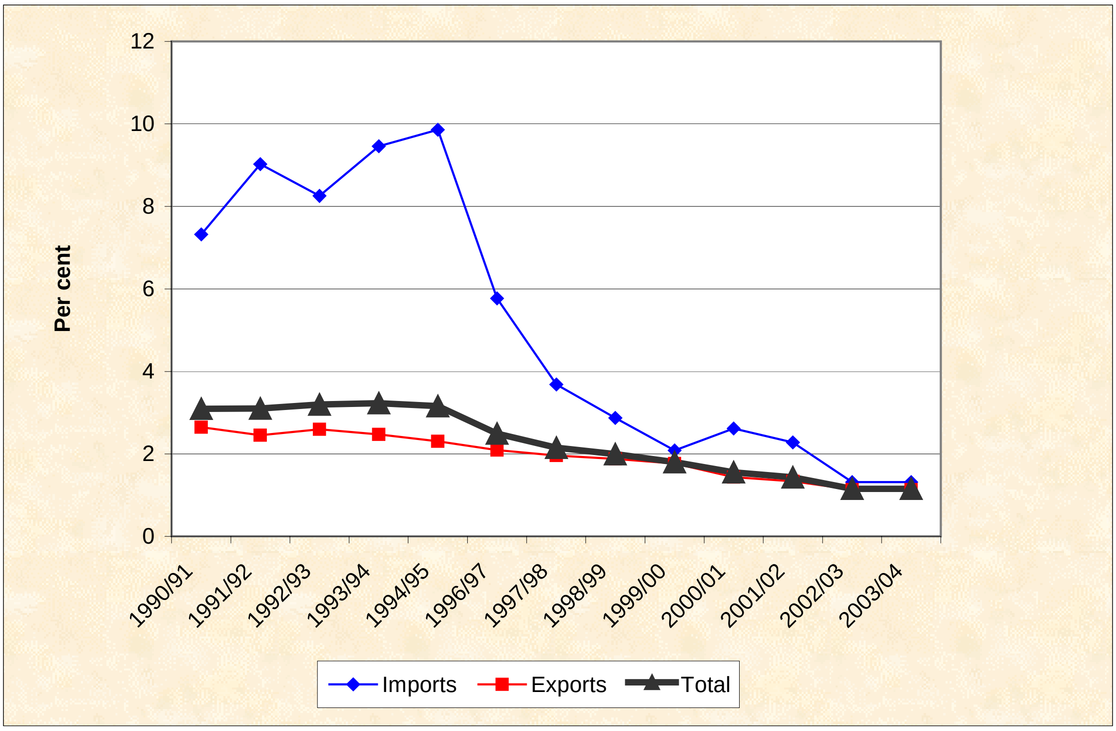
Table A-5.

2.3 THE ROLE OF AUSTRALIAN-FLAG SHIPPING IN SERVICING AUSTRALIA'S SEABORNE TASK

The role of Australian-flag shipping in servicing Australia's imports and exports is declining to negligible levels, equating to 6.8 million tonnes in 2003/04 or only 1.1 per cent of the national maritime trade. The share of imports serviced by Australian-flag shipping has declined from 2.6 per cent since 2000/01 to 1.1 per cent while the role of Australian-flag shipping in Australia's exports has diminished from 1.4 per cent in 2000/01 to 1.1 per cent in 2003/04. **Figure 6** illustrates the share of Australia's seaborne trade undertaken by Australian-flag shipping.

FIGURE 6: MARKET SHARE OF AUSTRALIAN-FLAG SHIPPING (PER CENT)



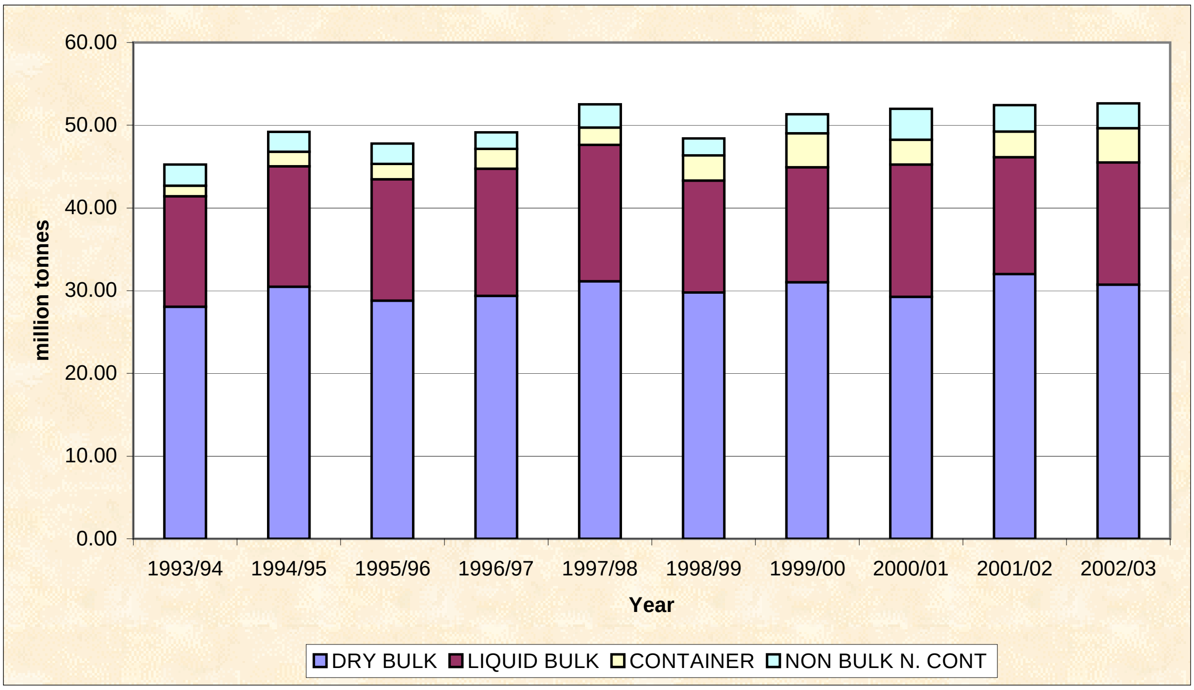
Source:
Table A-6.

2.4 DOMESTIC SHIPPING: THE AUSTRALIAN INTERSTATE AND INTRASTATE SEA FREIGHT TASK

Australia's interstate and intrastate sea freight trade increased marginally (0.2 million tonnes or 0.4 per cent compared with the previous year) to 52.6 million tonnes in 2002/03. While the movement of all bulk commodities grew during 2002/03, this growth was largely offset by a decline in other or general cargoes of 0.4 million tonnes or 1.9 per cent. During the past decade, Australia's annual interstate and intrastate maritime trade has grown by 8.4 million tonnes or 19.0 per cent.

Despite a reduction in the "other" cargo *trade* during 2002/03, increased average shipping distances contributed to an increase in the general cargo *task* (measured in tonne-kilometres) of 2.0 billion tonne-kilometres (or 6.7 per cent). Largely as a consequence of growth in the other cargo and petroleum products (of 1 billion tonne-kilometres or 10.6 per cent) tasks, the national interstate and intrastate maritime task grew by 2.9 per cent (or 3.2 billion tonne-kilometres) to 114.9 billion tonne-kilometres in 2002/03. **Figures 7 and 8** outline the interstate and intrastate sea freight trade by pack and commodity type. The interstate and intrastate sea freight task (tonne-kilometres) is detailed in **Figure 9**.

FIGURE 7: INTERSTATE AND INTRASTATE SEA FREIGHT BY PACK (MILLION TONNES)



Source:
Table A-7.

FIGURE 8: INTERSTATE AND INTRASTATE SEA FREIGHT TRADE BY COMMODITY (MILLION TONNES)

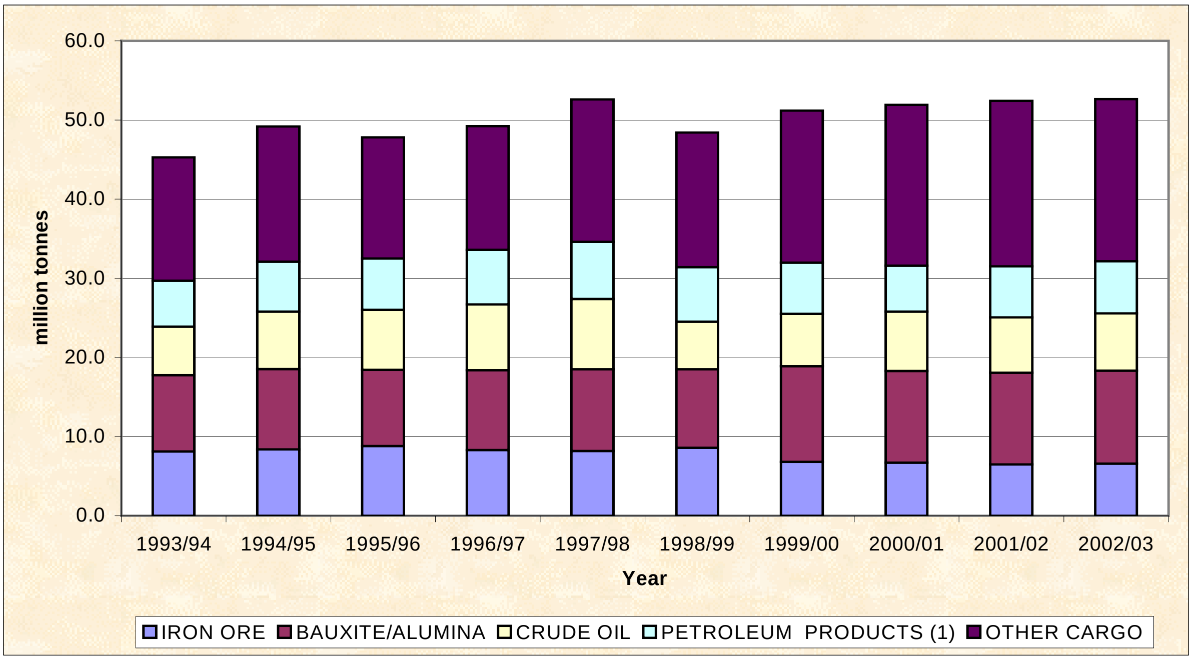


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Table A-8.

FIGURE 9: INTERSTATE AND INTRASTATE SEA FREIGHT TASK BY COMMODITY (BILLION TONNE-KILOMETRES)

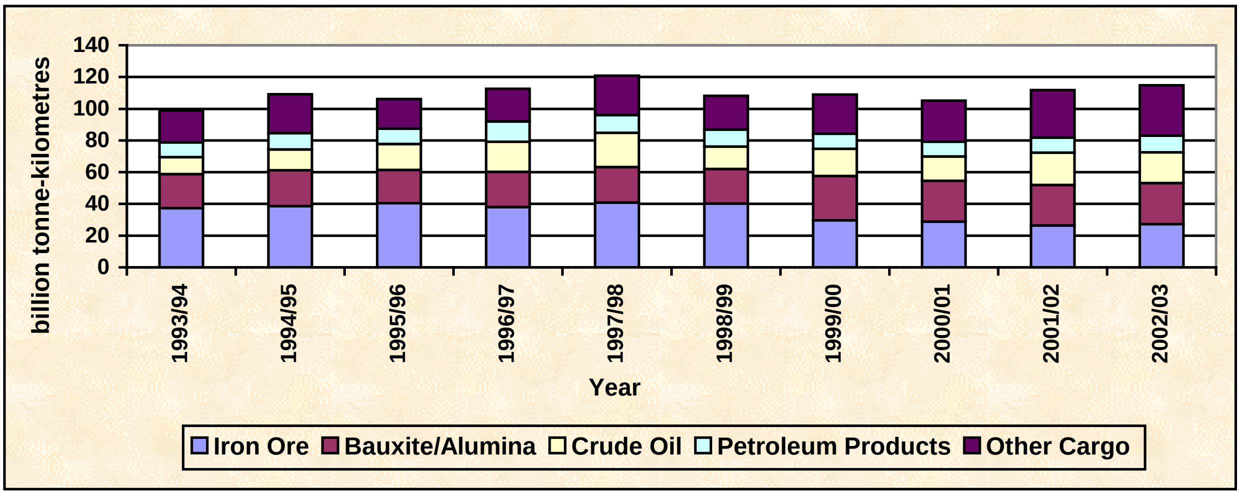

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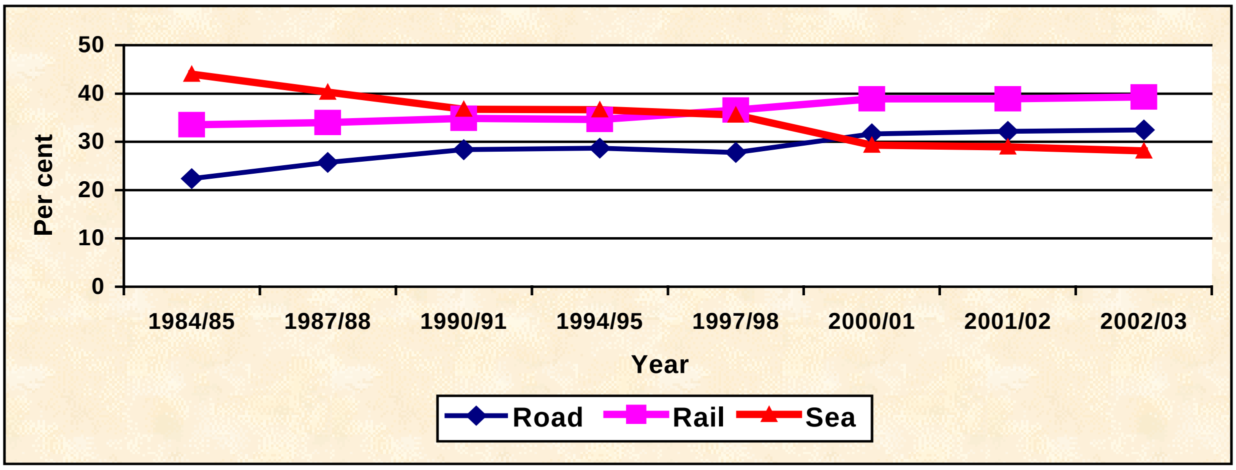
Table A-9.

The share of the domestic transport freight trade (measured by million tonnes carried) undertaken by interstate and intrastate shipping continued to decline equating to 2.0 per cent in 2002/03 (excluding non-urban pipelines). Road transport undertook 74.9 per cent of the domestic freight trade followed by rail transport (23.1 per cent), compared with 22.7 per cent in the previous year.

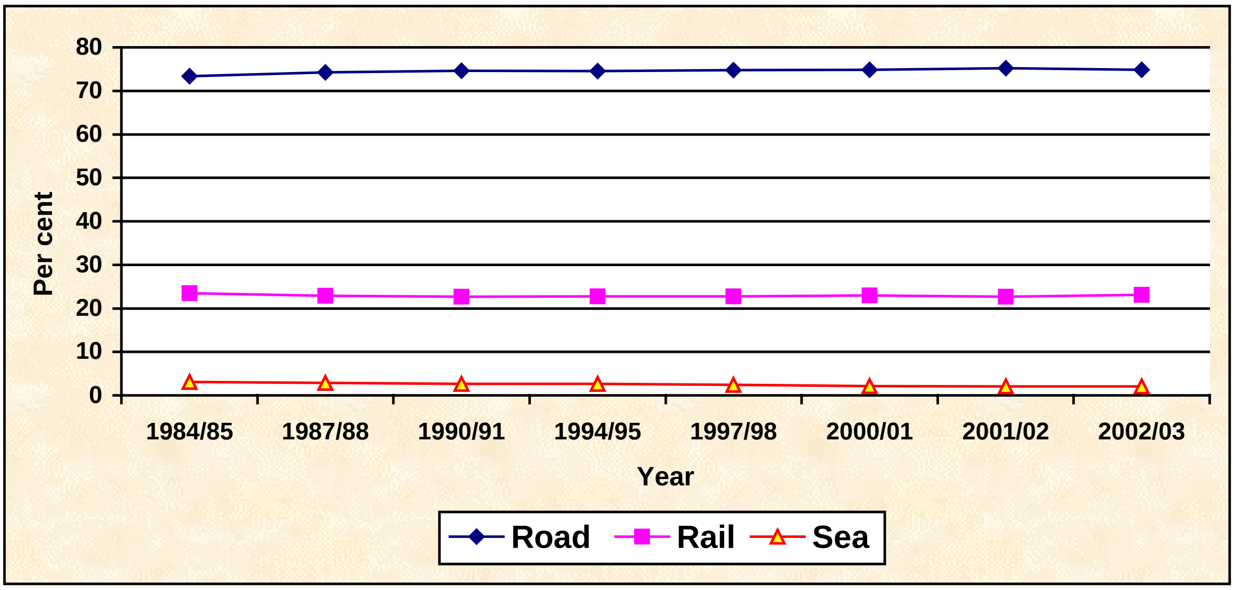
The share achieved by coastal shipping in the domestic non-urban freight task (measured by billion tonne-kilometres and excluding non-urban pipelines), declined to 28.2 per cent in 2002/03 (compared with 44.0 per cent in 1984/85). Rail transport undertakes the largest modal share of the national non-urban freight task (39.0 per cent) followed by road transport (32.5 per cent) (see Apelbaum Consulting Group, 2005). **Figures 10 and 11** illustrate the share of the interstate and intrastate tonne trade and the tonne-kilometre task undertaken by domestic shipping.

FIGURE 10: MARKET SHARES IN THE MOVEMENT OF AUSTRALIA'S NON-URBAN DOMESTIC FREIGHT – BILLION TONNE-KILOMETRES



Source:
Table A-18.

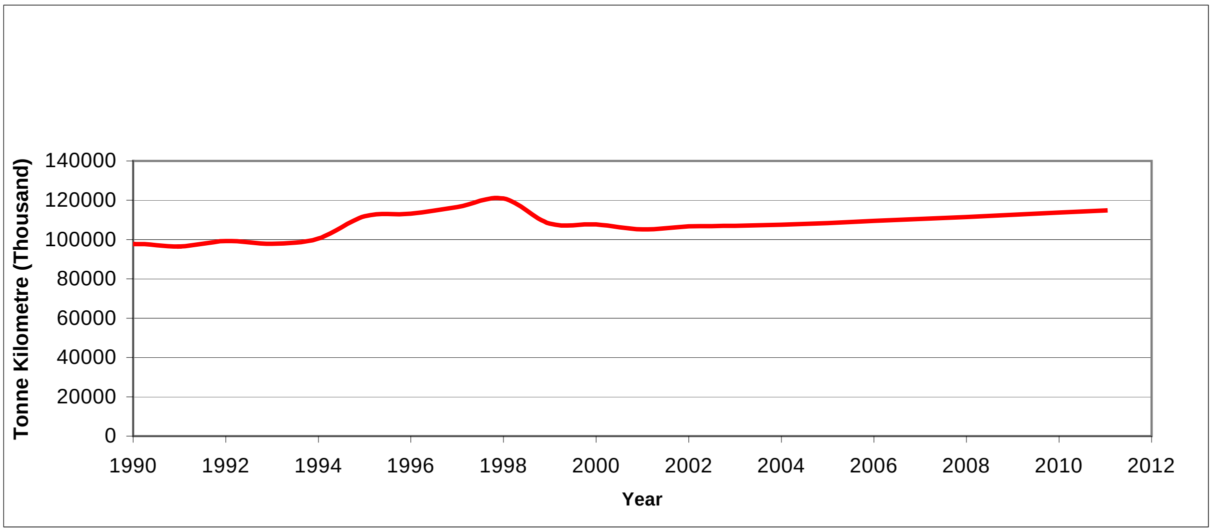
FIGURE 11: MARKET SHARES IN THE MOVEMENT OF AUSTRALIA'S DOMESTIC FREIGHT - MILLION TONNES CARRIED



Source:
Table A-19.

Estimates of the likely production of key commodities and shipping patterns suggest that the annual domestic shipping task may grow by 5.6 billion tonne-kilometres or 4.8 per cent to 120.5 billion tonne-kilometres in 2012/13.

FIGURE 12: OUTLOOK FOR THE DOMESTIC SHIPPING FREIGHT TASK (THOUSAND TONNE-KILOMETRES)



Source:
Table A-10.

3. THE AUSTRALIAN AND WORLD FLEETS

Key Points

The Australian trading fleet as measured by million deadweight tonnes remained at 2003 levels.

The average age of the Australian fleet continued to increase and is now 16.4 years which is, on average, 3.9 years and 4.5 years older than the world and open registry fleets.

A decade ago, 7.9 per cent of Australian-controlled DWT was registered offshore. In 2004, the proportion of Australian-controlled vessels registered offshore has grown to 51.3 per cent.

The addition of four vessels (Wunma, Warrender, Newcastle Bay and the Spirit of Tasmania III) and the disposal of the Thor Kirsten from the Australian register resulted in the number of Australian flag vessels increasing by three (3) to 56 vessels in 2004, the largest annual increase in the fleet since 1993. However, the Australian trading fleet as measured by million deadweight tonnes was comparable to the 2003 value.

Of the 56 vessels, eight (8) were registered offshore compared with five (5) a decade ago. **Table 1** outlines the composition of the Australian trading fleet. **Table 2** details the Australian fleet by vessel name, owner/operator, DWT, trade and vessel type as at June 2004.

3.1 AGE DISTRIBUTION OF THE AUSTRALIAN AND WORLD FLEETS

Contrary to international trends the average age of the Australian fleet has increased from 9.2 years a decade ago to 16.4 years. As at 2004, the average age of the Australian fleet (1,000 DWT and over) was 3.9 years and 4.5 years older than the world and open registry fleets.

With the purchase of the recent TT Line vessels, Australian passenger (other) vessels are the youngest of the Australian-flag fleet (7.0 years) followed by general cargo vessels (11.7 years), tanker vessels (14.6 years), bulk carriers (17.8 years) and container vessels (20.2 years). **Tables 3 and 4** summarise the age profiles of the Australian and world fleets. **Figure 13** illustrates the age profile of the world, open registry and Australian registered fleets.

TABLE 1: AUSTRALIAN TRADING FLEET (1,000 DWT AND OVER)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
AUSTRALIAN REGISTERED	76	74	69	66	60	54	53	48	48	49	44	48
OVERSEAS REGISTERED	3	5	5	5	6	9	8	5	5	5	9	8
TOTAL - AUSTRALIAN REGISTERED	79	79	74	71	66	63	61	53	53	54	53	56
- AUSTRALIAN CONTROLLED (1)	n.a.	n.a.	n.a.	n.a.	31	28	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- SUB TOTAL	n.a.	n.a.	n.a.	n.a.	97	91	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TOTAL DWT (MILLION)												
- AUSTRALIAN TRADING FLEET	3.43	3.50	3.39	3.28	3.20	2.81	2.71	2.15	2.11	2.06	2.28	2.29
- AUSTRALIAN CONTROLLED (1)	n.a.	n.a.	n.a.	n.a.	1.79	1.67	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- SUB TOTAL	n.a.	n.a.	n.a.	n.a.	4.99	4.48	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note:
(1) 100 GRT and over.

Other Note:
n.a. not available.

Sources:
Apelbaum Consulting Group Pty Ltd (2004).
Australian Shipowners And Operators (2005), pers. comm.
Transport And Regional Development, "Australian Shipping", Various.

TABLE 2: AUSTRALIAN VESSELS AS AT JUNE 2004 (1,000 DWT AND OVER)

Company/ Vessel	MANAGER	VESSEL TYPE	TRADE TYPE	DWT
ABC				
Accolade II	Inco	Bulk Carrier	Intrastate	8,140
ALCOA				
Lindesay Clark	Inco	Bulk Carrier	Interstate	29,515
Portland	Inco	Bulk Carrier	Interstate	36,634
Wunma	Inco	Bulk Carrier	Intrastate	5,100
ANLCL				
ANL Bass Trader	ASPSM	Container	Interstate	9,821
River Boyne	ASPSM	Bulk Carrier	Interstate	76,355
River Embley	ASPSM	Bulk Carrier	Interstate	76,305
BELEEN SHIPPING				
Alcem Calaca	Cementco	Bulk Carrier	Interstate	11,600
BHP BILLITON				
Iron Carpentaria	Teekay Marine	Bulk Carrier	Both	45,310
Iron Chieftain	Teekay Marine	Bulk Carrier	Interstate	49,800
Iron Kembla	Teekay Marine	Bulk Carrier	International	148,150
Iron Sturt	Teekay Marine	Bulk Carrier	Interstate	22,093
Iron Yandi	Teekay Marine	Bulk Carrier	Both	169,500
Pacific Triangle	Teekay Marine	Bulk Carrier	Both	185,000
BLUESCOPE				
Iron Monarch	Teekay Marine	RoRo	Interstate	14,940
JUBILEE SHIPPING				
Japonica	ASPSM	Product Tanker	Both	50,600
TOLL				
Tasmanian Achiever	Toll	RoRo	Interstate	7,600
Victorian Reliance	Toll	RoRo	Interstate	7,600
Northern Express	Toll	Container	Intrastate	1,360
CARPENTERIA				
Aburri	Carpentaria	Bulk Carrier	Interstate	3,300
CEMENT AUSTRALIA				
Goliath	CSR Shipping	Cement Carrier	Interstate	15,539
CSR				
Kowulka	CSR Shipping	Bulk Carrier	Interstate	23,258
Ormiston	CSR Shipping	Bulk Carrier	Interstate	16,602
PATRICK SHIPPING PTY LTD				
Endeavour River	ASPSM	Bulk Carrier	Interstate	75,140
Fitzroy River	ASPSM	Bulk Carrier	Interstate	75,105
Kimberley	Patrick	Container/Bulk	Intrastate	6,300
Searoad Mersey	Patrick	RoRo	Interstate	5,025
Searoad Tamar	Patrick	RoRo	Interstate	9,958
INTERNATIONAL GAS TRANSPORTATION				
Northwest Sanderling	ALSOC	LNG Carrier	International	66,810
Northwest Sandpiper	ALSOC	LNG Carrier	International	66,768
Northwest Snipe	ALSOC	LNG Carrier	International	66,695
Northwest Stormpetrel	ALSOC	LNG Carrier	International	62,400

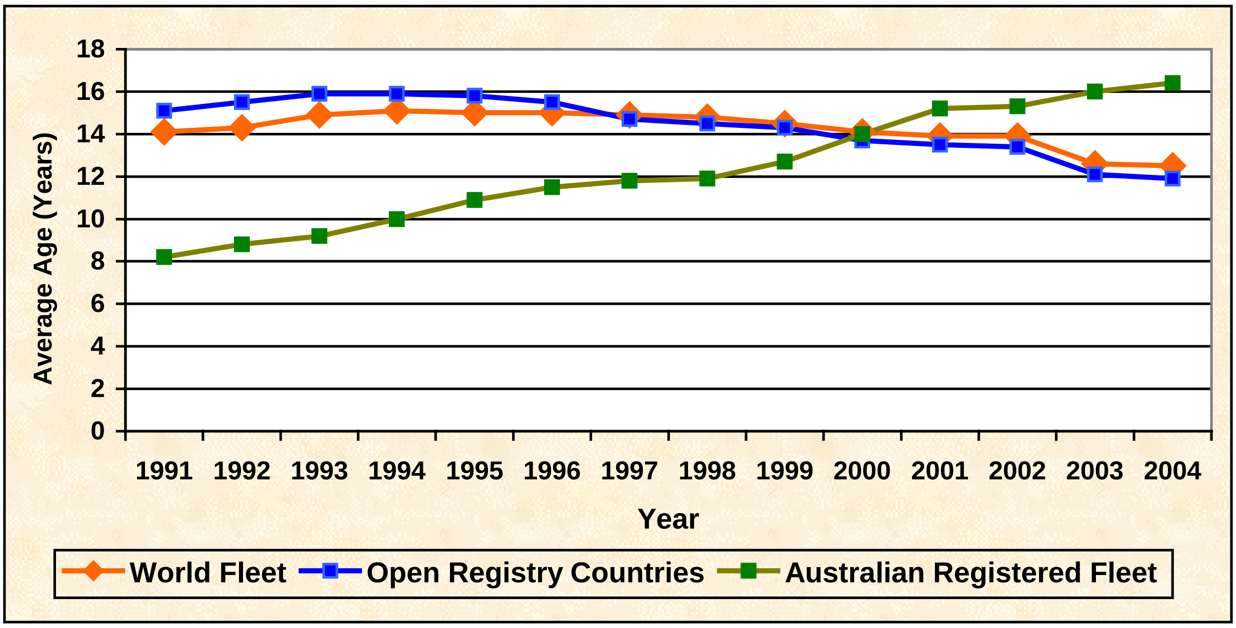
TABLE 2 cont: AUSTRALIAN VESSELS AS AT JUNE 2004 (1,000 DWT AND OVER)

Company/ Vessel	MANAGER	VESSEL TYPE	TRADE TYPE	DWT
JEBSENS				
Enterprise	Toll	Bulk Carrier	Both	8,721
KOPPERS SHIPPING PTY LTD				
Seakap	Teekay	Pitch Carrier	Both	6,706
MCILWRAIRTH MCEACHARN PTY LTD				
Alltrans	ASPSM	Bulk Carrier	Both	35,218
Scottish Bard	ASPSM	Product Tanker	Interstate	31,500
Scottish Wizard	ASPSM	Product Tanker	Both	40,525
PERKINS				
Frances Bay	Perkins	RoRo	Interstate	2,100
Warrender	Perkins	Container	Intrastate	1,150
Newcastle Bay	Sea Swift	General	Intrastate	2,768
QUEENSLAND CEMENT				
Cementco	Cementco	Bulk Carrier	Both	16,510
SEASWIFT PTY LTD				
Kestrel Bay	Seaswift	General	Intrastate	1,208
Trinity Bay	Seaswift	RoRo	Interstate	3,200
SHELL AUSTRALIA				
Nivosa	Shell Aust Ltd	Crude Tanker	International	124,754
Helix	Shell Aust Ltd	Product Tanker	Both	46,186
STOLT				
Stolt Australia	Stolt NYK Aust.	Chemical Tanker	Both	9,939
SUGAR AUSTRALIA				
Pioneer	Teekay	Sugar Carrier	Both	20,000
TEEKAY SHIPPING (AUSTRALIA) PTY LTD				
Barrington	Teekay Marine	Product Tanker	Interstate	33,239
Broadwater	Teekay Marine	Crude Tanker	Both	94,784
Palmerston	Teekay Marine	Product Tanker	Both	36,700
Samar Spirit	Teekay Marine	Crude Tanker	Both	98,640
Dampier Spirit	Teekay Marine	Crude Tanker	Storage	106,668
Karatha Spirit	Teekay Marine	Crude Tanker	Storage	104,984
TASMANIAN TRANSPORT COMMISSION				
Spirit Of Tasmania I	TT-Line Co	Passenger/RoRo	Interstate	5,650
Spirit Of Tasmania II	TT-Line Co	Passenger/RoRo	Interstate	5,651
Spirit Of Tasmania III	TT-Line Co	Passenger/RoRo	Interstate	5,717

Notes:
ALSOC - Australian LNG Ship Operating Co Pty Ltd.
ASPSM - ASP Ship Management.
Both - International and Interstate.
Inco – Inco Ships Pty Ltd.

Sources:
Apelbaum Consulting Group (2004).
Australian Shipowners And Operators (2005), pers. comm.

FIGURE 13: AVERAGE AGE OF THE WORLD AND AUSTRALIAN FLEETS (YEARS)



Source:
Table A-11.

TABLE 3: AGE DISTRIBUTION OF AUSTRALIAN VESSELS, 2004 (PERCENTAGE OF TOTAL IN TERMS OF DWT)

VESSEL TYPE	YEAR	TOTAL	0-4 YEARS	5-9 YEARS	10-14 YEARS	15 YEARS AND OVER	AVERAGE AGE (YEARS)
ALL SHIPS	2004	100.0	8.1	11.9	19.8	60.2	16
	2003	100.0	8.1	14.9	22.6	54.4	16
	2002	100.0	2.4	20.9	25.4	51.3	15
	2001	100.0	- -	25.2	28.6	46.2	15
	2000	100.0	11.0	16.7	32.1	40.2	14
	1999	100.0	9.4	18.4	28.8	43.4	13
	1998	100.0	12.5	18.9	30.0	38.6	12
	1997	100.0	13.6	11.3	48.5	28.7	12
TANKERS	2004	100.0	- -	4.4	34.8	60.8	15
	2003	100.0	- -	10.4	42.3	47.3	14
	2002	100.0	- -	17.8	43.4	38.9	13
	2001	100.0	- -	27.5	49.2	23.3	12
	2000	100.0	5.1	25.6	53.7	15.6	11
	1999	100.0	4.2	33.7	33.3	28.7	11
	1998	100.0	10.4	36.8	35.5	17.3	10
	1997	100.0	11.5	20.5	43.1	24.9	10
BULK CARRIERS	2004	100.0	16.0	17.1	5.6	61.3	18
	2003	100.0	16.0	18.1	4.3	61.6	17
	2002	100.0	- -	26.8	3.9	69.3	17
	2001	100.0	- -	25.7	3.7	70.6	16
	2000	100.0	16.7	5.8	16.9	60.6	16
	1999	100.0	13.0	4.4	25.5	57.0	15
	1998	100.0	12.7	4.3	28.3	54.7	13
	1997	100.0	14.7	2.1	50.9	32.3	13
GENERAL CARGO	2004	100.0	- -	22.4	77.6	- -	12
	2003	100.0	- -	54.8	45.2	- -	14
	2002	100.0	- -	54.8	45.2	- -	13
	2001	100.0	- -	- -	100.0	- -	12
	2000	100.0	- -	44.4	55.6	- -	11
	1999	100.0	- -	46.5	53.5	- -	11
	1998	100.0	- -	14.9	85.1	- -	11
	1997	100.0	- -	9.1	40.2	50.7	12

TABLE 3 cont: AGE DISTRIBUTION OF AUSTRALIAN VESSELS, 2004 (PERCENTAGE OF TOTAL IN TERMS OF DWT)

VESSEL TYPE	YEAR	TOTAL	0-4 YEARS	5-9 YEARS	10-14 YEARS	15 YEARS AND OVER	AVERAGE AGE (YEARS)
CONTAINER	2004	100.0	- -	14.5	31.3	54.2	20
	2003	100.0	- -	14.9	32.2	52.9	17
	2002	100.0	- -	8.7	59.3	32.0	18
	2001	100.0	- -	- -	44.9	35.1	18
	2000	100.0	- -	58.9	6.1	35.0	17
	1999	100.0	11.8	48.4	24.5	15.2	13
	1998	100.0	26.7	35.9	- -	37.4	11
	1997	100.0	19.3	43.0	25.3	12.3	11
ALL OTHER	2004	100.0	- -	100.0	- -	- -	7
	2003	100.0	- -	100.0	- -	- -	5
	2002	100.0	100.0	- -	- -	- -	4
	2001	100.0	- -	- -	- -	100.0	15
	2000	100.0	- -	- -	100.0	- -	14
	1999	100.0	- -	- -	100.0	- -	13
	1998	100.0	- -	- -	100.0	- -	12
	1997	100.0	- -	- -	100.0	- -	11

Note:
- - nil or negligible.

Sources:
Apelbaum Consulting Group (2004).

TABLE 4: AGE DISTRIBUTION OF THE WORLD MERCHANT FLEET BY TYPE OF VESSEL AS AT 1 JANUARY 2004

(PERCENTAGE OF TOTAL IN TERMS OF DWT)

COUNTRY GROUPING	TYPE OF VESSEL	TOTAL	0-4 YEARS	5-9 YEARS	10-14 YEARS	15 YEARS AND OVER	AVERAGE AGE (YEARS) 2004 (1)	AVERAGE AGE (YEARS) 2003 (1)
World Total	All ships	100.0	22.4	21.6	16.1	39.9	12.5	12.6
	Tankers	100.0	28.2	20.8	21.0	30.0	10.9	11.6
	Bulk carriers	100.0	19.2	23.8	13.9	43.1	12.9	12.7
	General cargo	100.0	7.8	14.4	10.3	67.5	17.4	17.0
	Containerships	100.0	32.3	30.5	15.1	22.1	9.2	9.1
	All others	100.0	15.9	13.7	12.9	57.5	15.8	16.0
Developed Market Economy Countries	All ships	100.0	27.6	23.8	16.4	32.2	10.9	11.7
	Tankers	100.0	35.6	23.9	18.7	21.8	9.0	10.5
	Bulk carriers	100.0	17.6	25.1	14.1	43.2	12.8	13.1
	General cargo	100.0	17.6	19.8	14.0	48.6	13.9	13.7
	Containerships	100.0	34.2	29.5	15.5	20.8	8.8	8.7
	All others	100.0	17.6	17.3	14.8	50.3	14.5	14.7
Major Open - Registry Countries (3)	All ships	100.0	23.7	23.0	16.7	36.6	11.9	12.1
	Tankers	100.0	27.3	20.5	23.1	29.1	10.9	11.6
	Bulk carriers	100.0	21.7	25.1	13.3	39.9	12.3	12.0
	General cargo	100.0	7.5	20.7	11.8	60.0	16.0	15.8
	Containerships	100.0	34.5	29.1	14.6	21.8	9.0	9.1
	All others	100.0	17.9	14.3	11.5	56.3	15.8	16.0
Socialist Countries of Asia	All ships	100.0	10.4	8.8	12.0	68.8	17.6	16.7
	Tankers	100.0	17.4	7.5	18.1	57.0	15.4	16.3
	Bulk carriers	100.0	6.7	12.5	8.8	72.0	18.2	17.2
	General cargo	100.0	3.1	4.8	4.8	87.3	20.8	20.6
	Containerships	100.0	23.1	9.5	25.8	41.6	12.9	13.4
	All others	100.0	17.4	7.5	18.1	57	15.4	16.3
Australia (2)	All ships	100.0	8.1	11.9	19.8	60.2	16.4	16.0
	Tankers	100.0	- -	4.4	34.8	60.8	14.6	13.6
	Bulk carriers	100.0	16.0	17.1	5.6	61.3	17.8	17.4
	General cargo	100.0	- -	22.4	77.6	- -	11.7	14.0
	Containerships	100.0	- -	14.5	31.3	54.2	20.2	17.0
	All others	100.0	- -	100.0	- -	- -	7.0	5.0

Notes:

(1) To calculate the average age, UNCTAD has assumed that the ages of vessels are distributed evenly between the lower and upper limit of each age group. For the 20 years and over age group, UNCTAD has assumed a midpoint of 23.5 years. As at 1 January.

(2) Derived by Apelbaum Consulting Group Pty. Ltd.

(3) Includes Malta and Vanuatu.

Other Note:

- - nil or negligible.

Source:

UNCTAD, "Review of Maritime Transport" Various. Compiled from data supplied by Lloyd's Maritime Information Services Ltd (LMIS), London.

3.2 THE ROLE OF AUSTRALIAN SHIPPING IN THE WORLD MERCHANT FLEET

As at 1 January 2004, Australia's ranking as a major maritime country declined to position 33. However, the proportion of Australian controlled vessels registered offshore continues to increase equating to 47.7 per cent or 51.3 per cent in DWT. **Table 5** details the fleet structure of the 35 most significant maritime countries. **Figure 14** illustrates the trend in Australian controlled vessels registered in either Australia or overseas.

TABLE 5: THE 35 MOST SIGNIFICANT MARITIME COUNTRIES AS AT 1 JANUARY 2004 (1) (RANKED BY DWT)

COUNTRY OR TERRITORY OF DOMICILE (2)	NUMBER OF VESSELS			DEAD-WEIGHT TONNAGE				
	National flag (3)	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as percentage of total	Total as percentage of world total
Greece	751	2,361	3,112	50,159,627	107,179,349	157,338,976	68.12	20.26
Japan	732	2,216	2,948	13,054,209	97,036,098	110,090,307	88.14	14.17
Norway	840	813	1,653	21,828,640	29,926,150	51,754,790	57.82	6.66
Germany	307	2,161	2,468	6,739,997	42,247,135	48,987,132	86.24	6.31
China	1,627	788	2,415	24,206,132	23,195,756	47,401,888	48.93	6.10
United States	592	948	1,540	10,587,584	35,240,739	45,828,323	76.90	5.90
Hong Kong (China)	254	238	492	15,375,679	15,507,833	30,883,512	50.21	3.98
Republic of Korea	485	380	865	8,584,810	16,651,656	25,236,466	65.98	3.25
Singapore	449	291	740	11,703,683	11,574,617	23,278,300	49.72	3.00
Taiwan Province of China	111	426	537	5,199,044	17,678,913	22,877,957	77.27	2.95
United Kingdom	391	392	783	9,192,550	10,430,365	19,622,915	53.15	2.53
Russian Federation	2,142	391	2,533	8,317,313	8,507,445	16,824,758	50.57	2.17
Denmark	323	338	661	8,606,789	7,685,160	16,291,949	47.17	2.10
Italy	531	121	652	8,785,816	3,674,335	12,460,151	29.49	1.60
India	353	45	398	10,919,675	1,470,437	12,390,112	11.87	1.60
Saudi Arabia	50	76	126	908,754	11,175,137	12,083,891	92.48	1.56
Malaysia	262	73	335	5,985,287	3,782,960	9,768,247	38.73	1.26
Iran, Islamic Republic of	147	9	156	8,232,477	505,645	8,738,122	5.79	1.12
Turkey	405	171	576	6,471,308	2,210,446	8,681,754	25.46	1.12
Switzerland	14	267	281	770,220	7,788,365	8,558,585	91.00	1.10
Netherlands	549	196	745	3,785,658	3,524,525	7,310,183	48.21	0.94
Belgium	43	122	165	1,192,165	5,197,185	6,389,350	81.34	0.82
Canada	219	104	323	2,584,240	3,330,933	5,915,173	56.31	0.76
Sweden	162	157	319	1,460,911	4,374,954	5,835,865	74.97	0.75
Philippines	313	37	350	4,455,395	1,073,077	5,528,472	19.41	0.71
Brazil	140	11	151	3,823,338	1,609,053	5,432,391	29.62	0.70
France	154	103	257	2,607,750	2,358,553	4,966,303	47.49	0.64
Spain	80	255	335	232,358	4,675,988	4,908,346	95.27	0.63
Indonesia	515	101	616	3,362,462	1,282,311	4,644,773	27.61	0.60
Cyprus	41	68	109	1,061,970	2,519,319	3,581,289	70.35	0.46
Kuwait	32	0	32	3,359,448	0	3,359,448	0.00	0.43
Monaco	0	95	95	0	3,032,474	3,032,474	100.00	0.39
Australia	46	42	88	1,383,636	1,455,419	2,839,055	51.26	0.37
Thailand	221	33	254	1,895,071	298,436	2,193,507	13.61	0.28
Ukraine	298	91	389	1,077,447	1,105,126	2,182,573	50.63	0.28
Subtotal (35 Countries)	13,579	13,920	27,499	267,911,443	489,305,894	757,217,337	64.62	97.49
Percentage								
World Total	14,840	14,951	29,791	276,166,653	500,564,528	776,731,181	64.45	100.00
Percentage								

Notes:

(1) Vessels of 1,000 GRT and above, excluding the United States Reserve Fleet and the United States and Canada Great Lakes fleet.

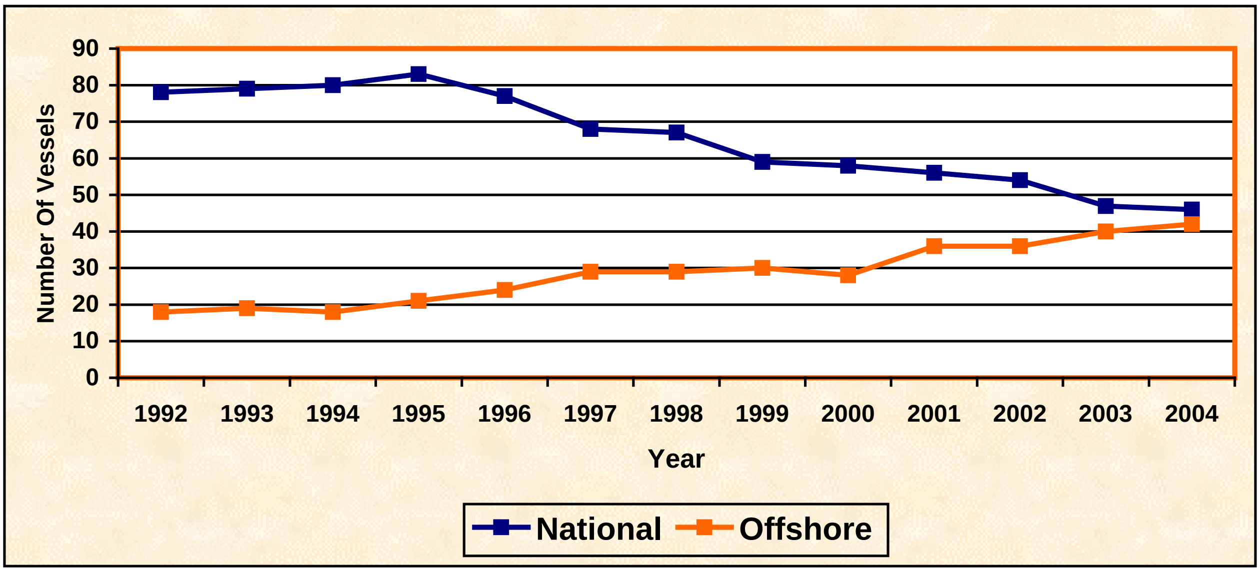
(2) The country of domicile indicates where the controlling interest of the fleet is located, in terms of the parent company. In several cases, this has required certain judgements to be made. Thus, for instance, Greece is shown as the country of domicile with respect to vessels owned by a Greek owner with representative offices in New York, London and Piraeus although the owner may be domiciled in the United States.

(3) Including vessels flying the national flag but registered in territorial dependencies or associated self-governing territories. For the United Kingdom, British flag vessels are included under the national flag, except for Bermuda.

Source:

1. Lloyd's Maritime Information Services Ltd (London).

FIGURE 14: NATIONAL VS OFFSHORE REGISTRATION FOR AUSTRALIAN CONTROLLED VESSELS (NUMBER)



Source:
Table A-12.

4. CONTRIBUTION TO THE CURRENT ACCOUNT, INTERNATIONAL AND TRANSPORT EARNINGS

Key Points

Total transport earnings generated from Australia's external trade grew by $0.2 billion or 1.7 per cent, to $14.1 billion in 2003/04. Earnings from shipping services totalled $12.2 billion or 86.4 per cent of total earnings in 2003/04, a 2.1 per cent increase compared with the previous year.

The positive contribution of Australian shipping to the Nation's net services increased by $3 million to $216 million in 2003/04. At the same time, foreign shipping contributed $3.6 billion to Australia's net services *deficit* or 7.6 per cent of Australia's current account deficit.

The purpose of Chapter 4 is to detail the contribution of the Australian trading fleet to:

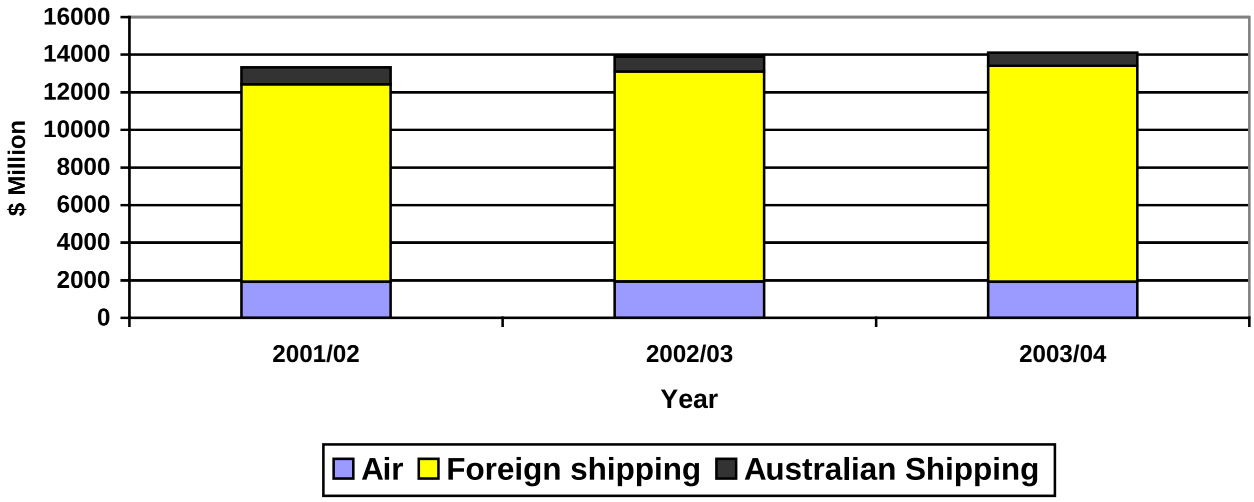
- international transport earnings;
- the current account.

4.1 EXPORT AND IMPORT EARNINGS

Total transport earnings arising from Australia's external trade grew by $0.2 billion or 1.7 per cent, to $14.1 billion in 2003/04. Earnings from shipping services equated to $12.2 billion an increase of 2.1 per cent compared with the previous year.

Earnings from Australian resident ship operators declined by $67 million (or 8.7 per cent) to $706.0 million in 2003/04, reducing the Australian shipping share of shipping earnings from to 6.5 per cent in 2002/03 to 5.8 per cent in 2003/04. **Figure 15** illustrates Australia's transport earnings on foreign trade by mode and residency.

FIGURE 15: TRANSPORT EARNINGS ($ MILLION)



Source:
Table A-13.

4.2 THE CURRENT ACCOUNT

The impact of international shipping on Australia's current account is measured by the industry's contribution to:

(a) the balance on merchandise;

(b) the balance on services;

(c) net income.

4.2.1 Merchandise

The net contribution of shipping to the balance on merchandise equated to $5 million in 2003/04 compared with $1 million in the previous year. **Table 6** quantifies the impact of Australian shipping on the merchandise trade deficit, during the past three years.

TABLE 6: IMPACT OF INTERNATIONAL TRANSPORT ON THE MERCHANDISE COMPONENT OF THE CURRENT ACCOUNT ($ MILLION)

	2001/02			2002/03			2003/04 (p)		
	CREDIT	*DEBIT (IMPORT)*	*BALANCE*	*CREDIT*	*DEBIT (IMPORT)*	*BALANCE*	*CREDIT*	*DEBIT (IMPORT)*	*BALANCE*
- SHIPPING (1)	100	-4	96	11	-9	1	5	- -	5
GOODS									
- IMPORTS		-121,942	-852		-134,278	-18,353		-132,878	-23,688
- EXPORTS	121,090			115,925			109,190		

Notes:

(1) Includes vessels and other floating structures for breaking up, vessels for transporting goods, tankers, vessels for the transport of both goods and persons and refrigerated vessels of an FOB value of AUD 0.75 million or greater.

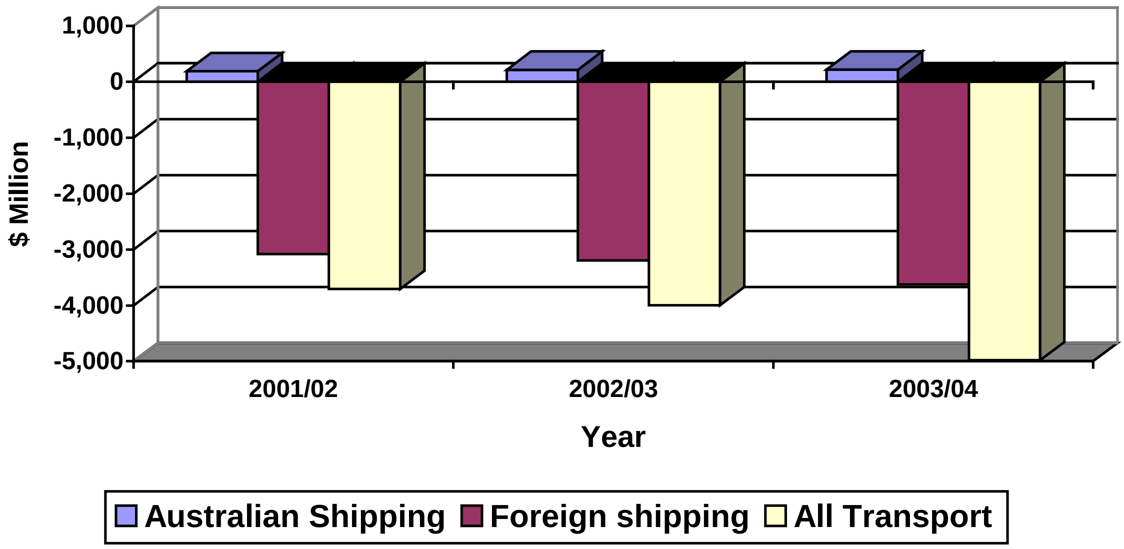
(p) Preliminary. No commodity details for some categories of vessel exports (from 2003 onwards) due to confidentiality requirements imposed upon Customs by exporters.

Sources:
ABS, Balance of Payments And International Investment Position, Australia Cat. No. 5302.
ABS (2005), pers. comm.

4.2.2 Net Services

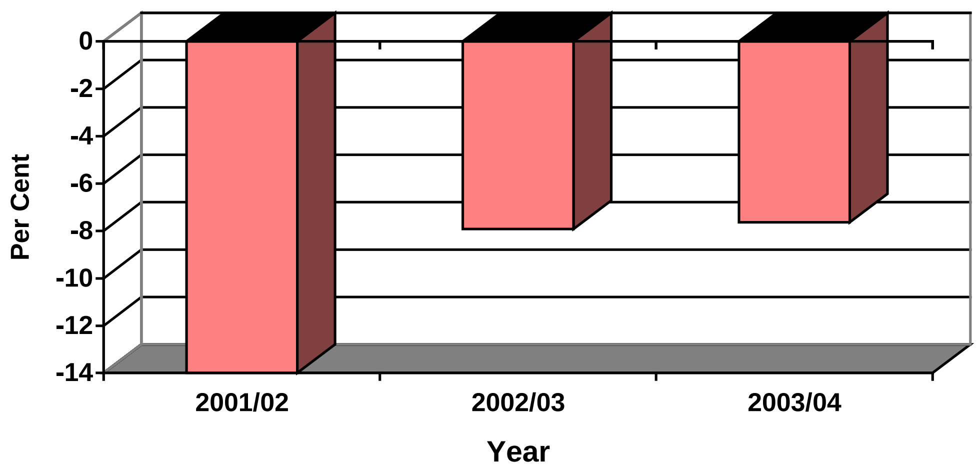
The net annual shipping services deficit increased by $423.0 million (or 14.2 per cent) to $3.4 billion in 2003/04. The annual (positive) contribution from Australian shipping to net services grew marginally from $213 million in 2002/03 to $216 million in 2003/04. At the same time, the contribution from foreign shipping to the Australian net services *deficit* grew by $426 million or 13.3 per cent to $3.6 billion, constituting 7.6 per cent of the current account deficit. **Figures 16 and Figure 17** outline the impact of transport on net services and the significance of foreign shipping to the current account deficit.

FIGURE 16: IMPACT OF INTERNATIONAL SHIPPING ON NET SERVICES ($ MILLION)



Source:
Table A-14.

FIGURE 17: CONTRIBUTION OF FOREIGN SHIPPING TO THE BALANCE ON CURRENT ACCOUNT (PER CENT ON DEFICIT)

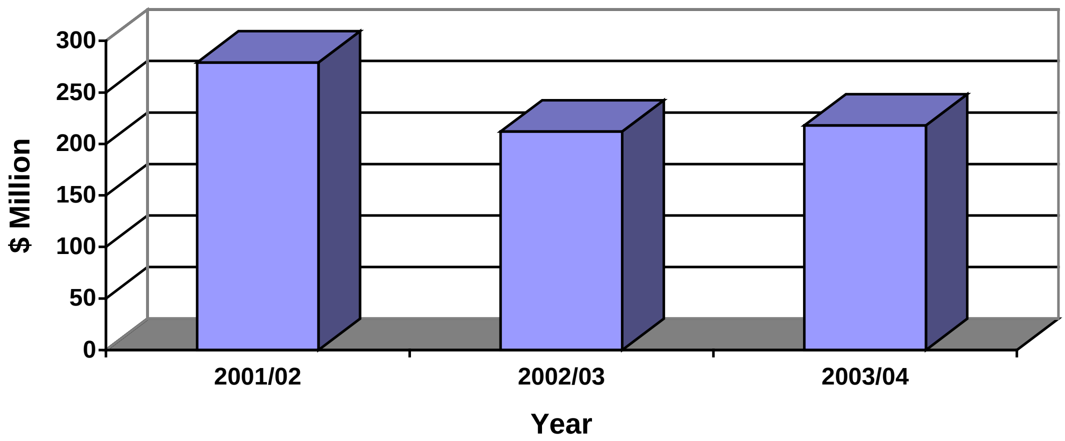


Source:
Tables A-14 and A-15.

4.2.3 Net Income
The net income deficit (predominantly interest payable on foreign debt) arising from enterprises involved in water transport was maintained at $3 million in 2003/04.

4.2.4 Australian Shipping And The Current Account
The contribution of Australian shipping to the current account increased by $6.0 million or 2.8 per cent to $218 million in 2003/04. **Figure 18** illustrates the impact of Australian shipping on the current account.

FIGURE 18: IMPACT OF AUSTRALIAN SHIPPING ON THE CURRENT ACCOUNT ($ MILLION)



Source:
Table A-15.

5. THE USE OF SINGLE AND CONTINUING VOYAGE PERMITS

Key Points

The number of SVPs issued to foreign shipping totalled 725 in 2003/04, a decline of 12 permits compared with the previous year. During the same period, the CVPs (either moved or committed to be moved) increased by 37.6 per cent to 139 permits.

Foreign vessels were permitted to carry 27.5 per cent of the Australian interstate and intrastate sea freight trade in 2003/04.

Chapter 5 details the use of single voyage permits (SVPs) and continuing voyage permits (CVPs) in Australia from 1991/92. The chapter examines the number of permits issued, the tonnes carried and the nature of the maritime task undertaken by vessels issued with SVPs and CVPs since 1991/92.

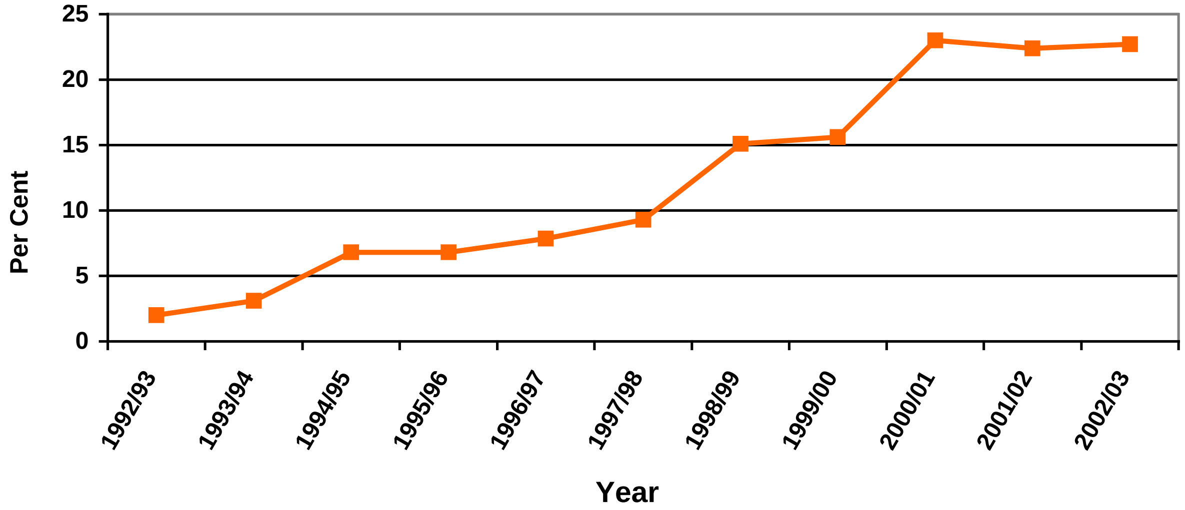
5.1 OVERVIEW

The number of SVPs issued in 2003/04 totalled 725, a decline of 12 permits compared with the previous year. During the same period, the number of CVPs (either for cargo moved or cargo committed to be moved) grew by 37.6 per cent to 139 permits. Since 1991/92 the number of SVPs and CVPs issued has grown by 325.6 per cent.

Cargo permitted to be carried by vessels issued with SVPs and CVPs rose by 2.5 million tonnes to 14.5 million tonnes in 2003/04, primarily due to a 33.5 per cent and 17.9 per cent increase in the tonnes carried by petroleum product and dry bulk vessels. The cargo carried per permit issued increased by 17.4 per cent in 2003/04 to 16,736 tonnes.

Foreign vessels were permitted to carry 27.5 per cent of the Australian interstate and intrastate sea freight trade in 2003/04 compared with 22.8 per cent in 2002/03. **Figure 19** illustrates the proportion of the domestic shipping trade undertaken by vessels issued with SVPs and CVPs.

FIGURE 19: PROPORTION OF THE INTERSTATE AND INTRASTATE SEA FREIGHT TRADE UNDERTAKEN BY VESSELS ISSUED WITH SVPS AND CVPS (PER CENT)



Sources:
Tables A-7, A-16 and A-17.

5.2 CARGO CARRIED BY VOYAGE PERMITS

Table 7 details the major cargoes attributable to vessels issued with SVPs and CVPs. A review of the table suggests that the:

- petroleum products constitute a growing share of the demand for SVPs and CVPs (in terms of tonnes) generating 26.2 per cent of permit cargoes in 2003/04 compared with 23.8 per cent in the previous year;
- shipment of dry bulk cargoes by foreign vessels on the Australian coast increased by 1.1 million tonnes or 17.9 per cent in 2003/04;
- general, containerised and break bulk cargoes by vessels issued with SVPs and CVPs increased by 0.7 million tonnes or 28.9 per cent in 2003/04 to 3.2 million tonnes;
- the permitted carriage of other liquid bulk products declined by 61.2 per cent in 2003/04, relative to the previous year.

TABLE 7: SVPS AND CVPS ISSUED BY CARGO TYPE

(A) SVPs

Cargo Type	1998/99			1999/00			2000/01			2001/02			2002/03			2003/04		
	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit
Petroleum Products	1,618,455	70	23,121	2,035,099	103	19,758	1,622,505	75	21,633	2,708,670	94	28,816	2,836,699	85	33,373	3,788,019	106	35,736
Crude Oil & Feedstocks	1,493,317	36	41,481	1,444,200	31	46,587	1,612,847	46	35,062	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Liquefied Gas	111,560	27	4,132	129,110	37	3,489	94,450	52	1,816	111,950	61	1,835	187,445	75	2,499	155,035	75	2,067
Other Liquid Bulk	68,790	20	3,440	108,280	17	6,369	119,960	26	4,614	347,670	38	9,149	346,071	48	7,210	134,307	26	5,166
Dry Bulk	2,852,400	72	39,617	2,959,252	126	23,486	6,001,180	163	36,817	5,635,595	218	25,851	6,075,403	221	27,491	7,163,563	226	31,697
General Cargo	738,548	479	1,542	659,644	315	2,094	660,170	280	2,358	808,736	253	3,197	337,534	308	1,096	417,218	292	1,429
- Containerised	708,306	447	1,585	631,845	271	2,332	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- Break Bulk	30,242	32	945	27,799	44	632	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	6,883,070	704	9,777	7,335,585	629	11,662	10,111,112	642	15,749	9,612,621	664	14,477	9,783,152	737	13,274	11,658,142	725	16,080

(B) CVPs

Cargo Type	1998/99			1999/00			2000/01			2001/02			2002/03			2003/04		
	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit
Petroleum Products	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Crude Oil & Feedstocks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Liquefied Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Liquid Bulk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dry Bulk	56,700	2	28,350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General Cargo	344,543	39	8,834	688,000	73	9,425	1,872,992	116	16,146	2,039,054	87	23,437	2,160,774	101	21,394	2,801,772	139	20,157
- Containerised	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
- Break Bulk	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	401,243	41	9,786	688,000	73	9,425	1,872,992	116	16,146	2,039,054	87	23,437	2,160,774	101	21,394	2,801,772	139	20,157

(C) TOTAL

Cargo Type	1998/99			1999/00			2000/01			2001/02				2002/03				2003/04		
	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	GWT	No. of Permits	Tonnes Per Permit	Actual Tonnes	GWT	No. of Permits	Tonnes Per Permit	Actual Tonnes	GWT	No. of Permits	Tonnes Per Permit
Petroleum Products	1,618,455	70	23,121	2,035,099	103	19,758	1,622,505	75	21,633	2,708,670	94	28,816]		2,836,699	85	33,373		3,788,019	106	35,736
Crude Oil & Feedstocks	1,493,317	36	41,481	1,444,200	31	46,587	1,612,847	46	35,062	n.a.	n.a.	n.a.]		n.a.	n.a.	n.a.		n.a.	n.a.	n.a.
Liquefied Gas	111,560	27	4,132	129,110	37	3,489	94,450	52	1,816	111,950	61	1,835]		187,445	75	2,499		155,035	75	2,067
Other Liquid Bulk	68,790	20	3,440	108,280	17	6,369	119,960	26	4,614	347,670	38	9,149]	3,013,168	346,071	48	7,210	3,013,168	134,307	26	5,166
Dry Bulk	2,909,100	74	39,312	2,959,252	126	23,486	6,001,180	163	36,817	5,635,595	218	25,851	5,554,959	6,075,403	221	27,491	5,554,959	7,163,563	226	31,697
General Cargo	1,083,091	518	2,091	1,347,644	388	3,473	2,533,162	396	6,397	2,847,790	340	8,376		2,498,308	409	6,108		3,218,990	431	7,469
- Containerised	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	262,345	n.a.	n.a.	n.a.	262,345	n.a.	n.a.	n.a.
- Break Bulk	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	512,747	n.a.	n.a.	n.a.	512,747	n.a.	n.a.	n.a.
Total	7,284,313	745	9,778	8,023,585	702	11,430	11,984,104	758	15,810	11,651,675	751	15,515	9,343,219	11,943,926	838	14,253	9,343,219	14,459,914	864	16,736

Table 7

Note:
(1) Assumed to include Crude Oil and Feedstocks.

Other Notes:
- nil or negligible.
n.a. not available.

Source:
BTE (2005), pers. comm.
Transport and Regional Services (2005), pers. comm.

6. FUEL CONSUMED AND EMISSIONS

Key Points

Intrastate and interstate shipping undertook 28.2 per cent of the Australian long haul (non-urban) freight task but consumed only 8.7 per cent of the associated energy and generated only 8.1 per cent of greenhouse gas emissions (all regions).

Despite an increase in the coastal shipping task, energy consumed by intrastate and interstate shipping declined by 0.4 PJ in 2002/03. Australian domestic shipping is now 4.7 times and 1.6 times more efficient than articulated trucks and hire and reward freight rail, respectively in undertaking the non-urban domestic freight task.

Intrastate and interstate shipping industry gave rise to 8.1 per cent of greenhouse gas emissions in 2002/03, compared with 80.2 per cent for road freight transport and 11.7 per cent for rail freight transport.

Continued productivity enhancements are expected to result in a reduction in the annual direct fuel expended by interstate and intrastate shipping of 3.1 PJ or 14.3 per cent by 2012/13.

The purpose of Chapter 6 is to:

- identify the energy consumed and the emissions generated by domestic shipping;
- assess the relative energy and emission intensity of domestic shipping;
- forecast the likely demand for transport fuels and the emissions generated by domestic shipping.

6.1 ENERGY CONSUMED BY DOMESTIC SHIPPING

Domestic bunkers uplifted in Australia by coastal shipping increased by 3.1 PJ (FFC) or 22.7 per cent to 17.0 PJ in 2002/03. However, total energy required to undertake the interstate and intrastate trades declined by 0.4 PJ (FFC) or 1.8 per cent to 24.1 PJ (FFC). Overall, coastal shipping consumed 8.7 per cent of the energy expended in undertaking the Australian long haul (non-urban) freight task.

Continued productivity enhancements are expected to result in a reduction in the annual direct fuel expended by interstate and intrastate shipping of 3.1 PJ or 14.3 per cent by 2012/13 (Apelbaum Consulting Group, 2005).

6.2 EMISSIONS GENERATED BY DOMESTIC SHIPPING

CO_2 equivalent emissions from domestic shipping declined by of 33.6 million tonnes or 1.8 per cent in 2002/03 compared with the previous year. Projections of greenhouse gas emissions suggest that annual CO_2 equivalent emissions may reduce by 13.3 per cent or 241,004 tonnes by 2012/13 (Apelbaum Consulting Group, 2005).

6.3 ENERGY INTENSITY

In the movement of domestic long haul freight, ancillary rail (0.09 MJ-FFC/tonne kilometre) and coastal shipping (0.2 MJ-FFC/tonne kilometre)) continue to be the most energy efficient modes followed by hire and reward rail (0.31 MJ-FFC/tonne kilometre), articulated trucks (0.93 MJ-FFC/tonne kilometre)), pipelines (1.03 MJ-FFC/tonne kilometre), and rigid trucks (2.0 MJ-FFC/tonne kilometre) (Apelbaum Consulting Group, 2005).

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACG	Apelbaum Consulting Group Pty Ltd
ASA	Australian Shipowners Association
AUD	Australian Dollar
CO_2	Carbon Dioxide
CPI	Consumer Price Index
CVP	Continuing Voyage Permit
DOT	Department of Transport
DWT	Deadweight Tonnes
EU	European Union
FFC	Full Fuel Cycle
GRT	Gross Registered Tonnes
GWT	Gross Weight Tonnes
IMF	International Monetary Fund
MJ	Megajoule
mt	million tonnes
n.a.	not available
OECD	Organisation For Economic Co-operation And Development
pers. comm.	personal communication
PJ	Petajoule
SVP	Single Voyage Permit
Tonne-Km	Tonne-Kilometres
T-Miles	Tonne-Miles
UNCTAD	United Nations Conference On Trade And Development
US	United States

APPENDIX A: SUMMARY TABLES

TABLE A-1: WORLD SEABORNE TRADE (1) (MILLION GROSS WEIGHT TONNES)

TRADE	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
TANKER						
CRUDE OIL	1,581	1,577	1,665	1,678	1,629	1,686
OIL PRODUCTS	503	496	498	497	500	517
SUB TOTAL	2,084	2,073	2,163	2,175	2,129	2,203
DRY BULK	3,532	3,593	3,709	3,717	3,819	3,965
TOTAL	5,616	5,666	5,872	5,891	5,948	6,168
AUSTRALIAN CONTRIBUTION	479	488	519	550	565	603
% ANNUAL GROWTH IN WORLD TRADE	13.7	0.9	3.6	0.3	1.0	3.7
% ANNUAL GROWTH IN AUSTRALIAN TRADE	18.5	2.0	6.3	6.0	2.6	6.8
% AUSTRALIAN CONTRIBUTION	8.5	8.6	8.8	9.3	9.5	9.8

Note:
1. Cargo loaded.

Source:
UNCTAD, various.

TABLE A-2: AUSTRALIA'S SEABORNE TASK BY SHIP TYPE - IMPORTS

	2001/02					2002/03					2003/04				
SHIP TYPE	GWT		VALUE		UNIT VALUE	GWT		VALUE		UNIT VALUE	GWT		VALUE		UNIT VALUE
	'000 T	*%*	*$m*	*%*	*$/GWT*	*'000 T*	*%*	*$m*	*%*	*$/GWT*	*'000 T*	*%*	*$m*	*%*	*$/GWT*
Liner	14024	24.18%	n.a.	n.a.	n.a.	16,531	26.43%	74,158	78.10%	4,486.02	18,046	28.12%	76,276	81.61%	4,226.84
Tramps, Bulkships and Tankers	43986	75.82%	n.a.	n.a.	n.a.	46,018	73.57%	20,789	21.90%	451.76	46,136	71.88%	17,192	18.39%	372.63
Total	58010	100.00%	85,235	100.00%	1,469.32	62,549	100.00%	94,947	100.00%	1,517.97	64,182	100.00%	93,467	100.00%	1,456.28

n.a. not available.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005), pers. comm.

TABLE A-3: AUSTRALIA'S SEABORNE TASK BY SHIP TYPE - EXPORTS

	2001/02					2002/03					2003/04				
SHIP TYPE	GWT		VALUE		UNIT VALUE	GWT		VALUE		UNIT VALUE	GWT		VALUE		UNIT VALUE
	'000 T	%	$m	%	$/GWT	'000 T	%	$m	%	$/GWT	'000 T	%	$m	%	$/GWT
Liner	27,632	5.45%	n.a.	n.a.	n.a.	30,537	5.65%	43,543	46.61%	1,425.90	20,768	3.72%	43,648	48.88%	2,101.69
Tramps, Bulkships and Tankers	479,004	94.55%	n.a.	n.a.	n.a.	510,155	94.35%	49,886	53.39%	97.79	537,528	96.28%	45,656	51.12%	84.94
Total	506,636	100.00%	99,355	100.00%	200.43	540,692	100.00%	93,429	100.00%	172.79	558,296	100.00%	89,303	100.00%	159.96

n.a. not available.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005), pers. comm.

TABLE A-4: AUSTRALIA'S SEABORNE TASK BY SHIP TYPE - TOTAL

SHIP TYPE	2001/02 GWT		2001/02 VALUE		2001/02 UNIT VALUE	2002/03 GWT		2002/03 VALUE		2002/03 UNIT VALUE	2003/04 GWT		2003/04 VALUE		2003/04 UNIT VALUE
	'000 T	%	$m	%	$/GWT	'000 T	%	$m	%	$/GWT	'000 T	%	$m	%	$/GWT
Liner	41,656	7.38%	n.a.	n.a.	n.a.	47,068	7.80%	117,701	62.48%	2,500.66	38,813	6.24%	119,923	65.61%	3,089.74
Tramps, Bulkships and Tankers	522,990	92.62%	n.a.	n.a.	n.a.	556,173	92.20%	70,675	37.52%	127.07	583,664	93.76%	62,847	34.39%	107.68
Total	564,646	100.00%	184,719	100.00%	327.14	603,241	100.00%	188,376	100.00%	312.27	622,478	100.00%	182,771	100.00%	293.62

n.a. not available.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005), pers. comm.

TABLE A-5: OUTLOOK FOR TONNES CARRIED BY INTERNATIONAL SHIPPING (MILLION TONNES)

Year Ending June	Actual Imports	Forecast Imports	Actual Exports	Forecast Exports	Actual Total	Forecast Total
1988	26.73	26.78	268.08	267.44	294.81	294.23
1991	32.22	32.07	304.26	303.24	336.48	335.31
1995	45.93	43.87	362.40	372.59	408.33	416.46
1998	51.72	52.28	427.06	416.04	478.78	468.33
2001	54.42	56.25	495.16	505.81	549.58	562.06
2002	58.02	58.57	506.67	517.14	564.69	575.71
2003	62.56	61.28	540.69	518.84	603.24	580.13
2004		64.79		526.93		591.72
2005		66.68		559.56		626.24
2006		67.97		587.13		655.10
2007		69.47		621.09		690.56
2008		71.35		638.53		709.89
2009		75.00		634.08		709.09
2010		77.13		657.09		734.23
2011		79.40		681.54		760.94
2012		81.91		707.54		789.46
2013		84.42		735.24		819.66

Note:
Numbers may not add due to rounding.

Sources:
Apelbaum Consulting Group estimates.
Apelbaum Consulting Group (2004).

TABLE A-6: AUSTRALIA'S SEABORNE TASK BY FLAG

	IMPORTS				EXPORTS				TOTAL			
	2000/01	2001/02	2002/03	2003/04	2000/01	2001/02	2002/03	2003/04	2000/01	2001/02	2002/03	2003/04
AUSTRALIAN												
GWT('000)	1,420.55	1,319.47	820.82	702.21	7,123.70	6,752.12	6111.80	6131.48	8,544.25	8,071.60	6,932.63	6,833.69
% MARKET SHARE	2.61	2.27	1.31	1.09	1.44	1.33	1.13	1.10	1.55	1.43	1.15	1.10
FOREIGN												
GWT('000)	52,987.34	56,690.54	61,727.96	63,479.79	488,590.26	499,883.93	534,579.83	552,164.33	541,577.60	556,574.46	596,307.79	615,644.12
% MARKET SHARE	97.39	97.73	98.69	98.91	98.56	98.67	98.87	98.90	98.45	98.57	98.85	98.90
TOTAL												
GWT('000)	54,407.89	58,010.01	62,548.78	64,182.00	495,713.96	506,636.05	540,691.63	558,295.81	550,121.84	564,646.06	603,240.42	622,477.80
% MARKET SHARE	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Numbers may not add due to rounding.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005), pers. comm.

TABLE A-7: INTERSTATE AND INTRASTATE SEA FREIGHT BY PACK, AUSTRALIA (MILLION TONNES)

PACK TYPE	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
DRY BULK	28.05	30.49	28.79	29.38	31.13	29.78	31.02	29.25	32.02	30.73
LIQUID BULK	13.38	14.55	14.67	15.34	16.51	13.55	13.90	16.00	14.10	14.78
CONTAINER	1.26	1.74	1.86	2.42	2.06	3.04	4.10	3.01	3.12	4.14
NON BULK N. CONT	2.58	2.41	2.48	2.00	2.82	2.02	2.31	3.73	3.20	2.98
TOTAL	45.27	49.19	47.80	49.14	52.52	48.39	51.33	52.00	52.43	52.63
% ANNUAL GROWTH IN COASTAL FREIGHT	2.35	8.66	-2.83	2.82	6.87	-7.87	6.07	1.32	0.83	0.38
COASTAL DWT (1)	1,408,891	1,165,082	1,236,722	1,357,003	1,281,998	1,286,361	1,201,212	1,231,078	1,101,837	1,385,460
COASTAL FLEET SIZE (3)	51	46	46	45	45	45	41	43	43	45
PRODUCTIVITY (2) (TONNES/DWT)	31.13	39.33	36.03	33.37	37.16	31.95	36.05	32.51	37.01	29.37
PRODUCTIVITY (2) (TONNES/ VESSEL)	860,088	996,150	968,724	1,006,416	1,058,628	913,504	1,056,132	930,664	948,403	904,224

Notes:
(1) Major trading fleet 1000 dwt and over. Includes vessels undertaking occasional overseas voyages.
(2) Productivity of Australian interstate and intrastate sea freight vessels. Excludes cargo carried by vessels issued with SVPs or CVPs.
(3) Number of vessels.

Other Note:
n.a. not available.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005). pers. comm.

TABLE A-8: INTERSTATE AND INTRASTATE SEA FREIGHT BY COMMODITY, AUSTRALIA (MILLION TONNES)

COMMODITY TYPE	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
IRON ORE	7.0	8.1	8.4	8.8	8.3	8.2	8.6	6.8	6.7	6.5	6.6
BAUXITE/ALUMINA	9.9	9.6	10.2	9.6	10.1	10.3	9.9	12.1	11.6	11.6	11.7
CRUDE OIL	7.1	6.1	7.2	7.6	8.3	8.9	6.0	6.6	7.5	7.0	7.2
PETROLEUM PRODUCTS (1)	5.8	5.8	6.3	6.5	6.9	7.2	6.9	6.5	5.8	6.5	6.6
OTHER CARGO	14.5	15.6	17.1	15.3	15.6	18.0	17.0	19.2	20.3	20.9	20.5
TOTAL	44.2	45.3	49.2	47.8	49.2	52.6	48.4	51.3	52.0	52.4	52.6

Note:
(1) Excludes crude oil.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005). pers. comm.

TABLE A-9: INTERSTATE AND INTRASTATE SEA FREIGHT BY COMMODITY, AUSTRALIA (BILLION TONNE-KILOMETRES)

COMMODITY TYPE	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
IRON ORE	31.5	37.3	38.7	40.4	38.1	40.9	40.2	29.7	28.9	26.3	27.2
BAUXITE/ALUMINA	22.3	21.5	22.5	21.1	22.2	22.4	21.8	27.9	25.7	25.6	25.9
CRUDE OIL	14.6	10.7	13.2	16.3	18.8	21.6	14.1	17.1	15.2	20.5	19.5
PETROLEUM PRODUCTS (1)	9.1	9.2	10.3	9.7	12.9	11.1	10.8	9.6	9.3	9.4	10.4
OTHER CARGO	18.4	20.2	24.5	18.6	20.7	24.9	21.2	24.6	26.0	29.9	31.9
TOTAL	95.9	98.9	109.2	106.1	112.7	120.9	108.1	108.9	105.1	111.7	114.9
% ANNUAL GROWTH IN INTERSTATE AND INTRASTATE SEA FREIGHT	-3.6	3.1	10.4	-2.8	6.2	7.3	-10.6	0.7	-3.5	6.3	2.9

Note:
(1) Excludes crude oil.

Sources:
Apelbaum Consulting Group (2004).
BTRE (2005), pers. comm.

TABLE A-10: ACTUAL AND FORECASTS OF THE DOMESTIC FREIGHT TASK

Year Ending June	Coastal Freight (million tonnes)	Coastal Bulk Freight (billion t-km)
1985	42.73	97.26
1986	44.71	102.94
1987	44.45	97.37
1988	43.34	96.64
1989	43.04	93.79
1990	44.47	97.77
1991	44.20	96.48
1992	43.58	99.27
1993	44.23	97.93
1994	45.27	100.61
1995	49.19	111.97
1996	47.80	113.11
1997	49.15	116.48
1998	52.52	120.91
1999	48.39	107.67
2000	51.33	107.53
2001	52.00	105.16
2002	52.43	111.73
2003	52.63	114.94
2004	54.26	114.35
2005	55.28	116.78
2006	56.66	116.69
2007	58.08	119.46
2008	58.90	119.21
2009	58.97	118.99
2010	59.65	118.90
2011	60.46	119.04
2012	61.12	119.65
2013	61.88	120.51

Cargo loaded.
Values may differ to those in the historical series due to rounding.

Sources:
Apelbaum Consulting Group estimates.
Apelbaum Consulting Group (2004).

TABLE A-11: AVERAGE AGE OF THE WORLD AND AUSTRALIAN FLEETS (YEARS)

Fleet	Year													
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
World Fleet (1)	14.1	14.3	14.9	15.1	15.0	15.0	14.9	14.8	14.5	14.1	13.9	13.9	12.6	12.5
Open Registry Countries (1)	15.1	15.5	15.9	15.9	15.8	15.5	14.7	14.5	14.3	13.7	13.5	13.3	12.1	11.9
Australian Fleet	8.2	8.8	9.2	10.0	10.9	11.5	11.8	11.9	12.7	14.0	15.2	15.3	16.0	16.4

Note:
(1) As at 31 December of the previous year, except for the 2000 data which was as at 1 January that year.

Sources:
Apelbaum Consulting Group (2004).
UNCTAD, "Review of Maritime Transport", various.

TABLE A-12: NATIONAL VS FOREIGN FLAG VESSELS FOR AUSTRALIA

Attribute	Year (1)												
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Number of vessels													
- National (2)	78	79	80	83	77	68	67	59	58	56	54	47	46
- Foreign	18	19	18	21	24	29	29	30	28	36	36	40	42
- Total	96	98	98	104	101	97	96	89	86	92	90	87	88
- % foreign	18.8%	19.4%	18.4%	20.2%	23.8%	29.9%	30.2%	33.7%	32.6%	39.1%	40.0%	46.0%	47.7%
Deadweight Tonnes													
- National (2)	2,535,225	2,784,351	2,910,008	3,170,397	3,111,419	2,807,519	2,744,238	2,306,897	2,065,838	1,726,688	1,618,721	1,428,901	1,383,636
- Foreign	325,954	243,264	248,848	275,497	301,701	479,388	492,672	1,083,858	1,104,147	1,551,017	1,337,051	1,409,743	1,455,419
- Total	2,861,179	3,027,615	3,158,856	3,445,894	3,413,120	3,286,907	3,236,910	3,390,755	3,169,985	3,277,705	2,955,772	2,838,644	2,839,055
- % foreign	11.4%	8.0%	7.9%	8.0%	8.8%	14.6%	15.2%	32.0%	34.8%	47.3%	45.2%	49.7%	51.3%

Notes:
(1) As at 31 December of the previous year, except for the 2000 data which was at January 1 that year.
(2) Differs from Table 1 due to differences in the definition of the national fleet.

Source:
UNCTAD, "Review of Maritime Transport", various.

TABLE A-13: TOTAL TRANSPORT EARNINGS ON AUSTRALIA'S EXPORTS AND IMPORTS ($A MILLION)

OPERATOR	2001/02	2002/03	2003/04
AUSTRALIAN RESIDENT OPERATORS			
FREIGHT ON EXPORTS			
SHIPPING	722	645	577
AIRLINES	279	275	253
TOTAL	1001	920	830
FREIGHT ON IMPORTS			
SHIPPING	178	128	129
AIRLINES	304	300	276
TOTAL	482	428	405
FOREIGN OPERATORS			
FREIGHT ON EXPORTS			
SHIPPING	5950	6462	6580
AIRLINES	268	264	244
TOTAL	6218	6726	6824
FREIGHT ON IMPORTS			
SHIPPING	4551	4698	4899
AIRLINES	1075	1110	1157
OTHER TRANSPORT SERVICES	- -	- -	- -
TOTAL	5626	5808	6056
TOTAL FREIGHT EARNINGS			
SHIPPING	11401	11933	12186
AIRLINES	1926	1949	1930
OTHER TRANSPORT SERVICES	- -	- -	- -
TOTAL	13327	13882	14115

- - nil or negligible.
Australian resident shipping freight on imports and foreign operators freight on exports estimated by ACG Pty Ltd.

Sources:
ABS (2005), pers. comm.
Apelbaum Consulting Group estimates.

TABLE A-14: IMPACT OF INTERNATIONAL SHIPPING AND AIRLINES ON NET SERVICES (SHIPMENT & OTHER TRANSPORT SERVICES) ON THE CURRENT ACCOUNT (AUD MILLION)

OPERATOR	2001/02			2002/03			2003/04		
	CREDIT	DEBIT	BALANCE	CREDIT	DEBIT	BALANCE	CREDIT	DEBIT	BALANCE
SHIPPING									
AUSTRALIAN	996	-810	186	913	-700	213	855	-639	216
FOREIGN	1555	-4635	-3080	1586	-4783	-3197	1369	-4992	-3623
TOTAL	2551	-5445	-2894	2499	-5483	-2984	2224	-5631	-3407
AIRLINES									
AUSTRALIAN	4115	-1943	2172	4039	-2012	2027	4159	-1795	2364
FOREIGN	2238	-5222	-2984	2282	-5322	-3040	1970	-5907	-3937
TOTAL	6353	-7164	-811	6321	-7334	-1013	6129	-7701	-1572
ALL TRANSPORT									
AUSTRALIAN	5111	-2753	2358	4952	-2712	2240	5013	-2434	2580
FOREIGN	3793	-9857	-6064	3868	-10105	-6237	3339	-10899	-7560
TOTAL	8904	-12609	-3706	8820	-12817	-3997	8352	-13332	-4980

Source:
ABS (2005), pers. comm.

TABLE A-15: IMPACT OF THE AUSTRALIAN SHIPPING INDUSTRY ON THE CURRENT ACCOUNT ($ MILLION)

ITEM	2001/02	2002/03	2003/04
BALANCE ON GOODS AND SERVICES			
SHIPPING - AUSTRALIA	282	215	221
OTHER	-1,515	-18,854	-24,318
TOTAL	-1,233	-18,639	-24,097
NET INCOME			
SHIPPING - AUSTRALIA	-3	-3	-3
OTHER	-19,297	-21,466	-23,298
TOTAL	-19,300	-21,469	-23,301
CURRENT TRANSFERS			
SHIPPING - AUSTRALIA	- -	- -	- -
OTHER	-17	-214	-29
TOTAL	-17	-214	-29
BALANCE ON CURRENT ACCOUNT			
SHIPPING - AUSTRALIA	279	212	218
OTHER	-20,829	-40,534	-47,645
TOTAL	-20,550	-40,322	-47,427

- - nil or rounded to zero.

Sources:
ABS, Balance Of Payments, Australia, Cat. No. 5302.0.
ABS, Foreign Trade Section, pers. comm.

TABLE A-16: SVPS ISSUED

YEAR	QUARTER	NUMBER OF PERMITS	TONNES
1991/92	July-September	34	422,161
1991/92	October-December	61	414,191
1991/92	January-March	49	243,049
1991/92	April-June	59	241,373
1992/93	July-September	62	238,017
1992/93	October-December	69	147,514
1992/93	January-March	83	211,430
1992/93	April-June	93	298,769
1993/94	July-September	108	202,252
1993/94	October-December	125	292,664
1993/94	January-March	119	412,029
1993/94	April-June	118	498,571
1994/95	July-September	110	899,222
1994/95	October-December	112	970,068
1994/95	January-March	114	832,308
1994/95	April-June	90	665,499
1995/96	July-September	91	1,077,032
1995/96	October-December	100	653,940
1995/96	January-March	107	575,662
1995/96	April-June	123	930,077
1996/97	July-September	142	1,026,438
1996/97	October-December	146	1,110,332
1996/97	January-March	135	661,784
1996/97	April-June	149	1,056,709
1997/98	July-September	197	1,307,362
1997/98	October-December	214	1,009,151
1997/98	January-March	184	1,266,030
1997/98	April-June	184	1,301,204
1998/99	July-September	186	1,584,240
1998/99	October-December	187	1,580,034
1998/99	January-March	144	1,336,882
1998/99	April-June	187	2,381,904

TABLE A-16 cont: SVPS ISSUED

YEAR	QUARTER	NUMBER OF PERMITS	TONNES
1999/00	July-September	168	1,799,908
1999/00	October-December	149	1,526,375
1999/00	January-March	143	1,677,346
1999/00	April-June	169	2,331,956
2000/01	July-September	152	2,253,359
2000/01	October-December	159	2,386,763
2000/01	January-March	165	2,648,970
2000/01	April-June	166	2,822,020
2001/02	July-September	171	2,225,858
2001/02	October-December	173	2,703,167
2001/02	January-March	158	2,222,037
2001/02	April-June	162	2,461,559
2002/03	July-September	208	2,520,518
2002/03	October-December	171	2,326,293
2002/03	January-March	147	2,261,016
2002/03	April-June	211	2,675,325
2003/04	July-September	198	2,737,477
2003/04	October-December	190	3,364,649
2003/04	January-March	160	2,634,825
2003/04	April-June	177	2,921,191

Sources:
Apelbaum Consulting Group (2004).
Department of Transport (2005), pers. comm.

TABLE A-17: CVPs ISSUED

YEAR	QUARTER	NUMBER OF PERMITS	TONNES
1998/99	July-September	3	35,820
1998/99	October-December	12	140,270
1998/99	January-March	4	53,400
1998/99	April-June	22	171,753
1999/00	Financial year	73	688,000 (1)
2000/01	Financial year	116	1,872,992
2001/02	Financial year	87	2,039,054
2002/03	July-September	21	226,180
2002/03	October-December	28	1,027,245
2002/03	January-March	13	313,750
2002/03	April-June	39	593,779
2003/04	July-September	37	643,679
2003/04	October-December	40	775,431
2003/04	January-March	34	724,200
2003/04	April-June	28	658,462

Note:
(1) Either moved or committed to be moved.

Sources:
Apelbaum Consulting Group (2004).
Department of Transport (2005), pers. comm.

TABLE A-18: MARKET SHARES IN THE MOVEMENT OF AUSTRALIA'S NON-URBAN DOMESTIC FREIGHT - BILLION TONNE-KILOMETRES

	Domestic Mode								Total
Year/Mode	Road		Rail		Sea		Air		
	b TKM	% share	b TKM	% share	b TKM	% share	b TKM	% share	b TKM
1984/85	49.43	22.37%	74.07	33.53%	97.26	44.02%	0.16	0.07%	220.92
1987/88	61.69	25.70%	81.57	33.98%	96.64	40.26%	0.16	0.07%	240.06
1990/91	74.46	28.35%	91.53	34.85%	96.48	36.74%	0.14	0.05%	262.61
1994/95	87.79	28.71%	105.79	34.60%	111.97	36.62%	0.21	0.07%	305.76
1997/98	94.59	27.81%	124.33	36.56%	120.91	35.55%	0.25	0.07%	340.08
2000/01	113.55	31.67%	139.57	38.93%	105.16	29.33%	0.25	0.07%	358.53
2001/02	124.22	32.14%	150.28	38.89%	111.73	28.91%	0.24	0.06%	386.47
2002/03	132.67	32.50%	160.45	39.30%	114.94	28.15%	0.21	0.05%	408.27

Source :
Apelbaum Consulting Group (2004).

TABLE A-19: MARKET SHARES IN THE MOVEMENT OF AUSTRALIA'S DOMESTIC FREIGHT - MILLION TONNES CARRIED

	Domestic Mode								Total
Year/Mode	Road		Rail		Sea		Air		
	m tonnes	% share	m tonnes	% share	m tonnes	% share	m tonnes	% share	b TKM
1984/85	1,001.03	73.38%	320.29	23.48%	42.73	3.13%	0.203	0.01%	1364.253
1987/88	1,114.69	74.22%	343.73	22.89%	43.34	2.89%	0.204	0.01%	1501.964
1990/91	1,246.19	74.65%	378.77	22.69%	44.20	2.65%	0.164	0.01%	1669.324
1994/95	1,378.68	74.55%	421.27	22.78%	49.19	2.66%	0.199	0.01%	1849.339
1997/98	1,616.38	74.79%	492.20	22.77%	52.52	2.43%	0.231	0.01%	2161.331
2000/01	1,805.59	74.88%	553.64	22.96%	52.00	2.16%	0.218	0.01%	2411.448
2001/02	1,893.92	75.24%	570.53	22.67%	52.43	2.08%	0.193	0.01%	2517.073
2002/03	1,942.85	74.85%	600.13	23.12%	52.63	2.03%	0.171	0.01%	2595.781

Source :
Apelbaum Consulting Group (2004).