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Technical Report

The Social and Economic Long Term Monitoring Program (SELTMP) 2014

Ports and Shipping in the Great Barrier Reef



Matt Curnock, Jason Parker, Nadine Marshall, Renae Tobin,
Samantha Stone-Jovicich, Erin Bohensky, Petina Pert,
Margaret Gooch and Jeremy Goldberg



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The Social and Economic Long Term Monitoring Program (SELTMP) 2014 Ports and Shipping in the Great Barrier Reef

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Australian Government

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2014

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

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Introduction

The Social and Economic Long Term Monitoring Program for the Great Barrier Reef (SELTMP) describes conditions and trends of the human dimension of the Great Barrier Reef (GBR) using both existing datasets (known as secondary data) and primary data. SELTMP was established in 2011 in response to Reef managers' and stakeholders' growing need for comprehensive social and economic data describing human activities and industries in the GBR, to enable the identification of socio-economic trends and drivers of change, and to assist with day-to-day management, planning and policy for the sustainable use of the Reef.

Long-term monitoring offers Reef managers, industries and communities the opportunity to understand the current status of GBR users, industries and communities, including those dependent on ecological components of the system. Long-term monitoring offers the opportunity to evaluate and plan for the future of each industry and community in the face of environmental and societal challenges, including climate change, environmental degradation, regulatory change, cultural and technological change. SELTMP provides the opportunity to evaluate the effectiveness of management interventions and to assess equity dimensions within the region. Long-term monitoring offers the best scientific approach for conceptualizing and assessing how people are prepared for change and adapt.

The success of a program such as the SELTMP can only occur with well-translated cutting-edge social and economic data and knowledge that directly feeds into current management processes. The science must be excellent, collaborative and must itself adapt as learnings from the monitoring datasets are developed. Hence, the SELTMP is governed by a Steering Committee and a Stakeholder and Scientific (S&S) Advisory Panel (See Figure 1). The design and working model for the SELTMP occurs through working groups. Each working group is led by a core team researcher and comprises members from industry, government and community. Some 100 individuals have so far been involved in Working Group processes to develop and implement SELTMP.

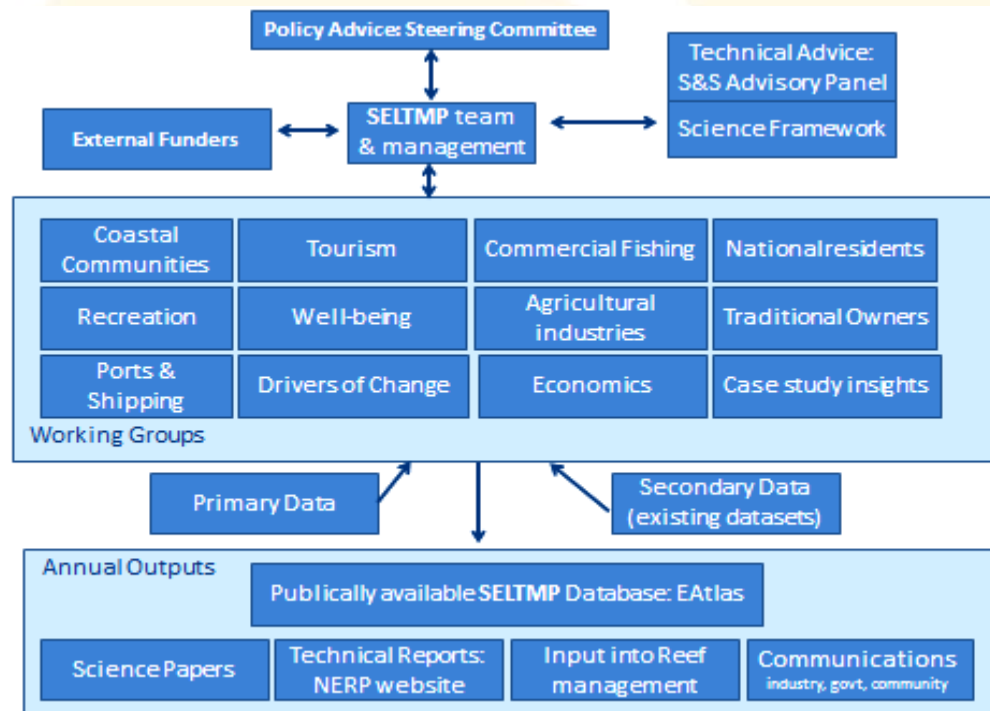


Figure 1. The operational structure of the SELTMP and its key outputs

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

Introduction (cont.)

SELTMP is strongly guided by both the scientific literature and by its end-users. The variables chosen to represent and monitor the human dimension through time were identified by working group members and by modifying and applying a well-known science framework (the 'Millennium Ecosystem Assessment' model). The resulting SELTMP framework provides a conceptual understanding of how the human dimension connects with the Great Barrier Reef. SELTMP represents one of the first monitoring programs in the world to comprehensively identify and measure the socio-economic components of a natural resource system that are increasingly needed for resource management.

Through monitoring existing regional datasets and undertaking survey work in the region, SELTMP provides annual snapshots of key communities and industry sectors associated with the Reef, including national residents, recreational users, marine tourism, commercial fishing and ports and shipping. SELTMP monitors human use of and dependency on the GBR, human and community well-being (as they relate to the GBR), as well as a range of socio-cultural drivers such as perceptions, values, attitudes and behaviours. We anticipate that SELTMP will collect new data annually.

Annual snapshots of the human dimensions of the Reef and learnings will be communicated via four main outputs:

- (i) **A web-based database.** Each year, the SELTMP web-based database will be updated to reflect the most up-to-date socio-economic data for the Reef and its catchment. Through web-based facilities, researchers will be able to access data for research purposes, industry will be able to use data to inform their planning and management, and Reef and regional managers will be able to better understand the complex social and economic environment within which they operate and use the data in their day-to-day decision-making processes. The current database, held with eAtlas contains survey results from over 8,000 individuals across each of the following user-groups: commercial fishers, tourism operators, tourists, local residents, and Australians.
- (ii) **Technical reports.** Each year a series of technical reports are published that provide the latest information on conditions for that year based on both primary and secondary data. SELTMP 2011 was the inaugural year in which the design and conceptual model were developed. It assembled and presented data from a range of existing sources relevant to people and industries in the GBR and catchment. SELTMP 2012 was refined in terms of its design and included updated secondary data. SELTMP 2013 was the first year in which data gaps were addressed with primary data collected to add to the secondary data. **This report represents Ports and Shipping in the GBR within the "SELTMP 2014 Technical Report Series" and includes a wide range of data, reproduced from existing datasets, as well as summary analyses of relevant SELTMP survey data.**
- (iii) **Science papers.** Human trends are analysed and communicated through peer-reviewed scientific literature, that showcase the science value and management application of SELTMP. As SELTMP is currently at the end of its design and implementation phase, there is so far limited longitudinal value. Science papers in the immediate term are drawn from the comprehensive baseline dataset for scientific and policy relevance.
- (iv) **Targeted communications for industry, government and community.** Key findings will be highlighted through media campaigns in which communication products such as 'key findings booklets', press-releases, popular media articles, seminars and conferences, will be developed. For sectoral specific outputs, we will consult and be advised by members of our sectoral working groups.

The SELTMP Framework for Describing the Reef Relationship

The framework chosen to guide the choice of indicators was based on the Millennium Ecosystem Assessment (2003, 2005), which established a 'big picture' conceptual overview of the relationship between people and natural resources for the purposes of assessing ecosystem condition. The Millennium Ecosystem Assessment conceptual framework was developed in consultation with over 2,000 scientists. It is based on the "DPSIR" model which focuses on drivers, pressures, states, impacts on and responses of systems. Human use and dependency, community wellbeing, and the direct and indirect drivers of change can influence the Great Barrier Reef ecosystem and its services at multiple spatial scales, from local to global. For more information on the SELTMP monitoring framework, please see the *SELTMP 2014 Key Findings Technical Report*, available via the NERP website.

i) Use and Dependency

How people use and depend on the GBR. Components include:

- Use of the Environment: Where, When, How, How Much
Activities (what, how, how much)
Spatial and temporal patterns of use (where and when)
- Social Relationship with the Environment: Who and Why
Cultural, spiritual and intellectual inspiration and experiences (place, identity, aesthetics, satisfaction)
- Economic Relationship with the Environment (What is the relationship like?):
Employment, value and investment

ii) Human and Community Well-being

Societal benefits derived from the environment. Components include:

- Security (e.g. for livelihoods and lifestyles)
- Opportunities (e.g. for access and development)
- Empowerment (e.g. in determining future outcomes)

iii) Drivers of Change

Includes direct and indirect drivers, including (but not limited to):

- Employability
- Environmental stewardship
- Information and Networks
- Sector-specific drivers

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Data Presented in this Report

This technical report presents a snapshot of socio-economic data and indicators relevant to the current state of ports and shipping in the Great Barrier Reef region. A wide range of secondary data and statistics are compiled from publicly available reports, showing patterns of port usage, shipping activities, imports and exports (including their economic value) and the management frameworks to control risks. Little interpretation is provided of these secondary data; however, sources are shown with links to online reports where available. In Part A, primary data are presented from SELTMP surveys conducted over mid-2013, showing community perceptions of ports and shipping in the GBR, and representing more than 8000 respondents from sectors including GBR coastal residents, tourists visiting the GBR region, commercial fishers and marine tourism operators in the GBR, and Australian residents nation-wide.

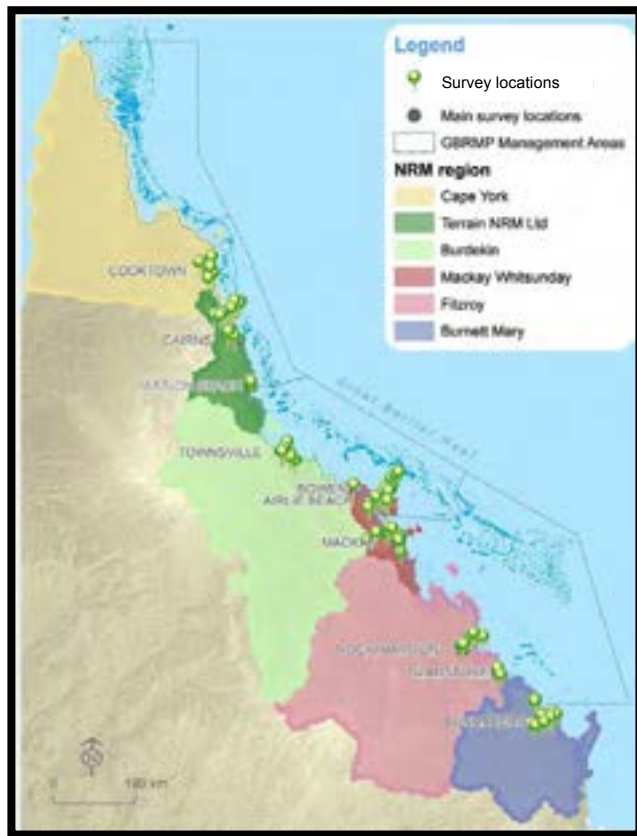


Figure 2: SELTMP 2013 survey locations

2013 SELTMP Survey – methods & response rate

Face-to-face interviews of GBR region coastal residents and tourists

Coastal residents and visitors to the GBR region (defined as the GBR catchment, bounded by Bundaberg in the south, Cape York in the north and the Great Dividing Range in the west) surveyed via face-to-face interviews, with responses to questions entered into an iPad, using the iSurvey application. For the purposes of this survey, tourists were defined as non-resident visitors to the GBR region. Surveys were conducted at locations in and around 14 coastal towns of the GBR region, from Cooktown to Bundaberg. Survey locations included public beaches, airports, boat ramps, jetties, shopping centres, caravan parks, markets and a limited number of Reef tourism vessels. Surveys were conducted in English only. In total, 3181 residents and 2877 tourists completed the survey, and the response rate for both samples was over 53%.

Telephone interviews of commercial fishers and tourism operators

Respondents were surveyed via telephone interview, with responses entered directly into the iPad app. Tourism operations were identified initially via a comprehensive web search, followed by snowball sampling once surveys had commenced. From 213 identified marine tourism businesses currently operating in the GBR region, 119 respondents completed the survey (response rate of 76% of operators able to be contacted). For commercial fishers, a total of 277 working licence holders were contacted of an estimated 611 individuals/businesses holding commercial fishing licences for the GBRMP. 210 fishers completed the survey (response rate of 76%).

Online survey of Australian residents

Online respondents were recruited from a research panel of 181,000 residents provided by an international market research provider (Pollinate). Panel recruitment adhered to specified quotas that are nationally representative of the Australian population, including age, gender, and location. Surveys were conducted in March 2013 (n=1000) and September 2013 (n=1002).

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PART A: SELTMP 2013 Survey Data: Community perceptions of ports and shipping in the GBR

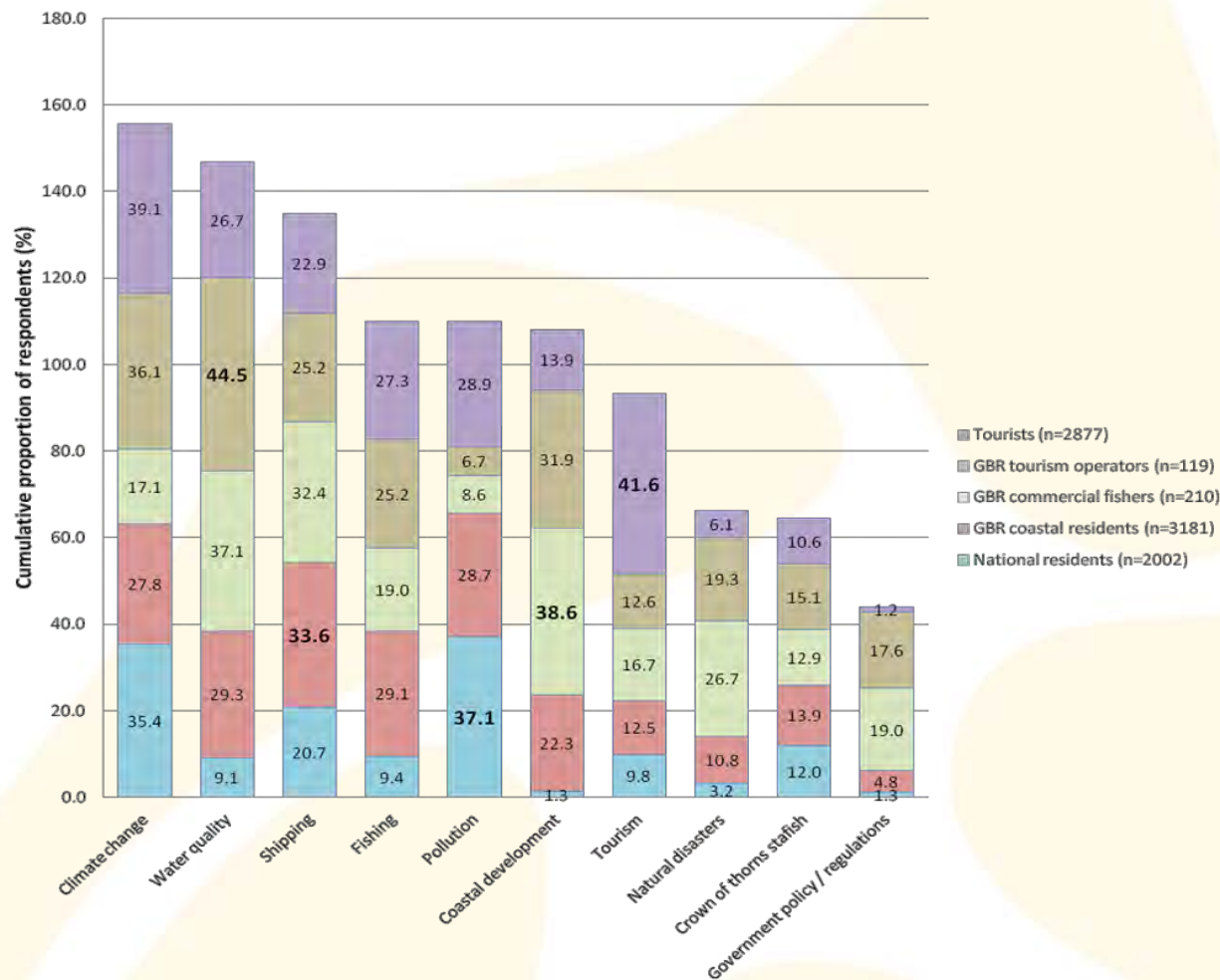


In 2013, SELTMP conducted face-to-face surveys with more than 6000 coastal residents and tourists in the Great Barrier Reef coastal region.

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PART A: SELTMP 2013 Survey Data: Community perceptions of ports and shipping in the GBR

Responses to the question “What do you think are the three (3) most serious threats to the Great Barrier Reef” included a substantial proportion from each survey group identifying ports and shipping as a serious threat to the Reef. Shipping was the most frequently identified threat among GBR coastal residents.



Coding of open-ended responses:

Responses in the pollution category included marine debris, beach litter and a range of other contributors; however, a substantial proportion could not be reduced to a specific type of pollution. The water quality category included agricultural as well as urban runoff, sediments and pesticides, while ‘coastal development’ encompassed port developments, dredging and other industrial activities. The climate change category included global warming, rising temperatures (sea and air) and sea level rise. Coral bleaching, while linked with sea surface temperatures, was coded separately, as was ocean acidification. The fishing category included all extractive activities, commercial and recreational, and ‘overfishing’ in general.

Different threats perceived by different groups:

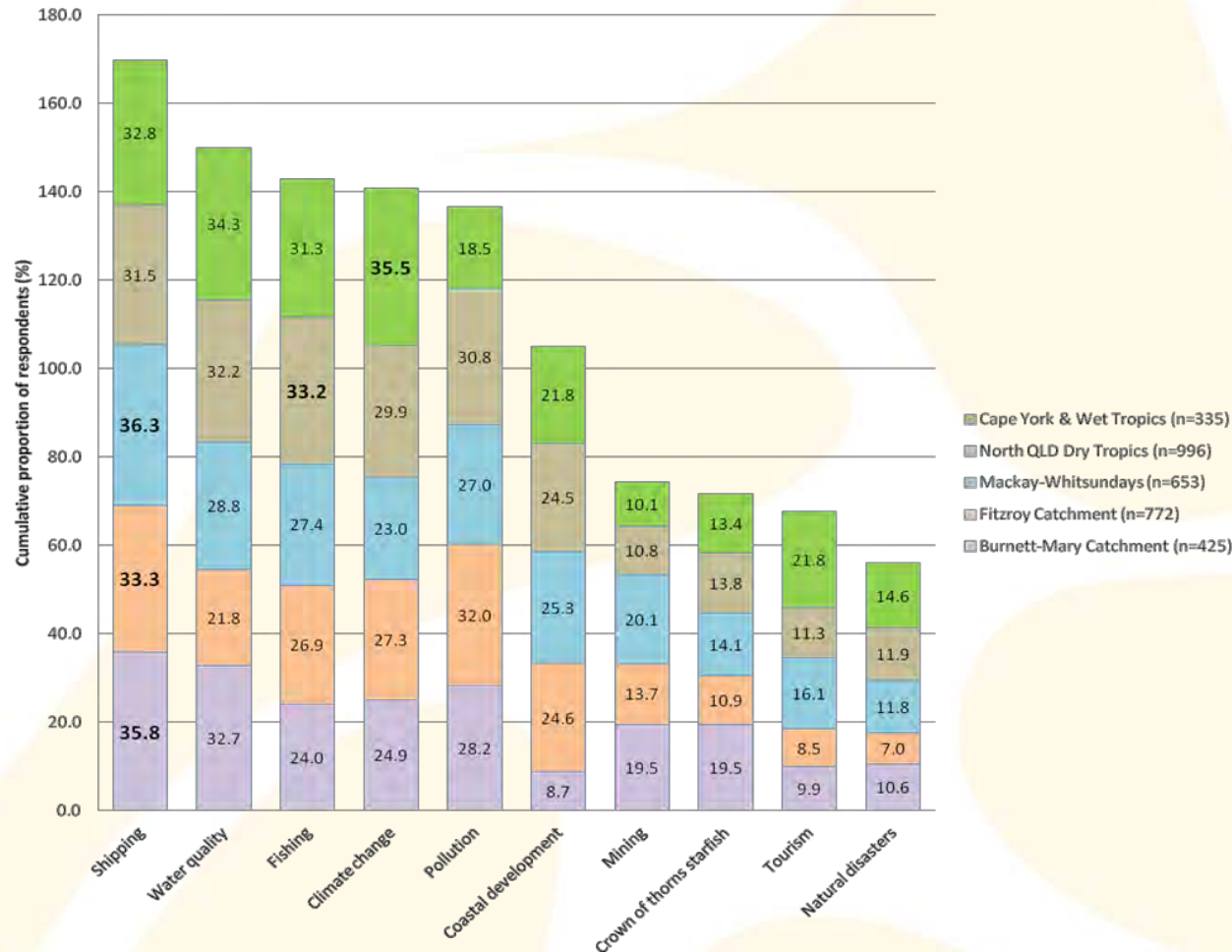
For GBR tourism operators (n=119), the most frequently identified threat was water quality (44.5%), followed by climate change (36.1%) and coastal development (31.9%). For GBR commercial fishers (n=210), the most frequently identified threats were coastal development (38.6%), water quality (37.1%) and shipping (32.4%). For GBR coastal residents (n=3181), shipping (33.6%), water quality (29.3%) and fishing (29.1%) occurred with the highest frequency. For Australian national residents (n=2002), pollution (37.1%), climate change (35.4%) and shipping (20.7%) were the threats listed most frequently (Figure 80).

Figure 3: Top ten categories for perceived threats to the Great Barrier Reef (GBR) among **tourists, tourism operators, commercial fishers** and **coastal residents** of the GBR region, as well as **Australian residents** from a national survey (n=8389 for the combined samples). Proportions (%) are shown for respondents who listed specific items when asked “What do you think are the three most serious threats to the Great Barrier Reef?” The most frequently identified threat from each group is indicated with bold text.

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PART A: SELTMP 2013 Survey Data: Community perceptions of ports and shipping in the GBR

Threat perceptions among coastal residents of the GBR region – comparison of residents from different NRM regions



Regional variation:

A higher proportion of respondents from the central and southern sections of the GBR coast nominated shipping among the most serious threats, with the highest proportion noted among those from the Mackay-Whitsundays region (36%, 237/653)

Demographic influences on threat perceptions:

We found a higher likelihood of identifying particular threats among some demographic groups. For example, coastal residents who identified shipping were more likely to be older (mean = 46.2 years $\pm$ SE=0.493 cf. 42.5 years $\pm$ SE=0.370; Mann-Whitney U: $p<0.001$), and have resided in the region for longer (mean = 22.5 years $\pm$ SE=0.564 cf. 19.8 years $\pm$ SE=0.392; Mann-Whitney U: $p<0.001$). Results from additional analyses identifying other factors influencing community perceptions of threats to the GBR will be available in a forthcoming paper (Curnock et al.).

Figure 4: Top ten categories for perceived threats to the Great Barrier Reef (GBR) among coastal residents of NRM regions along the GBR coast (n=3181 for the combined samples). Proportions (%) are shown for respondents who listed specific items when asked "What do you think are the three most serious threats to the Great Barrier Reef?" The most frequently identified threat from each sample is indicated with bold text.

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PART B: Economic Value of Sea Freight Imports and Exports



Port of Townsville

Image (c) Susan Sobotzick

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PART B: Economic Value of Sea Freight Imports and Exports

Table 1: The economic value of Australian sea freight. Data source: Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, *Australian sea freight, 2009–10, Canberra ACT*. Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, *Australian sea freight, 2009–10, Canberra ACT*. Available at: http://www.bitre.gov.au/publications/2011/files/asf_2009_10.pdf

Exports – Australian state/territory as origin (\$ billion)

Financial year	NSW	VIC	QLD	SA	WA	TAS	NT	Other	Foreign Origin	Total
2002–03	16.7	15.4	20.5	7.5	25.4	2.1	2.4	0.4	3	93.4
2003–04	15.9	15.2	19.3	6.8	25.1	2	1.7	0.3	3	89.3
2004–05	19.1	15.4	25.4	6.9	31.3	2.4	2	0.5	3.3	106.3
2005–06	22.1	15.8	34.5	8.3	39	2.7	2.5	0.7	5.4	130.9
2006–07	22.8	16.6	34.5	8.2	48.5	3.5	3.9	0.8	5.7	144.4
2007–08	24.4	17.1	34.3	9.6	55.3	3.4	4.4	0.9	6.2	155.7
2008–09	33.5	16.8	55.5	8.7	67.9	3.2	6.1	0.8	9.9	202.3
2009–10	26.4	15	42.2	7.4	68	2.7	5.1	0.6	11.6	178.9
2010–11	31.4	16.4	48.3	10.6	96.9	2.9	5.4	0.4	10.4	222.6
2011–12	35	18.2	51.7	10.8	102.8	2.9	5.2	0.5	9.1	236.2

Imports – Australian state/territory as final destination (\$ billion)

Financial year	NSW	VIC	QLD	SA	WA	TAS	NT	Other	Foreign Origin	Total
2002–03	33.3	32.3	14	5.1	8.7	0.5	1	0		94.9
2003–04	32.5	31.8	14.8	4.5	8.4	0.5	0.9	0		93.5
2004–05	36.3	35.5	18.5	5.3	11.3	0.7	1.4	0		108.9
2005–06	39.8	38.6	22.1	5.5	14	0.5	1.8	0		122.2
2006–07	42.8	41.3	23.8	5.8	18.3	0.7	3.1	0		135.7
2007–08	48.4	46.5	28.2	6.5	22.2	0.7	3.2	0		155.7
2008–09	49.6	48.2	29	6.2	27	1	5.1	0		166
2009–10	47.7	44.6	27.2	5.8	26.9	0.8	3.9	0		156.9
2010–11	51	48.3	28.8	5.9	22.5	0.6	3.7	0		160.9
2011–12	54.5	50.4	35.9	6.6	29.7	1	4.1	0		182.2

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PART B: Economic Value of Sea Freight Imports and Exports

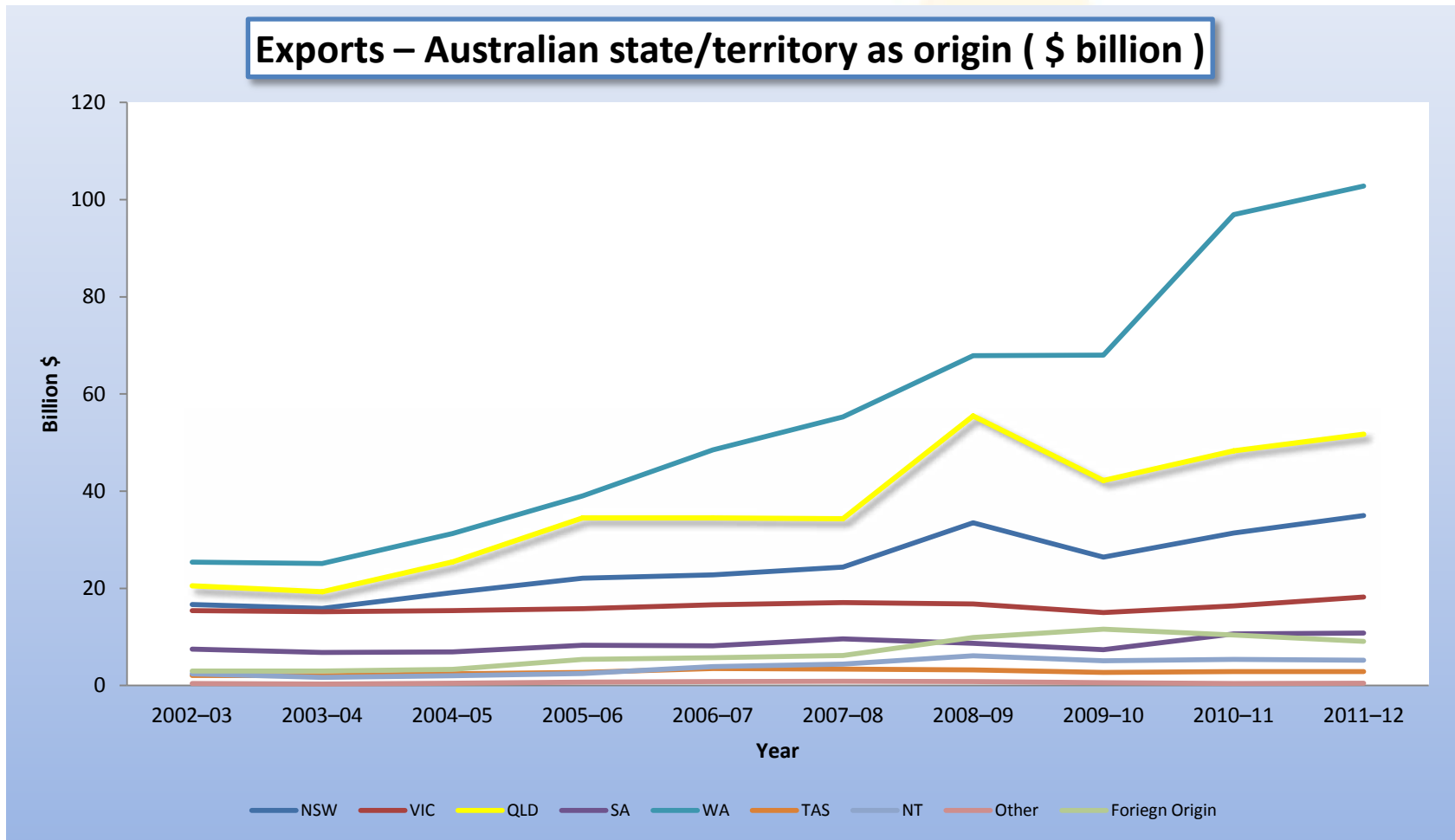


Figure 5: The economic value of each state or territory's exported sea freight.

Data source: Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, Australian sea freight, 2009–10, Canberra ACT. Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, Australian sea freight, 2009–10, Canberra ACT. Available at: http://www.bitre.gov.au/publications/2011/files/asf_2009_10.pdf

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PART B: Economic Value of Sea Freight Imports and Exports

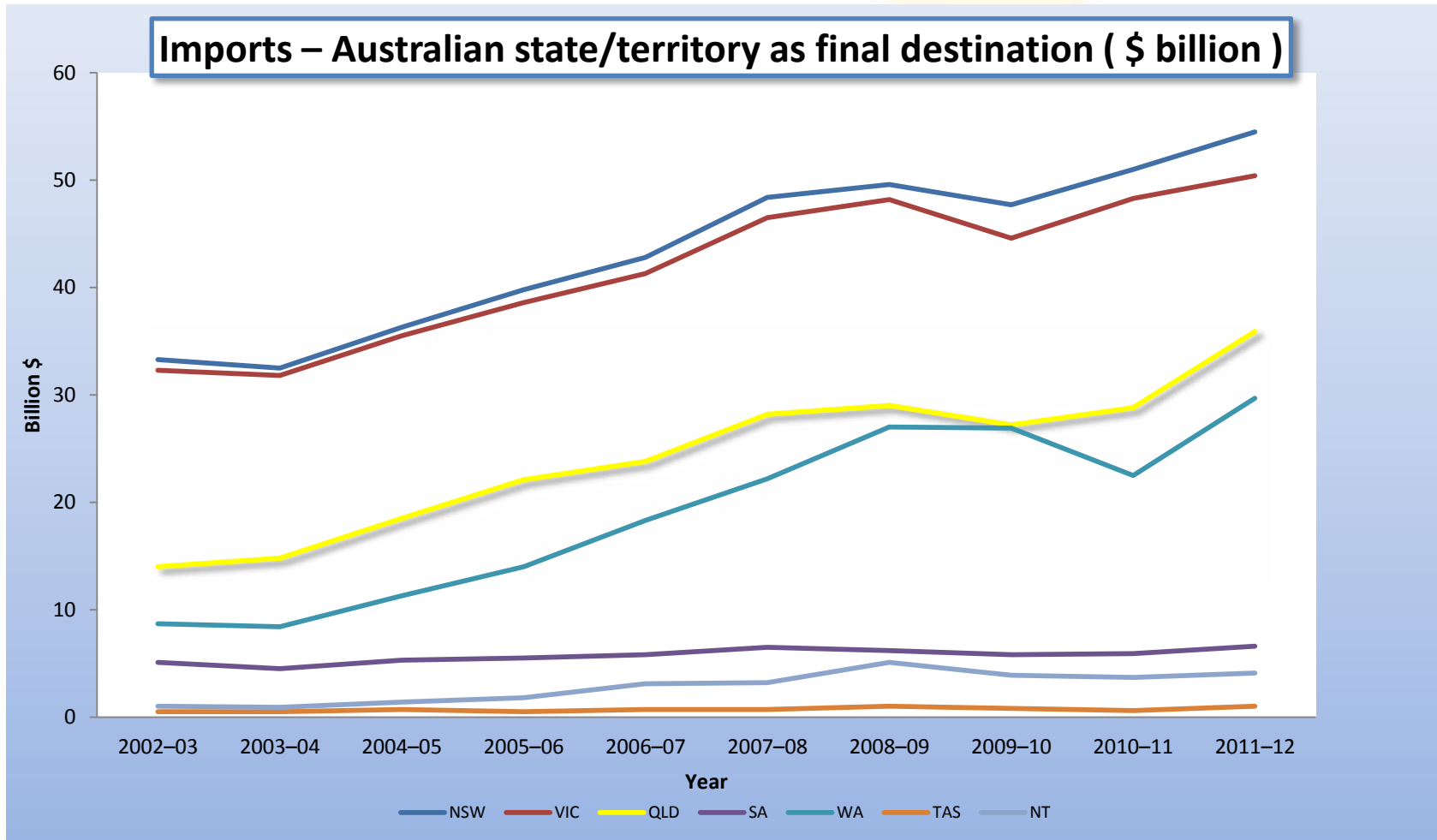


Figure 6: The economic value of each state or territory's imported sea freight.

Data source: Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, Australian sea freight, 2009-10, Canberra ACT. Available at: http://www.bitre.gov.au/publications/2011/files/asf_2009_10.pdf

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PART B: Economic Value of Sea Freight Imports and Exports

2011-12 Exports – Australian state/territory as origin (\$ billion)

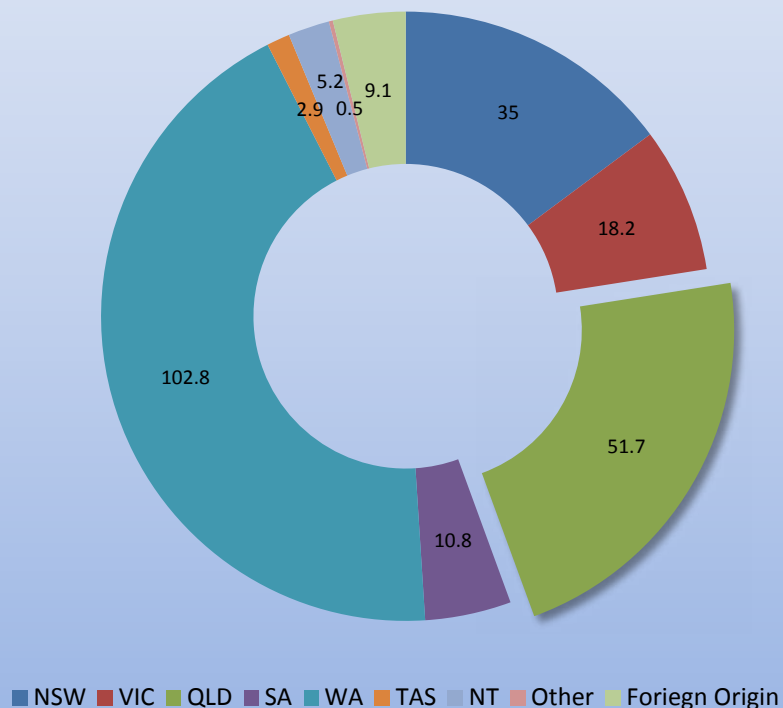


Figure 7: State proportions of 2011-12 sea freight exports.

Data source: Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, Australian sea freight, 2009–10, Canberra ACT. Available at: http://www.bitre.gov.au/publications/2011/files/asf_2009_10.pdf

2011-12 Imports – Australian state/territory as final destination (\$ billion)

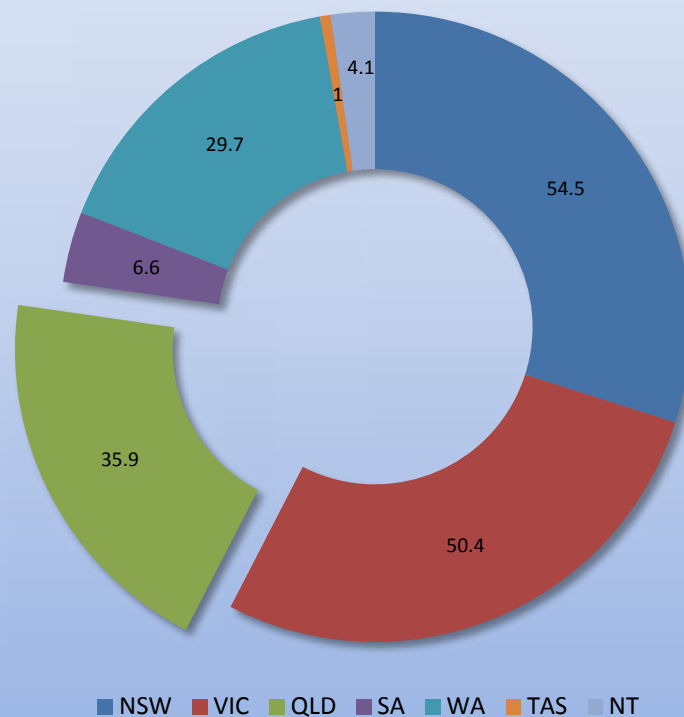


Figure 8: State proportions of 2011-12 sea freight imports.

Data source: Australian Bureau of Infrastructure, Transport and Regional Economics (BITRE) 2011, Australian sea freight, 2009–10, Canberra ACT. Available at: http://www.bitre.gov.au/publications/2011/files/asf_2009_10.pdf

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART C: Port Vessel Calls Statistics for the GBR



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PART C: Port Vessel Calls Statistics for the GBR



Figure 9: Queensland Shipping Ports

Reproduced from: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

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PART C: Port Vessel Calls Statistics for the GBR

Queensland Commercial Vessel Calls 2000-2013

Table 2: Commercial vessel calls at Queensland ports.

Data source: Ports Australia (2014). Ports Australia website. Available at: <http://www.portsaustralia.com.au/aus-ports-industry/trade-statistics/>

Port	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Abbot Point	106	119	128	121	141	148	149	169	176	224	190	174	201
Brisbane	2,271	2,212	2,297	2,265	2,387	2,613	2,632	2,527	2,360	2,345	2,440	2,708	2,671
Bundaberg	33	33	28	25	21	24	26			9	21	14	10
Cairns	786	743	644	774	675	606	544	582	602	626	718	720	706
Cape Flattery	38	35	37	37	29	28	37	34	29	34	39	30	31
Gladstone	969	969	985	1,116	1,153	1,270	1,270	1,347	1,396	1,430	1,316	1,453	1,579
Hay Point	764	759	819	965	1,005	929	971	945	966	1,121	892	809	883
Karumba	49	134	130		46	253	31	64	64	139	59	197	158
Lucinda	11	18	17	15	21	20	20	17	18	20	12	1	12
Mackay	140	159	154	153	151	171	151	190	180	191	175	216	209
Mourilyan	26	31	43		32	31	31	27	32	24	25	25	19
Quintell Beach	0	78	37	10	12	48	0	0	0	52	15	21	11
Port Alma (Rockhampton)	70	61	54	54	63	60	54	55	88	90	89	121	108
Townsville	673	661	705	655	614	625	625	705	642	675	675	747	692
Weipa	291	302	259		374		443	436		380	397	475	534
Thursday Island	705	777	474	144	121	142	0	0	0	104	156	1,081	1,015
Skardon River			0	0	0	0	0	0	0	0	0	0	0
Queensland total	6932	7091	6811	6334	6845	7019	6984	7098	6553	7464	7219	8792	8839

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART C: Port Vessel Calls Statistics for the GBR

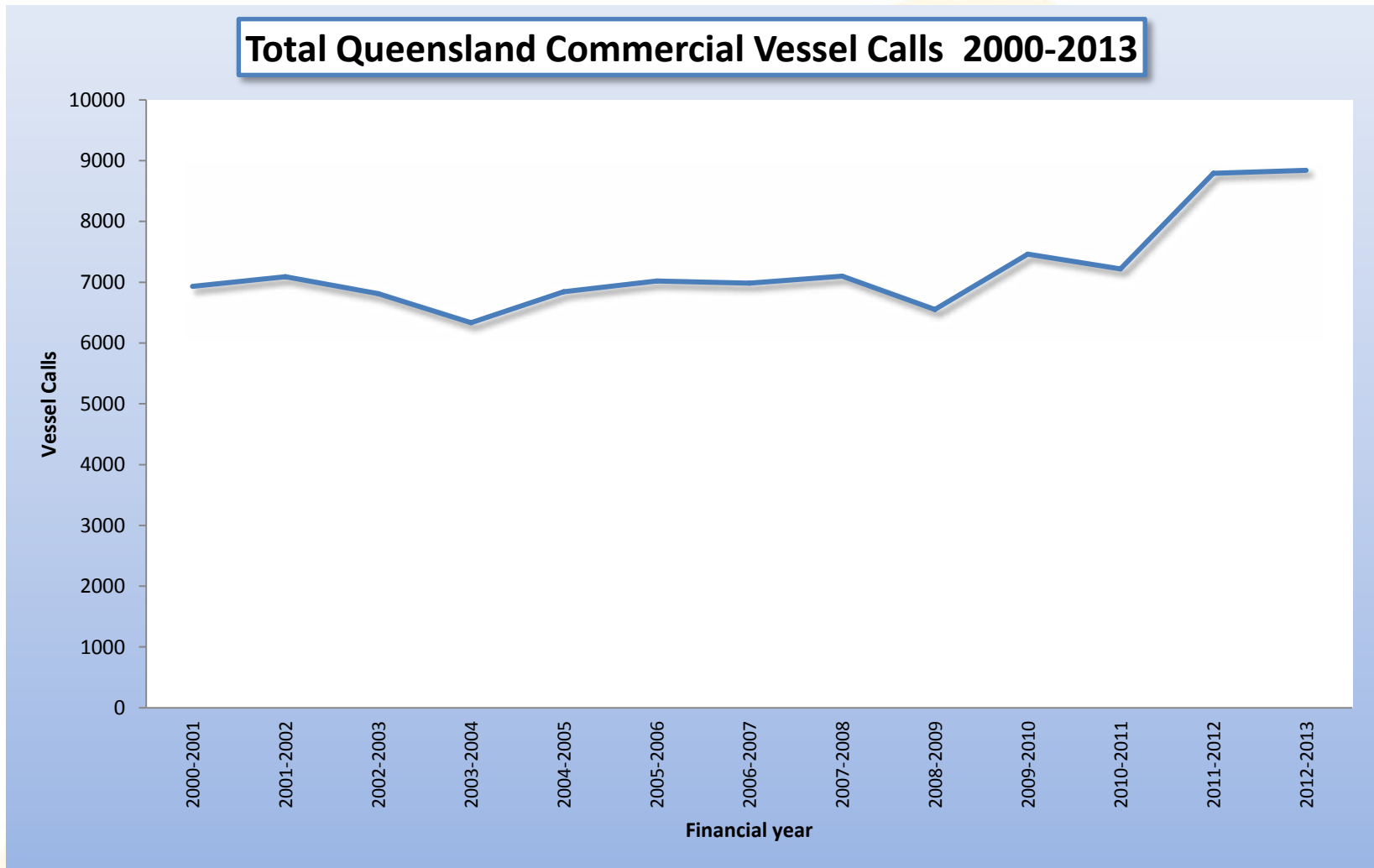


Figure 10: Queensland commercial vessel calls, historical.

Data source: Ports Australia (2014). Ports Australia website. Available at: <http://www.portsaustralia.com.au/aus-ports-industry/trade-statistics/>

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PART C: Port Vessel Calls Statistics for the GBR

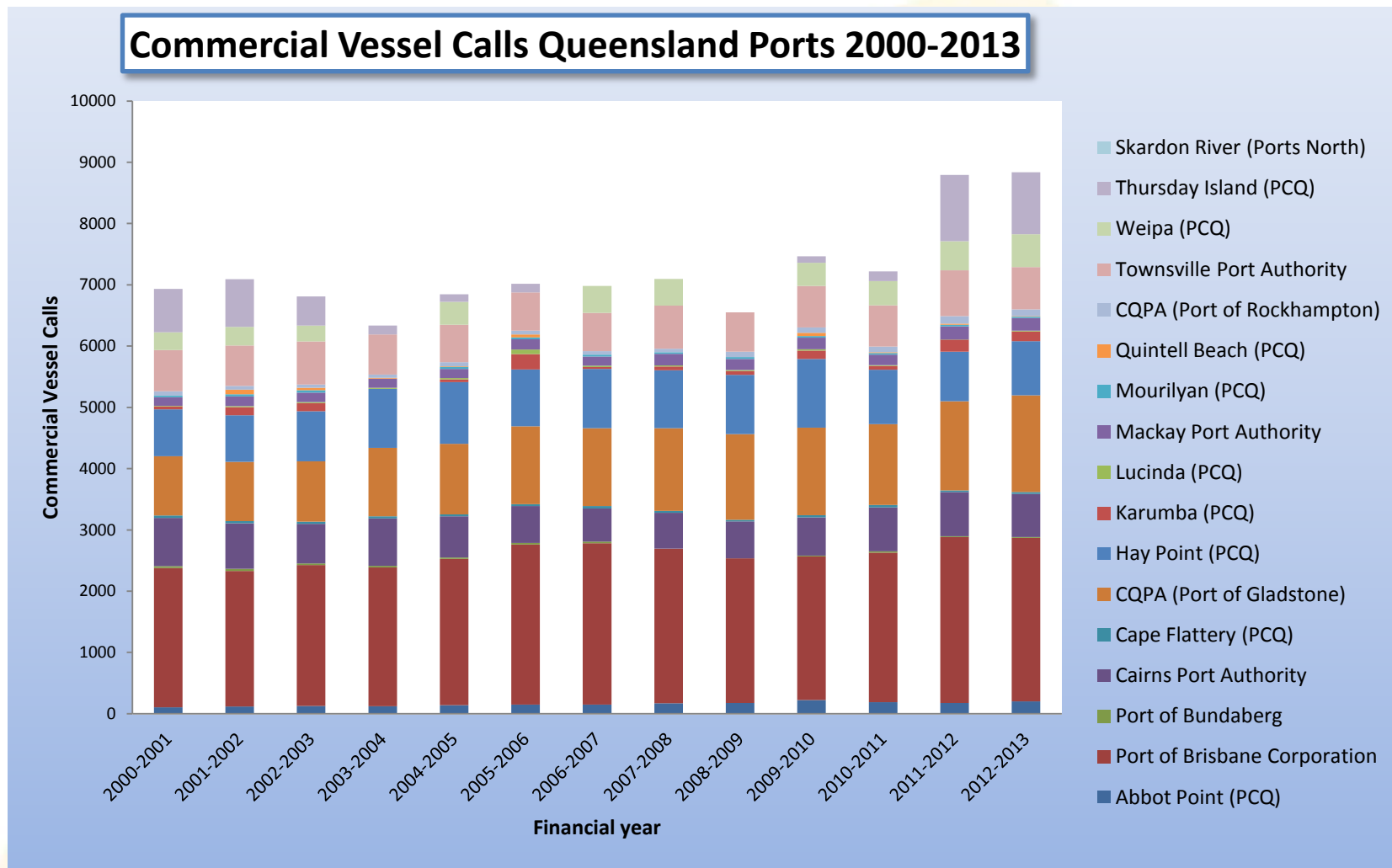


Figure 11: Queensland port commercial vessel calls, historical.

Data source: Ports Australia (2014). Ports Australia website. Available at: <http://www.portsaustralia.com.au/aus-ports-industry/trade-statistics/>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART C: Port Vessel Calls Statistics for the GBR

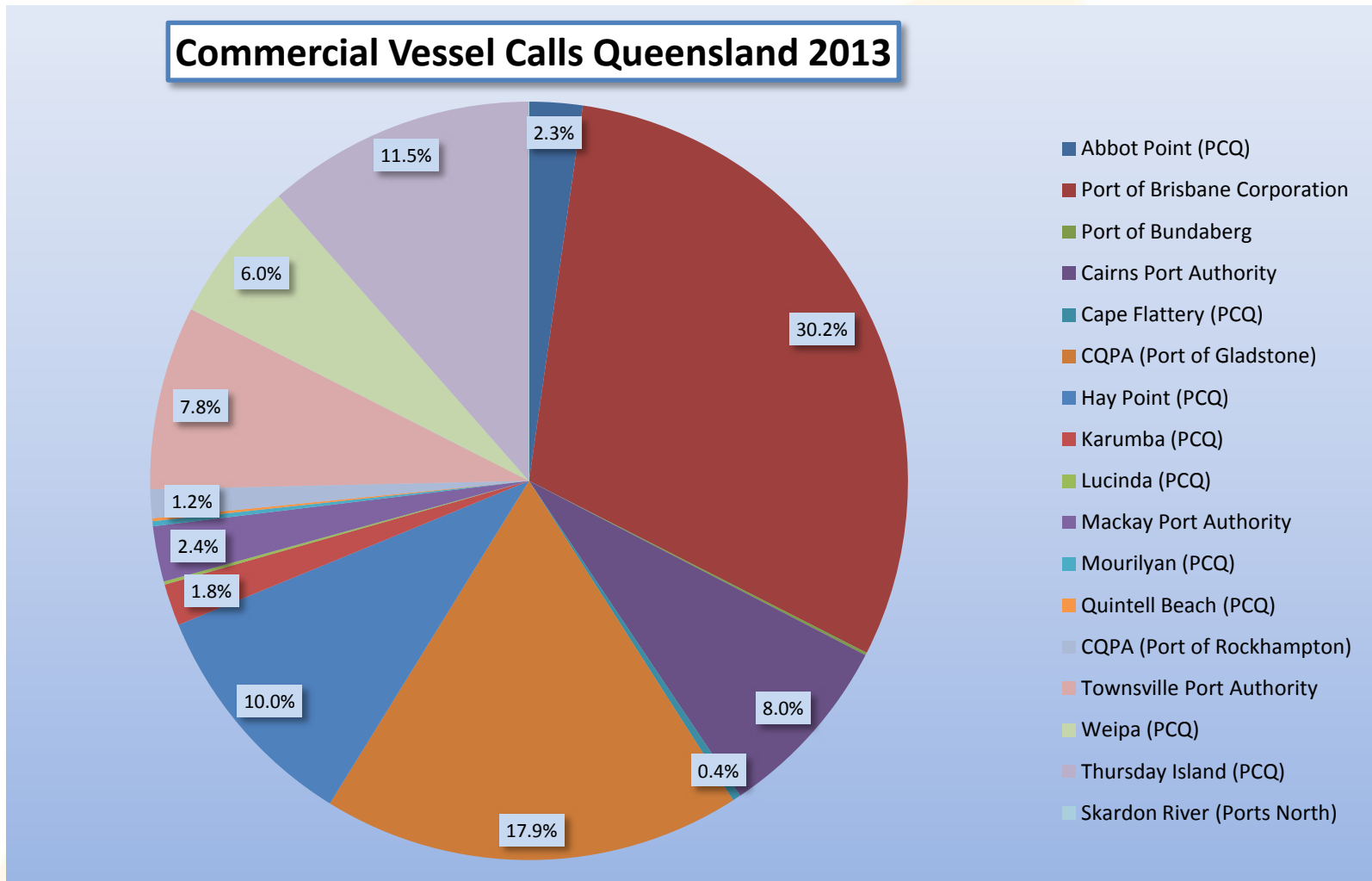


Figure 12: Queensland port proportion of commercial vessel calls, 2012-13.

Data source: Ports Australia (2014). Ports Australia website. Available at: <http://www.portsaustralia.com.au/aus-ports-industry/trade-statistics/>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART C: Port Vessel Calls Statistics for the GBR

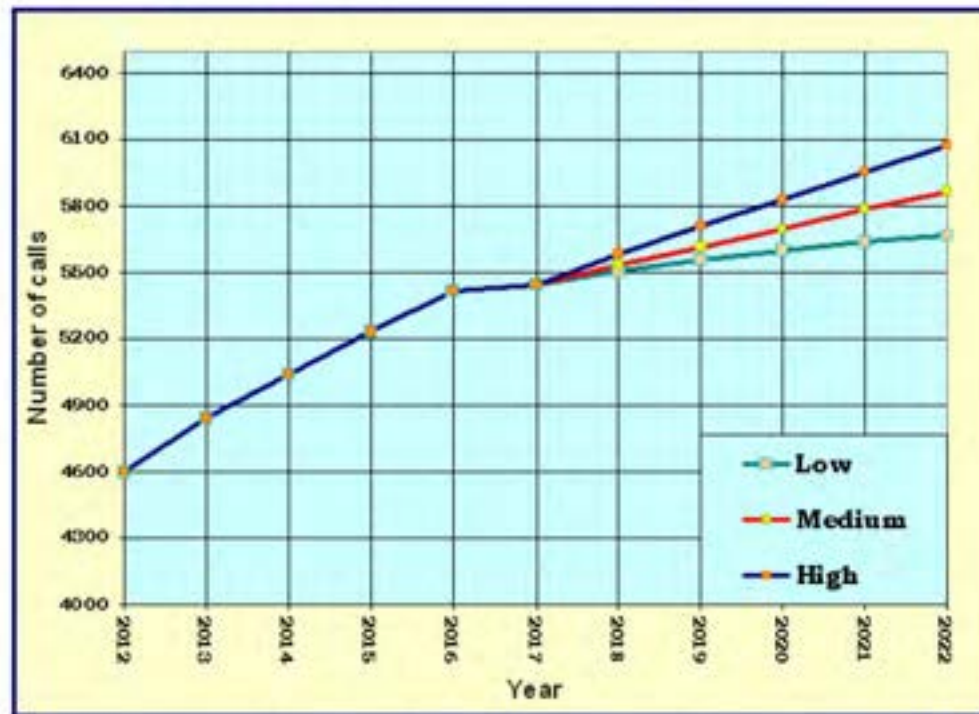


Figure 13: Queensland ship call forecast scenarios for all ships 2012-2022 (forecasts include projections for LNG and coal exports).

Reproduced from: Queensland Department of State Development, Infrastructure and Planning (2012). Great Barrier Reef Ports Strategy Economic Analysis October 2012. Available at: <http://www.dsdip.qld.gov.au/resources/plan/gbr-economic-analysis.pdf>

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PART D: Port Throughput Data



Image (c) Susan Soltzick

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PART D: Port Throughput Data

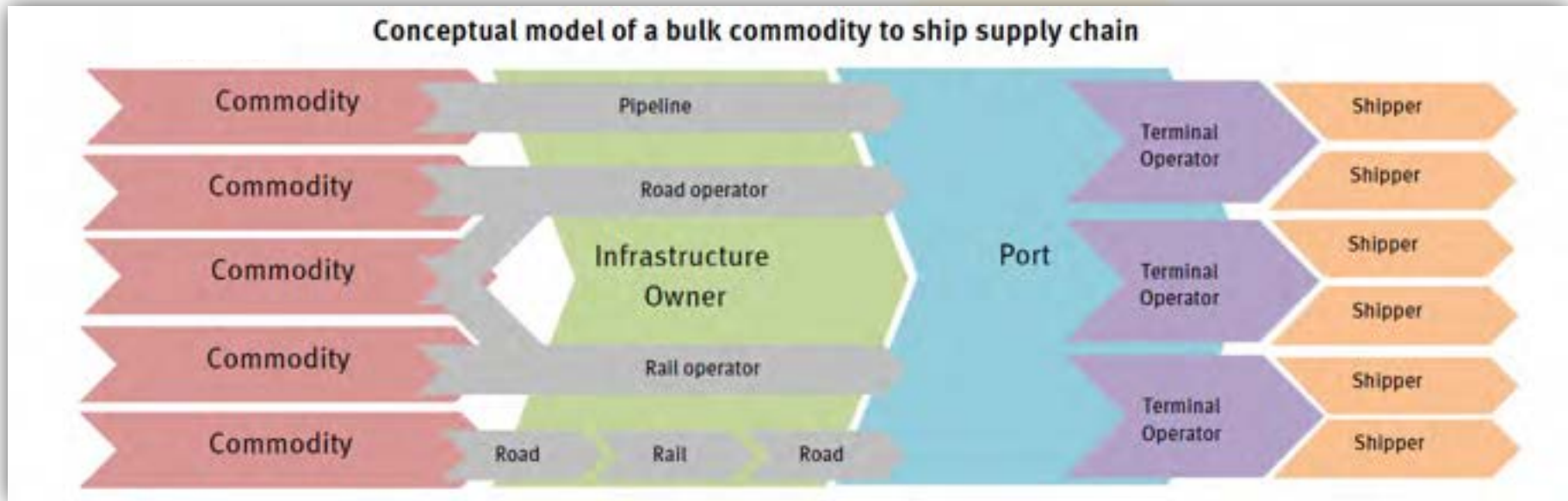


Figure 14: Conceptual model of bulk commodity supply chains.

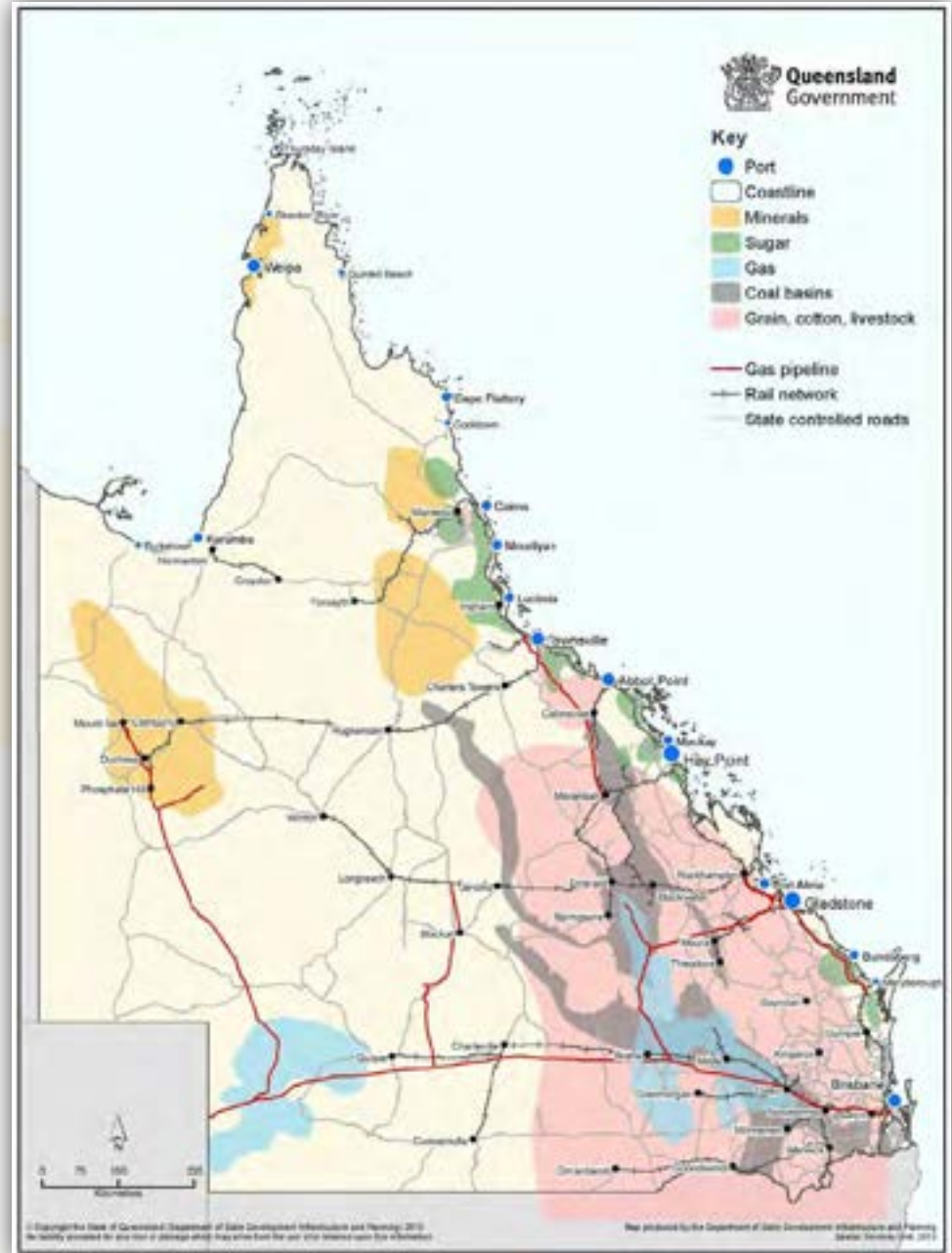
Reproduced from: Queensland Department of State Development, Infrastructure and Planning (2014). Queensland Ports Strategy 2014. Available at: <http://www.dsdp.qld.gov.au/resources/plan/queensland-ports-strategy.pdf>

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PART D: Port Throughput Data

Figure 15: Map of Queensland's port and commodity supply chain networks.

Reproduced from: Queensland Department of State Development, Infrastructure and Planning (2012). Great Barrier Reef Ports Strategy Economic Analysis October 2012. Available at: <http://www.dsdip.qld.gov.au/resources/plan/gbr-economic-analysis.pdf>



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PART D: Port Throughput Data

Figure 16: Role of ports adjacent to GBR

Reproduced from: Queensland Department of State Development, Infrastructure and Planning (2012). Great Barrier Reef Ports Strategy Economic Analysis October 2012. Available at: <http://www.dsdiq.gov.au/resources/plan/gbr-economic-analysis.pdf>



SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data

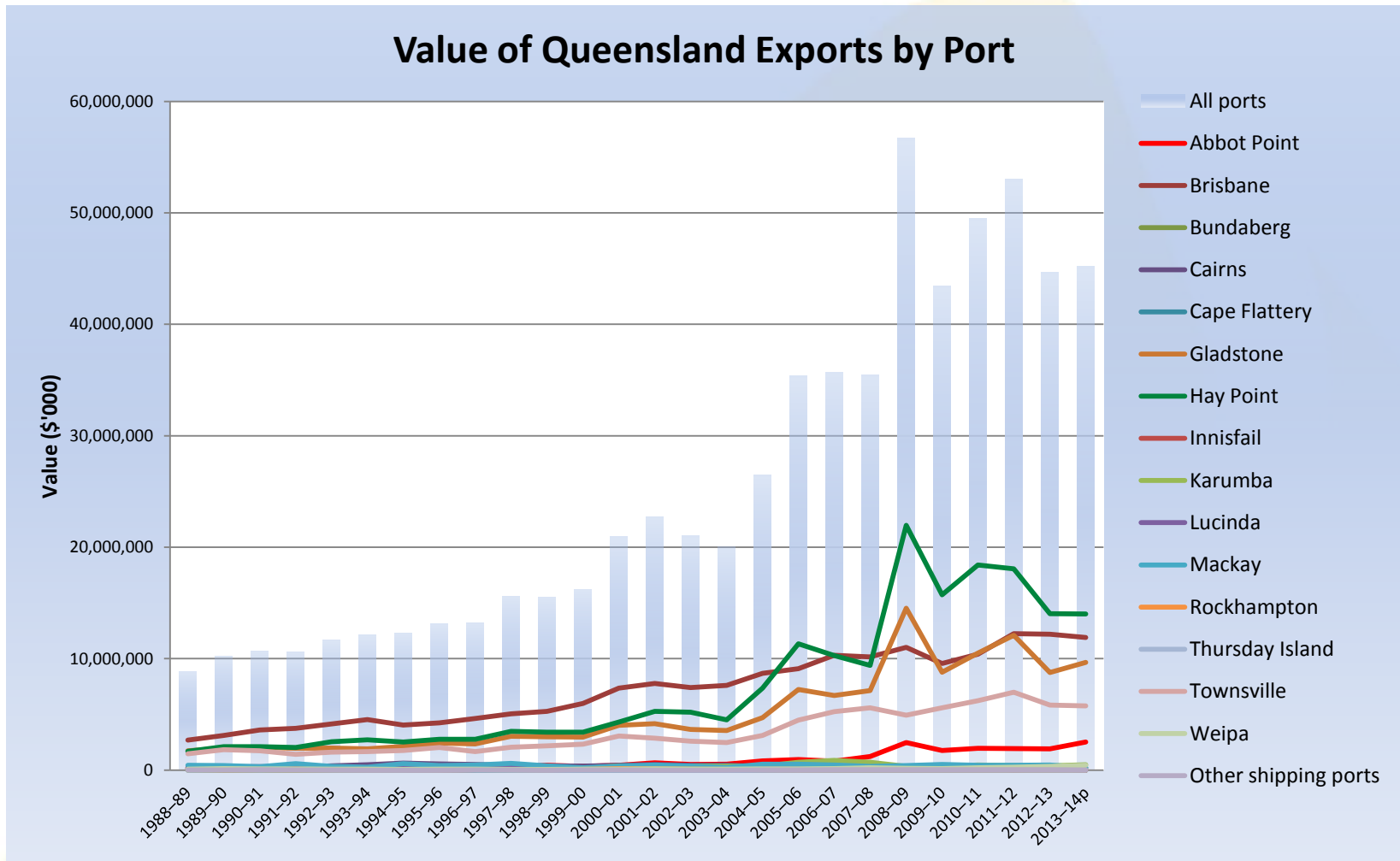


Figure 17: Dollar value of Queensland exports (bars represent total of all ports)

Source: Australian Bureau of Statistics, Foreign Trade (unpublished data). Available at: <https://data.qld.gov.au/dataset/af0d8026-b46c-451f-abf6-522e7033bc6c/resource/6283b66c-4cf8-493d-8707-dfb76d8b3ca1>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Overview of all ports

Table 3: Queensland Port Throughput 2000-2013 (Mass in tonnes)

Data source: Ports Australia (2014). Ports Australia Website. Available at: <http://www.portsaustralia.com.au/tradestats/?id=307&period=13>

Year	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2009-2010	2009-2010	2010-2011	2011-2012	2012-2013
Abbot Point	10,562,161	11,878,266	12,791,903	12,094,893	12,794,010	12,023,931	11,153,719	12,475,908	14,443,487	16,933,596	15,063,943	13,602,137	17,744,621
Cairns	1,057,722	1,136,106	1,199,737	1,164,283	1,119,828	1,132,712	1,068,826	1,196,604	1,086,475	1,106,415	1,024,830	1,029,652	1,055,608
Cape Flattery	1,775,391	1,633,802	1,658,200	1,206,298	1,300,672	1,395,666	1,823,550	1,735,099	1,483,250	1,730,060	2,026,120	1,777,000	1,678,060
Gladstone	52,396,456	53,834,314	54,466,148	59,661,916	63,147,524	67,233,791	74,218,259	76,480,082	79,149,276	83,364,771	76,404,685	83,789,596	85,293,760
Port Alma (Rockhampton)	146,007	179,505	154,871	68,560	143,849	138,433	166,822	168,112	228,086	278,132	323,500	421,247	349,710
Hay Point	69,378,755	70,752,744	74,672,173	77,546,002	85,558,787	81,621,197	86,226,897	80,430,170	82,449,664	99,465,091	87,805,164	82,853,893	96,540,226
Karumba	858,627	970,347	978,591		976,905	1,269,724	927,216	1,072,791	1,010,203	643,339	957,293	979,549	895,037
Lucinda	361,159	475,089	600,606	526,631	679,127	678,493	602,904	575,496	598,955	591,855	420,559	12,859	444,413
Mackay	1,832,447	2,054,652	1,994,763	1,899,395	2,278,872	2,348,387	2,307,444	2,476,219	2,404,526	2,547,844	2,551,987	2,713,018	3,269,967
Mourilyan	528,570	610,512	784,900		812,561	806,616	567,822	527,351	648,521	519,234	508,341	453,214	533,331
Brisbane	23,146,657	23,184,298	24,607,951	25,062,441	26,000,082	26,736,179	28,058,083	30,214,635	31,894,732	32,078,829	33,245,595	37,210,744	37,563,421
Bundaberg	610,515	554,141	431,712	445,478	466,644	414,609	473,041			200,922	313,095	260,084	204,800
Quintell Beach	2,354	3,567	1,447	2,389	3,643	1,707	4,042	4,681	2,449	2,083	1,444	2,286	1,453
Skardon River			0	0	0	0	0	0	0	0	0	0	0
Thursday Island		92,217	76,176	92,191	76,146	80,251	82,359	77,875	80,552	61,622	73,193	102,449	77,488
Townsville	9,236,122	9,256,115	9,818,703		9,989,298	9,930,445	9,557,477	9,833,991	9,084,821	10,252,815	10,601,137	12,884,868	12,105,804
Weipa	13,246,785	12,844,601	13,194,626		15,606,663		19,712,873	22,111,498		20,675,790	22,322,646	25,092,033	29,041,572
Total Throughput	185,139,728	189,460,276	197,432,507	179,770,477	220,954,611	205,812,141	236,951,334	239,380,512	224,564,997	270,452,398	253,643,532	263,184,629	286,799,271

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Overview of all ports

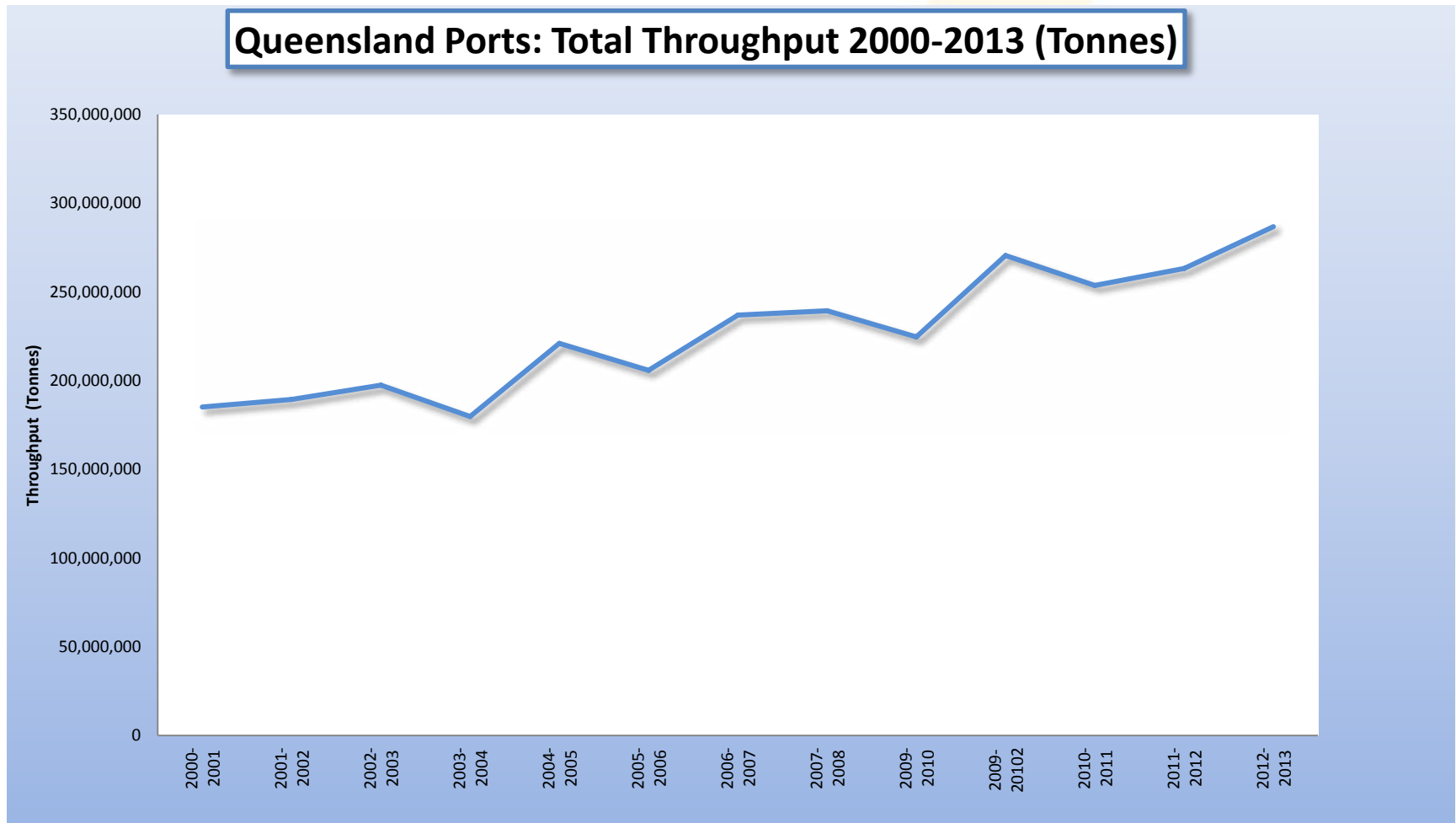


Figure 18: Total throughput of Queensland ports (historical)

Data source: Ports Australia (2014). Ports Australia Website. Available at: <http://www.portsaustralia.com.au/tradestats/?id=307&period=13>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Overview of all ports

Table 4: Queensland Ports Imports and Exports 2012/2013 (mass in tonnes)

Data source: Ports Australia (2014). Ports Australia Website. Available at: <http://www.portsaustralia.com.au/tradestats/?id=307&period=13>

Port	Imports	Exports	Total
Abbot Point (NQBP)	0	17,744,621	17,744,621
Cairns (Ports North)	647,717	407,891	1,055,608
Cape Flattery (Ports North)	0	1,678,060	1,678,060
Gladstone (Gladstone Ports)	20,650,809	64,642,951	85,293,760
Port Alma (Rockhampton) (Gladstone Ports)	265,908	83,802	349,710
Hay Point (NQBP)	0	96,540,226	96,540,226
Karumba (Ports North)	1,088	893,949	895,037
Lucinda (Townsville)	6,105	438,308	444,413
Mackay (NQBP)	1,592,937	1,677,030	3,269,967
Mourilyan (Ports North)	0	533,331	533,331
Port of Brisbane Pty Ltd	18,158,429	19,404,992	37,563,421
Bundaberg (Gladstone Ports)	0	204,800	204,800
Quintell Beach (Ports North)	1,453	0	1,453
Skardon River (Ports North)	0	0	0
Thursday Island (Ports North)	64,787	12,701	77,488
Townsville (Townsville)	6,671,391	5,434,413	12,105,804
Weipa (NQBP)	116,964	28,924,608	29,041,572

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Overview of all ports

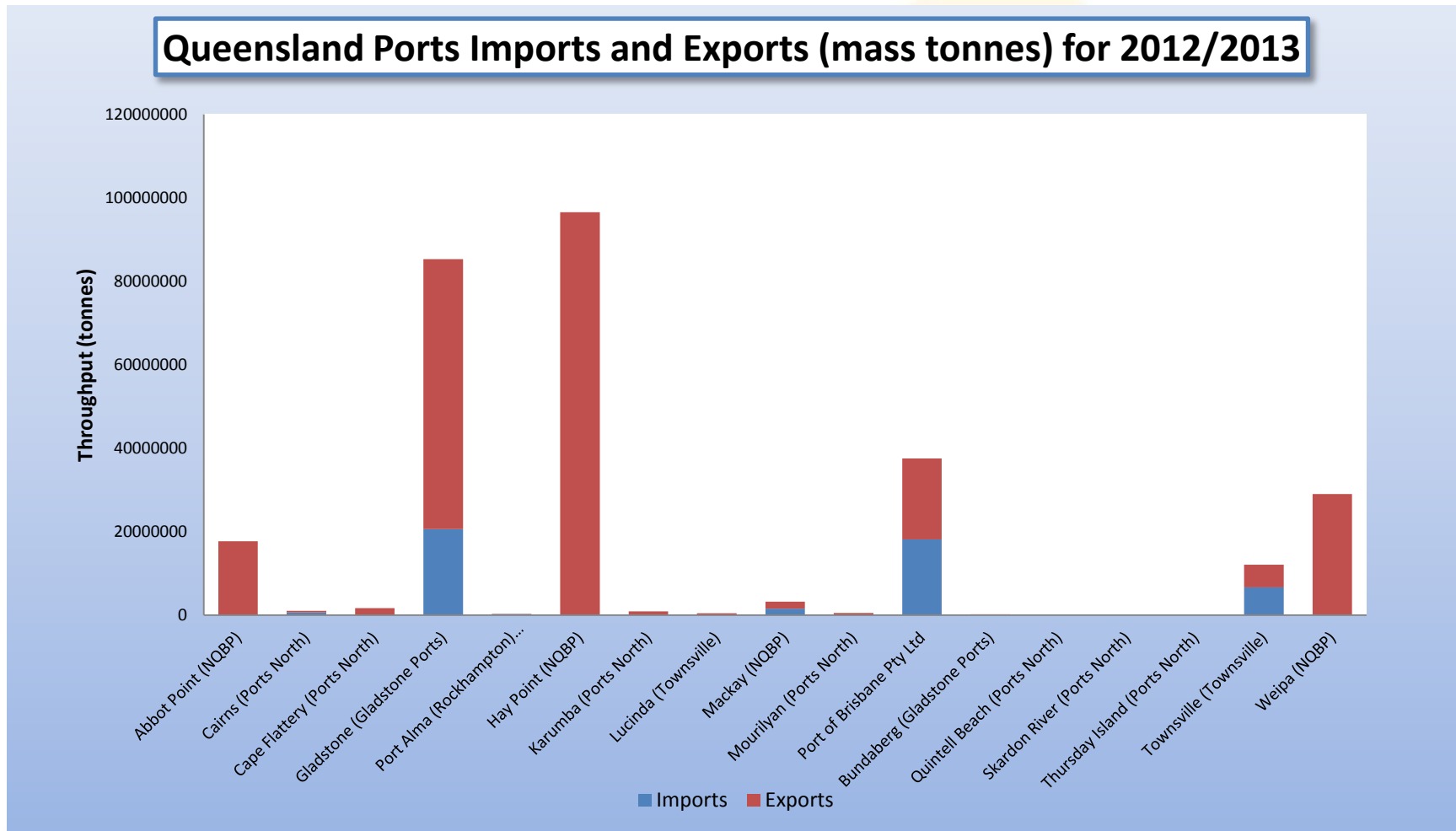


Figure 19: Imports and Exports for each port in 2012/2013

Data source: Ports Australia (2014). Ports Australia Website. Available at: <http://www.portsaustralia.com.au/tradestats/?id=307&period=13>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

Table 5: Gladstone Ports Corp.LTD Trade Statistics*

<i>Export</i>	2008-09	2009-10	2010-11	2011-12	2012-13
Bundaberg	248,938	290,824	280,071	260,084	204,800
Gladstone	62,804,614	67,028,320	59,433,955	66,243,652	64,642,951
Rockhampton	117,828	160,835	141,520	126,592	83,802
Total	63,171,380	67,479,979	59,855,546	66,630,328	64,931,553

<i>Import</i>	2008-09	2009-10	2010-11	2011-12	2012-13
Bundaberg	17,254	8,586	33,024	0	0
Gladstone	16,341,644	16,337,351	16,970,730	17,545,941	20,650,809
Rockhampton	110,258	124,580	181,980	294,654	265,908
Total	16,469,156	16,470,517	17,185,734	17,840,595	20,916,717

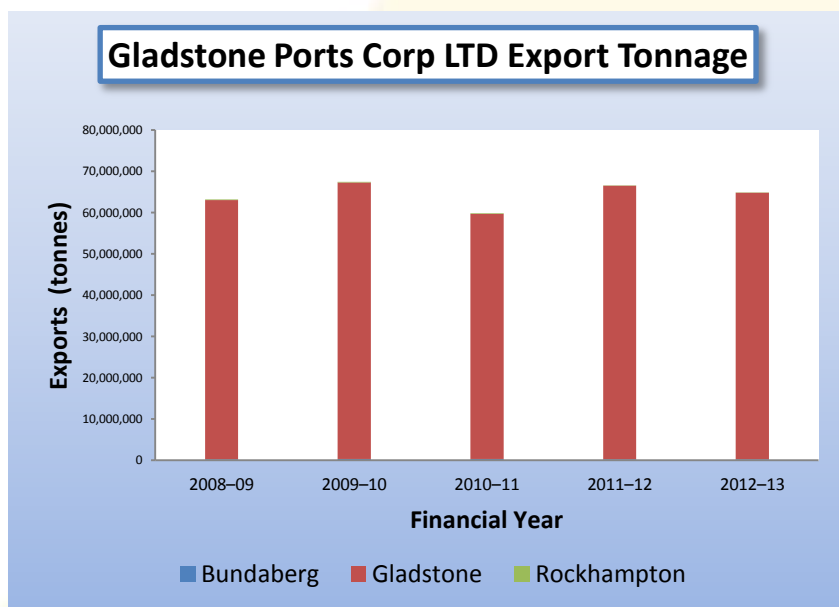


Figure 20: Gladstone Ports Corp Exports*

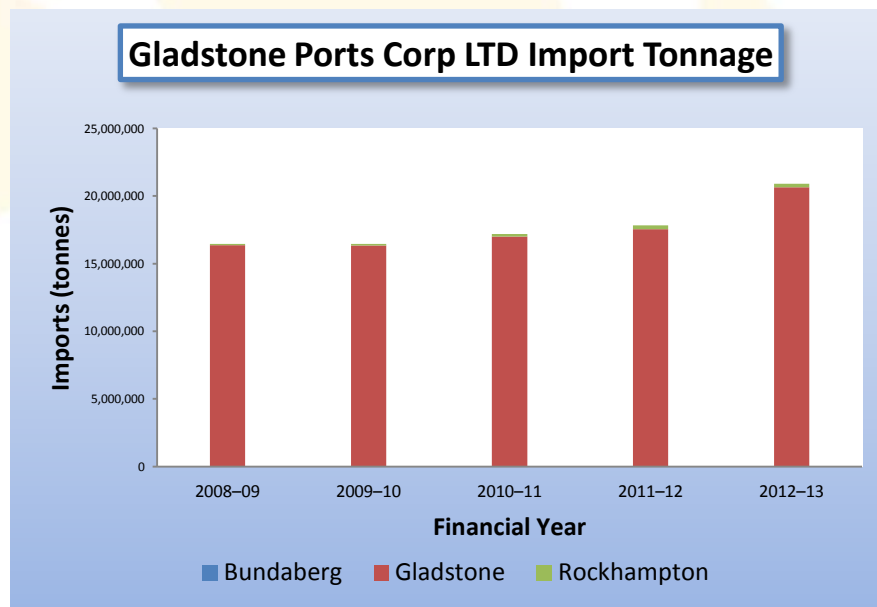


Figure 21: Gladstone Ports Corp Imports*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

Table 6: Port of Gladstone vessel statistics*

<i>Vessel gross registered tonnage</i>	2010–11	2011–12	2012–13
<10000 t	82	546	494
10,001–20,000 t	153	134	183
20,001–30,000 t	233	247	290
>30000 t	848	920	902
Total vessels	1316	1847	1869

<i>By length (metres)</i>	2010–11	2011–12	2012–13
<185 m	381	840	895
185–230 m	592	609	546
>230 m	343	398	428
Total vessels	1316	1847	1869

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

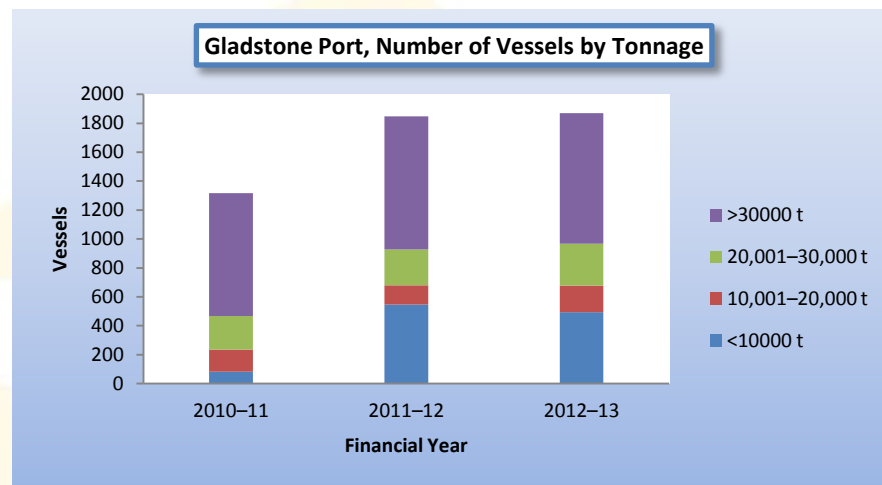


Figure 22: Vessel numbers in each tonnage class*

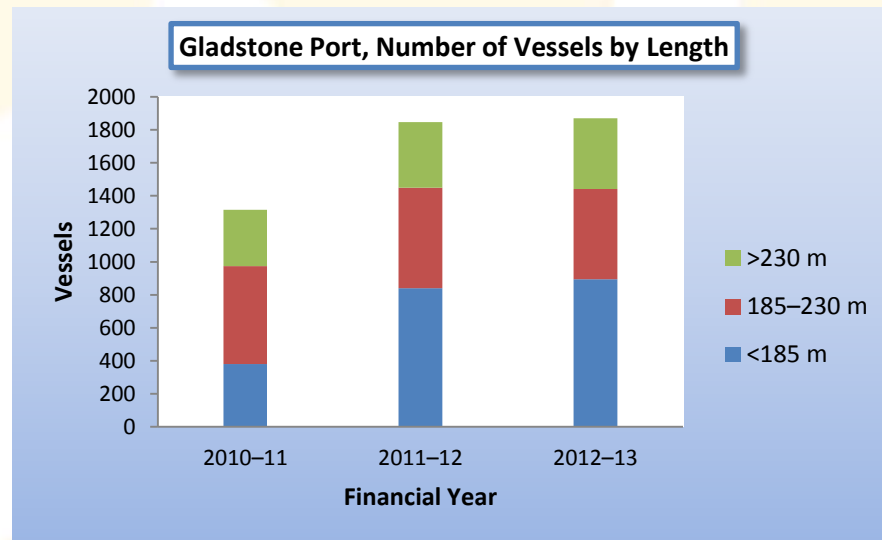


Figure 23: Vessel numbers in each length class*

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

Table 7: Port of Gladstone Exports by Commodity (mass in tonnes)*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Alumina	4094263	4214205	3794339	3909386	4891708
Aluminium	368535	322675	334661	373726	334883
Ammonium nitrate	0	0	2000	0	0
Bunker coal	182305	161385	162282	102411	6631
Calcite	113778	136820	103794	137477	141078
Caustic soda	43582	75533	57986	25898	-
Cement/clinker	1131896	1278273	1197842	1185476	1101711
Coal Barney point	3803285	4787636	3956642	4115675	2934912
Coal RG Tanna	52396680	55602406	49232706	55638013	54378793
Containers	9303	237	3929	37905	69704
Cotton Seed	0	14128	0	0	0
Electrofused magnesia	0	6576	6095	19485	11684
Fly ash	99443	98021	129945	153309	139045
General cargo	36934	5053	10688	27369	42044
Grain	446449	240762	260218	338245	386879
Ilmenite	6100	0	0	0	46357
Limestone	44540	22321	29301	39119	28527
Magnesia	46628	57000	84670	70240	58412
Military eq/vehicle	2130	5011	0	0	0
Scrap metal	22345	32229	49310	37830	44685
Total Exports	62804614	67028320	59433955	66243652	64642951

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

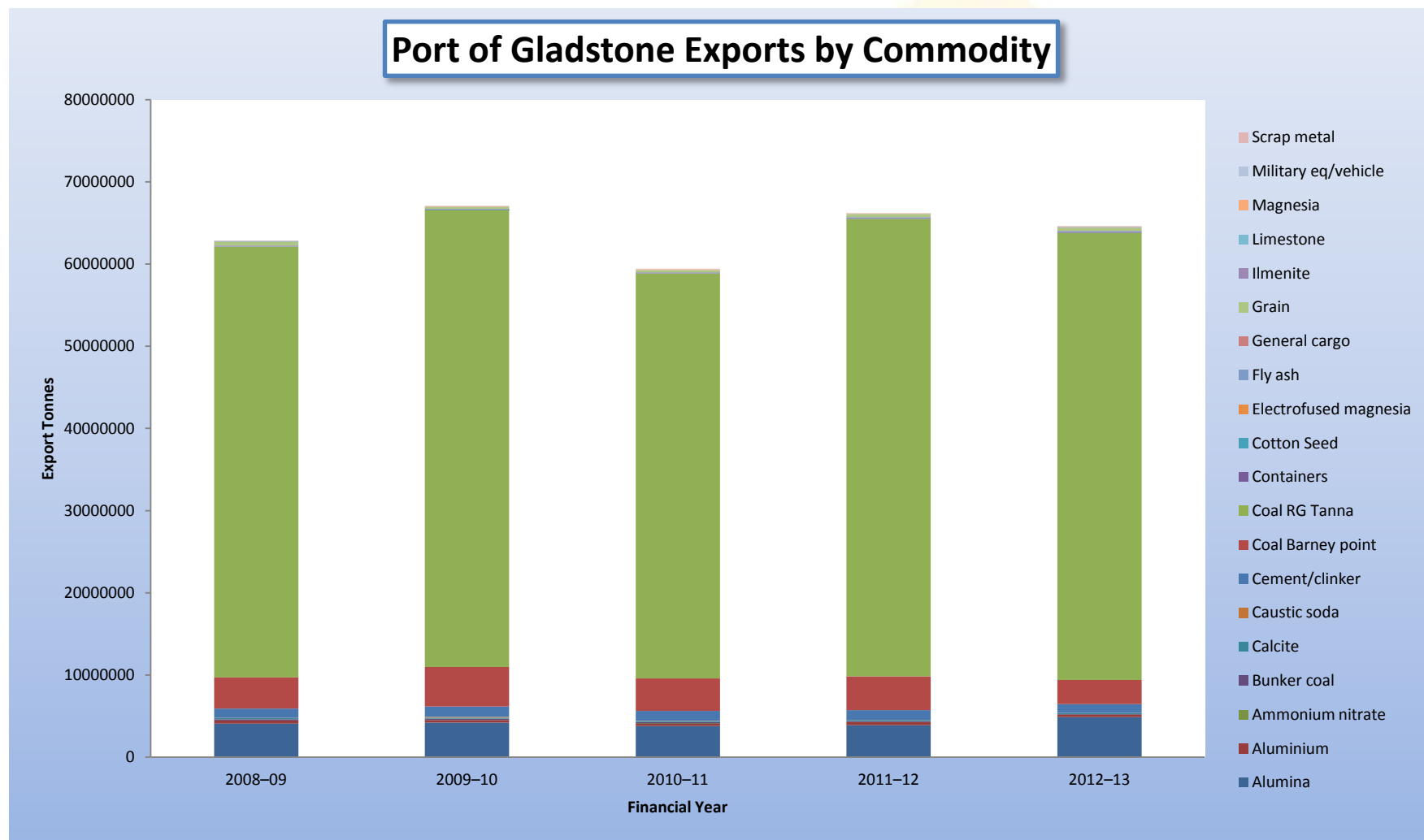


Figure 24: Gladstone exports by commodity*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

Table 8: Port of Gladstone Imports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Aluminium	2204	0	0	0	0
Bauxite	13106900	13195900	13549380	13671250	16321662
Bunker coal	0	0	64885	0	0
Caustic soda	1481785	1440717	1500702	1687585	1889707
Cement gypsum	44320	34069	59161	49231	75622
Containers	316	0	317	1635	3837
Fuel oil bunker	162798	175432	171510	158043	0
General cargo	76690	35661	142825	246527	419722
Liquefied petroleum gas	11151	11801	10390	12027	11518
Liquid ammonia	233864	263354	244940	273827	233071
Liquid pitch	45528	45572	47786	50603	43088
Magnetite	74382	84270	74638	82151	98312
Military eq/vehicles	2167	3396	0	0	0
Petroleum coke	209439	203603	217971	203369	207949
Petroleum product	881405	843576	830432	1048074	1292214
Scrap metal	8695	0	0	0	0
Sulphuric acid	0	0	55793	61619	54107

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

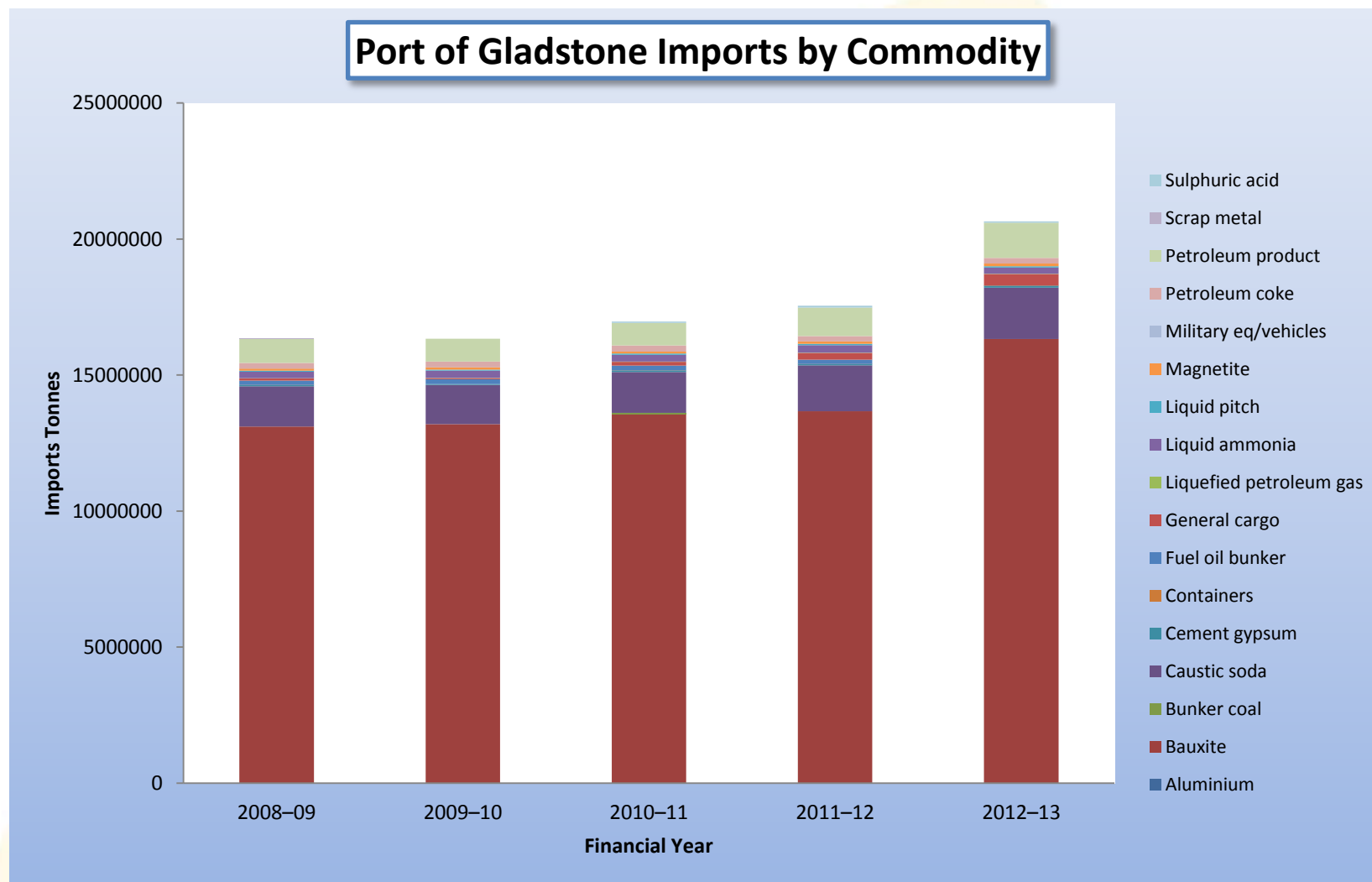


Figure 25: Gladstone imports by commodity*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Gladstone

Table 9: Port of Gladstone Container Trade*

Trade	2008–09	2009–10	2010–11	2011–12	2012–13
Export Full	552	198	542	1,908	3,122
Export Empty	0	3	37	29	76
Import Full	43	0	64	99	266
Import Empty	312	0	725	1,918	2,730
Total TEU's	907	201	1,368	3,954	6,194

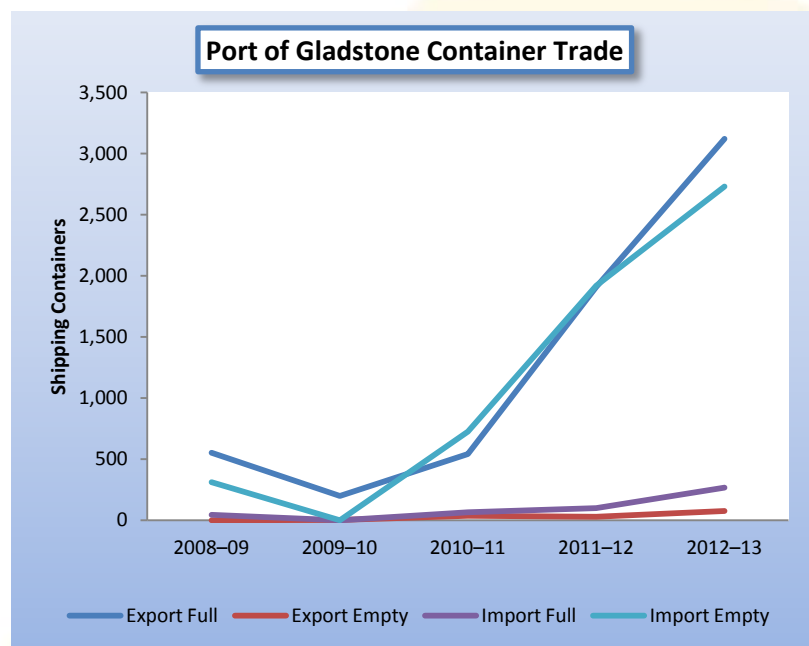


Figure 26: Container imports and exports, Bundaberg*

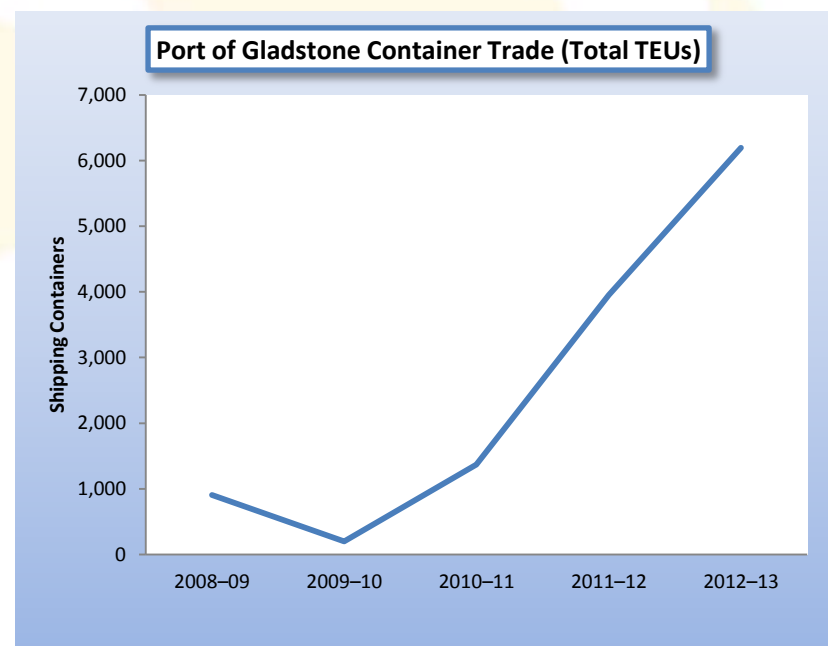


Figure 27: Total TEUs Traded, Bundaberg *

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Rockhampton

Table 10: Port of Rockhampton vessel statistics*

<i>Vessel gross registered tonnage</i>	2010–11	2011–12	2012–13
<10000 t	64	91	73
10,001–20,000 t	11	21	26
20,001–30,000 t	3	6	10
>30000 t	0	0	0
Total	78	118	109

<i>By length (metres)</i>	2010–11	2011–12	2012–13
<185 m	78	115	108
185–230 m	0	3	1
>230 m	230	0	0
Total	78	118	109

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

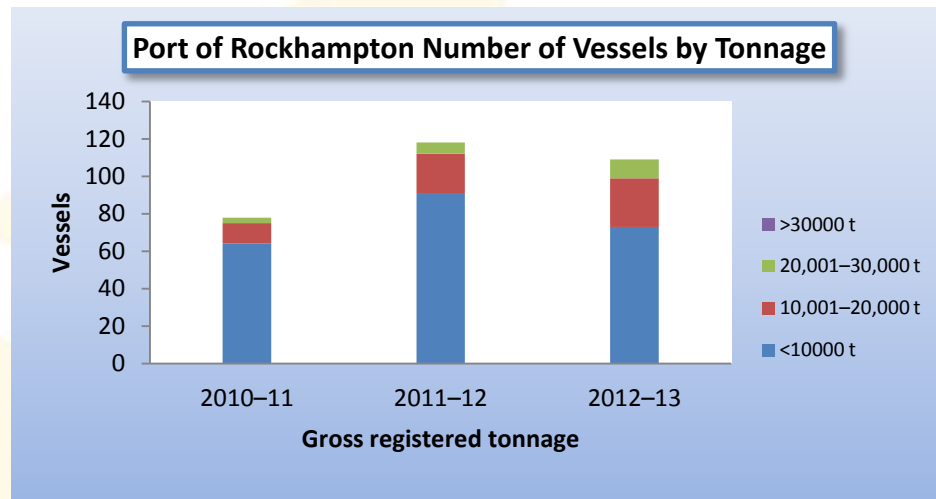


Figure 28: Vessel numbers in each tonnage class*

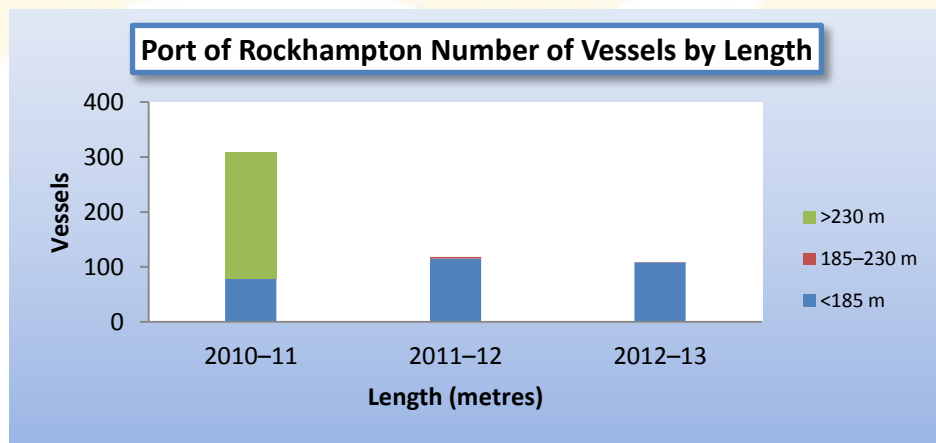


Figure 29: Vessel numbers in each length class*

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Rockhampton

Table 11: Rockhampton Exports by Commodity*

Commodity	2008-09	2009-10	2010-11	2011-12	2012-13
Ammonium nitrate	82864	134488	112813	90208	90208
Containers	337	0	1008	8280	358
Explosives	907	390	804	0	178
General cargo	222	123	217	12	12
Tallow	33498	25834	26678	28092	32164
Total exports	117828	160835	141520	126592	126592

Table 12: Rockhampton Imports by Commodity*

Commodity	2008-09	2009-10	2010-11	2011-12	2012-13
Ammonium nitrate	95832	86673	59602	167361	95,325
Containers	201	5	1063	7205	13876
Explosives	10110	5899	10641	0	0
General cargo	56	3170	1889	45261	90,813
Petroleum products	4059	28833	67146	48530	22,119
Salt	0	0	41639	26297	43775
Total imports	110258	124580	181980	294654	265,908

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

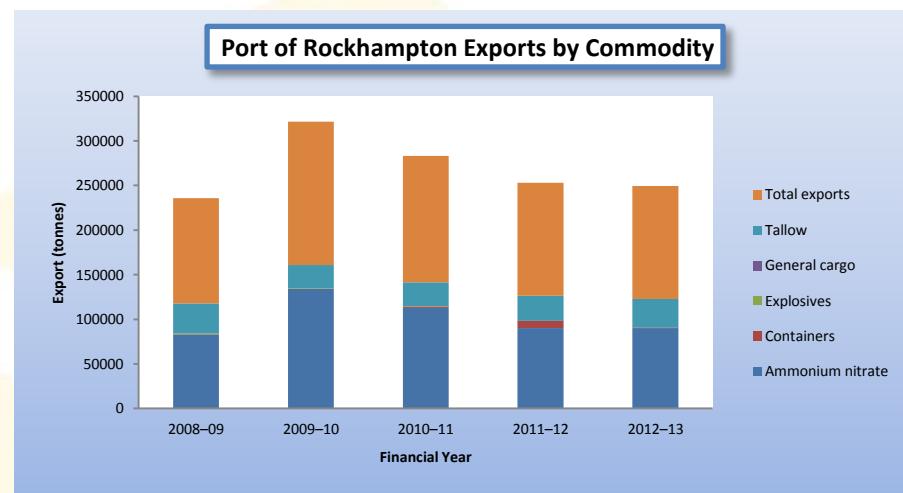


Figure 30: Rockhampton Exports*

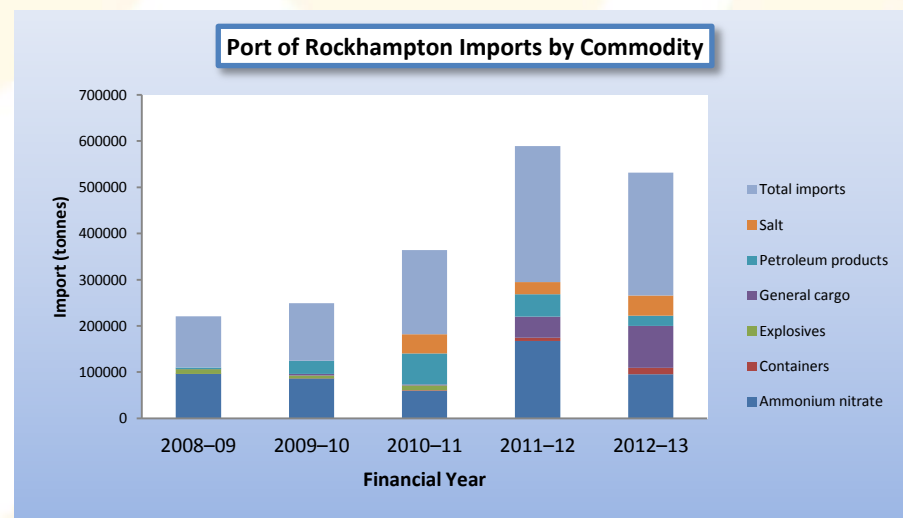


Figure 31: Rockhampton Imports*

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots - Rockhampton

Table 13: Port of Rockhampton Container Trade*

Trade	2008–09	2009–10	2010–11	2011–12	2012–13
Export Full	82	90	969	451	621
Export Empty	47	4	20	0	4
Import Full	739	449	288	694	1170
Import Empty	14	9	0	0	73
Total TEU's	882	552	1277	1145	1868

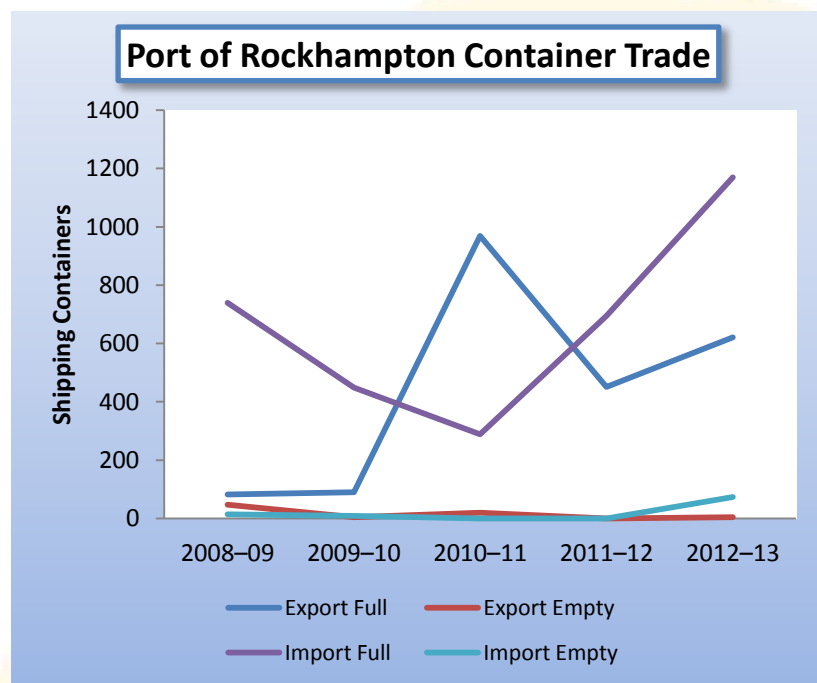


Figure 32: Container imports and exports, Rockhampton*

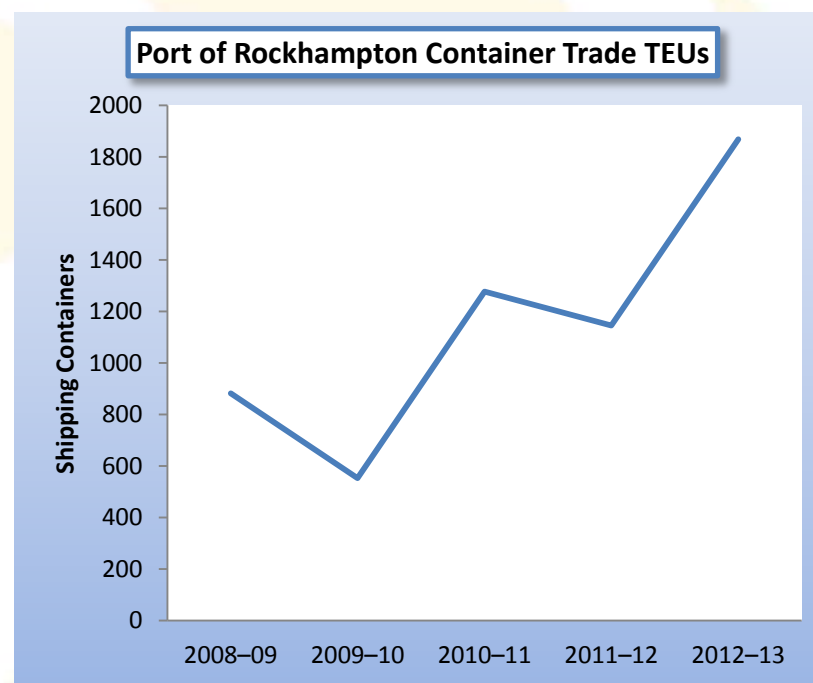


Figure 33: Total TEUs Traded, Rockhampton *

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – NQBP Ltd.

Table 14: North Queensland Bulk Ports exports and Imports*

<i>Exports</i>	2008–09	2009–10	2010–11	2011–12	2012–13
Abbot point	14,443,487	16,933,596	15,063,943	13,602,137	17,744,621
Hay point	82,449,664	99,465,091	87,805,164	82,883,893	96,540,226
Mackay	1,389,428	1,481,337	1,394,924	1,285,642	1,677,030
Weipa	20,348,567	20,584,892	22,242,359	24,989,956	28,924,608
Total	118,631,146	138,464,916	126,506,390	122,761,628	144,886,485
<i>Imports</i>					
Mackay	1,013,085	1,066,507	1,157,063	1,427,376	1,592,937
Weipa	109,012	90,898	80,287	102,077	116,964
Total	1,122,097	1,157,405	1,237,350	1,529,453	1,709,901
Total throughput	119,753,243	139,622,321	127,743,741	124,291,081	146,596,386

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – NQBP Ltd.

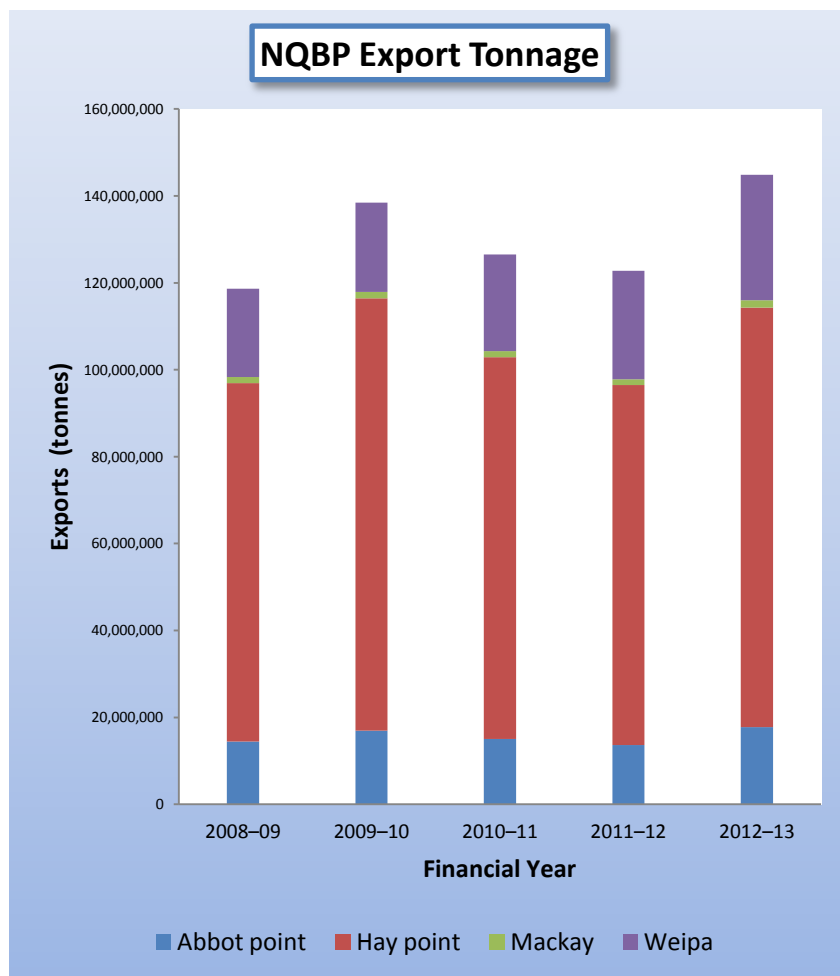


Figure 34: Exports from NQBP*

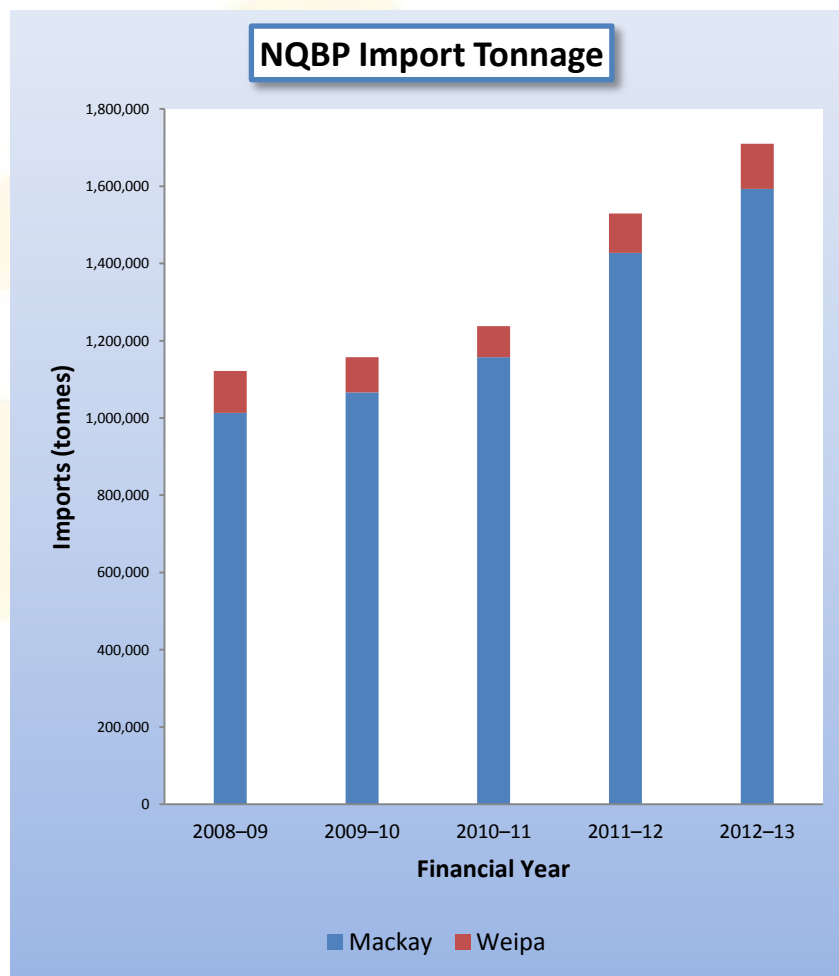


Figure 35: Imports to NQBP*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Hay Point

Table 15: Hay Point Trade Statistics*

Export	2008–09	2009–10	2010–11	2011–12	2012–13
Coal DBCT	47,129,313	63,130,205	54,664,876	50,843,846	62,203,846
Coal HPCT	35,320,351	36,334,886	33,140,288	32,040,047	34,336,380
Total exports	82,449,664	99,465,091	87,805,164	82,883,893	96,540,226
Total	82,449,664	99,465,091	87,805,164	82,883,893	96,540,226

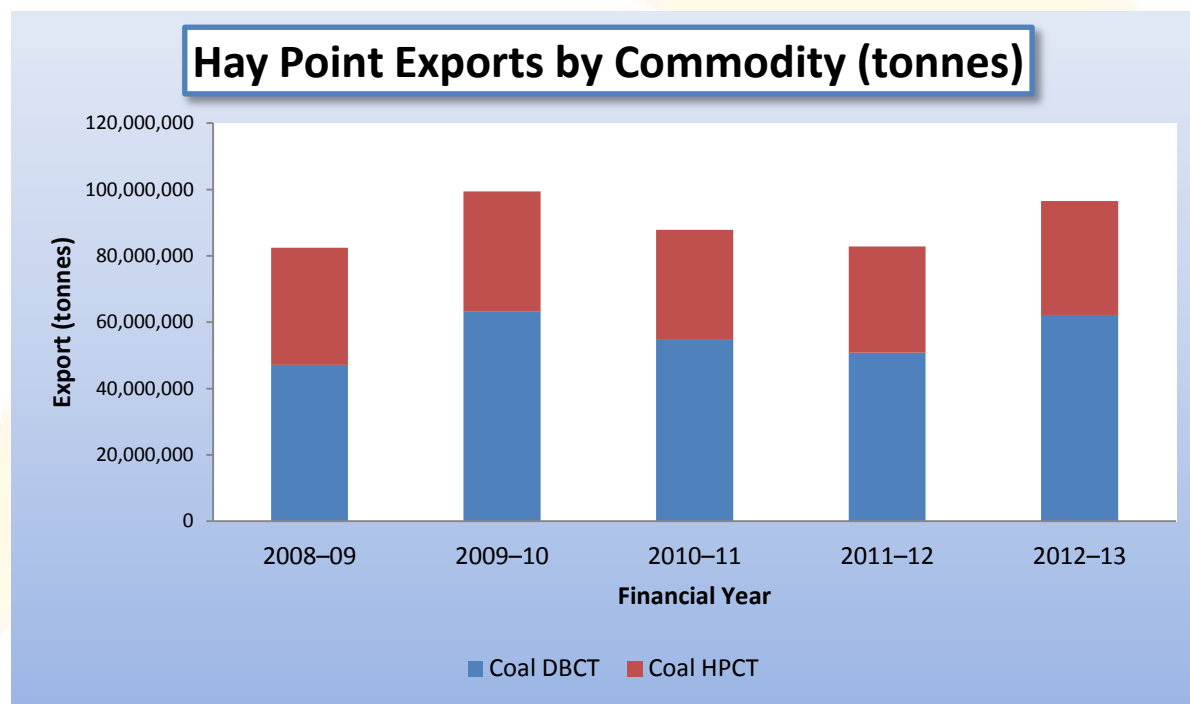


Figure 36: Exports from Hay Point*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Mackay

Table 16: Port of Mackay Trade Statistics*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
<i>Export</i>					
Cattle	1,085	0	0	0	0
General cargo	5,130	38,887	32,854	73,051	167,987
Grain	310,909	278,406	350,056	386,324	332,850
Industrial alcohol	12,319	7,007	3,196	2,102	22,518
Logs	0	0	40,114	46,803	0
Machinery	639	2,766	0	6,637	10,423
Molasses	11,608	28,969	42,505	40,001	27,737
Refined sugar	314,843	337,107	312,271	298,941	318,493
Scrap metal	30,347	20,177	32,729	43,093	37,372
Sugar	698,735	765,215	575,522	382,966	754,647
Tallow	3,813	2,803	5,677	5,724	5,003
Total	1,389,428	1,481,337	1,394,924	1,285,642	1,677,030
<i>Import</i>					
Bulk fertilisers	58,301	52,382	44,218	59,972	60,284
Concrete	14,021	10,511	23,032	31,215	28,848
Iron concentrates	39,798	67,999	35,040	76,935	52,439
Machinery	19,562	12,210	2,363	0	0
Petroleum product	876,398	923,405	1,044,895	1,256,756	1,448,406
Sulphuric acid	5,005	0	7,515	2,498	2,960
Total imports	1,013,085	1,066,507	1,157,063	1,427,376	1,592,937
Total throughput	2,402,513	2,547,844	2,551,987	2,713,018	3,269,967

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Mackay

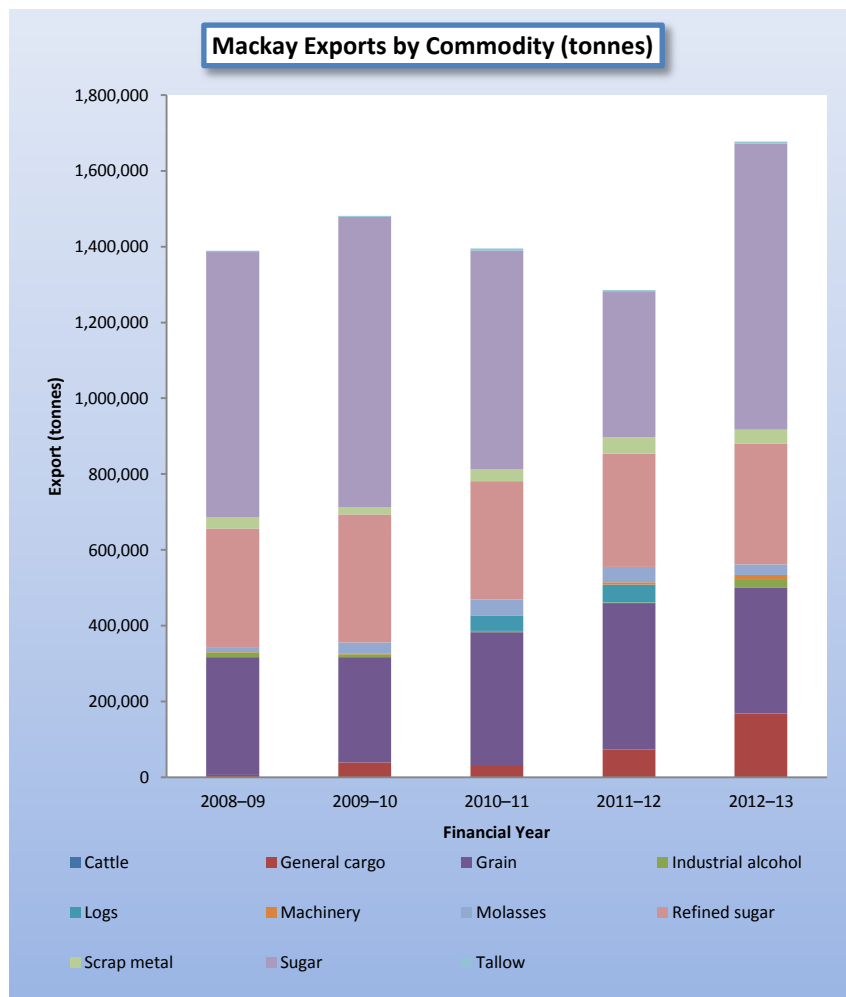


Figure 37: Exports from Mackay*

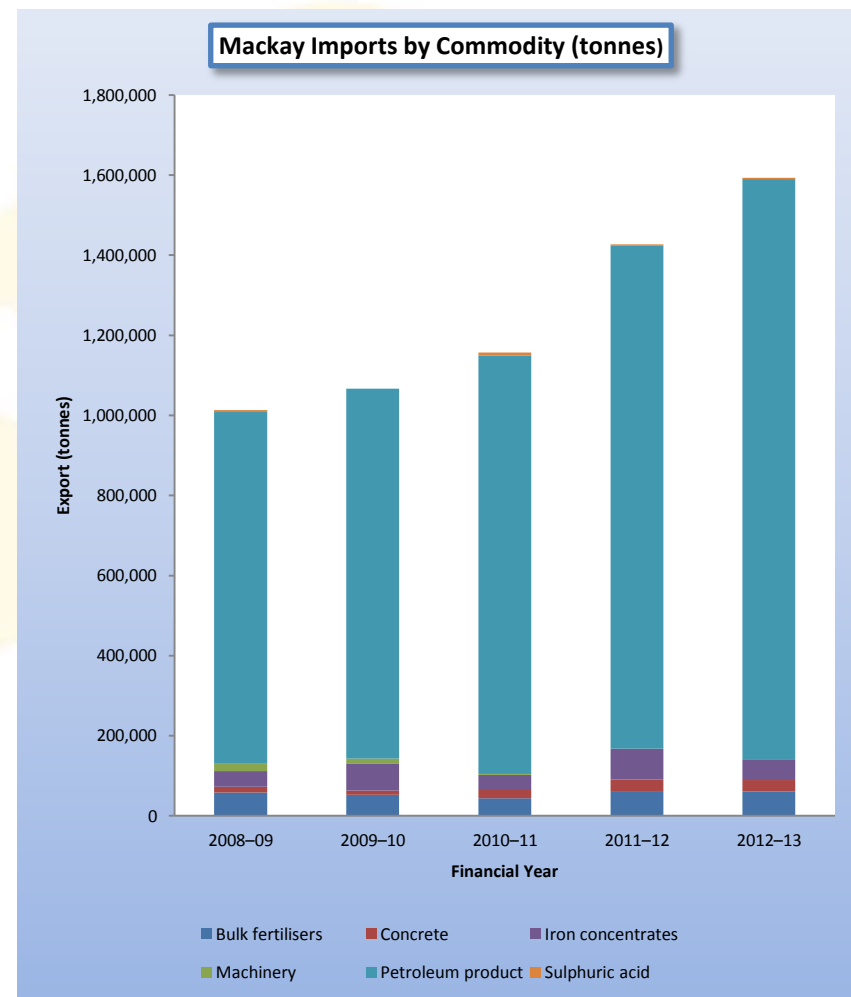


Figure 38: Imports to Mackay*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Abbot Point

Table 17: Port of Abbot Point Trade Statistics*

Export	2008–09	2009–10	2010–11	2011–12	2012–13
Coal	14,443,487	16,933,596	15,063,943	13,602,137	17,744,621
Total exports	14,443,487	16,933,596	15,063,943	13,602,137	17,744,621
Total throughput	14,443,487	16,933,596	15,063,943	13,602,137	17,744,621

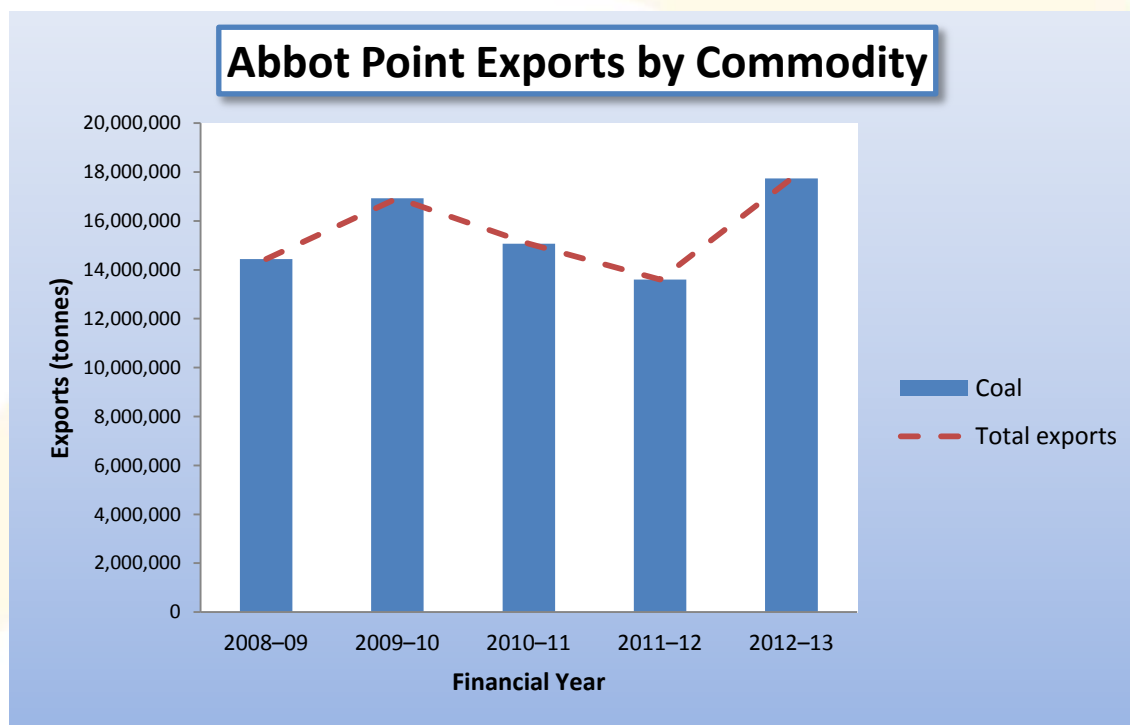


Figure 39: Exports from Abbot Point*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Port of Townsville Ltd.

Table 18: Port of Townsville LTD*

<i>Export</i>	2008–09	2009–10	2010–11	2011–12	2012–13
Lucinda	598,955	589,517	416,489	9,522	438,308
Townsville	4,317,787	4,411,181	4,725,069	6,335,708	5,434,413
Total	4,916,742	5,000,698	5,141,558	6,345,230	5,872,721
<i>Import</i>					
Lucinda	0	2,338	4,070	3,337	6,105
Townsville	4,767,034	5,841,634	5,876,067	6,549,205	6,671,391
Total	4,767,034	5,843,972	5,880,137	6,552,542	6,667,496
Total throughput	9,683,776	10,844,670	11,021,696	12,897,772	12,550,217

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Port of Townsville Ltd.

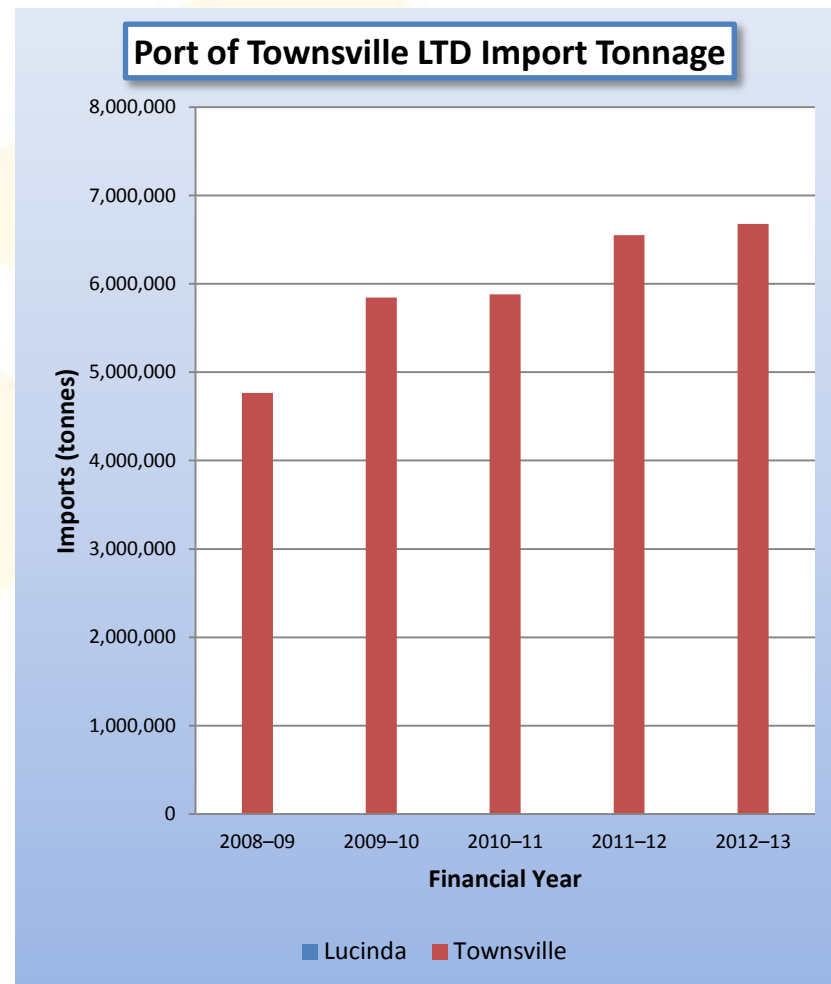
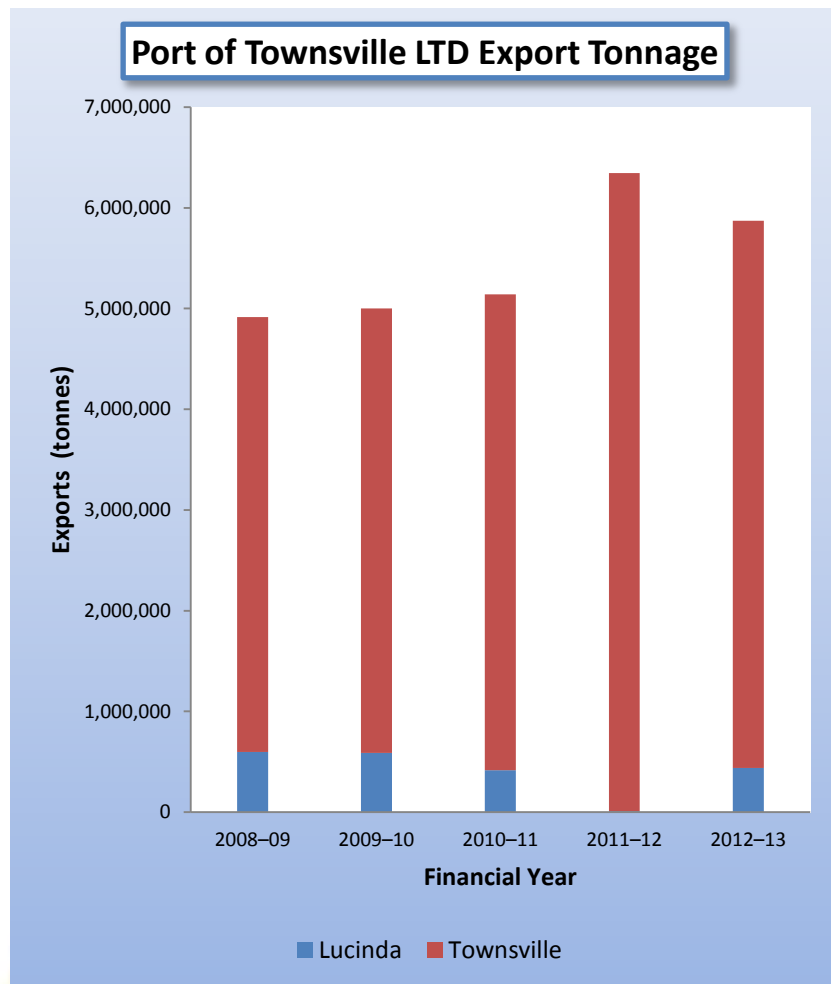


Figure 40: Exports from Port of Townsville LTD*

Figure 41: Imports to Port of Townsville LTD*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Townsville

Table 19 Port of Townsville vessel statistics *

<i>Vessel gross registered tonnage</i>	2010–11	2011–12	2012–13
<10000 t	245	269	200
10,001–20,000 t	177	180	161
20,001–30,000 t	133	159	164
>30000 t	177	197	196
Total vessels	732	805	721

<i>By length (metres)</i>	2010–11	2011–12	2012–13
<185 m	551	600	517
185–230 m	181	205	0
>230 m	0	0	204
Total vessels	732	805	721

*Only three financial years of data available. Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

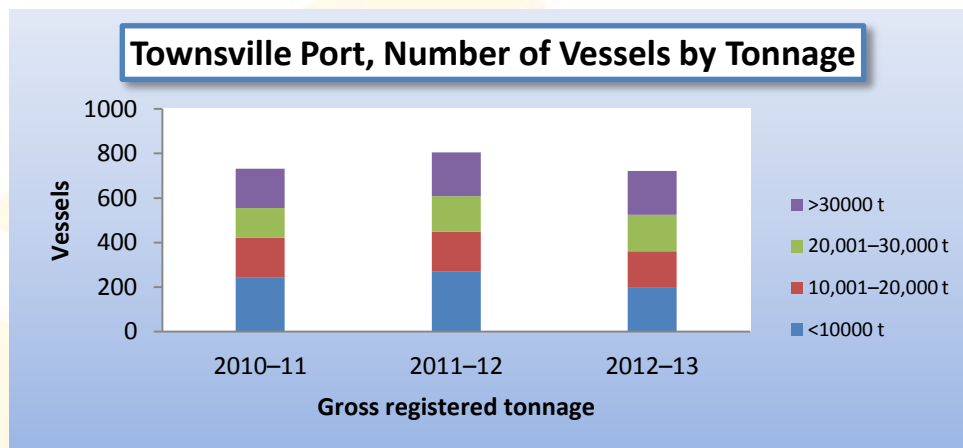


Figure 42: Vessel numbers in each tonnage class*

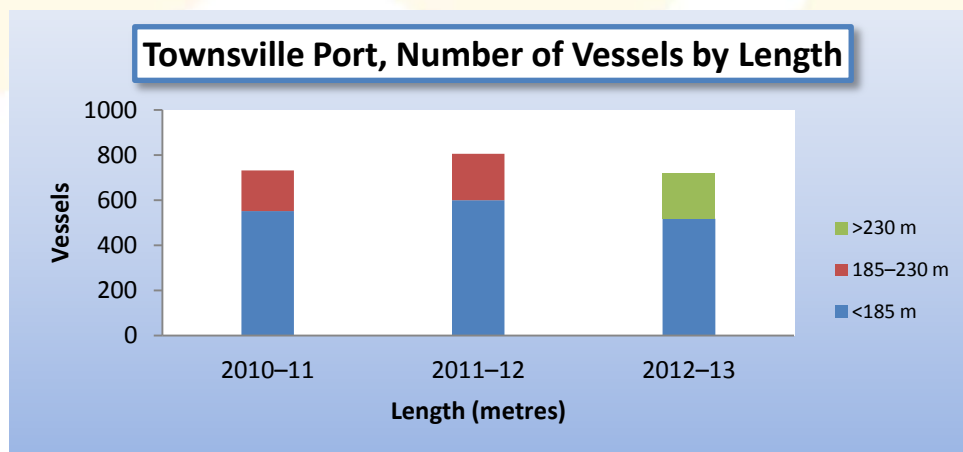


Figure 43: Vessel numbers in each length class*

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Townsville

Table 20: Port of Townsville vessel statistics - Exports by Commodity

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Fertiliser	773619	779810	828105	866066	810338
General cargo	150018	150126	145404	191633	163846
Livestock cattle	76204	45031	23888	10863	2072
Magnetite	0	0	278476	846523	773177
Meat and by products	6832	15129	27188	21288	13014
Metal cons copper	454050	302138	213874	180492	276305
Metal cons lead	325585	401910	381792	373058	365430
Metal cons lead/silver	42330	64960	14257	0	1705
Metal cons zinc	544104	695858	776315	808480	889953
Metal cons zinc ferrites	67218	56726	154328	210651	210175
Metals-refined copper	205500	201358	228520	272221	198633
Metals-refined nickel	1146	11548	17733	27967	16998
Metals-refined zinc	158945	137143	289014	156889	139109
Metals-smelted lead	153192	152029	113658	164430	129623
Metals-zinc oxide	0	0	24339	0	0
Molasses	244463	185237	233710	381782	254731
Petrol-contaminated oil	5566	1667	3259	8628	6978
Sand/gravel/coke	0	8181	0	0	0
Sugar	1078520	1190898	958720	1490541	1091626
Sulphuric acid	30497	11432	12488	5502	0
Timber	0	0	0	318696	90700
Total	4317789	4411181	4725068	6335710	5434413

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

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PART D: Port Throughput Data: Individual port snapshots – Townsville

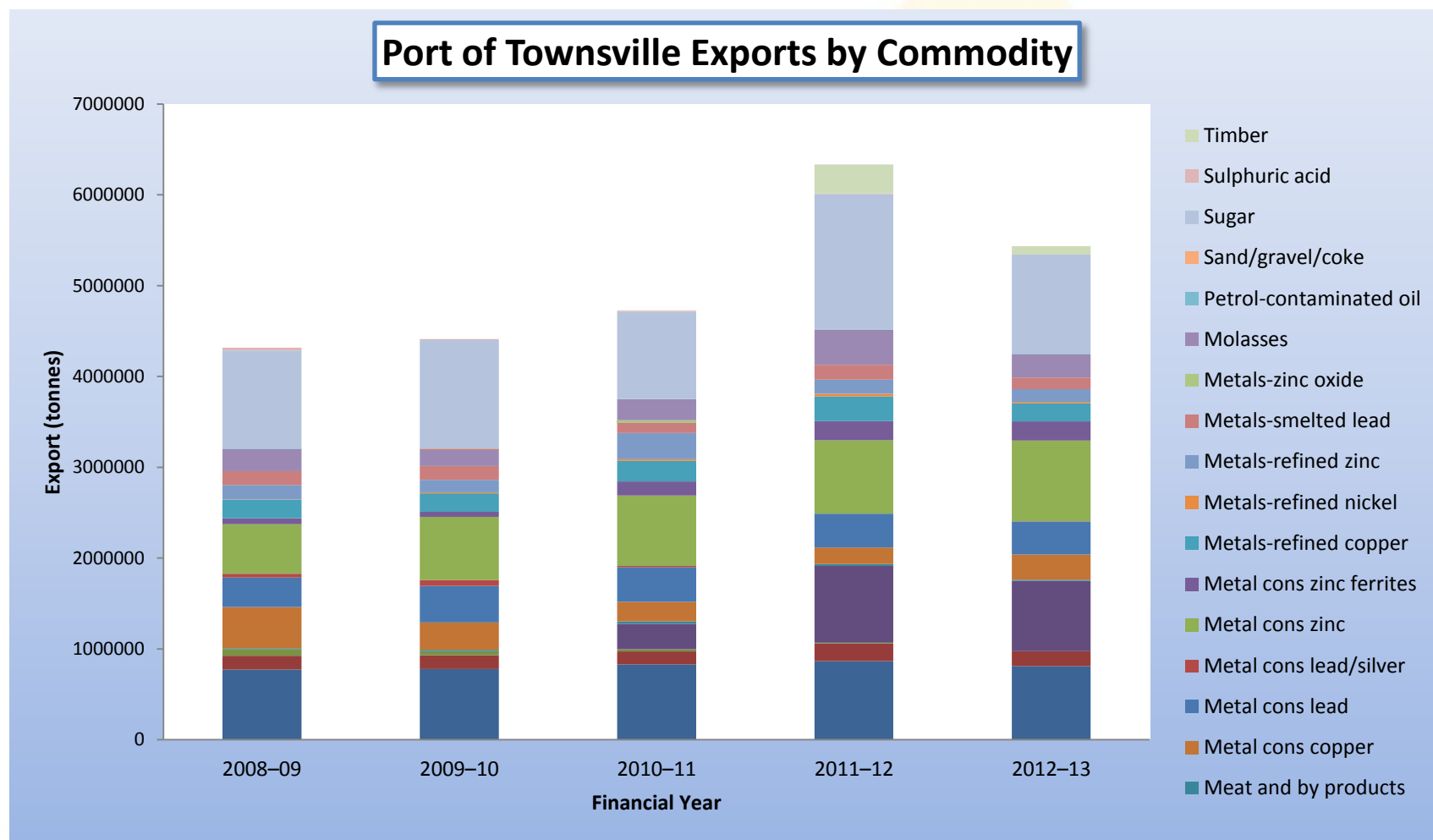


Figure 44: Exports from Townsville*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

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PART D: Port Throughput Data: Individual port snapshots – Townsville

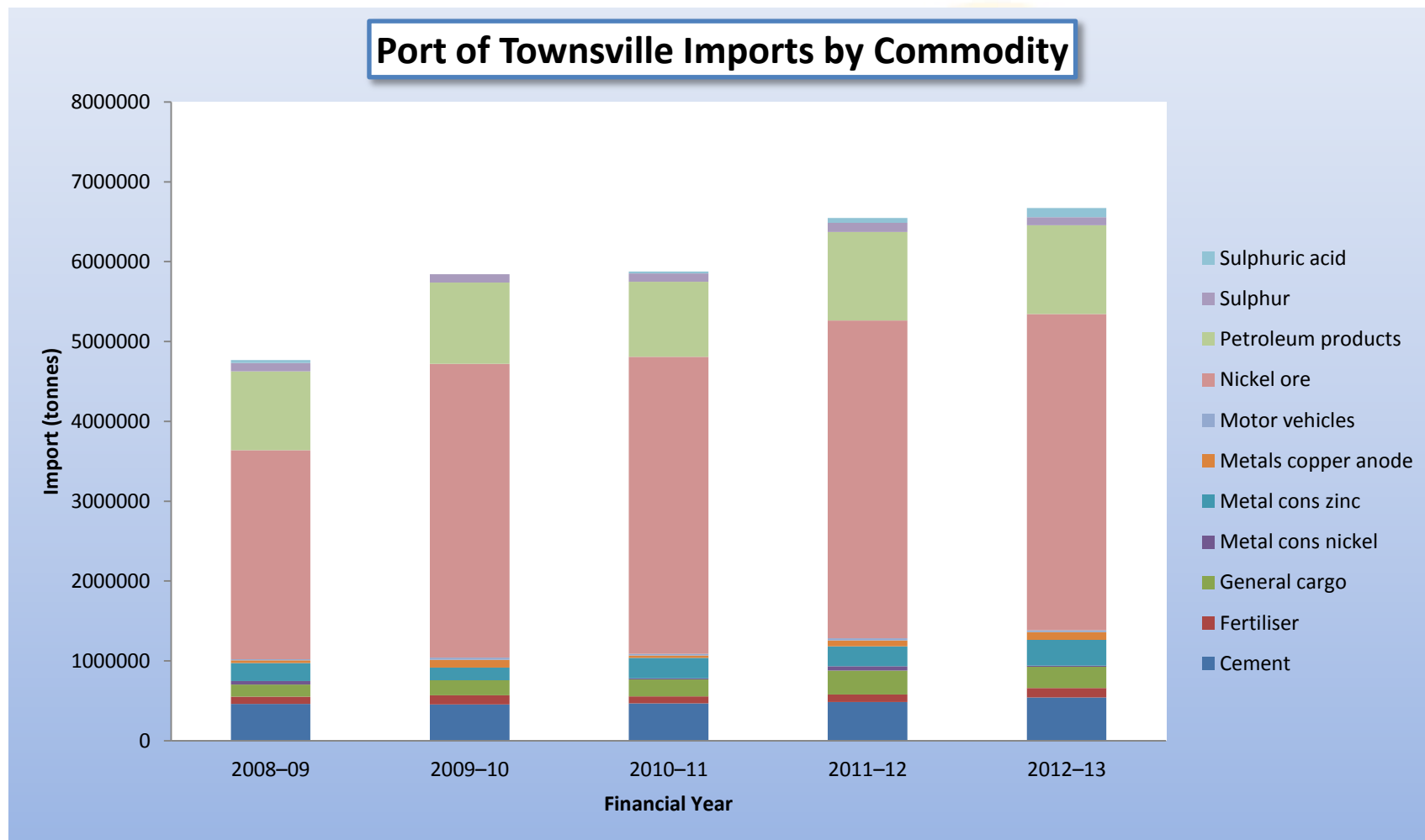


Figure 45: Imports to Townsville*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Townsville

Table 21: Port of Townsville vessel statistics Imports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Cement	460538	453124	466668	482254	540158
Fertiliser	91600	113691	87775	96817	118814
General cargo	152086	188726	211621	300493	265215
Metal cons nickel	41439	0	13311	52714	16283
Metal cons zinc	228476	158341	258309	250230	322078
Metals copper anode	31655	98964	30630	73564	97968
Motor vehicles	15500	28166	19329	27092	24224
Nickel ore	2618563	3680603	3719507	3978616	3958967
Petroleum products	987897	1016206	941103	1111296	1112244
Sulphur	101703	103812	103746	112733	102460
Sulphuric acid	37578	0	24067	63396	112980
Total imports	4767035	5841633	5876066	6549205	6671391

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Townsville

Table 22: Port of Townsville Container Trade Statistics*

Export	2008–09	2009–10	2010–11	2011–12	2012–13
Export Full	12,203	15,756	16,625	19,294	19,329
Export Empty	3,472	2,692	4,706	4,606	4,891
Import					
Import Full	7,405	7,690	10,815	12,674	12,064
Import Empty	8,281	9,317	10,293	12,988	13,889
Total TEU's	31,361	35,455	42,439	49,562	50,173

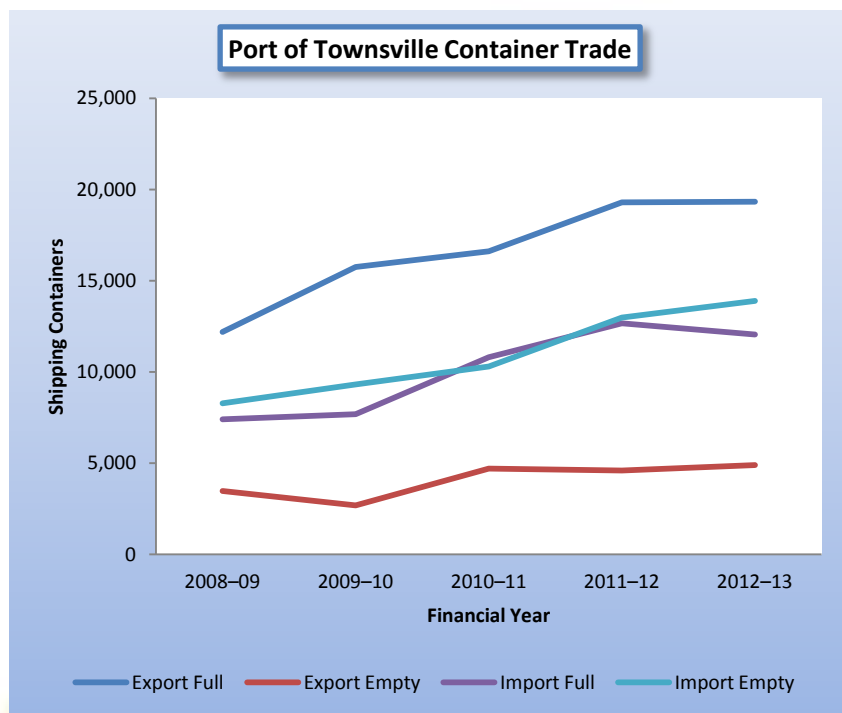


Figure 46: Container imports and exports, Townsville*

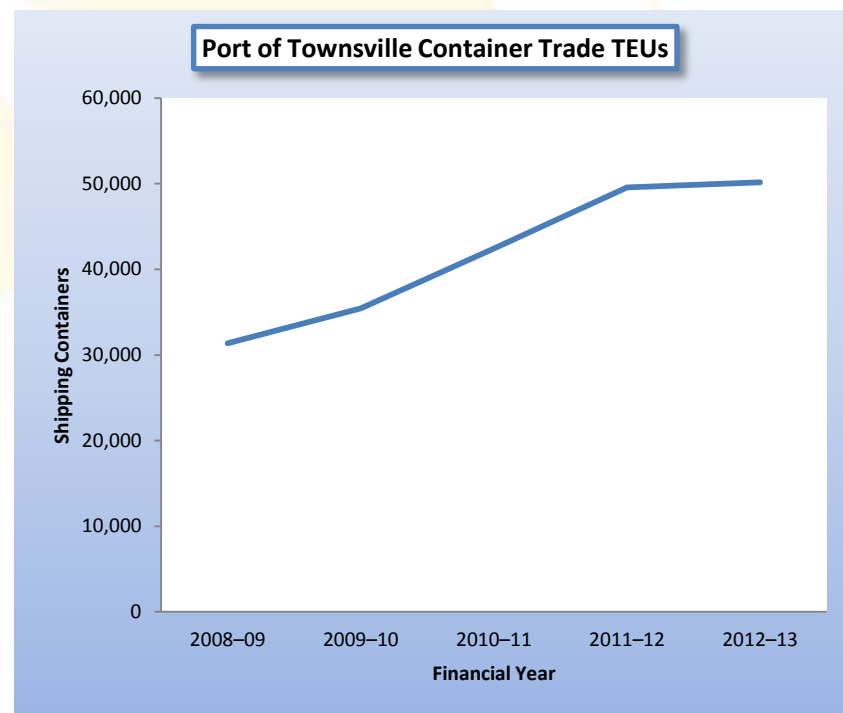


Figure 47: Total TEUs Traded, Townsville *

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Lucinda

Table 23: Port of Lucinda vessel statistics*

<i>Vessel gross registered tonnage</i>	2010–11	2011–12	2012–13
<10000 t	0	1	0
10,001–20,000 t	4	0	0
20,001–30,000 t	7	0	6
>30000 t	1	0	4
Total t	12	1	10

<i>By length (metres)</i>	2010–11	2011–12	2012–13
<185 m	6	1	2
185–230 m	6	0	8
>230 m	0	0	0
Total	12	1	10

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

Port of Lucinda Number of Vessels by Tonnage

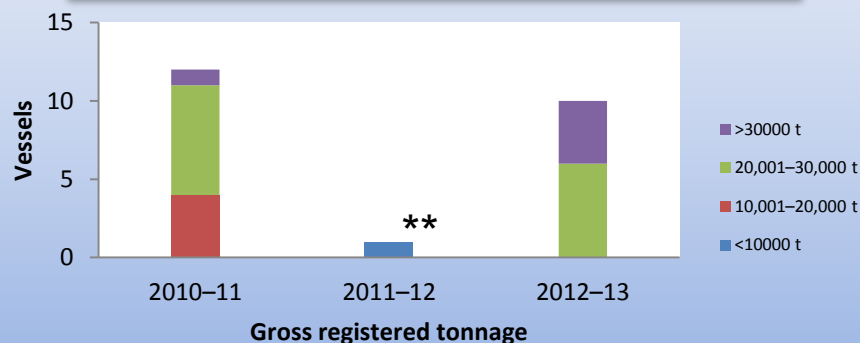


Figure 48: Vessel numbers in each tonnage class*

Port of Lucinda Number of Vessels by Length

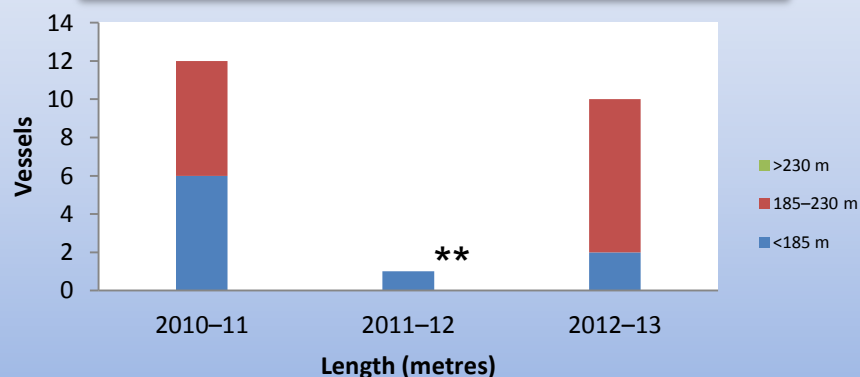


Figure 49: Vessel numbers in each length class*

**Note: Shipping figures influenced by damage to Lucinda jetty structure caused by Severe Tropical Cyclone Yasi (February 2011)

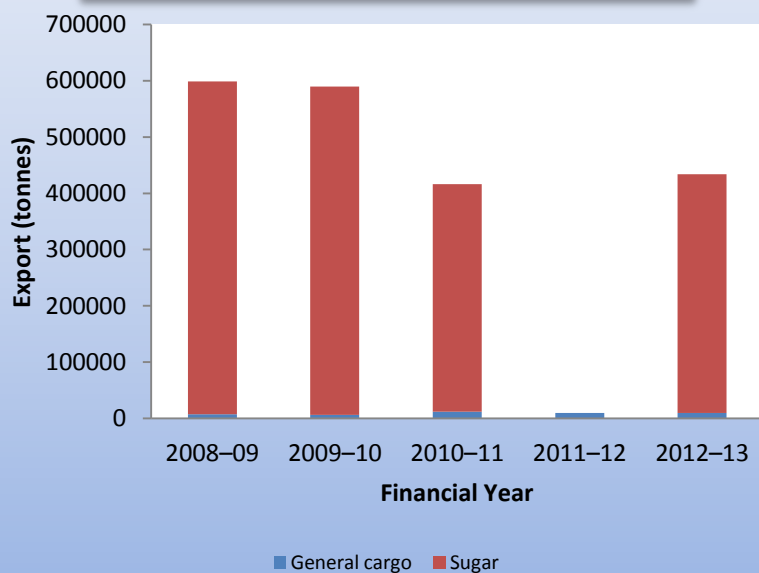
SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Lucinda

Table 24: Port of Lucinda Exports and Imports by Commodity*

Exports	2008–09	2009–10	2010–11	2011–12	2012–13
General cargo	7455	6166	11795	9522	9522
Sugar	591500	583351	404694	0	424103
Total exports	598955	589517	416489	9522	9522
Imports	2008–09	2009–10	2010–11	2011–12	2012–13
General cargo	0	2338	4070	3337	6,105
Total	0	2338	4070	3337	6,105

Port of Lucinda Exports by Commodity



Port of Lucinda Imports by Commodity

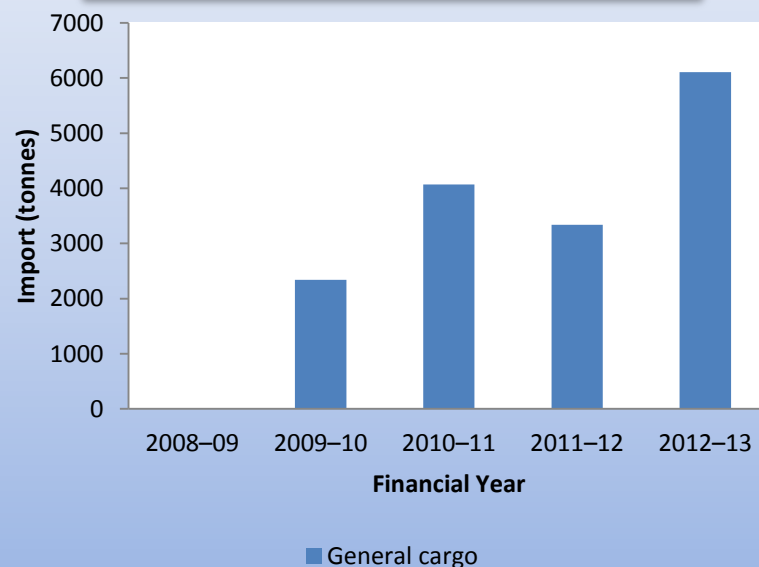


Figure 50: Exports from Lucinda*

Figure 51: Imports to Lucinda*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Ports North

Table 25: Ports North Trade Statistics*

<i>Port</i>	2008–09	2009–10	2010–11	2011–12	2012–13
<i>Export</i>					
Cairns	433,470	485,165	397,346	398,617	407,891
Cape Flattery	1,483,250	1,730,060	2,026,120	1,777,000	1,678,060
Karumba	1,010,203	650,336	963,021	977,938	893,949
Mourilyan	648,521	519,731	507,145	453,214	533,331
Quintell Beach	268	78	0	0	0
Thursday Island	0	3,510	11,798	31,636	12,701
Total	3,575,712	3,388,880	3,905,430	3,638,405	3,525,932
<i>Import</i>					
Cairns	653,004	621,249	627,941	631,035	647,717
Karumba	0	1,228	1,474	1,611	1,088
Quintell Beach	2,181	1,602	1,443	2,286	1,453
Thursday Island	80,552	69,235	63,273	70,813	64,787
Total	735,737	693,314	694,131	705,745	715,045

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Ports North

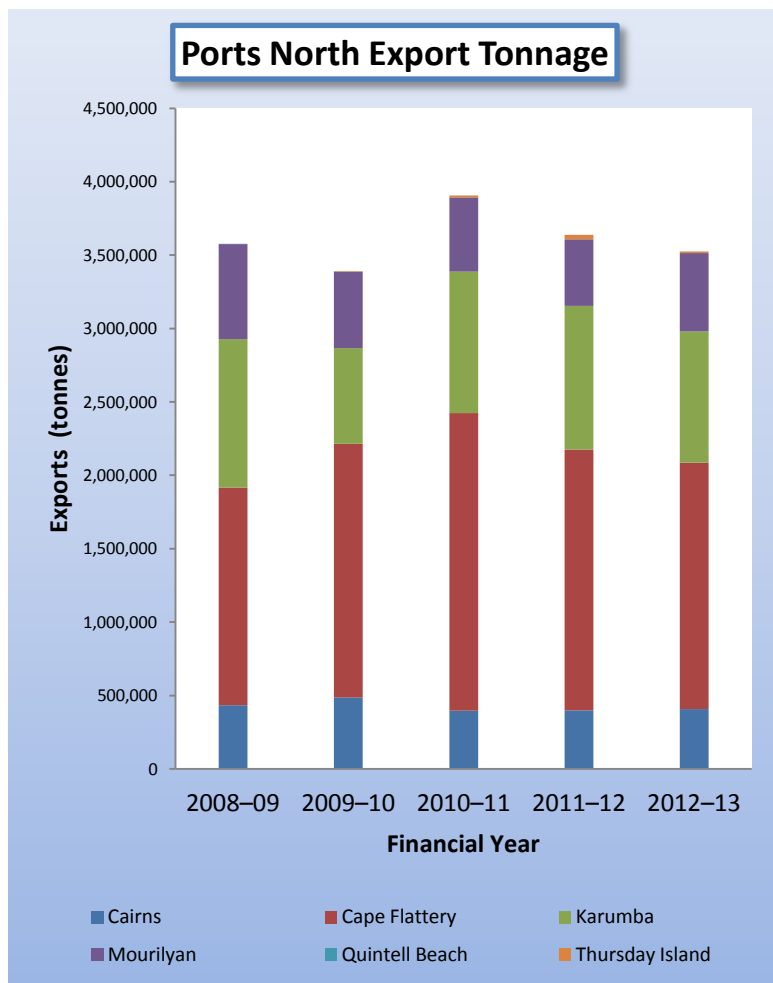


Figure 52: Exports from Ports North*

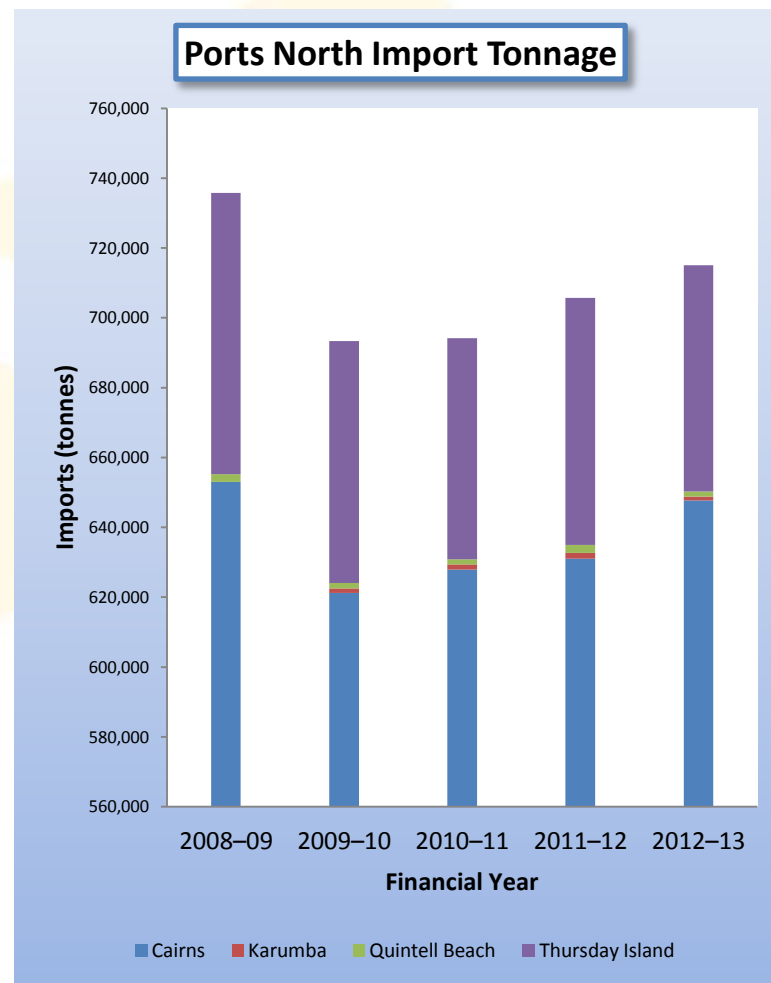


Figure 53: Imports to Ports North*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Mourilyan

Table 26: Port of Mourilyan Exports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Livestock	3938	3289	1197	0	0
Molasses	80344	50942	70080	79656	73546
Sugar	564239	465500	435868	322425	423325
Timber	0	0	0	51133	36460
Total	exports	648521	519731	507145	453214

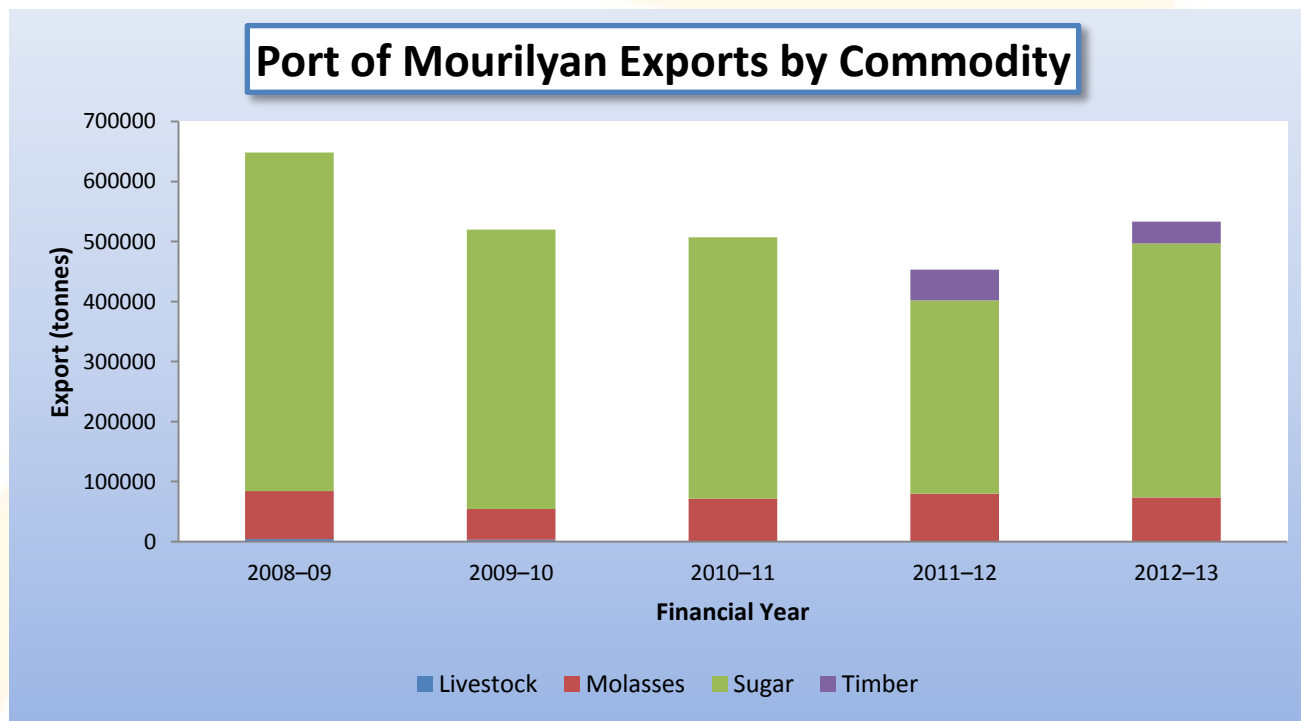


Figure 54: Mourilyan Exports*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Cairns

Table 27: Port of Cairns vessel statistics*

<i>Vessel gross registered tonnage</i>	2010–11	2011–12	2012–13
<10000 t	630	630	675
10,001–20,000 t	6	10	8
20,001–30,000 t	51	47	51
>30000 t	25	33	35
Total	712	720	769

<i>By length (metres)</i>	2010–11	2011–12	2012–13
<185 t	686	693	742
185–230 t	18	21	21
>230 t	8	6	6
Total	712	720	769

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

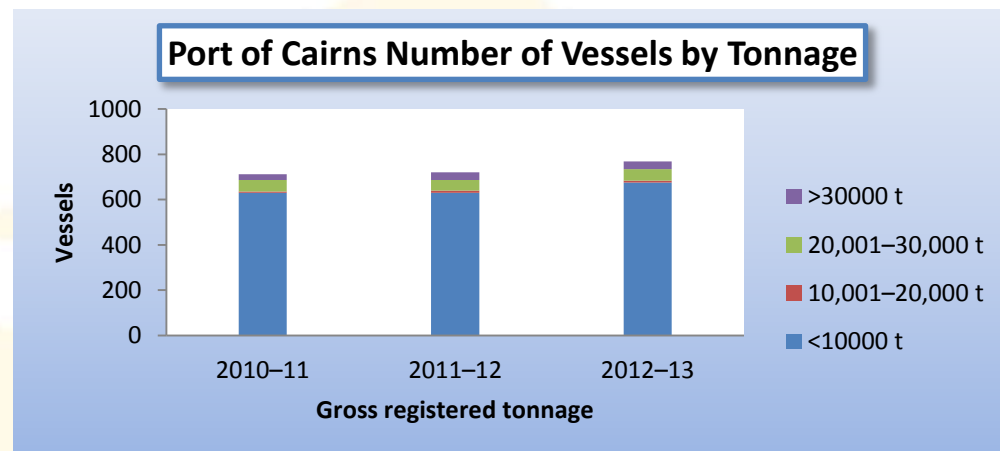


Figure 55: Vessel numbers in each tonnage class*

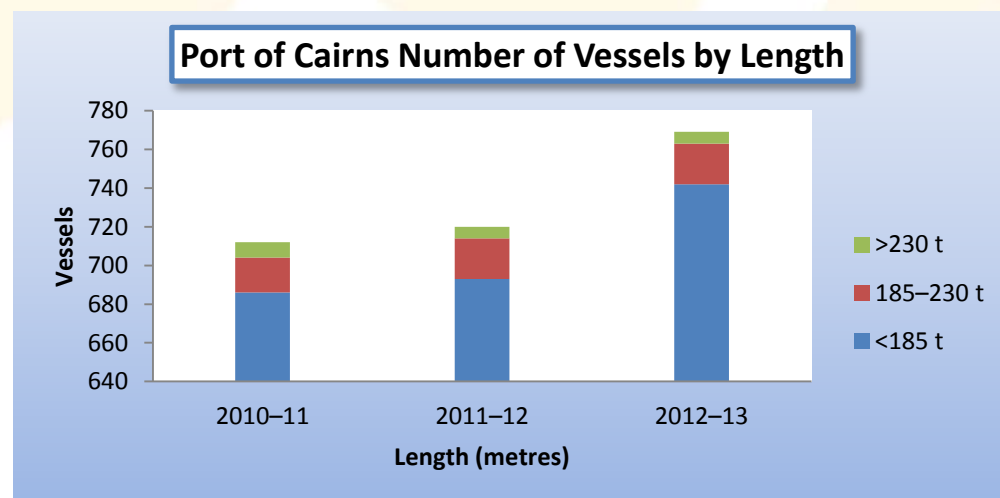


Figure 56: Vessel numbers in each length class*

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Cairns

Table 28: Port of Cairns Exports by Commodity

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
General cargo		151352	133280	142952	192305
Molasses	42539	41411	50036	36410	49674
Petroleum product	18033	13359	7334	12663	10791
Sugar	221546	297115	197024	157239	187023
Total	433470	485165	397346	398617	407891

Table 29: Port of Cairns Imports by Commodity

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Crude fertilisers	35684	65776	26173	46838	50362
General cargo	59134	35566	56729	37093	37001
LPG	20682	20572	16893	15021	16369
Petroleum products	537504	499335	528146	532083	543985
Total	653004	621249	627941	631035	647717

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Cairns

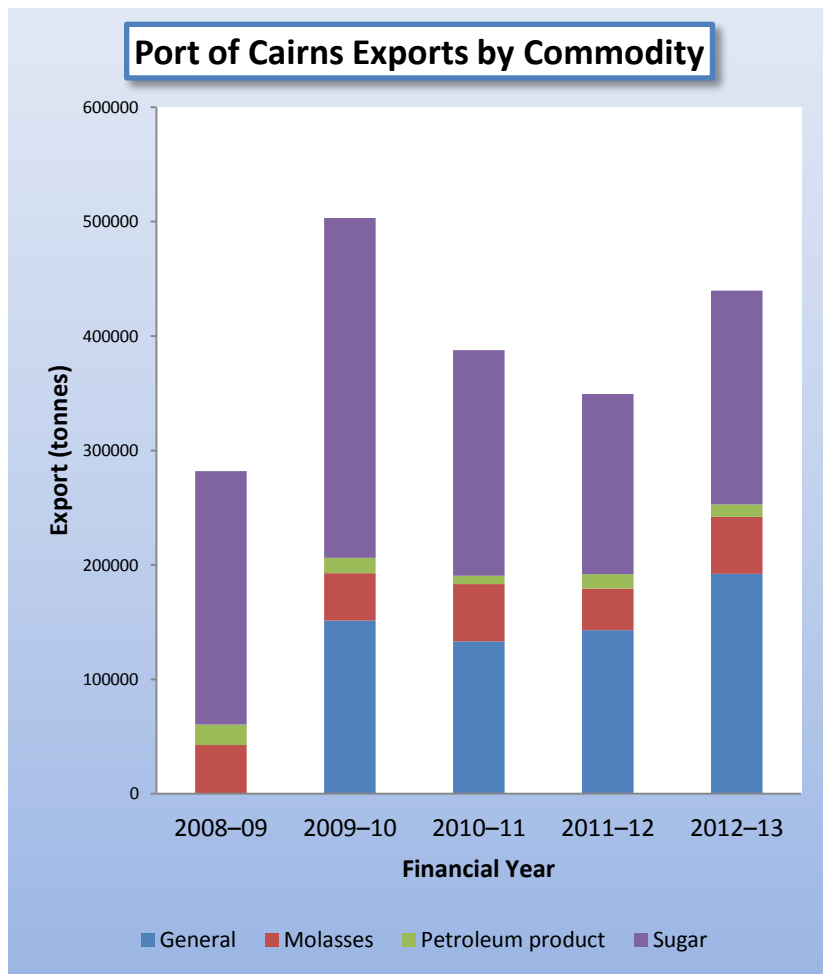


Figure 57: Exports from Cairns*

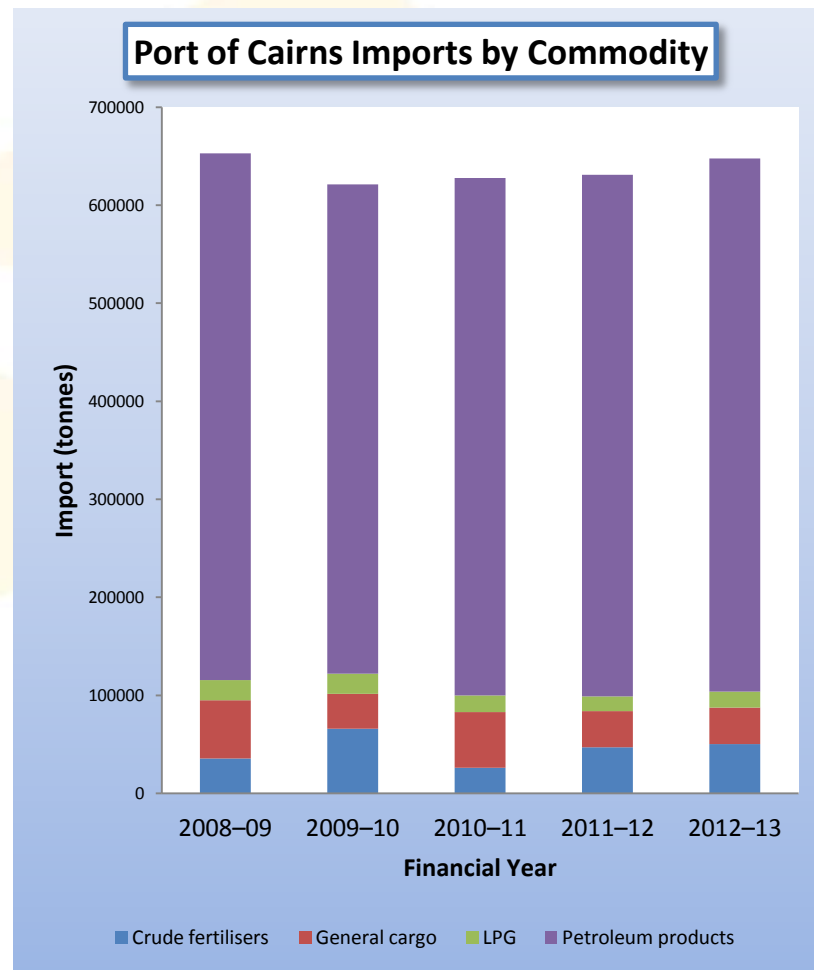


Figure 58: Imports to Cairns*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012-13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Cairns

Table 30: Port of Cairns container trade statistics*

Export	2008–09	2009–10	2010–11	2011–12	2012–13
Export Full	9152	7511	7881	6737	7846
Export Empty	102	20	251	36	25
Import					
Import Full	1544	1151	2492	1306	1065
Import Empty	8136	6502	7316	5377	6825
Total TEU's	18934	15184	17940	13456	15761

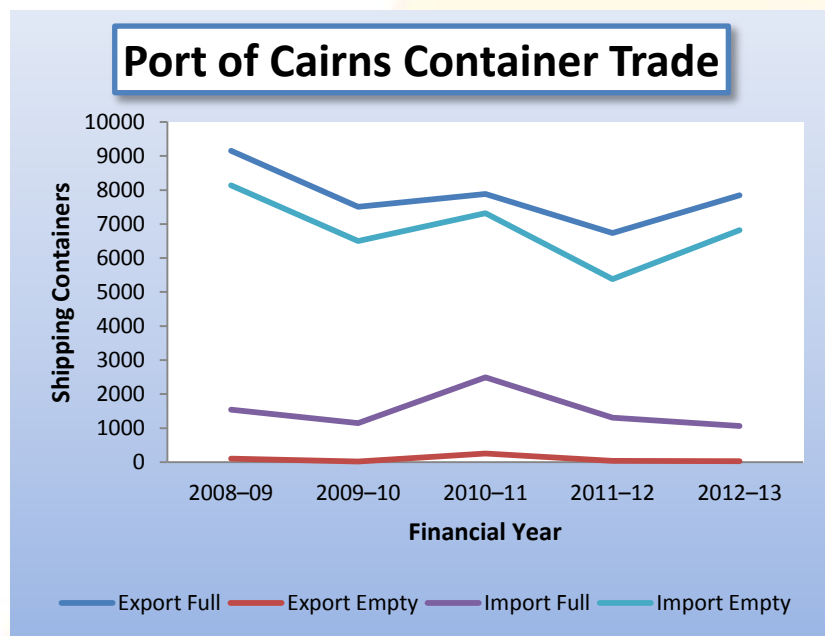


Figure 59: Container imports and exports, Cairns*

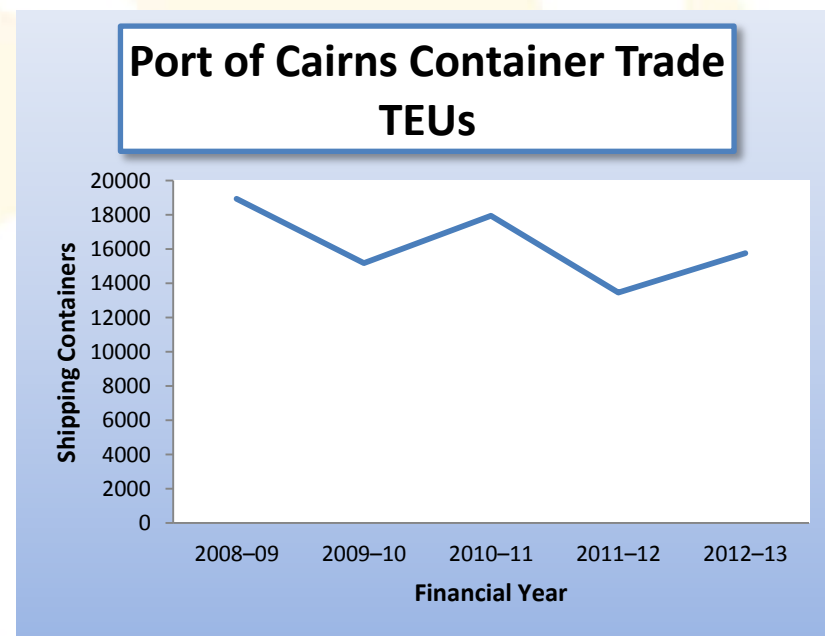


Figure 60: Total TEUs Traded, Cairns *

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

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PART D: Port Throughput Data: Individual port snapshots – Cape Flattery

Table 31: Port of Cape Flattery Exports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
Silica sand	1483250	1730060	2026120	1777000	1678060
Total exports	1483250	1730060	2026120	1777000	1678060
Total	1483250	1730060	2026120	1777000	1678060

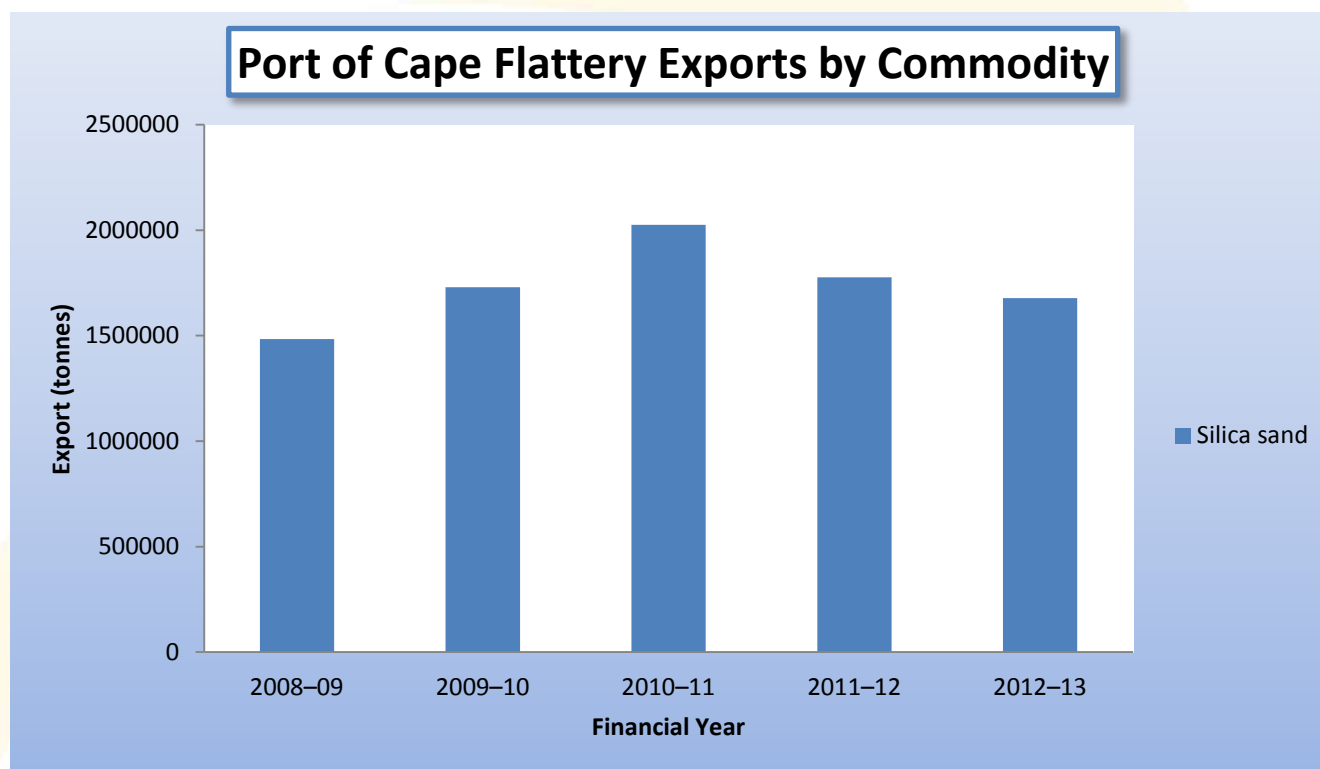


Figure 61: Cape Flattery Exports*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART D: Port Throughput Data: Individual port snapshots – Quintell Beach

Table 32: Port of Quintell Beach Exports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
General cargo	268	78	0	0	0
Total	268	78	0	0	0

Table 33: Port of Quintell Beach Imports by Commodity*

Commodity	2008–09	2009–10	2010–11	2011–12	2012–13
General cargo	2181	1602	1443	2286	1,453
Total	2181	1602	1443	2286	1,453

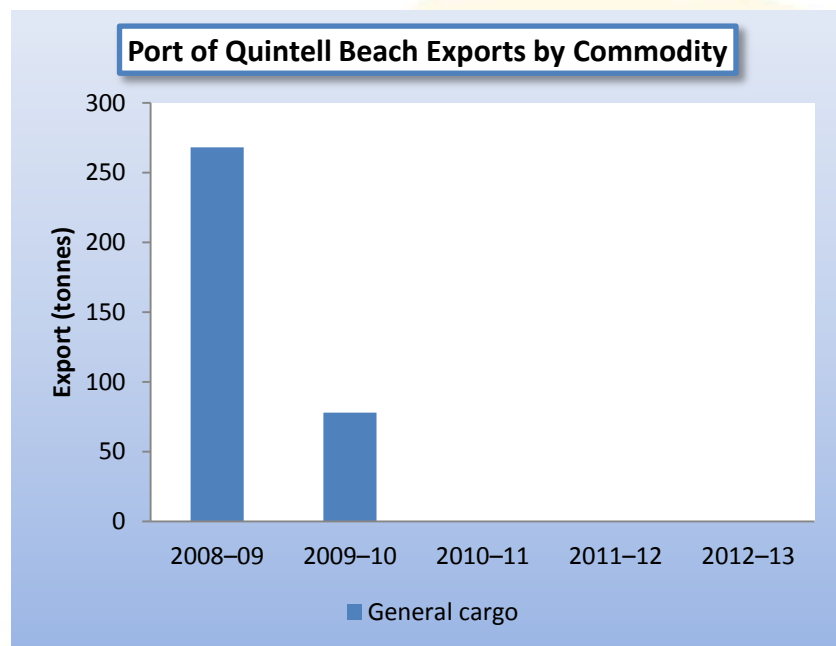


Figure 62: Quintell Beach Exports*

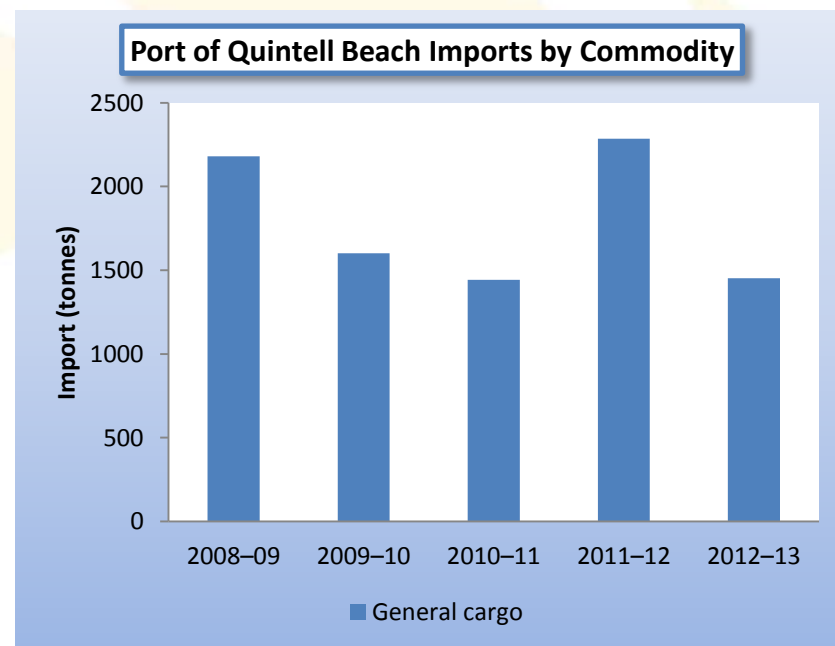


Figure 63: Quintell Beach Imports*

*Data Source: Queensland Department of Transport and Main Roads (2013). Trade Statistics for Queensland Ports 2012–13. Available at: <http://www.tmr.qld.gov.au/Business-and-industry/Transport-sectors/Ports/Trade-statistics-for-Queensland-ports.aspx>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data



Image (c) Susan Sobtchik

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data

Management and monitoring of shipping traffic in the Great Barrier Reef

Shipping traffic in the Great Barrier Reef World Heritage Area and Torres Strait region is monitored and coordinated by the Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS). REEFVTS was established by the Australian and Queensland Governments to improve safety and efficiency of vessel traffic and to protect the environment in the declared Particularly Sensitive Sea Areas (PSSAs) of the GBRWHA and Torres Strait. Ships transiting the Great Barrier Reef are required to utilise Designated Shipping Areas, and upon entering the REEFVTS Area, must report to the Vessel Traffic Service and follow navigational and safety instructions from the coastal VTS. Ships within the REEFVTS area are tracked using radar, Automated Identification System (AIS) and other technologies.

Vessel Traffic Services are recognised internationally for navigational safety through the International Convention on the Safety of Life at Sea 74/78 (SOLAS). REEFVTS is operated under a joint arrangement between the Australian Maritime Safety Authority (AMSA) and Maritime Safety Queensland (MSQ), is based in Townsville, and its operational centre is manned on a 24 hour basis.



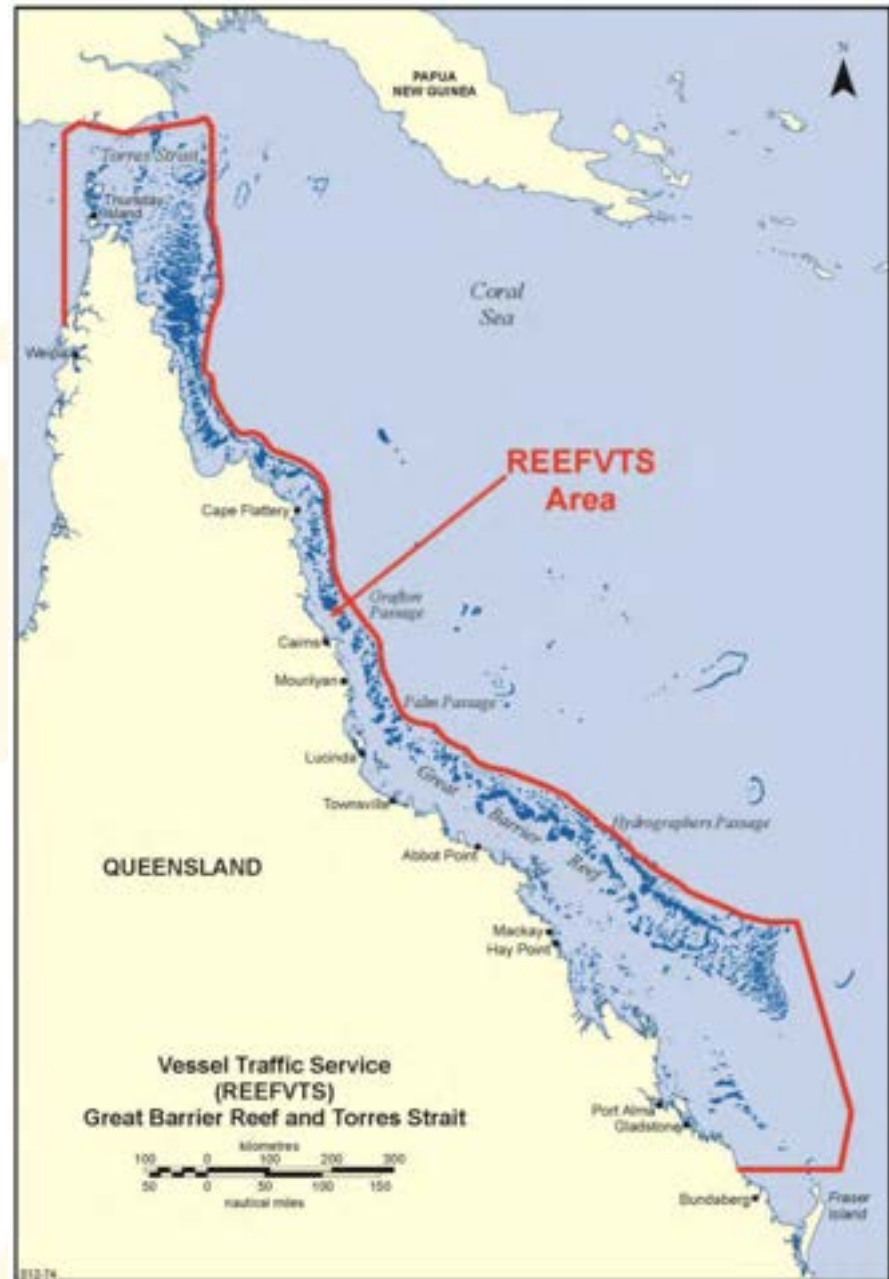
REEFVTS Centre, located at the Port of Townsville

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data

Figure 64: REEFVTS Area

Reproduced from Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS) website. Available at: <https://www.amsa.gov.au/navigation/services/gbr-and-torres-strait-vts/>

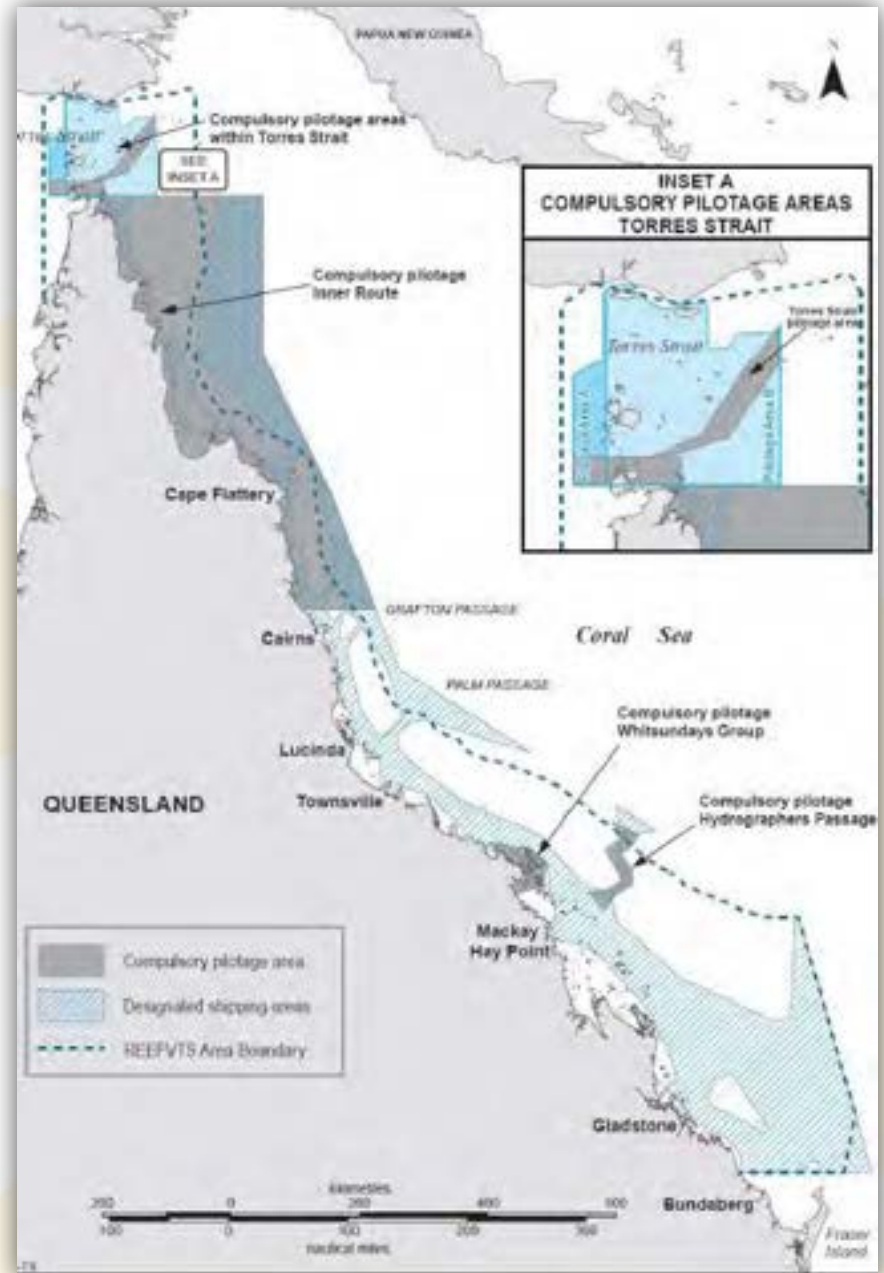


SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data

Figure 65: REEFVTS Area Compulsory Pilotage Areas and Designated Shipping Areas.

Reproduced from: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012.
Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>



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PART E: Shipping Associated Data

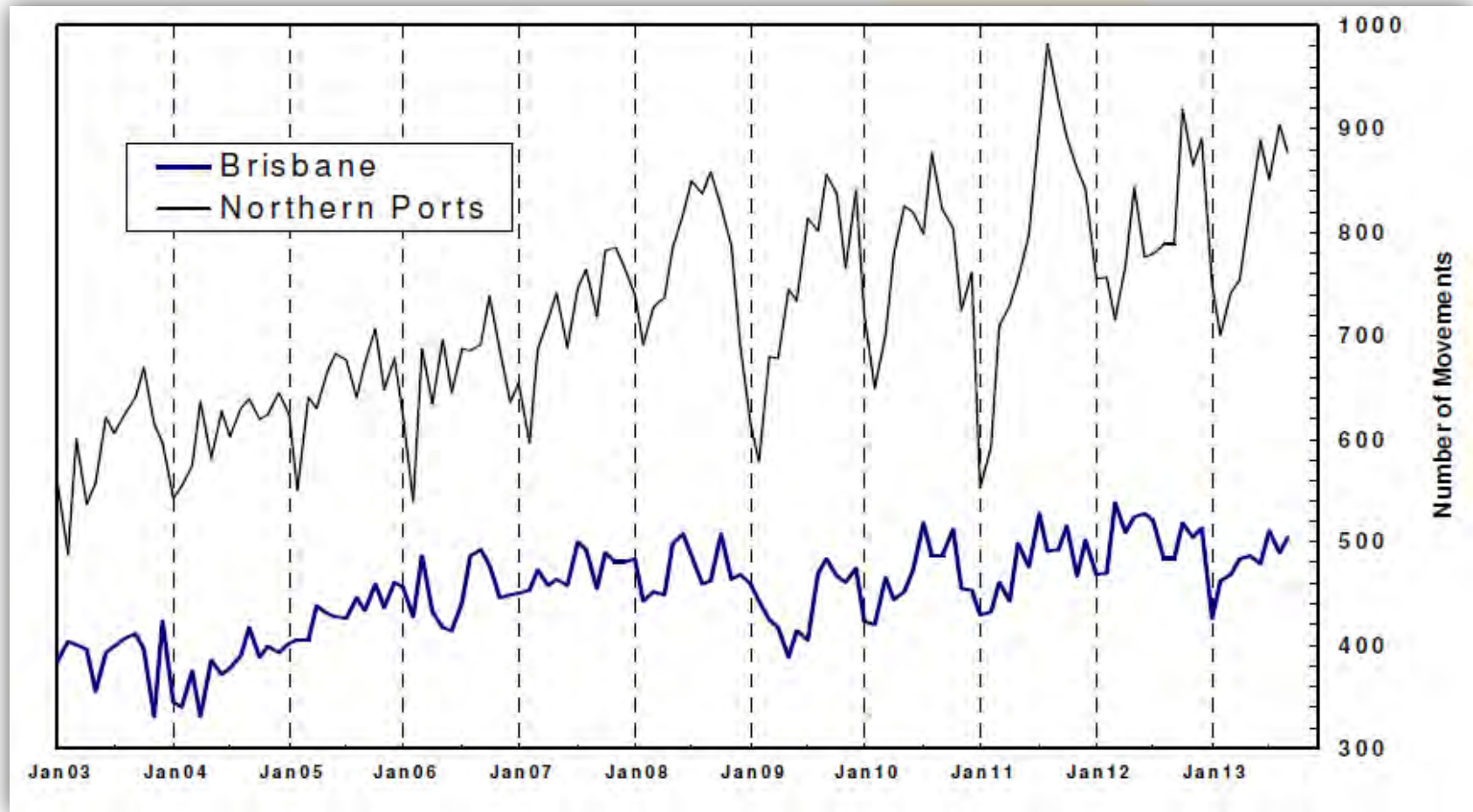


Figure 66: Piloted shipping movements by month for Queensland Ports, January 2003- September 2013.

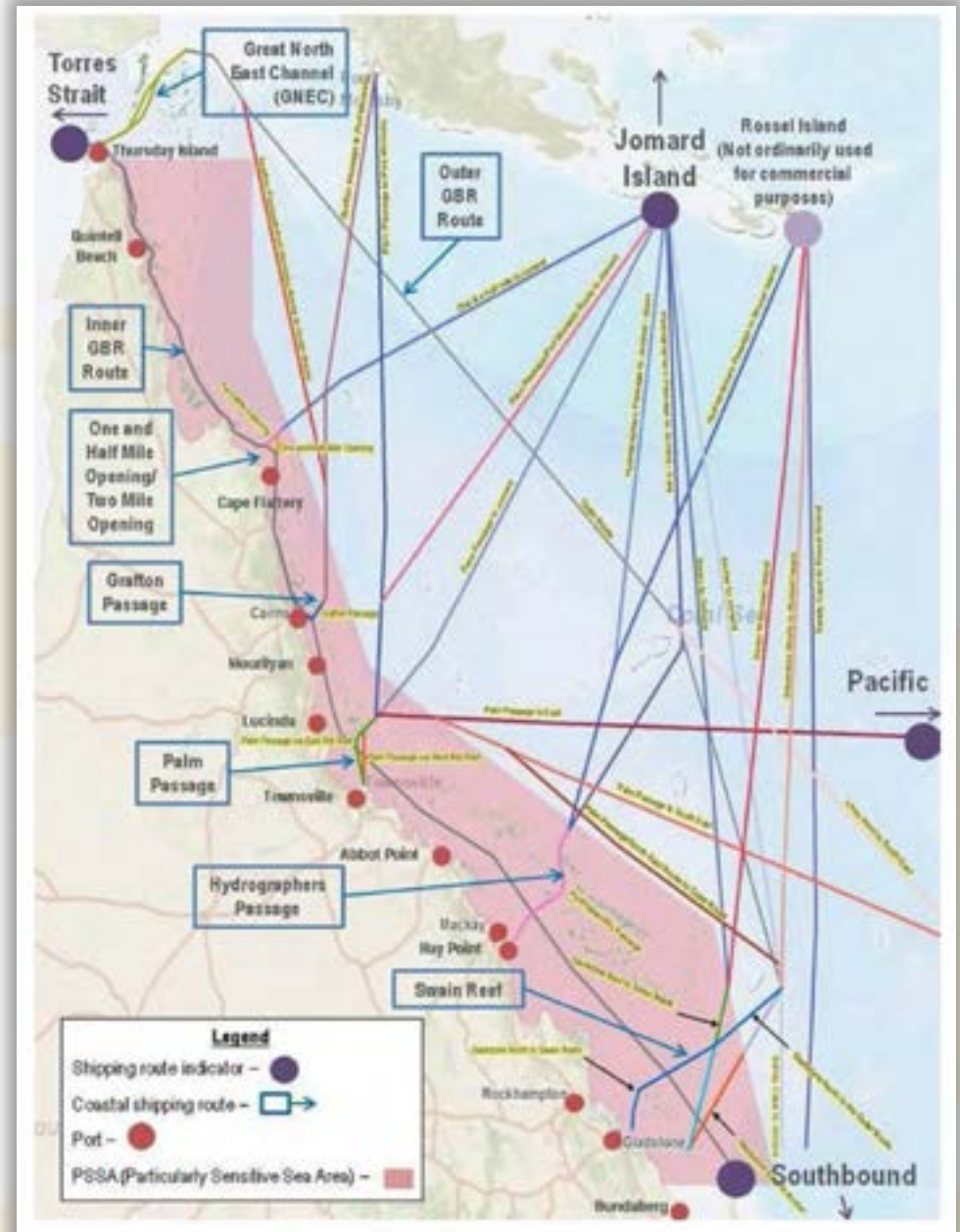
Reproduced from: Maritime Safety Queensland, Queensland Ship Movements Monthly Status Report, September 2013. Available at: <http://www.msq.qld.gov.au/Shipping/Shipping-movements/Ship-movement-statistics-2013.aspx>

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PART E: Shipping Associated Data

Figure 67: North-east Australian Shipping Routes.

Reproduced from: AMSA, North East Shipping Management Plan, October 2014. Available at: <http://www.amsa.gov.au/forms-and-publications/Publications/AMSA439.pdf>

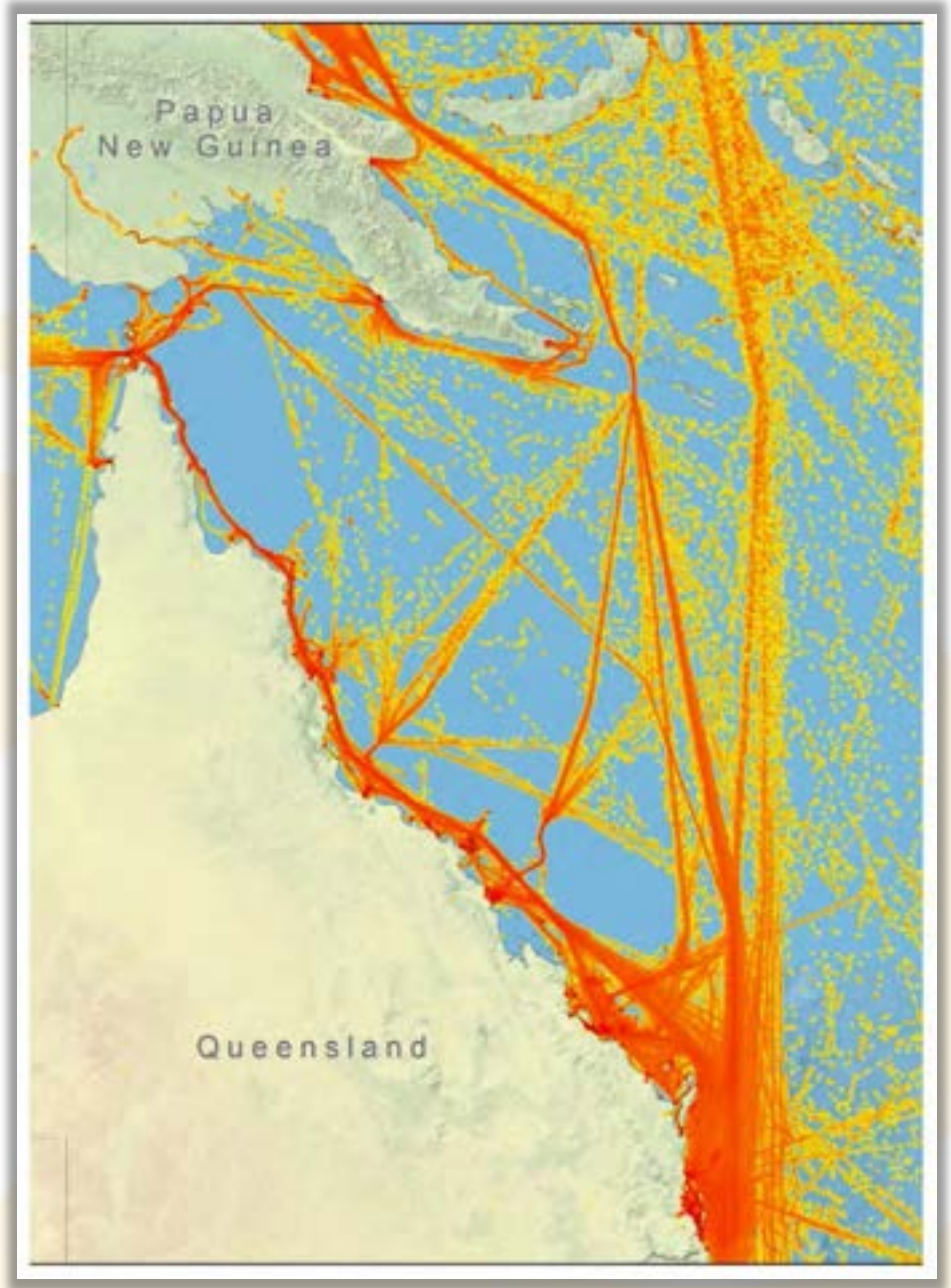


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PART E: Shipping Associated Data

Figure 68: Relative density of regional shipping traffic (June 2014).

Reproduced from: AMSA, North East Shipping Management Plan, October 2014. Available at: <http://www.amsa.gov.au/forms-and-publications/Publications/AMSA439.pdf>



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PART E: Shipping Associated Data – Incidents and risk management

Table 34: Ships and Voyages Reporting to ReefVTS #

Year	Ships	Voyages	Groundings in REEFVTS Area
2002-03	1723	7005	1
2003-04	1856	7143	
2004-05	2008	7532	2
2005-06	1951	7541	
2006-07	2005	7720	
2007-08	2056	7780	
2008-09	2122	7660	1
2009-10	2319	8259	
2010-11	2263	8132	
2011-12*	2743	10,879	
2012-13	2831	10,994	

* REEFVTS Area monitored increased significantly in 2011-12.

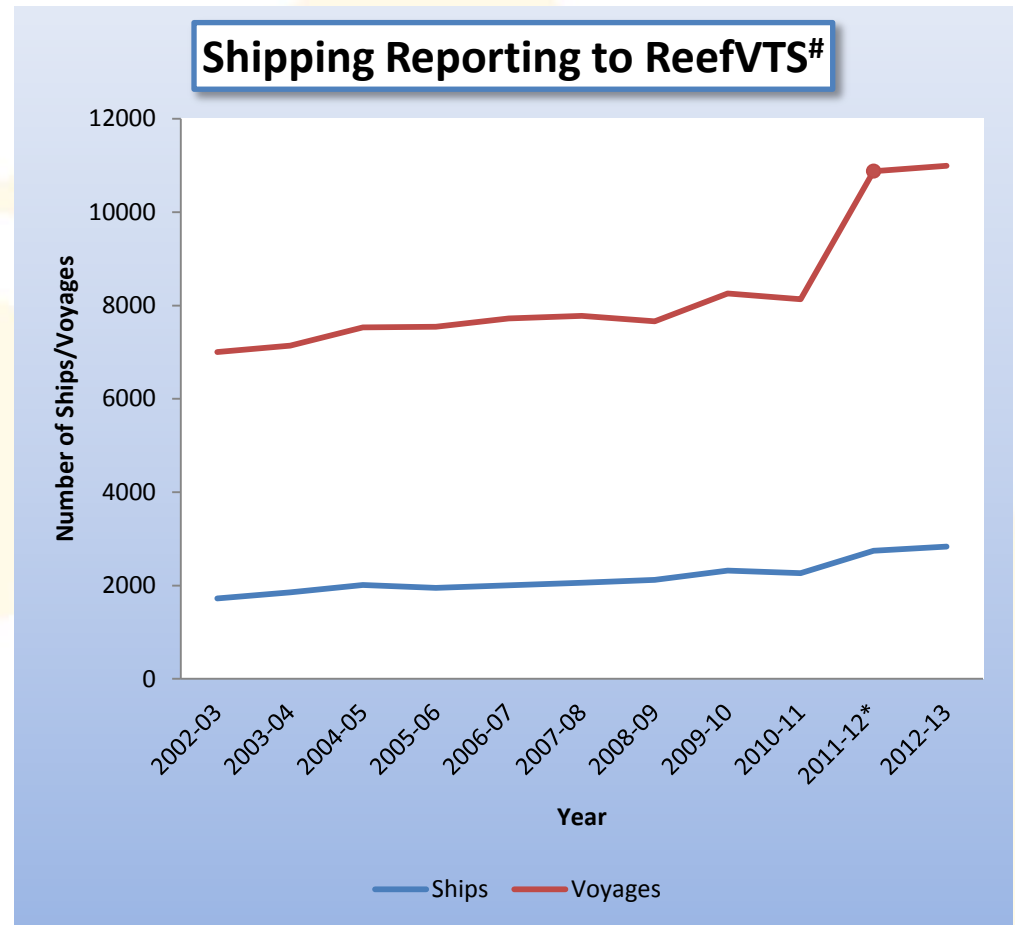


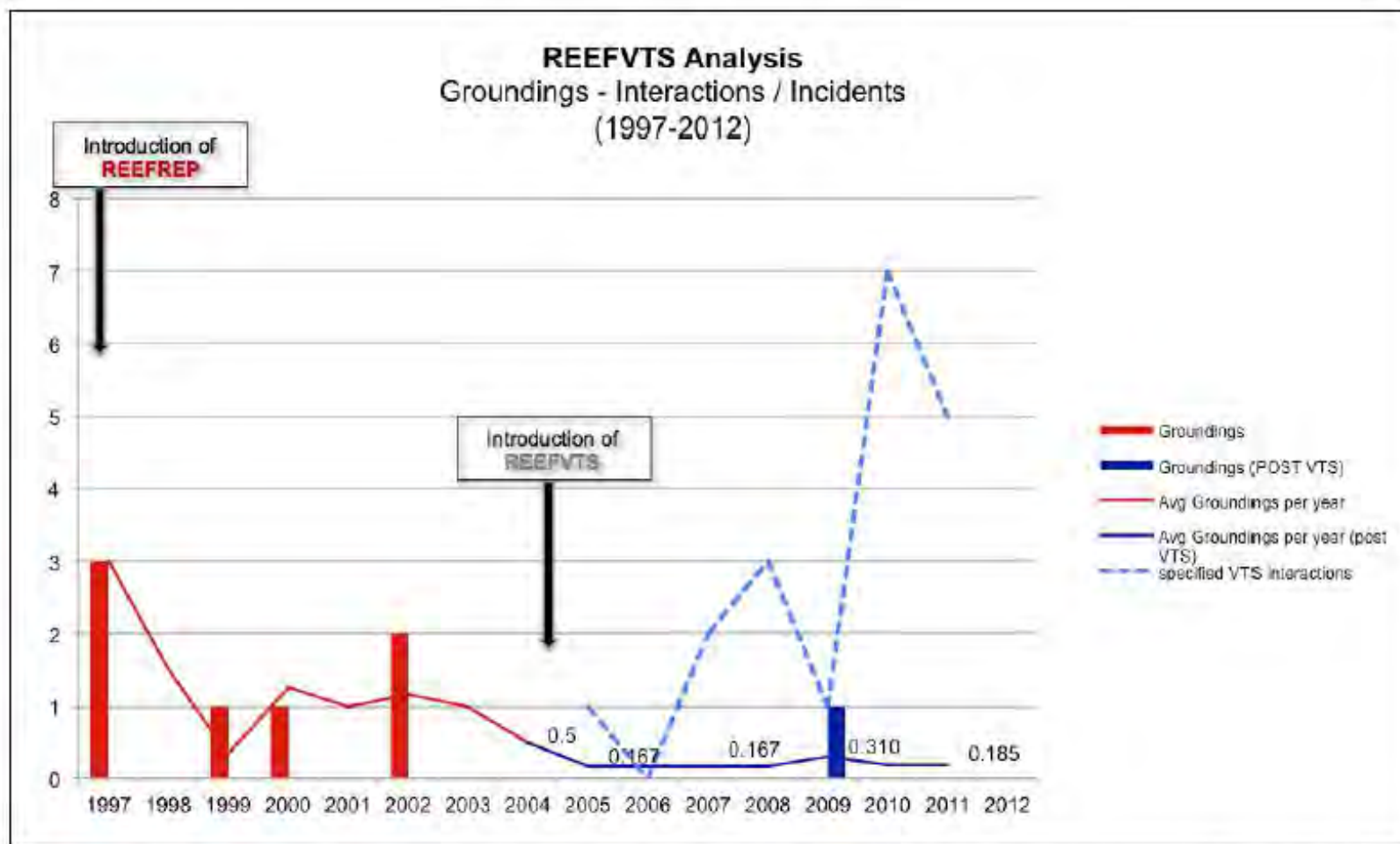
Figure 69: Ships and voyages within the ReefVTS area

*REEFVTS Area increased significantly in 2011-12.

Data Source: AMSA, North East Shipping Management Plan, October 2014. Available at: <http://www.amsa.gov.au/forms-and-publications/Publications/AMSA439.pdf>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Incidents and risk management



(interpreted from AMSA 2010a)

Figure 70: GBR Ship Groundings Before and After Introduction of REEFVTS

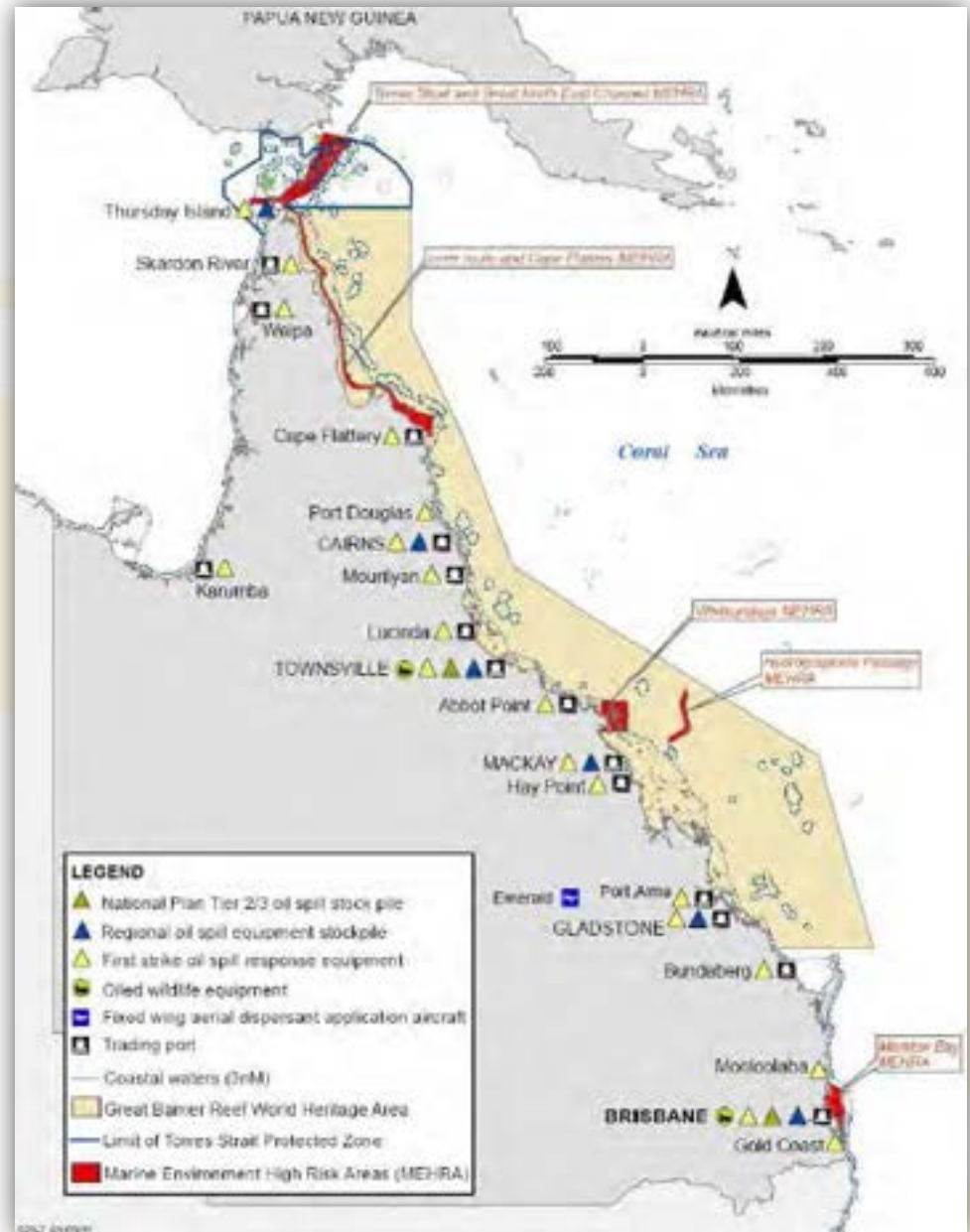
Reproduced from: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012.
Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>

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PART E: Shipping Associated Data – Incidents and risk management

Figure 71: Queensland Shipping Spill Response Stockpiles.

Reproduced from: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012. Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>



SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Incidents and risk management

Table 35: Summary of services available to large trading ships in GBR ports

	Oil Spill Response (1st Strike)	Compulsory Pilotage	Quarantine Arrival Procedures	Bunkering	Shore Power Supply	Oily Waste Collection	Sewage Collection	Garbage Collection
Abbot Point	+ ¹	+	+					
Cairns	+	+	+	+	+	+	+	+
Cape Flattery	+	+	+		+			
Gladstone	+	+	+	+	+	+	+	+
Hay Point	+ ¹	+	+				+	+
Lucinda	+	+	+					
Mackay	+	+	+	+	+ ²	+	+	+
Mourilyan	+	+	+	+ ³	+	+	+	+ ⁴
Port Alma	+	+	+	+ ³		+ ⁵	+ ⁵	
Quintell Beach								
Townsville	+	+	+	+	+	+	+	+

Notes:

1. Planned
2. Limited berths
3. Road tanker only
4. Not quarantine garbage
5. Limited quantities only

Reproduced from: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012.
Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Incidents and risk management

Table 36: International comparison of Particularly Sensitive Sea Areas (PSSA) Shipping Management Measures

	Area to be avoided/designated area or routes /deep water route	Ship reporting	No anchoring areas	Special requirements for tankers/ hazardous cargo	Traffic separation	VTs	Pilotage	Oily waste discharge restrictions	Sewage discharge restrictions	Garbage discharge restrictions	Air emission controls	Ballast water discharge restrictions
GBR/TS	x	x	x	x	x	x	x	x	x	x		x
Sabana-Camagüey Archipelago	x									x		
Malpelo Island	x											
Florida Keys	x		x								x	
Wadden Sea	x			x	x	x		x		x	x	
Paracas National Reserve				x	x				x	x		
Western European Waters	x	x		x	x	x		x			x	
Canary Islands	x			x	x							
Galapagos Archipelago	x	x										
Baltic Sea	x	x			x	x		x	x	x	x	
Papahānaumokuākea Marine National Monument	x	x	x							x		

Reproduced from: AMSA, North East Shipping Management Plan, October 2014. Available at: <http://www.amsa.gov.au/forms-and-publications/Publications/AMSA439.pdf>

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PART E: Shipping Associated Data – Incidents and risk management

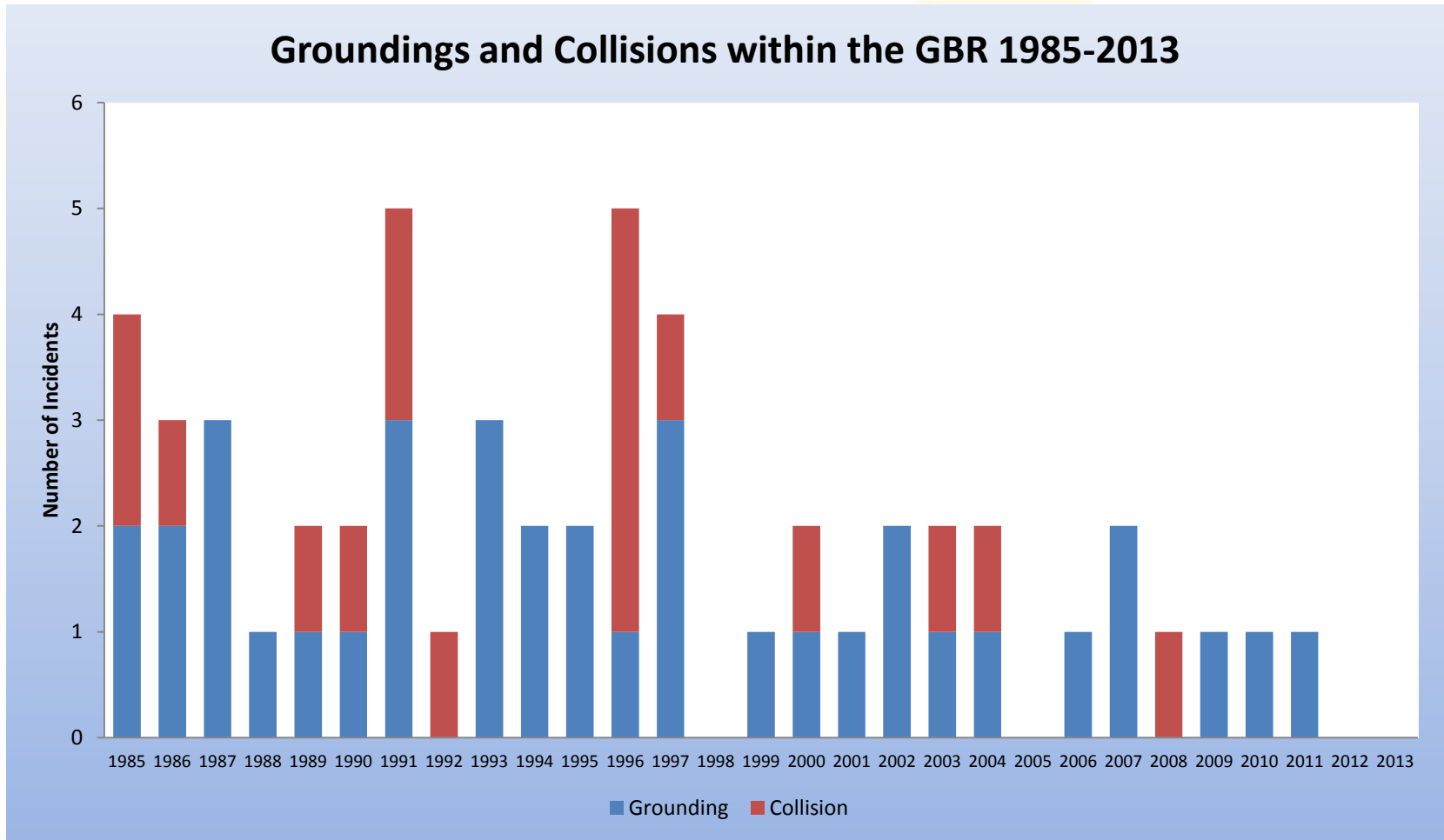


Figure 72: Ship Groundings and Collisions within the GBRWHA 1985-2013

Data Source: GBRMPA (2014). Great Barrier Reef Outlook Report 2014. Great Barrier Reef Marine Park Authority, Townsville. Available at: <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Incidents and risk management

Table 37: Risk Modelled Frequency of Accidents as a function of Accident type and Shipping Type (accidents per year; DNV Scenario 1 - Base case: current risk controls)*

Accident Type	Total	Cargo	Tanker	Passenger	Other Larger	Other Smaller
Collision	0.0570	0.0470	0.0070	0.0006	0.0023	0.0001
Structural Failure/Foundering	0.0656	0.0575	0.0061	0.0002	0.0017	0.0001
Fire/Explosion	0.0892	0.0743	0.0122	0.0003	0.0022	0.0001
Powered Grounding	0.6053	0.5009	0.0627	0.0083	0.0304	0.0030
Drift Grounding	0.9413	0.8069	0.0881	0.0004	0.0416	0.0043
Total	1.7580	1.4870	0.1762	0.0099	0.0782	0.0077

Table 38: Risk Modelled Frequency of Spilling Accidents as a function of Accident type and Shipping Type (accidents per year; DNV Scenario 1 - Base case: current risk controls)*

Accident Type	Total	Cargo	Tanker	Passenger	Other Larger	Other Smaller
Collision	0.0039	0.0023	0.0014	0.0000	0.0001	0.0000
Structural Failure/Foundering	0.0045	0.0029	0.0015	0.0000	0.0001	0.0000
Fire/Explosion	0.0069	0.0037	0.0031	0.0000	0.0001	0.0000
Powered Grounding	0.0381	0.0250	0.0110	0.0004	0.0015	0.0002
Drift Grounding	0.0581	0.0403	0.0154	0.0000	0.0021	0.0002
Total	0.1115	0.0743	0.0324	0.0005	0.0039	0.0004

*Data Source: DET NORSKE VERITAS North East Shipping Risk Assessment Report for Australian Maritime Safety Authority, 2013.
Available at: http://www.amsa.gov.au/community/consultation/documents/North-East-Risk-Assessment-Report_DNV.pdf

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PART E: Shipping Associated Data – Incidents and risk management

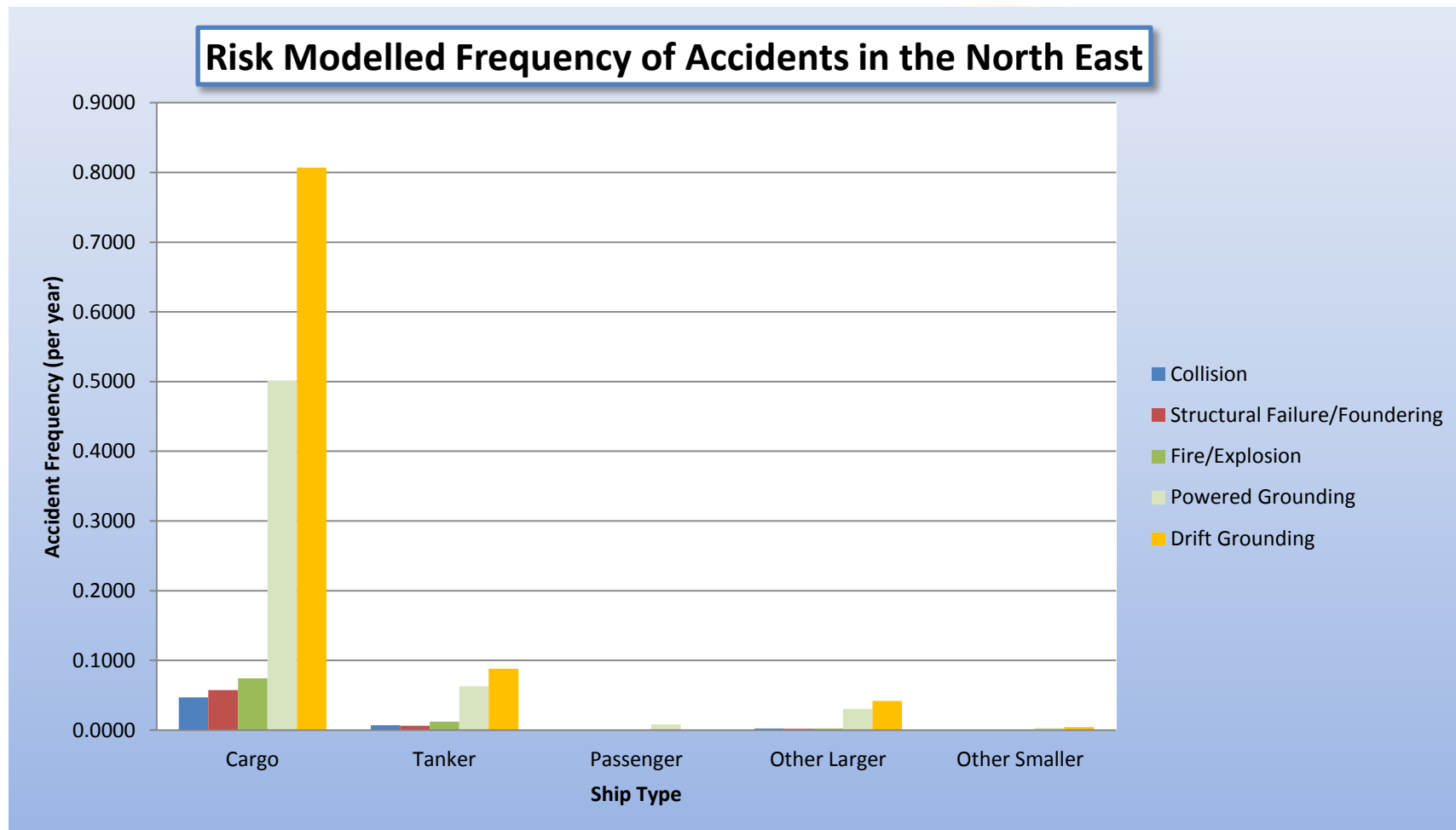


Figure 73: Risk Modelled Accident frequency in the North East by ship type (base model)*

*Data Source: DET NORSKE VERITAS North East Shipping Risk Assessment Report for Australian Maritime Safety Authority, 2013.
Available at: http://www.amsa.gov.au/community/consultation/documents/North-East-Risk-Assessment-Report_DNV.pdf

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PART E: Shipping Associated Data – Incidents and risk management

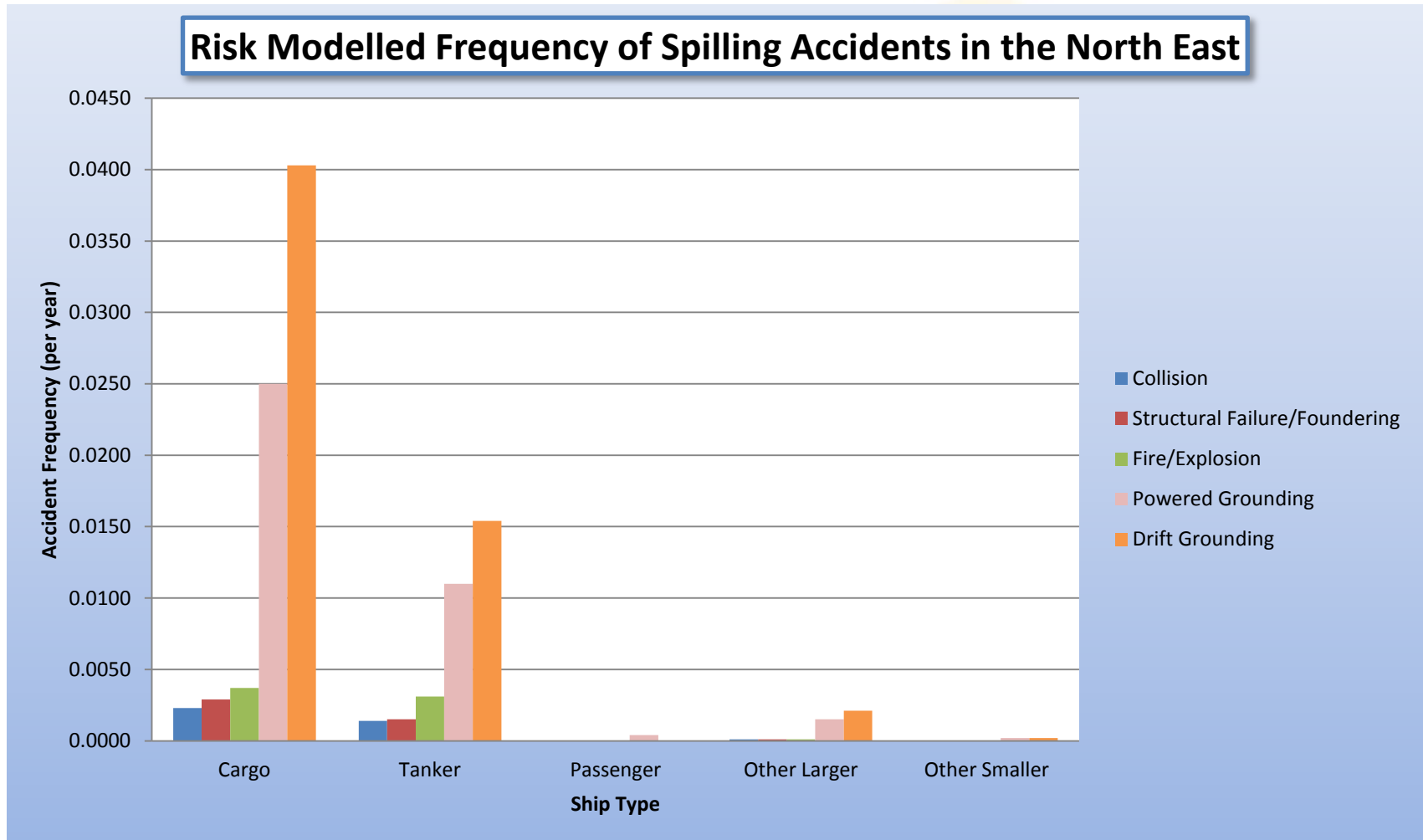


Figure 74: Risk Modelled Spilling accident frequency in the North East by ship type (base model)*

*Data Source: DET NORSKE VERITAS North East Shipping Risk Assessment Report for Australian Maritime Safety Authority, 2013.
Available at: http://www.amsa.gov.au/community/consultation/documents/North-East-Risk-Assessment-Report_DNV.pdf

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Future projections

Table 39: Ship Projections at Queensland Ports 2012-2032*

Port	2012	2017	2020	2025	2032
Abbot Point	174	336	808	1360	1640
Cairns	342	388	408	445	501
Cape Flattery	30	44	45	45	45
Gladstone	1453	2397	2823	3021	3029
Hay Point	809	1258	1513	2082	2380
Lucinda	1	21	21	21	21
Mackay	216	259	305	333	333
Mourilyan	27	26	26	26	26
Port Alma	121	190	460	845	921
Quintell Beach	21	40	40	40	40
Townsville	753	912	999	1025	1161
OVERALL	3947	5871	7448	9243	10097

*Data Source: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012.
Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>

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PART E: Shipping Associated Data – Future projections

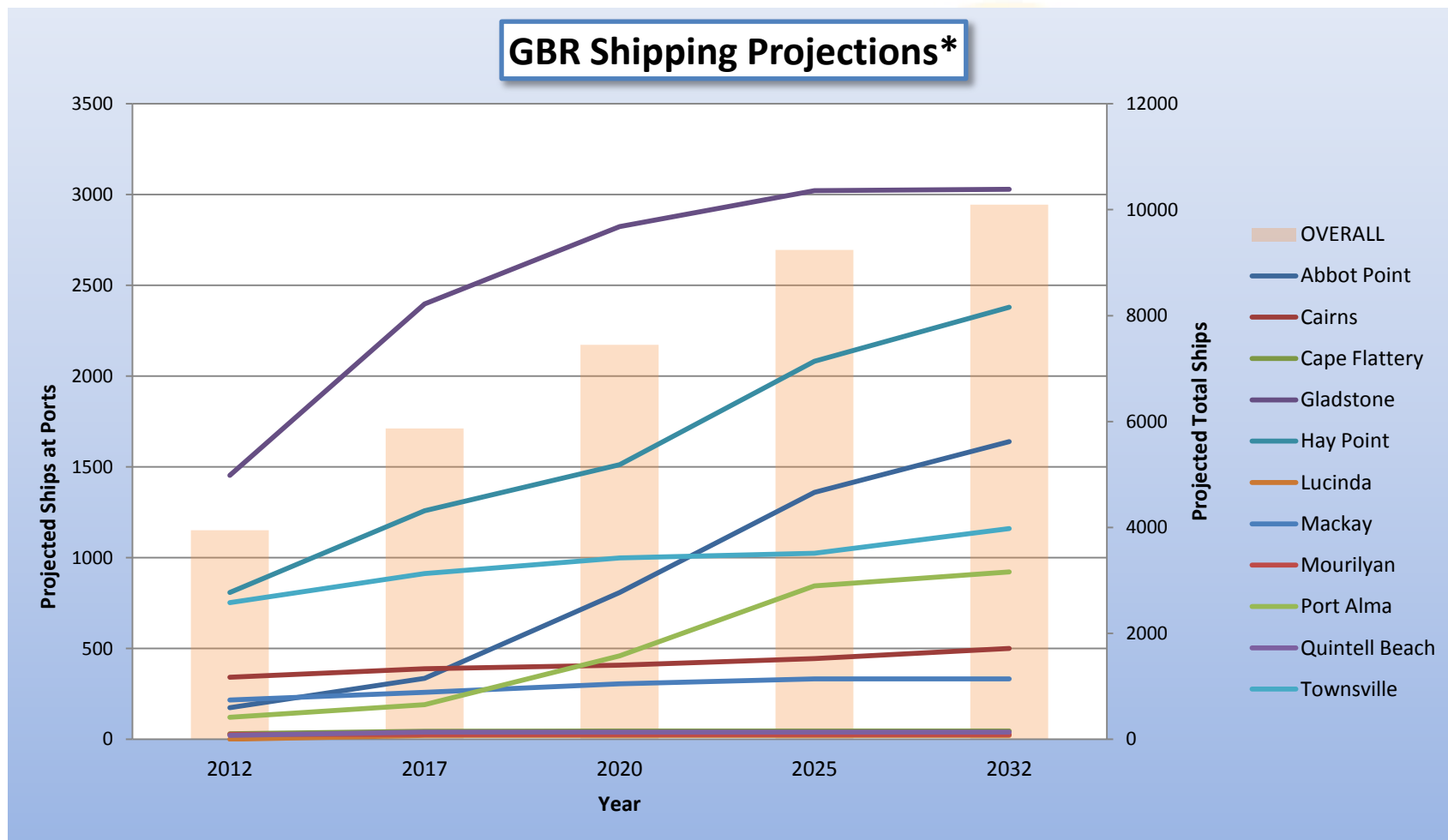


Figure 75: Projected ships at port in the GBR (note distorted time scale)*

*Data Source: PGM Environment for Abbot Point Working Group, Great Barrier Reef Shipping: Review of Environmental Implications, 2012.
Available at: <http://www.environment.gov.au/system/files/pages/884f8778-caa4-4bd9-b370-318518827db6/files/23qrc-doc3.pdf>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Future projections

Table 40: Vessel Size Growth Predictions in Deadweight Tonnage (dwt)*

Vessel Type	2011	2012	2013	2014	2015	2020	2025
Capesize	181,706	185,070	186,752	187,344	187,683	189,701	192,201
Panamax	76,880	77,894	77,981	77,856	77,925	78,000	78,000
Supra/Handymax	52,247	52,298	52,579	52,827	52,966	53,816	54,816
Handysize	27,961	28,294	28,775	29,054	29,200	30,025	31,025

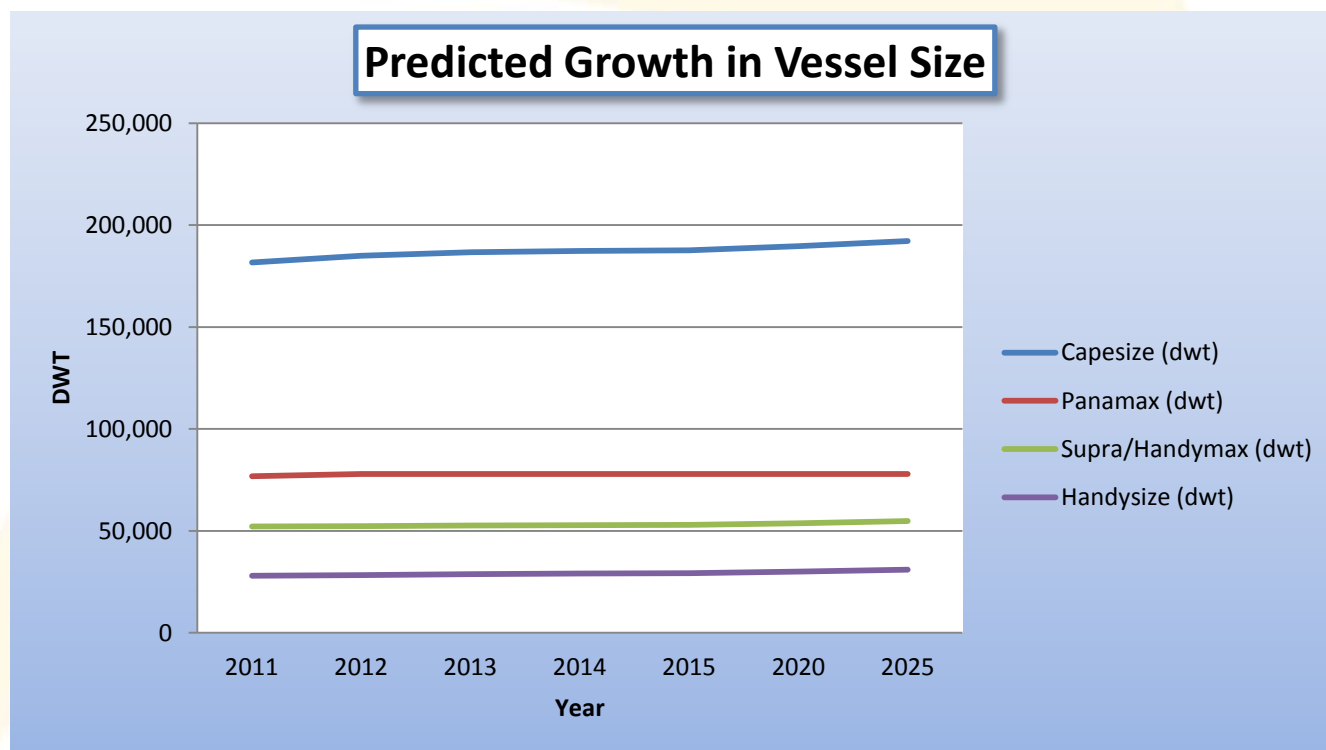


Figure 76: Predicted increase in ship sizes (note distorted time scale)*

*Data Source: AMSA, North East Shipping Management Plan, October 2014. Available at: <http://www.amsa.gov.au/forms-and-publications/Publications/AMSA439.pdf>

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Cruise shipping

Table 41: Cruise Shipping Data by State 2012-13*

Direct Expenditure \$ million

State	Visit Days	Passenger Days at Port	Crew Days at Port	Passenger(a)	Crew(a)	Operator	Corporate	Total
NSW	252	989,410	189,548	\$362.70	\$42.60	\$499.30	\$131.00	\$1,035.60
VIC	57	120,272	28,041	\$25.40	\$2.11	\$103.53	\$3.19	\$134.24
QLD	215	453,573	91,355	\$143.10	\$16.20	\$201.80	\$19.60	\$380.70
SA	16	24,156	6,490	\$6.00	\$0.90	\$1.10	\$0.40	\$8.50
WA	56	101,776	25,486	\$18.70	\$3.30	\$41.30	\$6.00	\$69.20
TAS	50	78,944	19,340	\$8.90	\$2.20	\$3.30	\$0.00	\$14.40
NT	41	43,007	11,994	\$8.40	\$0.80	\$57.50	\$0.20	\$66.80
OS	5	3,341	850	\$0.60	\$0.10	\$0.08	\$0.00	\$0.80
Total	692	1,814,478	373,104	\$574.10	\$68.20	\$908.30	\$160.30	\$1,710.90

*Data source: Cruise Down Under, Economic Impact Assessment of the Cruise Shipping Industry in Australia 2012-13 , September 2014. Available at: <http://www.cruisedownunder.com/sites/default/files/cdu-economic-impact-report.pdf>



Image by Matt Curnock

SELTMP 2014: PORTS AND SHIPPING IN THE GREAT BARRIER REEF

PART E: Shipping Associated Data – Cruise shipping

Table 42: Cruise Shipping Data for Queensland Ports 2013-14*

Direct Expenditure \$ million

Port	Visits	Passenger Days at Port	Crew Days at Port	Passenger(a)	Crew(a)	Operator	Corporate	Total
Brisbane	115	350,752	58,309	\$128.491	\$14.099	\$200.969	\$20.357	\$363.917
Moreton Is	3	5,245	880	\$0.995	\$0.059	\$0.388	\$0.000	\$1.441
Whitsundays	33	61,424	13,068	\$12.524	\$0.874	\$1.038	\$0.000	\$14.436
Townsville	9	5,770	1,888	\$1.496	\$0.127	\$0.674	\$0.000	\$2.296
Cairns	45	47,785	12,469	\$10.195	\$0.851	\$1.510	\$0.037	\$12.592
Port Douglas	23	30,505	8,512	\$5.937	\$0.567	\$0.135	\$0.000	\$6.639
Cooktown	4	1,330	643	\$0.330	\$0.043	\$0.015	\$0.000	\$0.388
Thursday Is	6	1,319	429	\$0.327	\$0.029	\$0.017	\$0.000	\$0.374
Total	238	505,130	106,198	\$160.294	\$16.648	\$204.747	\$20.394	\$402.083

*Data source: Cruise Down Under, Economic Impact Assessment of the Cruise Shipping Industry in Australia 2013-14 , September 2014. Available at: http://www.cruisedownunder.com/sites/default/files/cdu_cruise_shipping_eia_2013-14_executive_summary_0.pdf

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Figure 77: 2012-13 Cruise ship days spent in port per state*

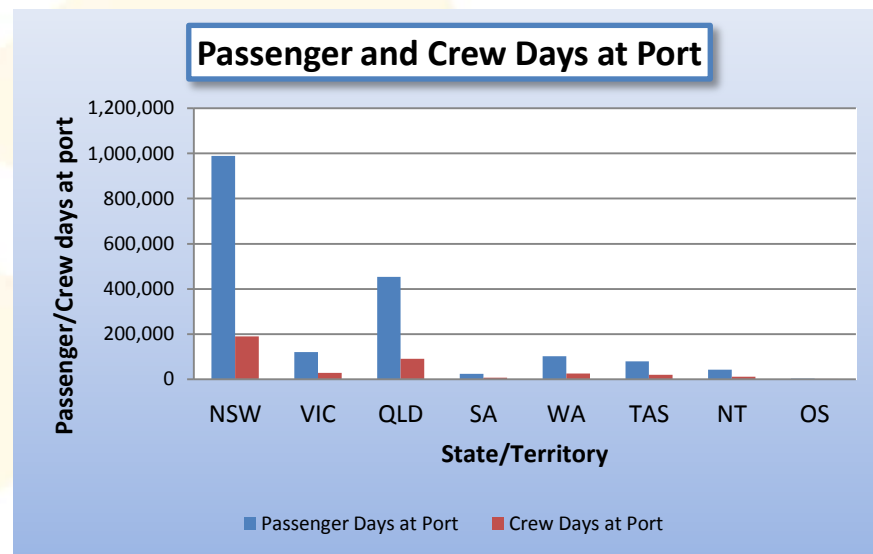


Figure 78: 2013 Passenger and Crew days spent in port per state*

*Data source: Cruise Down Under, Economic Impact Assessment of the Cruise Shipping Industry in Australia 2012-13 , September 2014. Available at: <http://www.cruisedownunder.com/sites/default/files/cdu-economic-impact-report.pdf>

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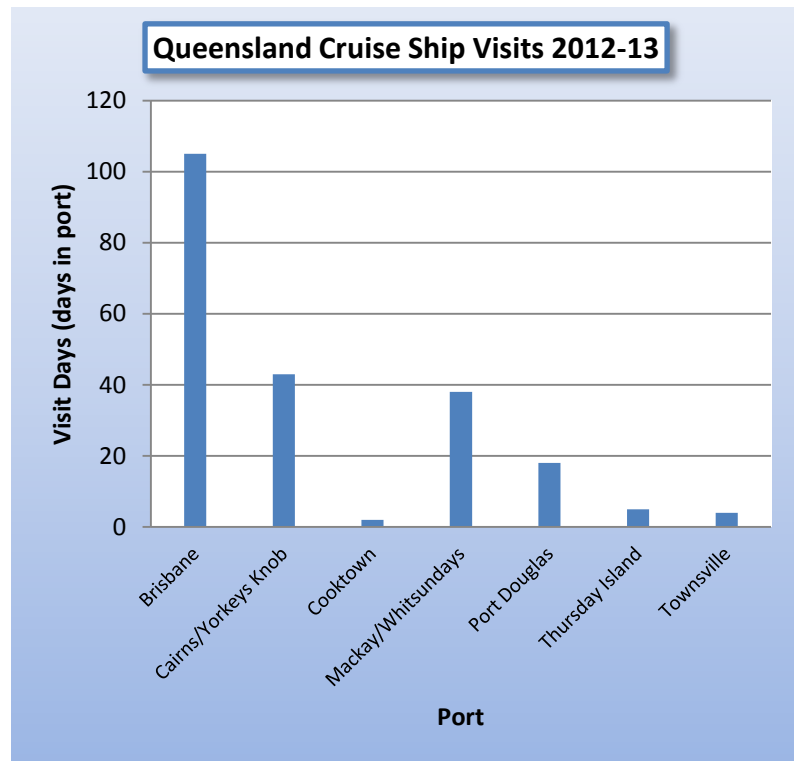


Figure 79: Cruise ship days at QLD ports 2012-13 *

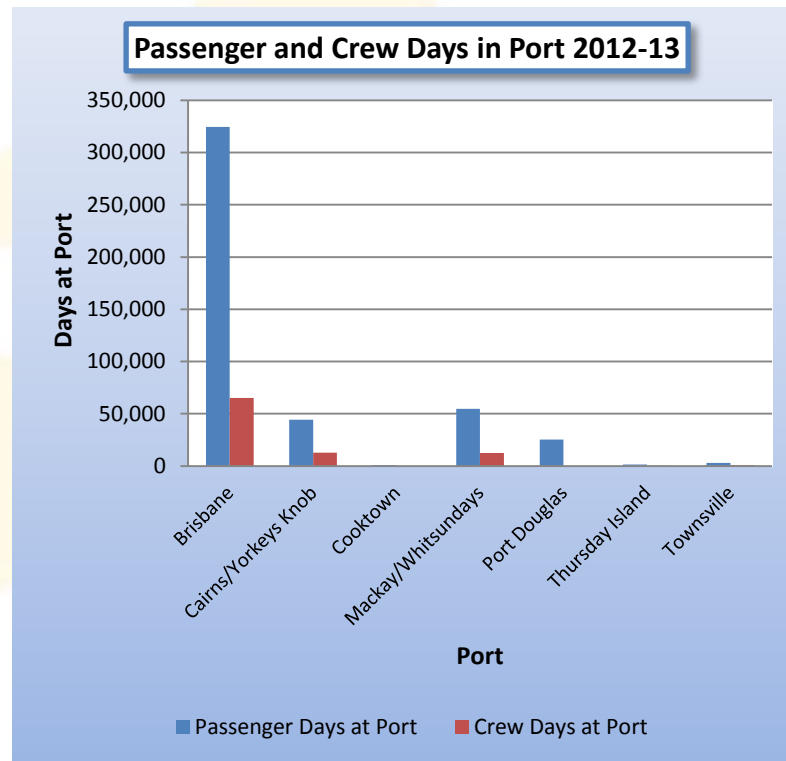


Figure 80: Passenger and crew days in QLD ports 2012-13*

*Data source: Cruise Down Under, Economic Impact Assessment of the Cruise Shipping Industry in Australia 2012-13 , September 2014. Available at: <http://www.cruisedownunder.com/sites/default/files/cdu-economic-impact-report.pdf>

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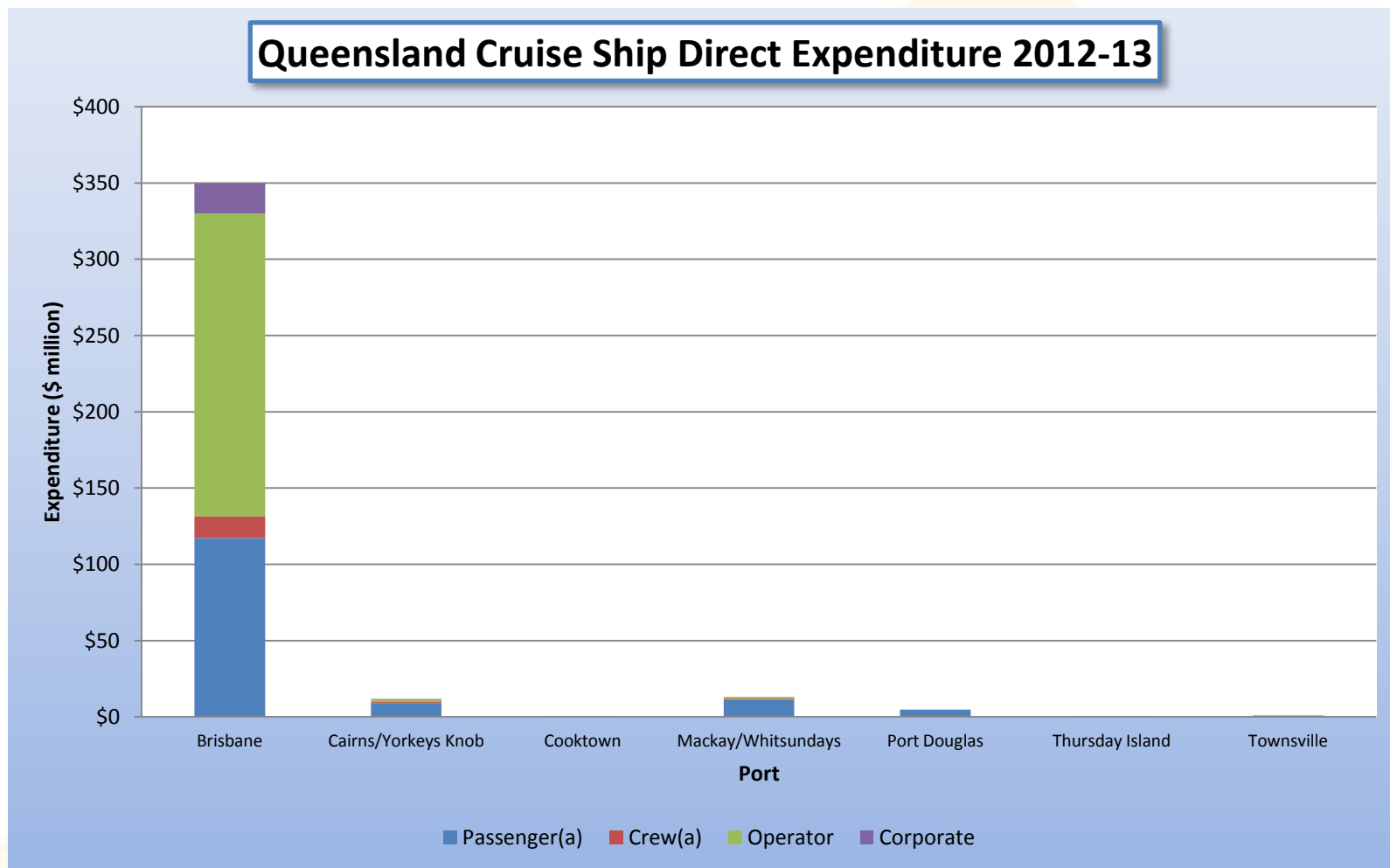


Figure 81: Cruise ship direct expenditure at Queensland ports, 2012-13*

*Data source: Cruise Down Under, Economic Impact Assessment of the Cruise Shipping Industry in Australia 2012-13 , September 2014. Available at: <http://www.cruisedownunder.com/sites/default/files/cdu-economic-impact-report.pdf>

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PART E: Shipping Associated Data – Superyachts

Superyachts in the Great Barrier Reef

A growing number of superyachts are utilising the Great Barrier Reef. Superyachts are defined as “high value luxury vessels, of 24m or greater in length, including power and sailing vessel” (Queensland Superyacht Strategy 2008-2013). Superyacht access to the GBR Marine Park is affected by the vessel length, number of people onboard, and whether the operation is commercial or recreational. The length of a vessel determines its ability to access different areas within the Marine Park. Vessels greater than 50m are required to report to REEFVTS for navigational assistance and maritime safety information to assist onboard decision making.



Image by Mark T. Smith

Reference: GBRMPA (2011). A statement of Management Arrangements in the Great Barrier Reef Marine Park for Super-yacht Operations. Great Barrier Reef Marine Park Authority, Townsville. Available at: http://www.gbrmpa.gov.au/__data/assets/pdf_file/0017/3392/GBRMPA-ManagementArrangements-SuperyachtsMay-2011.pdf

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PART E: Shipping Associated Data – Defence activities

Defence Activities in the Great Barrier Reef

Australian Defence Force activities have occurred in the Great Barrier Reef region for more than 100 years, encompassing training exercises, ocean surveillance, maritime search and rescue and hydrographic surveys. Defence Force activities provide additional support for Australia's biosecurity, border protection and immigration controls¹. In the GBR region, Australian Defence Force bases are located in Cairns and Townsville, contributing significantly to the regional economy. The Talisman Sabre 2013 training exercise was estimated to contribute over \$4m in the Rockhampton area and over \$0.2m in the Townsville area².



Exercises during Talisman Sabre 2013. Image © Commonwealth of Australia (Great Barrier Reef Marine Park Authority) 2014.

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¹GBRMPA (2014). Great Barrier Reef Outlook Report 2014. Great Barrier Reef Marine Park Authority, Townsville. Available at: <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>

²Aurecon Australia 2012, Talisman Sabre 2013: Public environment report (draft for consultation), Aurecon Australia, Canberra. Available at: <http://www.aurecongroup.com/~media/Images/Aurecon/TalismanSabre/PER%20Draft%20for%20Consultation%2021%20September%202012.pdf>

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PART E: Shipping Associated Data – Defence activities

Figure 82: Defence training sites in the GBRWHA.

Reproduced from: GBRMPA (2014). Great Barrier Reef Outlook Report 2014. Great Barrier Reef Marine Park Authority, Townsville. Available at: <http://www.gbrmpa.gov.au/managing-the-reef/great-barrier-reef-outlook-report>



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