

# Financial and Economic Assessment - Trinity Point Marina

Final Report  
Johnson Property Group

20 June 2008

Bryan Garland  
Johnson Property Group  
340 Kent Street  
Sydney NSW 2000

*Private and Confidential*

Dear Bryan

## **Financial and Economic Feasibility Assessment - Trinity Point Marina**

Ernst & Young Australia (EYA) are pleased to present Johnson Property Group (JPG) with our financial and economic research on the Trinity Point Marina. This financial and economic research has been undertaken as part of a broader planning assessment on the marina.

There are two major drivers for undertaking an economic assessment on the Trinity Point Marina. These two drivers are:

- ▶ the requirements of the NSW Department of Planning. As stated in the Director Generals Environmental Assessment Requirements, the study must provide an economic feasibility report, prepared by an appropriately qualified consultant, addressing the proposed marina size and the tourism component;
- ▶ the need to explain and provide the basis for the size of the facility from a financial and economic perspective.

The scope of the review agreed between JPG and Ernst & Young in the engagement letter dated 19th May 2008 included, but was not limited to a:

- ▶ financial assessment of the project;
- ▶ economic benefit-cost analysis;
- ▶ economic contribution study; and
- ▶ an assessment of the potential tourism impacts of the project.

The attached report provides the outcomes of this study. As agreed, the report has been prepared based on our ability to access and analyse the information which was accessible within a restricted timeframe. Use of the report may result in JPG identifying specific areas for further research. Completion of this additional research is outside the scope of this initial project.

### **Restrictions on the Report Use**

The Report may be relied upon by the JPG in the process of submitting its planning assessment requirements as set out in the engagement letter dated 19<sup>th</sup> May 2008.

Ernst & Young disclaims all liability to any party other than JPG for all costs, loss, damage and liability that the third party may suffer or incur arising from or relating to or in any way connected with the provision of the deliverables to a third party without our prior written consent.

You have agreed that you will not amend the Report or distribute the Report to outside parties without prior written approval from Ernst and Young. If others choose to rely on the Report in any way they do so entirely at their own risk.

### **Basis of Our Work**

We have performed research and analysis using previously completed reports by JPG and publicly available information drawn from a wide range of literature research, databases and on-line information services which were available to us within the timeframe specified for preparation of the report in order to provide you with the financial and economic research. Cost data was received from JPG and Patterson Britton for use in the financial and economic assessment.

We have not independently verified, or accept any responsibility or liability for independently verifying, any such information, nor do we make any representation as to the accuracy or completeness of the information.

We accept no liability for any loss or damage which may result from your reliance on any research, analyses or information so supplied.

The attached report provides the outcomes of this study.

Yours sincerely

A handwritten signature in black ink, appearing to read 'David Cochrane', with a long horizontal line extending from the end of the signature.

David Cochrane  
Partner, Economics Advisory Group  
Ernst & Young

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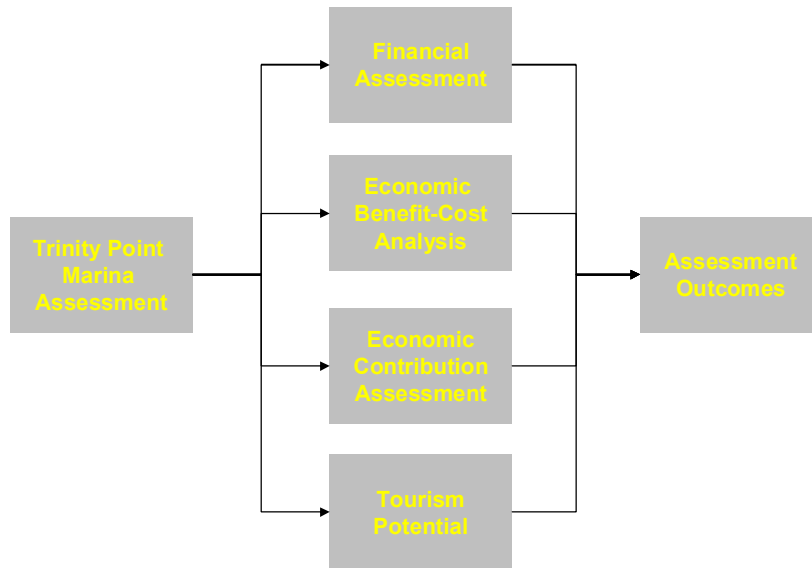
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# Executive Summary

## Introduction

Ernst & Young were engaged by JPG to undertake a study to determine the financial and economic feasibility at of the proposed Trinity Point Marina. The analysis of the developments feasibility was undertaken using four key components of assessment, which are shown in the figure below.

Figure 1: Approach to the study



The scope of the study being undertaken by Ernst & Young relates to the marina development and marina operations rather than the entire development. Importantly, it has been necessary to ensure that only the benefits and costs associated with, and attributable to, the marina have been included in the assessment.

## About the Trinity Point Marina Development

The Trinity Point Marina and Mixed Use Resort proposal comprises of the following infrastructure:

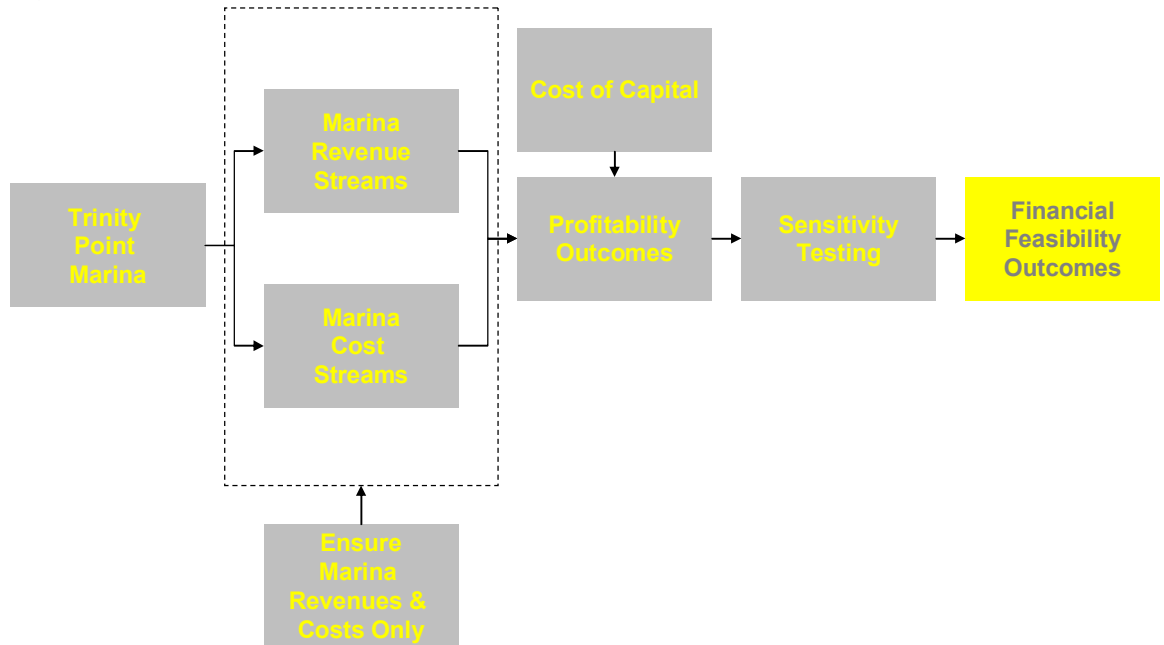
- ▶ Marina village - comprising 308 berth marina, village centre, boardwalk, breakwater, hardstand, workshop and helipad;
- ▶ Tourism accommodation - comprising approximately 75 apartments;
- ▶ Residential accommodation - comprising approximately 75 (2-3 bedroom) apartments;
- ▶ Connective spaces - boardwalk and landscaped foreshore connecting areas of the development; and
- ▶ Car parking - underground car park and surface parking.

## Financial Assessment

A financial analysis uses cashflow analysis to determine the financial feasibility of the Trinity Point Marina. The study involves assessing all project revenues and costs in order to determine the net cashflow position of the project. The financial assessment captures the direct financial

impacts of the project. That is, it assesses the revenue and cost streams a private developer would derive and incur in undertaking the development. The approach followed for this study is shown in the figure below.

**Figure 2: Financial Assessment Approach**



## Demand

Estimates of the demand for berths in the Lake Macquarie region, and hence the estimated demand for the Trinity Point Marina, has been taken from the "Trinity Point Marina Proposal Berth Demand Study" (Demand Study) undertaken by Patterson Britton & Partners in December 2007.

The demand for marina berth facilities was constructed using a first principles approach based on statistical data relating to historical and projected future boat ownership and population growth. Boating data was sourced from NSW Maritime and the Boating Industry Association (BIA) while population information was sourced from the ABS.

## Study Inputs

The financial cost streams that have been included in the assessment are categorised as:

- ▶ capital expenditure; and
- ▶ operating expenditure.

The capital and operating costs have been sourced from the engineering and operating studies undertaken by Patterson Britton and JPG.

## Financial Study Outcomes

The financial net present value of the Trinity Point Marina development has been assessed for each of the stages of the development. By Stage 4, there will be 308 berths operating at the marina. For the other Stages shown in the table, the financial assessment has been undertaken as if that Stage continues to operate for the remainder of the evaluation period.

The net financial impact of the proposed marina is set out in the table below.

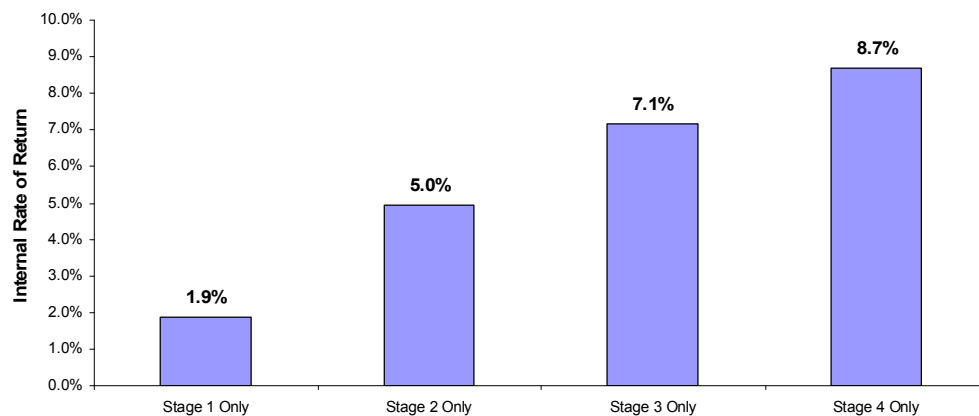
**Table 1: Summary of Financial Assessment Outcomes**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	6,756.9	11,130.5	15,690.1	19,339.9
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-9,356.3	-8,752.8	-7,294.6	-5,842.4
Revenue-Cost ratio	0.42	0.56	0.68	0.77
Internal rate of return (IRR)	1.9%	5.0%	7.1%	8.7%

Sensitivity tests have been undertaken on a number of the key drivers of the outcomes of the financial study and can be seen in the main body of the report.

A comparison of the internal rates of return for each of the stages is shown in the figure below. Again, the outcomes reflect on-going operations at each of the stages for the evaluation period.

**Figure 3: Comparison of internal rates of return**

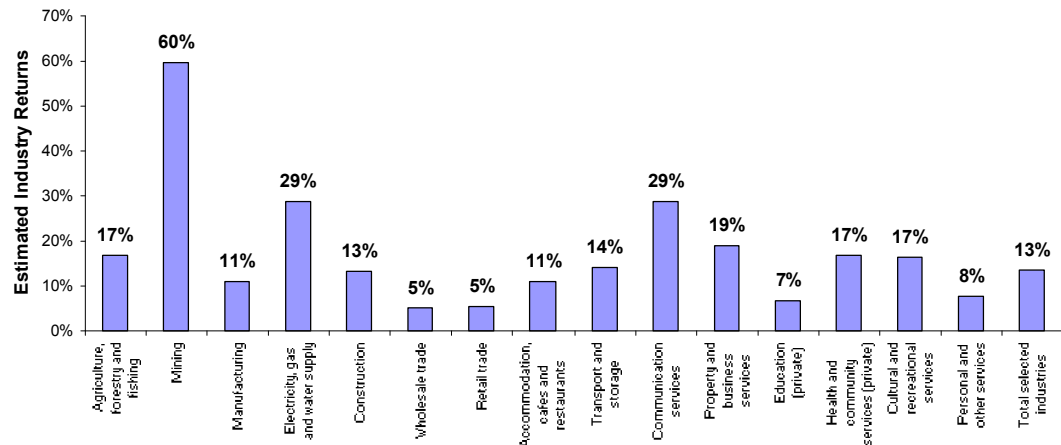


The returns show a range of outcomes from 1.9 per cent for the Stage 1 only development to 8.7 per cent for Stage 4. Given that a WACC of 12% has been used for discounting the assessment of the development options, the results on cashflow basis are shown to be negative. A discount rate of 8 per cent would provide a positive financial return to Stage 4, while a discount rate of 2 per cent would provide a positive outcome for Stage 1.

The average returns required by infrastructure projects are typically likely to be between 12% and 20% (under a nominal before tax basis). This is based on the cost of borrowing and takes into account the opportunity cost of not investing capital into other projects.

The average returns at an industry level are shown in the figure below. The estimated returns are based on ABS average business data. The average rate of return has been estimated to be 13%. The marina industry would be included in the cultural and recreational services category which has an average return of 17% based on the ABS data.

Figure 4: Estimated average industry returns

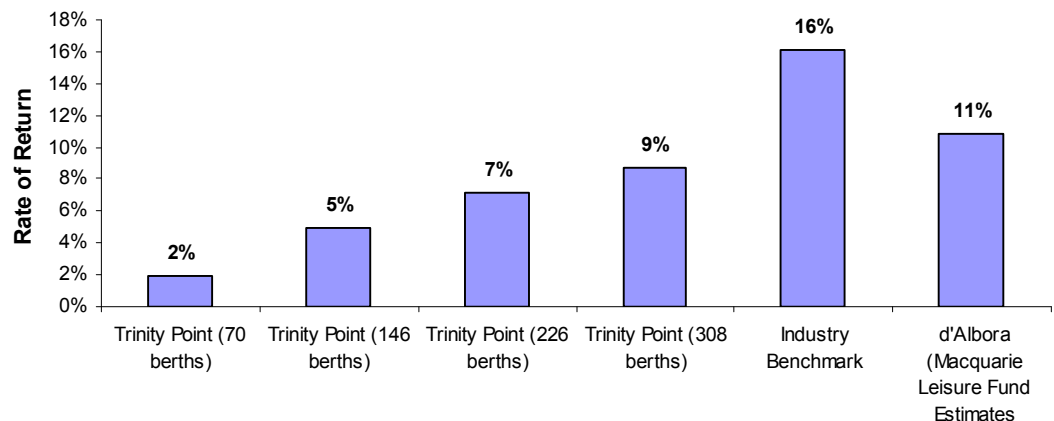


Source: ABS data

## Returns for marina industry

The financial returns at the Trinity Point Marina are compared and contrasted against the results that have been calculated against other marinas and the marine industry in general.

Figure 5: Marina benchmarking



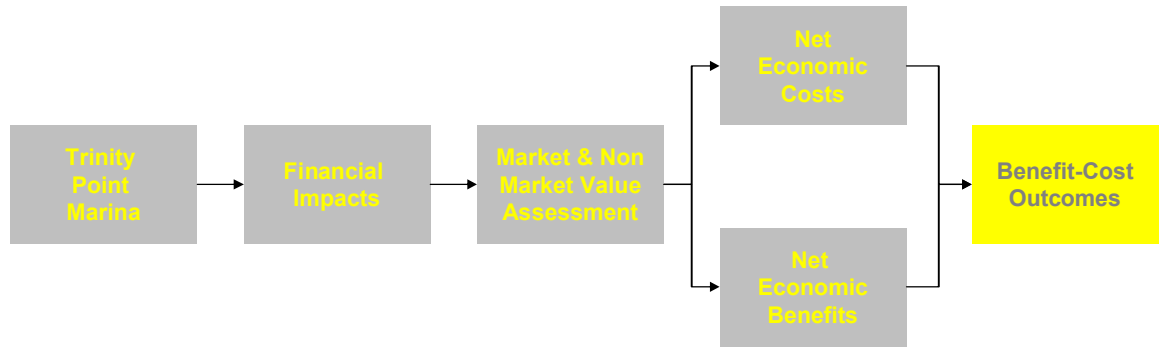
Source: ABS, Allen Consulting Group, "Benchmarking Australia's Marine Industries" 2005 and the Macquarie Bank Group.

## Economic Benefit-Cost Study

An economic benefit-cost assessment uses cashflow analysis to determine the economic feasibility of the Trinity Point Marina. The benefit-cost study involves assessing all of the real resource costs of the project and the real value of outputs produced by the project. The economic study captures both the market and the non market (or realised) impacts of the project, that is, it assesses the broader social implications that would be derived and incurred by NSW by undertaking the development option. The approach followed for this study is shown in the figure below. The economic benefit-cost study builds on the financial impacts by adding the market and non market impacts to the NSW economy.



Figure 6: Approach to economic benefit-cost assessment



The economic assessment is undertaken in accordance with the New South Wales Treasury *Cost-Benefit Analysis Guidelines*.

## Study Inputs

In addition to the financial revenues and costs that were calculated in there are a number of economic benefits and costs that are not captured in the financial assessment including:

- ▶ additional value to users of the marine and marina services;
- ▶ value to local residents;
- ▶ environmental benefits and costs; and
- ▶ tourism implications.

Detailed discussion of each of these assessment components can be found within the main body of the report.

## Economic Benefit-Cost Study Outcomes

Using the inputs from the financial assessment and the economic costs and benefits, an economic benefit-cost model was built for the Trinity Point Marina. The results presented in the economic component of the study are for the 308 berth marina given the results of the financial assessment.

The economic net present value of the marina has been calculated to be \$10,218 million for the development. The net economic impact of the proposed marina is set out in the table below.

Table 2: Summary of Economic Benefit-Cost Outcomes

Benefits & Costs	\$'000s
Present Value of benefits (\$'m)	39,168
Present Value of costs (\$'m)	28,951
Net present value (\$'m)	10,218
Benefit-Cost ratio (BCR)	1.4
Internal rate of return (IRR)	11%

The results of the economic study are presented for the 308 berth options, which produces a:

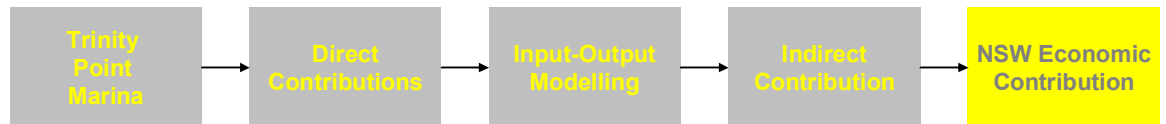
- ▶ BCR of 1.4; and an
- ▶ IRR of 11%.

Sensitivity tests have been undertaken on a number of the key drivers of the outcomes of the economic study and can be seen in the main body of the report.

## Economic Contribution Assessment

Economic contribution analysis is typically carried out to determine the impact of a Project on economic activity, employment and trade in both the private and public sector. Such studies are useful where the contribution of a project needs to be quantified.

**Figure 7: Economic Contribution Assessment Process**



An economic contribution assessment measures the economic activity generated by a major commercial or government activity on an economy. The economic impact of an activity or project is usually measured in terms of the contribution to four key economic indicators:

- ▶ output (i.e. sales);
- ▶ value added (i.e. Gross State Product or Gross Domestic Product);
- ▶ household incomes (i.e. wages / salaries); and
- ▶ employment.

### Input-Output Approach

In order to estimate the economic contribution of the marina to the NSW economy, an input-output model has been used.

### Outcomes

The proposed Trinity Point Marina Project will make an economic contribution to the local, state and national economy in two phases: the construction phase and the on-going operational phase.

The contribution in the construction phase of the Trinity Point Marina, in 2008 dollars, is shown in the table below.

**Table 3: Economic Contribution of Construction**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2008-11	2012-13	2014-15	2016-17
Output	33,287.8	3,896.2	6,125.9	6,492.1
Value Added	20,750.8	2,428.8	3,818.7	4,047.0
Household Income	4,539.2	531.3	835.3	885.3
Employment	238	28	44	46

Source: Ernst & Young Analysis

The contributions made by the construction of the Trinity Point Marina are:

- ▶ Output - is estimated to range from \$3.9 million to \$33.3 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$2.4 million to \$20.8 million per annum over the evaluation period;

- ▶ Household Income is estimated to range from \$0.5 million to \$4.5 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 44 to 238 per annum over the evaluation period;

The operational phase of the Trinity Point Marina Project has been evaluated over the four stages of operations. The operational revenues and costs have been calculated on an annual basis to indicate the economic contribution of Project operations.

The economic impacts for each of the stages of operation, in 2008 dollars, are shown in the table below.

**Table 4: Economic contribution of on-going operations**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2011-12	2013-14	2016-17	2020-21
Output	1,180	2,110	3,702	4,621
Value Added	842	1,506	2,642	3,299
Household Income	111	199	349	435
Employment	14	25	44	55

Source: Ernst & Young Analysis

The results of the operational assessment of the Trinity Point Marina are:

- ▶ Output - is estimated to range from \$1.2 million to \$4.6 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$0.8 million to \$3.3 million per annum over the evaluation period;
- ▶ Household Income is estimated to range from \$0.1 million to \$0.4 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 14 to 55 per annum over the evaluation period;

## Potential tourism impacts

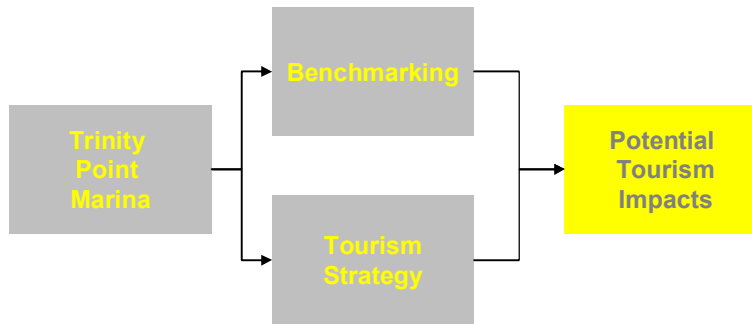
The impacts of tourism to the Lake Macquarie region and the broader NSW economy are implicitly included in the financial and economic components of the study through the usage and associated revenues and expenditures. This section of the study has attempted to separate out the tourism component of the previous analyses.

The tourism study provides a brief overview of the potential tourism impacts of the proposal on the Lake Macquarie region. This assessment has been undertaken using benchmarked information from previous studies, industry information and work already completed on the project.

The evaluation of the potential tourism impacts of the Trinity Point Marina has been undertaken on the basis of two streams of research:

- ▶ Assessing consistency with government strategy; and
- ▶ Benchmarking other marina estimates of tourism impacts.

**Figure 8: Approach to capturing potential tourism impacts**



The results of the potential tourism assessment include:

- ▶ the weighted average tourism expenditure per berth has been estimated to be \$13,673 per annum.
- ▶ based on the preferred number of berths in the tourism related expenditure that occurs as a result of the marina is \$4.2 million per annum, an increase of 0.5% on current tourism expenditure in the region.

## Conclusions

The Trinity Point Marina was evaluated using both financial and economic assessment tools to determine the feasibility of the project and the economic effect on the broader NSW economy. The studies were undertaken on each of the stages of the proposed marine development in isolation from the corresponding residential developments that are being undertaken on the site.

The results of the financial and economic assessment of the marina included:

- ▶ A financial return on the project ranging from 2% for Stage 1 only to 9% for Stage 4; and
- ▶ Positive economic impacts calculated using benefit-cost and economic contribution techniques.

The financial returns for the Trinity Point marina are considered low for a typical private sector company weighted average costs of capital or return requirement, which would likely range from between 12 per cent and 20 per cent on a nominal pre-tax basis. The Stage 4 (308 berths) minimises the difference between typical required rates of return and the estimated rates of return experienced in this project. The acceptance of a lower than usual rate of return by JPG for this marina investment may be explained by the complementary nature of the marina and its development of residential property on the land alongside. As a total package the return may be acceptable.

From an economic perspective, the Stage 4 will provide the largest net benefit for the NSW economy based on the analysis undertaken on this study.

# 1. Introduction

## 1.1 Background

The Johnson Property Group (JPG) is currently in the process of developing Trinity Point, to create a tourism and residential precinct on the shores of Lake Macquarie. Work has already commenced on the Trinity Point residential development, which is wholly owned by JPG and consists of 195 residential allotments.

In order to utilise its location and maximise its potential, JPG are also interested in developing a marina village, including:

- ▶ a 308 berth marina;
- ▶ a breakwater jetty structure;
- ▶ a floating helipad pontoon;
- ▶ fuel, sewerage pump-out and oily bilge pump out facilities; and
- ▶ a foreshore boardwalk and park.

Trinity Point is situated on the shores of Lake Macquarie, Australia's largest salt water lake, 55 minutes from the start of the F3 at Wahroonga, 35 minutes from Newcastle and 5 minutes from the emerging regional centre of Morisset.

Figure 9: Site Location Plan



## 1.2 Scope of work

There are two major drivers for undertaking a financial and economic assessment on the Trinity Point Marina. These two drivers are:

- ▶ the requirements of the NSW Department of Planning. As stated in the Director General's Environmental Assessment Requirements, the study must provide an economic feasibility report, prepared by an appropriately qualified consultant, addressing the proposed marina size and the tourism component; and
- ▶ the need to explain and provide the basis for the size of the facility from a financial and economic perspective.

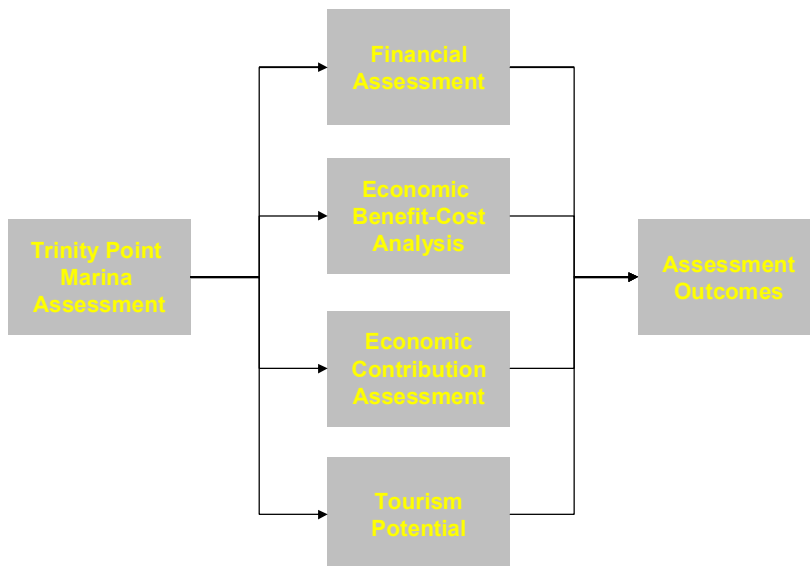
The scope of the study being undertaken by Ernst & Young relates to the marina development and marina operations rather than the entire development. This study has been commissioned by JPG to look at the feasibility of marina. Importantly, it has been necessary to ensure that only the benefits and costs associated with, and attributable to, the marina have been included in the assessment.

The financial and economic assessment of the marina has been conducted in line with New South Wales Government guidelines relating to the financial and economic assessment and from an economic perspective, all analysis has been undertaken for the NSW economy. The guidelines related to this project include:

- ▶ Commercial Policy Framework: Guidelines for Financial Appraisal (2007); and
- ▶ Cost-Benefit Analysis Guidelines (1999).

In order to satisfy the two drivers mentioned above, four components of assessment/analysis are being undertaken in this study. These four components are shown in the figure below.

Figure 10: Approach to the study



- ▶ **Financial Assessment** - examines the direct costs of, and revenue generated by, the project from the perspective of a private developer. As such, the outcomes can be assessed in terms of appropriate rates of return and capital costs;
- ▶ **Economic Benefit-Cost Assessment** - valuations used in the net benefits assessment are the direct impacts of project and/or operations and form the basis for quantifying the total economic contribution. Economic benefit-cost studies properly evaluate all market and non market economic costs and benefits associated with an investment decision or activity;

- ▶ **Economic Contribution** - the economic contribution of a facility is estimated by converting direct expenditures into 'value added' estimates. The facility value added provides a measure of the net contribution of the development calculated as the value of total sales less the value of the inputs. Value added is used as a standard measure of economic contribution because it removes inadvertent double counting and provides a meaningful basis for comparison across industries (i.e., the sector's contribution to Gross State Product); and
- ▶ **Tourism Potential Assessment** - provides a brief overview of the potential tourism impacts of the proposal on the Lake Macquarie region. This assessment has been undertaken using benchmarked information from previous studies, industry information and work already completed on the project.

### 1.3 Previous studies

There have been a number of previous studies undertaken on the Trinity Point Marina which this financial and economic assessment has drawn upon. These studies include:

- ▶ Trinity Point Marina and Mixed Use Resort Socio-Economic Study, 2007;
- ▶ Trinity Point Marina Proposal, Berth Demand Study, 2007; and
- ▶ Trinity Point Marina, Commercial Leasing of Crown Land, March 2007.

### 1.4 Data sources

In addition to the previous studies, detailed above, a number of other data sources have been used for undertaking the financial and economic assessments, including data from the following organisations:

- ▶ Boating Industry Association;
- ▶ Australian Bureau of Statistics;
- ▶ Residex information relating to real estate pricing;
- ▶ NSW Maritime; and
- ▶ Marina Industries Association of Australia.

### 1.5 Project stakeholders

There are a number of project stakeholders that have an interest in the Trinity Point Marina. The stakeholders include, but are not limited to:

- ▶ Johnson Property Group;
- ▶ NSW Department of Planning;
- ▶ Lake Macquarie Council; and
- ▶ Local residents.

## 1.6 Structure of the report

The remainder of the report is structured as follows:

- ▶ Section 2 - provides a general discussion about the Lake Macquarie Region;
- ▶ Section 3 - contains the financial assessment of the facility;
- ▶ Section 4 - the economic benefit cost analysis is completed;
- ▶ Section 5 - assesses the economic impact of the development;
- ▶ Section 6 - determines the tourism impacts of the project; and
- ▶ Section 7 - provides the main conclusions regarding the financial and economic assessments of the project.



## 2. About the Lake Macquarie Region and the Development

### 2.1 Introduction

This section of the study provides detail on:

- ▶ the Lake Macquarie Region; and
- ▶ the proposed Trinity Point Marina.

### 2.2 About the Lake Macquarie Region

#### 2.2.1 The Lake Macquarie Region

The project area is located within the Lake Macquarie Local Government Area. The area is represented by the Lake Macquarie City Council and contains the following major towns and suburbs:

- |               |                 |                 |
|---------------|-----------------|-----------------|
| ▶ Belmont     | ▶ Garden Suburb | ▶ Mirrabooka    |
| ▶ Cardiff     | ▶ Gateshead     | ▶ Morisset      |
| ▶ Charlestown | ▶ Glendale      | ▶ Morisset Park |
| ▶ Coorombong  | ▶ Hillsborough  | ▶ Redhead       |
| ▶ Dora Creek  | ▶ Holmesville   | ▶ Swansea       |
| ▶ Dudley      | ▶ Jewells       | ▶ Toronto       |
| ▶ Fassifern   | ▶ Kahibah       | ▶ Wyee          |
| ▶ Fennell Bay | ▶ Killingworth  |                 |
| ▶ Floraville  | ▶ Marmong Point |                 |

The socio-economic study provides a substantial level of detail on the demographics of the Lake Macquarie LGA. For the purposes of this study, we reproduced some of the key information, which is provided in the table below.

**Table 5: Lake Macquarie key demographic data**

Key Demographic Information	
Population 2006	183,140
Population Growth (2001-2006)	3.4%
Private Occupied Dwellings	67,443
Average Household Size	2.6
Workforce	93,000
Unemployment Rate	5.3%
Median Weekly Income	\$922
Median Weekly Rent	\$205

Source: Trinity Point Socio-Economic Study

### 2.2.2 Lake Macquarie

Lake Macquarie is one of Australia's largest coastal saltwater lakes, located approximately 20km south of Newcastle. The Lake extends about 22 kilometres from Cockle Bay in the north to Chain Valley Bay in the south, with a maximum width of about 10 kilometres. The lake is connected to the ocean through a narrow entrance channel located approximately midway along the lake extent at Swansea. A low level bridge with an opening double lifting span crosses Swansea Channel.

The lake has an average depth of around 8m. The entrance at Swansea has a minimum depth of approximately 2m. The lake is a major resource for water based recreation in the Lower Hunter region, as well as catering for a large influx of holiday makers particularly during the summer season. The Lake is also becoming a very popular 'sea change' retirement destination for people from Sydney.

Some of Lake Macquarie's features include the following:

- ▶ relatively non-tidal, flat waters virtually year round;
- ▶ 170km of foreshore;
- ▶ four times the size of Sydney Harbour;
- ▶ no commercial shipping or fishing;
- ▶ popular for yacht racing and regattas; and
- ▶ there is ocean access from the lake.

### 2.2.3 Existing Marinas on Lake Macquarie

Based on information contained in the demand study, there are six marinas located on Lake Macquarie with permanent berthing and mooring facilities, these include:

- ▶ *Royal Motor Yacht Club (RMYC), Toronto*. Facilities include 51 berths and 10 swing moorings. Presently, the club offers limited ancillary boating services, with boat repairs by contract only.
- ▶ *Marmong Point Marina, Marmong Point*. Facilities include 160 berths, 13 swing moorings and up to 50 dry storage places. Marmong Point Marina is the largest marina on Lake Macquarie and offers extensive detailing and repair facilities, slipway, travel lift and fuel facilities. The marina is presently seeking to increase its number of wet berths by 80 and covered stack storages by 60 places.
- ▶ *Wye Point Marina, Wye Point*. Facilities include 36 berths, 4 swing moorings and up to 10 dry storage places. Presently, the club offers little in ancillary boating services.
- ▶ *Pelican Marina, Pelican*. Facilities include 17 wet berths only. A number of the berths are occupied by patrons with units in the Pelican Marina complex. Anecdotally, space and draught limitations (*near the bank*) are known to have discouraged waiting lists, however expansion to the north may be pursued (*although no plans at this stage*) to accommodate an additional five or six larger vessels.
- ▶ *Lake Macquarie Yacht Club (LMYC), Belmont*. Facilities include 76 berths, 18 swing moorings and up to 21 dry storage places. Presently, the club offers some repair facilities plus slipway and hard stand crane. Anecdotally, the club is looking to expand its number of berths by around 28, however details of this are not clear. The club reportedly has a waiting list of around 27 vessels (*14 yachts, 13 power*).

- ▶ *Marks Point Marina, Marks Point.* Facilities include 62 berths and 26 swing moorings. Marks Point Marina offers extensive repair facilities, slipway and fuel facilities. The marina has no known planned extensions at this time, and has a waiting list of around 13 vessels, ranging in size from 6m to 15m in length.

There are currently around 2,360 moorings within Lake Macquarie located at 42 sites within the Lake. Six sites were reported as having priority waiting lists, whereby demand exceeded supply.

## 2.3 About the Trinity Point Marina Development

The Trinity Point Marina and Mixed Use Resort proposal comprises the following infrastructure:

- ▶ Marina village - comprising 308 berth marina, village centre, boardwalk, breakwater, hardstand, workshop and helipad;
- ▶ Tourism accommodation - comprising approximately 75 apartments;
- ▶ Residential accommodation - comprising approximately 75 (2-3 bedroom) apartments;
- ▶ Connective spaces - boardwalk and landscaped foreshore connecting areas of the development; and
- ▶ Car parking - underground car park and surface parking.

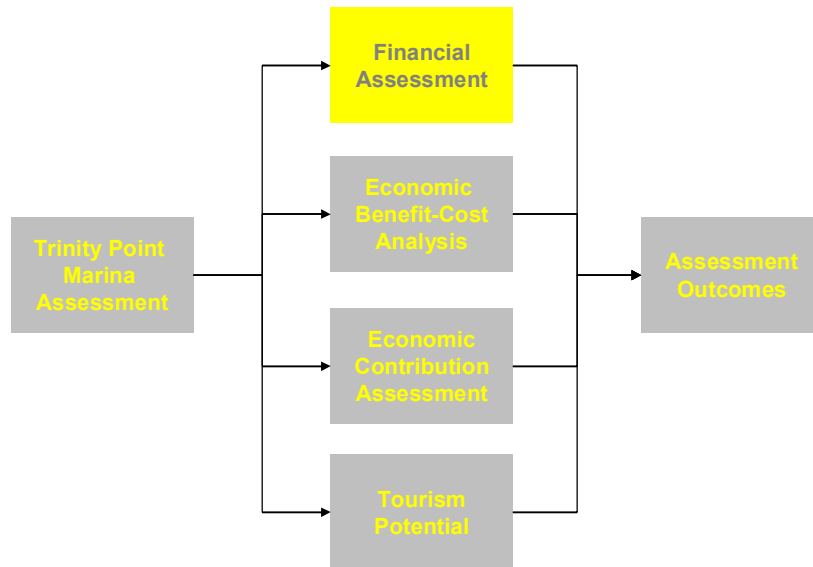


Detailed information on the Trinity Point Marina has not been included in this report as a number of other reports have produced this detail. As has been mentioned in the introductory section of this report, this study is only concerned with evaluating the marina and marina facilities component of the Trinity Point development.

### 3. Financial assessment

#### 3.1 Introduction

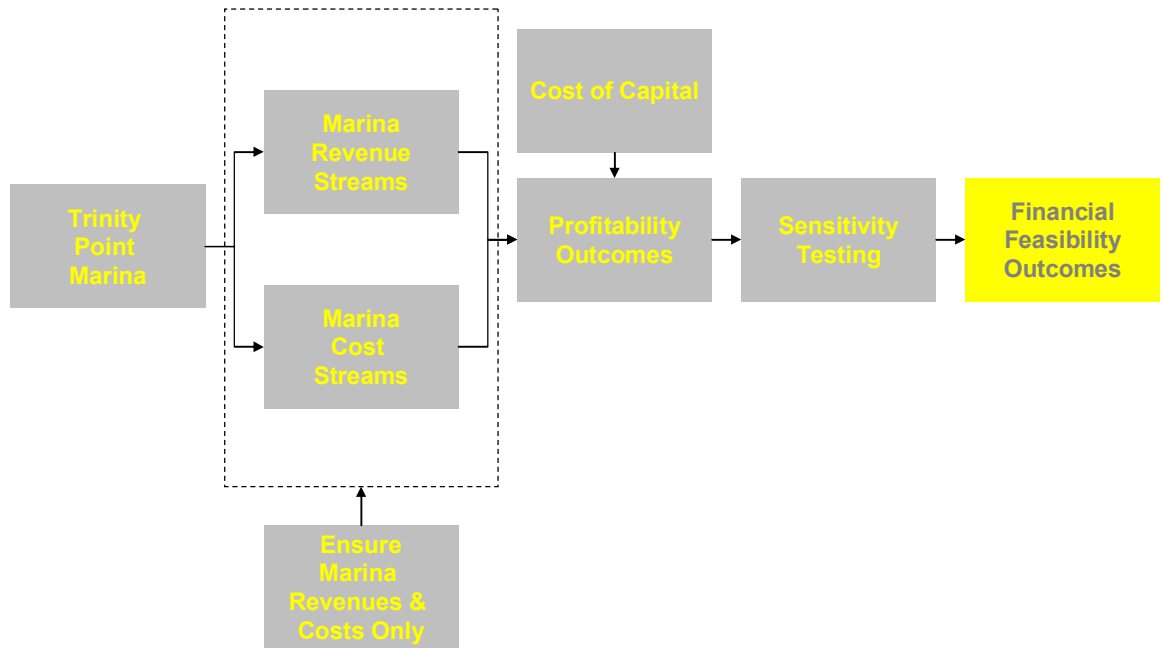
The first analysis to be undertaken is the financial assessment of the Trinity Point Marina proposal. The financial assessment will investigate the revenue and cost cash flows of the project over the evaluation period.



#### 3.2 Approach and assumptions

A financial analysis uses cashflow analysis to determine the financial feasibility of the Trinity Point Marina. The study involves assessing all project revenues and costs in order to determine the net cashflow position of the project. The financial assessment captures the direct financial impacts of the project, that is, it assesses the revenue and cost streams a private developer would derive and incur in undertaking the development option. The approach followed for this study is shown in the figure below.

Figure 11: Financial Assessment Approach



The assessment, as previously described in the introductory sections of this report, investigates the marina and marina operations, not the total Trinity Point development. This approach was selected in order to determine the feasibility of investment in the marina facility in isolation to the broader residential development. As such, the assessment will include:

- ▶ the marina;
- ▶ a marine workshop and hardstand area;
- ▶ helipad;
- ▶ car parking;
- ▶ retail and commercial facilities; and
- ▶ tourism facilities.

The financial assessment is undertaken in accordance with the New South Wales Government's *Guidelines for Financial Appraisal*, which are part of the government's Commercial Policy Framework.

More specifically, the financial analysis set out in this section:

- ▶ uses discounted cash flow analysis to determine the expected net present value of the Trinity Point Marina;
- ▶ the financial analysis has been conducted over a 30 period given that the asset is considered a long life asset. In addition a 30 year time period has been selected for consistency with the economic assessment;
- ▶ recognises cash flows occurring within a year at the end of that financial year. Where major cash flows occur at the beginning of a financial year, they are treated as having occurred at the end of the previous financial year;

- ▶ all cash flows are expressed in nominal dollars. As a result, future cash flows incorporate an inflationary component. For the purposes of the analysis, the assumed annual inflation rate is 2.5 per cent;
- ▶ capital expenditure cash flows are escalated using the Building Materials Index (BPI). The analysis has assumed an annual BPI of 4.8 per cent based on Australian Bureau of Statistics (ABS) data;
- ▶ does not recognise financing costs (e.g. interest expense) as cash outflows since the discount rate already incorporates the real cost of capital and excludes other non cash flow items such as depreciation;
- ▶ uses a nominal pre-tax discount rate of 12 per cent as a representation of a private sector WACC; and
- ▶ uses sensitivity analysis to illustrate how the results of the financial analysis change in response to changes in the key assumptions underlying the analysis and scenario analysis (i.e. 'best' and 'worst' case scenarios) to draw attention to the major risks and uncertainties inherent in the investment decision.

The remainder of this section of the financial evaluation discusses the inputs into the evaluation including:

- ▶ demand parameters;
- ▶ capital and operating costs;
- ▶ berthing revenues; and
- ▶ commercial and retail revenue streams.

Following this discussion the results of the analysis are produced and sensitivity testing is undertaken.

### 3.3 Demand for berths

The demand for berths in the Lake Macquarie region, and hence the estimated demand outcomes for the Trinity Point Marina has been taken from the "Trinity Point Marina Proposal Berth Demand Study" (Demand Study) undertaken by Patterson Britton & Partners in December 2007. This report will provide a brief recap of the outcomes of the demand study.

The demand for marina berth facilities was constructed using a first principles approach based on statistical data relating to historical and projected future boat ownership and population growth. Boating data was sourced from NSW Maritime and the Boating Industry Association (BIA) while population information was sourced from the ABS.

Based on the above methodology, the demand study looked at four future demand scenarios, which included:

- ▶ Scenario 1 - Local population - which assessed potential demand for the Lake Macquarie Local Government Area (LGA) only;
- ▶ Scenario 2 - Expanded local population - which assessed potential demand for the Lake Macquarie and Wyong LGA; and
- ▶ Scenario 3 - Total regional population - which assessed the potential demand for berths for the Hunter region.

The outcomes of this assessment are shown in the table below, based on berthing demand per head of population and population growth forecasts.

**Table 6: Demand Scenario Outcomes**

Year	Scenario 1		Scenario 2		Scenario 3	
Population Projects	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
2006	212	212	376	376	171	171
2011	166	188	398	396	283	294
2016	221	270	520	525	499	537
2021	278	358	651	665	730	802
2026	335	454	789	817	974	1,092
2031	392	558	927	983	1,221	1,408

Source: Demand Study

The demand assessment did not investigate the potential for greater demand from the broader metropolitan Sydney area for berths in the Lake Macquarie region.

Based on the level of latent demand calculated and presented in the table above, the following staged plan for the number of marina berths was constructed. The final plan is for 308 berths at Trinity Point Marina.

**Table 7: Trinity Point Berth Plan**

Stage	Forecast Year	Incremental Berths	Berths
Stage 1 - Marina Arm A	2011	70	70
Stage 2 - Marina Arm B	2013	76	146
Stage 3 - Marina Arm C	2015	80	226
Stage 4 - Marina Arm D	2017	82	308

In terms of the proposed size distribution of marina berths at the proposed Trinity Point Marina, the following distribution was recommended, again on the basis of the trend analysis undertaken, and is presented in the table below.

**Table 8: Berth Size Distribution**

Berth Size	Size Distribution
8 metres	6 %
10 metres	9 %
12 metres	40 %
14 metres	35 %
16 metres	7 %
18 metres	2%
20 metres	1%

Source: Demand Study

The size distribution of berths becomes important, in the financial analysis, when assessing the revenue rates and the average revenues likely to be achieved.

No additional work has been undertaken on the demand parameters at Trinity Point by Ernst & Young above that which was contained in the Demand Study.

### 3.4 Financial costs

The financial cost streams that have been included in the assessment are categorised as:

- capital expenditure; and
- operating expenditure.

The capital and operating costs have been sourced from the engineering and operating studies undertaken by Patterson Britton and JPG.

#### 3.4.1 Capital Expenditure

The capital expenditure costs include all cost streams involved in producing the Trinity Point Marina facility. The value of the land on which the marina will be constructed is also included in the capital expenditure estimates.

The capital expenditure costs are shown in the table below. The numbers shown in the table below are in 2008 dollars. Based on the Trinity Point marina plan for 308 berths being developed, the capital expenditure occurs between 2011 and 2017.

**Table 9: Capital expenditure costs**

Capital Expenditure Estimates	\$'000s
Consultants/Legal	1,905
Demolition, excavation and infrastructure	116
Roadworks, footpaths, services	805
Marina Village	3,666
<b>Marina/ Helipad</b>	
Site establishment/barge	180
Slatted breakwater	5,373
Marina Arm A	933
Marina Arm B	725
Marina Arm C	733
Marina Arm D	933
Floating helipad	649
Services to marina	1,155
Services to helipad	23
Foreshore rehabilitation	100
Preliminaries, overheads and margin (15%)	1,421
Fee, charges and levies	1,141
<b>Miscellaneous</b>	
Contingency (7.5%)	1,421
Escalation (12 mnths @ 4%)	729
<b>Land</b>	7,881
<b>Total</b>	<b>\$29,889</b>

Source: Patterson Britton

Some of the key cost parameters include:

- land valued at \$7.9 million;
- the establishment of the breakwater for all stages is valued at \$5.4 million;
- the total cost of marina arms valued at \$3.3 million;
- contingency has been valued at 7.5% of capital costs, not including land; and



- ▶ there are no costs included for any end of lease conditions such as removal of structures and rehabilitation of the site.

No terminal value has been attributed to the marina assets at the end of the evaluation period in this study. Ernst & Young has been advised that the marina facility has a lifespan of 30 years and will require major upgrade expenditure at this point in time.

### 3.4.2 Operating and Maintenance Expenditure

Operating and maintenance expenditure included in the study included:

- ▶ labour;
- ▶ maintenance; and
- ▶ administration.

The operating and maintenance expenditure costs are shown in the table below. The numbers shown in the table below are in 2008 dollars.

Table 10: Operating and maintenance expenditure

Operating costs	Stage 1	Stage 2	Stage 3	Stage 4
Labour (\$'000s)	150	187.5	225	300
Maintenance (\$'000s)	76	128	180	180
Administration (\$'000s)	50	50	50	50
<b>Total Operating and Maintenance Costs (\$'000s)</b>	<b>276</b>	<b>365.5</b>	<b>455</b>	<b>530</b>

Source: Patterson Britton

The operating costs have been supplied by Patterson Britton for use in this study. Ernst & Young have not undertaken validity checks on these costs.

## 3.5 Revenue streams

Estimates of the revenue that would be generated by the services that are part of the marina facility at Trinity Point are presented in this section.

There are two streams of revenue that are estimated to be captured through the operation of the marina, including:

- ▶ revenue from berths; and
- ▶ revenue from commercial and retail operations.

### 3.5.1 Revenue from Berths

To determine the appropriate rental income from the marina berths a review of those charges currently made by similar operators in the Lower Hunter region was undertaken. It was determined that, given there is a market demand for these services, charges on a par with existing similar facilities would be demanded. It was further determined that the level of service provided (in terms of amenity, tourist attraction and general facilities) would be similar to that currently provided by D'Albora Marina and The Anchorage marina at Port Stephens rather than other marinas in the Lake Macquarie vicinity. This is due to the fact that local marinas generally offer berth facilities without the supporting tourism attractions, services and facilities whilst the two nominated Port Stephens marinas offer very similar services to those proposed for Trinity Point. Furthermore, the Port Stephens marinas currently experience 100% occupancy rates with demand for additional berths, indicating that the market can support additional facilities in this price range.

Other assumptions in determining a berth rental income were made as follows:

- ▶ berth size distribution will be as determined in the Trinity Point Berth Demand Study;
- ▶ for each vessel size below and including 16m, it is assumed 80% will be permanently located vessels;
- ▶ for each vessel size below and including 16m, 15% will be located on a monthly basis;
- ▶ for each vessel size below and including 16m, 3% will be located on a weekly basis;
- ▶ for each vessel size below and including 16m, 2% will be located on a daily basis;
- ▶ vessels over 60 feet will arrive after 5 years and will be permanent;
- ▶ although partial berth rental is not possible, this has been allowed to calculate fees as this effect will average out over a number of years; and
- ▶ for each of the stages from 2 to 4 it is assumed that a 5 month construction period is required to complete the stage.

The table below shows the revenue parameters used within the financial analysis for each of the stages when the assumed 100 per cent occupancy has been reached. Each project stage has a ramp up period before achieving full capacity.

**Table 11: Revenue parameters**

Berth Size	Average berth rental (\$/p.a)	Revenue (\$'000s)
Stage 1	11,617	813
Stage 2	10,325	1,445
Stage 3	10,458	2,300
Stage 4	10,532	3,244

Source: Patterson Britton

### 3.5.2 Retail and Commercial Revenue

There will be an income to the marina associated with the rental of the land based floorspace for commercial activities. To determine an appropriate market rental, commercial and tourism related floorspace rentals in the Lower Hunter were examined. It was determined that it was not appropriate to examine similar Sydney markets as the rents charged in this area are inherently higher for similar facilities. It was difficult to identify similar existing market locations as premises of similar quality and amenity as these places are typically within already built up areas with existing supporting commercial function. The closest location was available floorspace at Port Stephens adjacent to the D'Albora Marina. This floorspace rents out for approximately \$400 per square metre. It was determined that, to be conservative, 80% of the Nelson Bay floorspace rental rates would be adopted.

It was then further estimated that only 50% of this rental would be attributable to the marina with the remaining 50% supporting the land based activities on the site. It was acknowledged that these are assumptions only and as such the vulnerability of the proposal to inaccuracies in this estimating process would be tested in the sensitivity analysis.

Each of the commercial functions associated with the marina was then examined to determine if a commercial rent would be collected from the premises and an estimate of the potential income to the marina made.

The table below shows the assumed retail and commercial revenues which are attributable to the marina and marina operations only.

**Table 12: Retail and commercial revenue forecasts – marina only**

Retail and Commercial Revenues	Floor Space (square metres)	Potential Rent (p.a)
Café/Bistro	40	6.4
Chandlery	50	8
Bookshop/Newsagent	30	4.8
Restaurant	110	17.6
Beauty Salon	30	4.8
Gym & Fitness	60	9.6
Offices (Tourist Related)	100	16
Functions	350	28
Kitchen (Functions, Club & Restaurant/café)	60	9.6
Operations/Management/Administration	40	6.4
Marina Offices	50	8
Boat Storage	30	4.8
Boating Club Lounge	110	17.6
Workshop - Slip Repairs/Engineering	30	4.8
<b>TOTAL</b>	<b>830</b>	<b>104.8</b>

Assumptions in determining these figures were:

- ▶ the rental income from those functions that are core to the operation of the marina has been excluded, as income from berth charges must offset this;
- ▶ only 50% of the possible income attributable to the marina from the function room has been included as it is unlikely that this facility would be continuously let;
- ▶ the possible income from the kitchen has been included as this will be required year round;
- ▶ for the purpose of the NPV analysis it has been assumed that floorspace will be filled over a 5 year period; and
- ▶ it is further assumed that the number of berths will not impact on the floorspace rental income as these functions are independent of berth numbers.

## 3.6 Net Financial Returns

The following section presents the financial implications of each of the stages of development. This involves conducting a 'private' benefit cost analysis of each of those options – that is, an analysis of the revenues and costs that a private sector developer would derive and incur if they undertook each of the development options.

### 3.6.1 Financial Assessment Outcomes

The financial net present value of the Trinity Point Marina development has been assessed for each of the stages of the development. By Stage 4 there are 308 berths operating at the marina. For the other Stages shown in the table, the financial assessment has been undertaken as if that stage continues to operate for the remainder of the evaluation period.

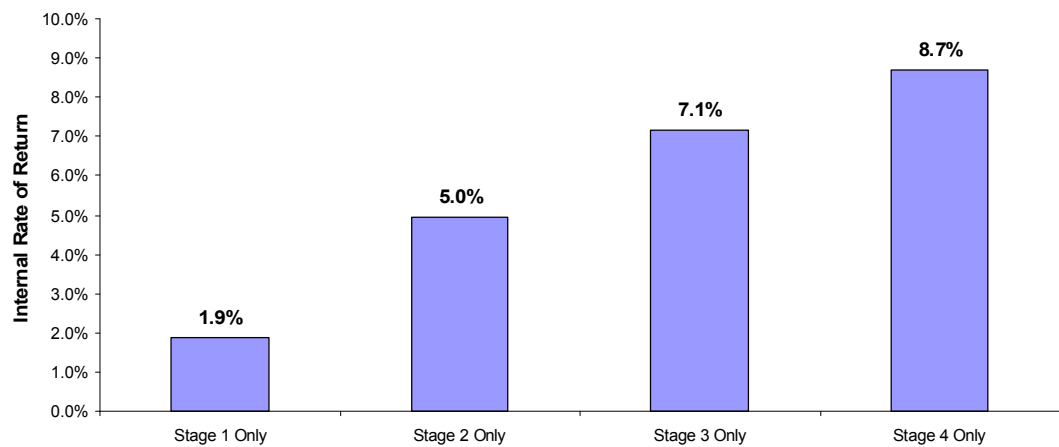
The net financial impact of the proposed marina is set out in the table below.

**Table 13: Summary of Financial Assessment Outcomes**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	6,756.9	11,130.5	15,690.1	19,339.9
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-9,356.3	-8,752.8	-7,294.6	-5,842.4
Revenue-Cost ratio	0.42	0.56	0.68	0.77
Internal rate of return (IRR)	1.9%	5.0%	7.1%	8.7%

A comparison of the internal rates of return for each of the stages is shown in the figure below. Again, the outcomes reflect on going operations at each of the stages for the evaluation period.

**Figure 12: Comparison of internal rates of return**



### 3.7 Financial sensitivity analysis

A series of risk/sensitivity assessments have been run on the financial outcomes produced above. These sensitivities have been conducted on the major risk factors that have been identified through the assessment process, as well as the standard financial sensitivities.

#### 3.7.1 Key Risks

The key risks identified for the Trinity Point Marina Project include:

- ▶ the discount rates in this case the weighted cost of capital (WACC);
- ▶ the capital cost associated with the Project;
- ▶ occupancy rate assumptions; and
- ▶ revenue rate assumptions.

Sensitivities have been undertaken on the identified key risks where it has been possible to capture these risks via economic modelling.

### 3.7.2 Discount Rates/Cost of Capital

The first of the sensitivities to be conducted involve changes in WACC. The WACC used in the base analysis was selected at 12%. This is quite a low WACC for a private company. For the Trinity Point Marina, sensitivities on the discount rate have been run at 14% and 16%.

The table below shows the outcomes for each of the options at a 14% discount rate.

**Table 14: Discount Rate at 14% outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	5,539.5	9,001.5	12,524.3	15,227.5
Present Value of costs	15,182.7	18,512.0	21,136.1	22,962.9
Net present value	-9,643.1	-9,510.5	-8,611.8	-7,735.4
Revenue-Cost ratio	0.36	0.49	0.59	0.66
Internal rate of return (IRR)	1.9%	5.0%	7.1%	8.7%

The table below shows the outcomes for each of the option at a 16% WACC.

**Table 15: Discount Rate at 16% outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	4,617.8	7,401.8	10,164.9	12,195.7
Present Value of costs	14,389.9	17,346.7	19,583.2	21,108.9
Net present value	-9,772.1	-9,944.9	-9,418.3	-8,913.2
Revenue-Cost ratio	0.32	0.43	0.52	0.58
Internal rate of return (IRR)	1.9%	5.0%	7.1%	8.7%

### 3.7.3 Capital Cost Sensitivity

The table below shows the outcomes for each option with an increase in the capital cost of 20%.

**Table 16: Capital Costs increased by 20% Outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	6,756.9	11,130.5	15,690.1	19,339.9
Present Value of costs	18,885.6	23,289.8	26,869.9	29,475.2
Net present value	-12,128.7	-12,159.3	-11,179.8	-10,135.2
Revenue-Cost ratio	0.36	0.48	0.58	0.66
Internal rate of return (IRR)	0.6%	3.5%	5.5%	7.0%

The table below shows the outcomes for each option with a decrease in capital costs of 20%.

**Table 17: Capital Cost decreased by 20% outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	6,756.9	11,130.5	15,690.1	19,339.9
Present Value of costs	13,340.8	16,476.8	19,099.5	20,889.4
Net present value	-6,583.9	-5,346.3	-3,409.4	-1,549.5
Revenue-Cost ratio (BCR)	0.51	0.68	0.82	0.93
Internal rate of return (IRR)	3.5%	6.9%	9.3%	11.0%

### 3.7.4 Occupancy Rates

A major assumption used in the assessment of the Trinity Point Marina financials is the level of occupancy of marina berths. The prevailing assumption used in the base analysis is a 100% occupancy after a ramp up period. Sensitivities have been run at 75% and 85% occupancy.

The table below shows the outcomes for each option with a 75% occupancy rate for the new facilities.

**Table 18: Occupancy at 75%**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	5,151.2	8,529.7	11,949.4	14,686.7
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-10,962.0	-11,353.6	-11,035.4	-10,495.6
Revenue-Cost ratio	0.32	0.43	0.52	0.58
Internal rate of return (IRR)	0.0%	2.1%	4.0%	5.5%

The table below shows the outcomes for each option with an 85% occupancy rate for the new facilities.

**Table 19: Occupancy at 85%**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	5,793.5	9,570.0	13,445.7	16,548.0
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-10,319.7	-10,313.3	-9,539.1	-8,634.3
Revenue-Cost ratio	0.36	0.48	0.58	0.66
Internal rate of return (IRR)	0.2%	3.3%	5.3%	6.8%

### 3.7.5 Revenue Sensitivity

The table below shows the outcomes for each option with an increase in the revenue by 20%.

**Table 20: Revenue increased by 20% Outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	8,108.3	13,356.6	18,828.1	23,207.9
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-8,004.9	-6,526.7	-4,156.6	-1,974.4
Revenue-Cost ratio	0.50	0.67	0.82	0.92
Internal rate of return (IRR)	3.8%	7.0%	9.4%	10.9%

The table below shows the outcomes for each option with a decrease in revenue of 20%.

**Table 21: Revenue decreased by 20% outcome**

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	5,405.5	8,904.4	12,552.1	15,472.0
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-10,707.7	-10,978.9	-10,432.6	-9,710.4
Revenue-Cost ratio	0.34	0.45	0.55	0.61
Internal rate of return (IRR)	-0.5%	2.5%	4.6%	6.1%

## 3.8 Financial Benchmarking

The final task in terms of the financial assessment is to benchmark the returns estimated for Trinity Point Marina against the following categories

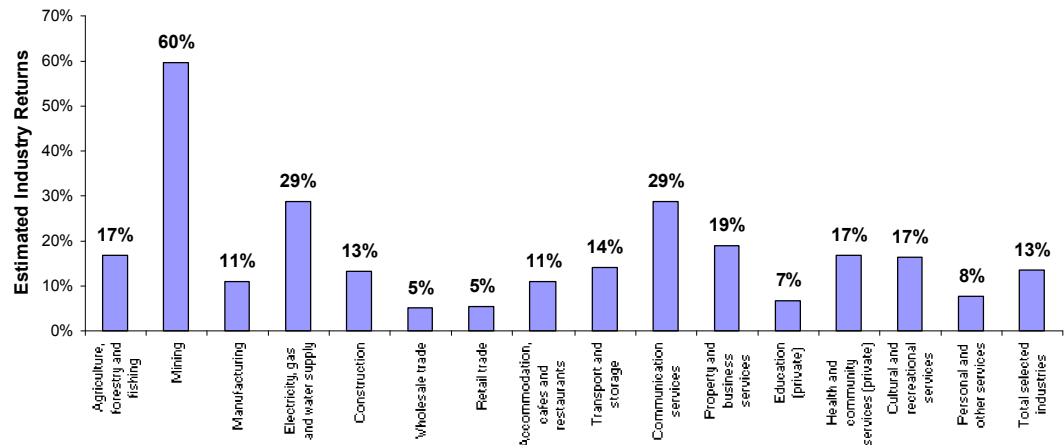
- ▶ average return parameters - which will look at general return requirements for various levels of risk and average return profiles; and
- ▶ average returns for the marina industry - where a comparison of available marina data is undertaken.

### 3.8.1 Average return parameters

As mentioned above, the average returns required by infrastructure projects are typically likely to be between 12% and 20% (under a nominal before tax basis). This is based on the cost of borrowing and takes into account the opportunity cost of not investing capital into other projects.

The average returns at an industry level are shown in the figure below. The estimated returns are based on ABS average business data. The average rate of return has been estimated to be 13%. The marina industry would be included in the cultural and recreational services category which has an average return of 17% based on the ABS data.

Figure 13: Estimated average industry returns



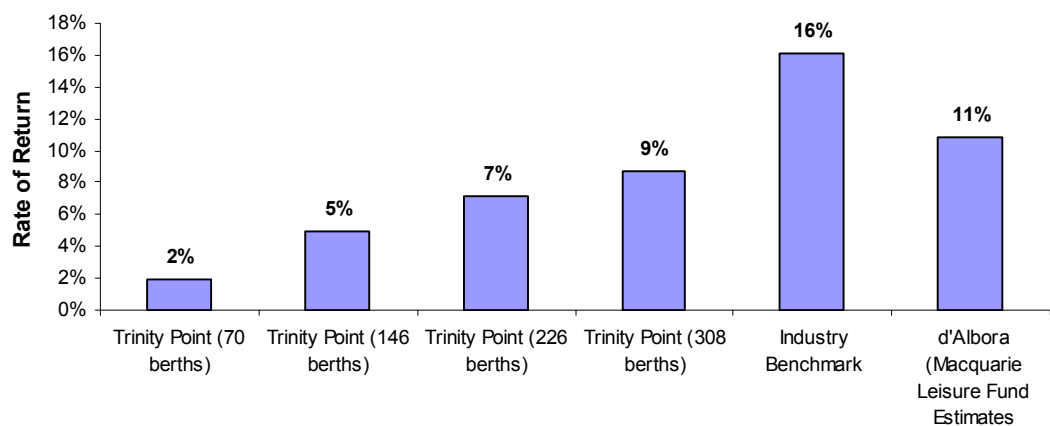
Source: ABS data

### 3.8.2 Returns for marina industry

The final approach to benchmarking the financial returns at the Trinity Point Marina is to compare and contrast the results that have been calculated against other marinas and the marine industry in general.

Getting specific data on individual marinas is difficult given that typically marinas are privately incorporated and do not release financial information. The benchmarked results presented below have been undertaken using industry data and best estimate information from a variety of publicly available data sources. The returns for each of the staged options and the industry are shown in the figure below.

Figure 14: Marina benchmarking

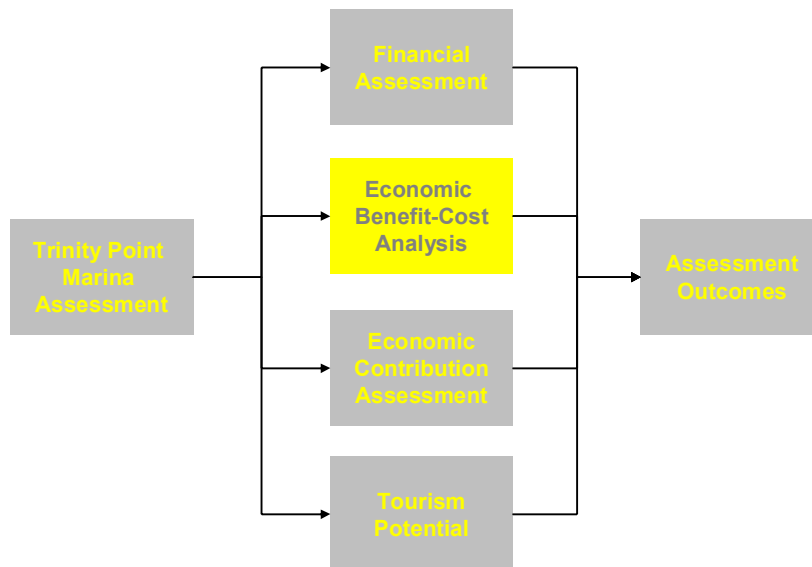


Source: ABS, Allen Consulting Group, "Benchmarking Australia's Marine Industries" 2005 and the Macquarie Bank Group.



## 4. Economic Benefit-Cost Study

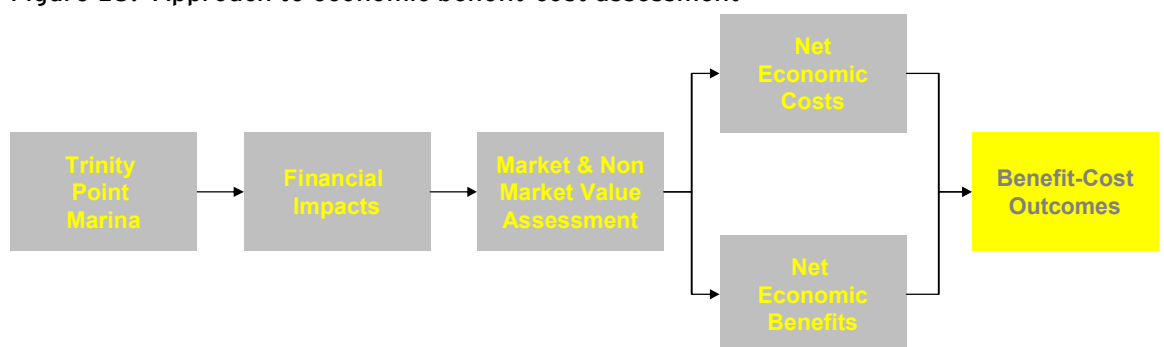
The financial assessment presented in the previous section examined the financial impact of the development of Trinity Point Marina. The financial study does not consider the additional benefits or costs that the Lake Macquarie region or New South Wales as a whole would derive from the project. The economic benefit-cost study attempts to capture the economic benefits and costs that may result as a consequence of the Trinity Point Marina construction.



### 4.1 Approach and assumptions

An economic benefit-cost assessment uses cashflow analysis to determine the economic feasibility of the Trinity Point Marina. The benefit-cost study involves assessing all of the real resource costs of the project and the real value of outputs produced by the project. The economic study captures both the market and the non market (or realised) impacts of the project, that is, it assesses the broader social implications that would be derived and incurred by NSW by undertaking the development option. The approach followed for this study is shown in the figure below. The economic benefit-cost study builds on the financial impacts by adding the market and non market impacts to the NSW economy.

Figure 15: Approach to economic benefit-cost assessment



As was the case in the financial assessment, the economic benefit-cost study is only being undertaken on the marina and marina operations component of the Trinity Point development.

The economic assessment is undertaken in accordance with the New South Wales Treasury *Cost-Benefit Analysis Guidelines*. More specifically, the economic analysis set out in this section:

- ▶ uses discounted cash flow analysis to determine the expected economic net present value of the Trinity Point Marina;
- ▶ the economic analysis has been conducted over a 30 year period given that the asset is considered a long life asset;
- ▶ recognises cash flows occurring within a year at the end of that year, as in the case of the financial;
- ▶ unlike the financial analysis, all cash flows are expressed in real dollars. As a result, there are no inflationary measures included in this analysis;
- ▶ the evaluation uses the NSW Treasury recommended discount rate of 7 per cent which is a real discount rate; and
- ▶ uses sensitivity analysis to illustrate how the results of the economic benefit-cost analysis change in response to changes in the key assumptions underlying the analysis and scenario analysis.

In addition to the financial revenues and costs that were calculated, there are a number of economic benefits and costs that are not captured in the financial assessment. The remainder of this economic section will attempt to explain and value the following economic benefits and costs:

- ▶ additional value to users of the marine and marina services;
- ▶ value to local residents;
- ▶ environmental benefits and costs; and
- ▶ tourism implications.

## **4.2 Economic benefits and costs**

The economic benefit-cost study is being undertaken for the NSW economy. All benefits and costs identified are presented on the basis of the net outcomes for the NSW economy.

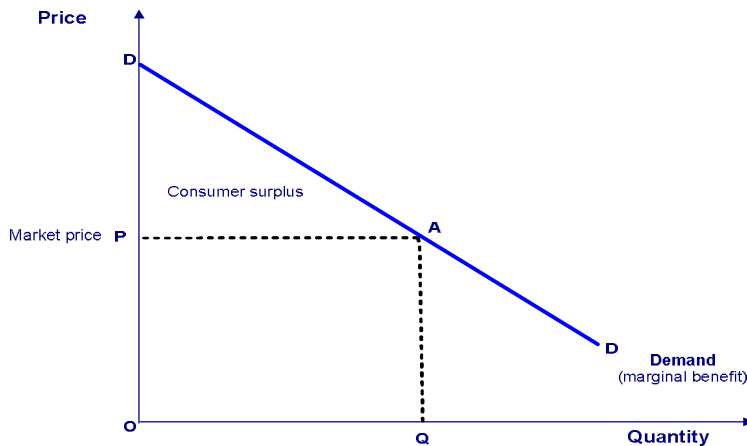
The following section describes and quantifies the additional benefits and costs associated with the marina development and operation at Trinity Point.

### **4.2.1 Additional Value to Users of the Marina and Marina Services**

In addition to considering the net revenue that commercial operators derive from supplying goods and services to users of the Trinity Point Marina, it is also important to consider the net benefits that users would derive from consuming those goods and services.

The approach to estimating the economic value to users of the marina facilities and services is illustrated in the figure below, which illustrates conceptually how the marina demand varies with changes in the price of that floor space.

**Figure 16: Actual and market value of the marina use**



The economic value of the marina facilities and services is equal to the value that users derive from the use of that the marina (i.e. the “value in use”), which is illustrated in the figure by the area DAQO. This “value in use” is equal to the sum of:

- the market value of each of the new berths and associate marina facilities, which is illustrated in the figure by the area PAQO; and
- the “consumer surplus”, that users derive from the use of the new facilities, which is illustrated in the figure by the area DAQP. This is equal to the additional amount that they would have been willing to pay, over what they do pay, to use the marina.

The magnitude of the net economic benefits that users derive from consuming the goods and services provided by the proposed marina will depend on how sensitive their demand is to changes in the prices charged for those goods and services. In general, the less responsive the demand is for a particular good or service is to a change in its price (i.e. the lower the price elasticity of demand), the greater the net benefit consumers will derive from consuming additional units of that good or service.

The price elasticity of demand of users for the facilities and services provided by the marina will depend on the extent to which they are able to readily access substitutable goods and services from other suppliers.

For example, the price elasticity of demand is likely to be relatively low for those goods and services supplied by the marina that have few close substitutes, including:

- permanent and temporary mooring facilities;
- boat fuel; and
- the commercial and retail facilities located at the marina.

By contrast, the price elasticity of demand is likely to be relatively high for those goods and services supplied by the marina that have close substitutes that are readily available from other sources, including food and other consumables.

The demand by NSW residents of marina usage is assumed to be a linear function of price and to have an arc price elasticity of 1 over its entire range. Based on the variation in the price elasticity of demand, some high and some low, 50% is used as a mid point for the calculation of consumer surplus.

The net benefit of NSW users estimates were derived using the following assumptions:

- 85 per cent of the marina revenue is generated by NSW residents; and

- 85 per cent of the retail and commercial revenue is generated by NSW residents.

The table below presents estimates of the net benefit that NSW residents are expected to derive from their use of the Trinity Point Marina facilities.

**Table 22: Additional value to users**

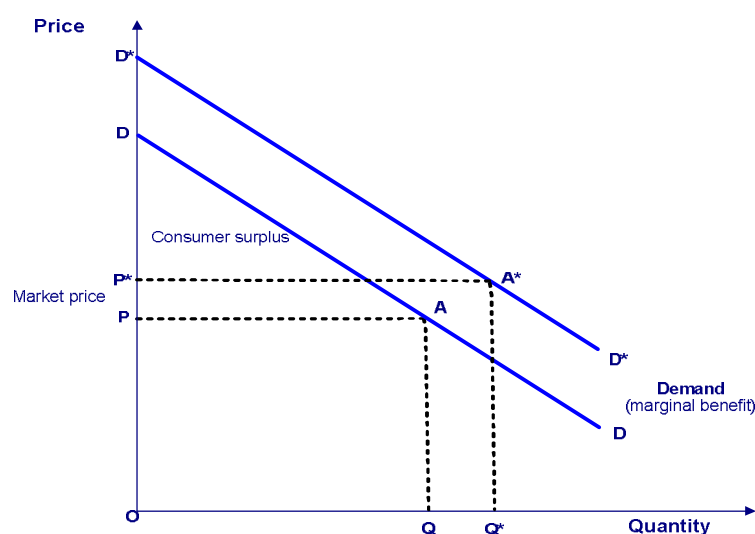
Development Stage	Annual \$'000s
Stage 1	73
Stage 2	130
Stage 3	205
Stage 4	280

### 4.2.2 Value to Local Residents

The proposed Trinity Point Marina will offer a range of facilities that will generate a wide range of net benefits for residents (e.g. the net benefits they derive from using its mooring, boat storage, restaurant and recreational facilities). That is, it will increase the 'amenity' of the neighbourhood surrounding the marina for residents of that neighbourhood.

The approach to estimating the value of these additional benefits to existing residents is illustrated in the figure below.

**Figure 17: Approach to evaluating the value to existing residents**



That is, prior to the development of the marina, it is assumed that:

- the initial demand for residential space in the local area is illustrated by the demand curve DD;
- the initial market price for residential space is given by P; and
- at that market price, a quantity of Q of residential property is demanded.

We then consider what happens after the development of the marina. The development of the marina brings with it an assumed increase in the vitality of the area resulting in an improved amenity. With an improvement in amenity this has the potential to increase demand for existing residential, which is illustrated in the figure above by the shift in the demand curve to the right from DD to D\*D\*.

This increase in demand will increase the value in use of existing residential space surrounding the development from DAQO to  $D^*A^*Q^*O^*$ .

This increase in the value in use of existing residential space is made up of two components:

- ▶ an increase in the market value of existing residences surrounding the marina development from PAQO to  $P^*A^*Q^*O^*$ . That is, the market value of existing residences surrounding the development will increase from  $P \times Q$  to  $P^* \times Q^*$  (i.e. some of the indirect benefits will be capitalised into the value of the existing residences); and
- ▶ an increase in the consumer surplus that existing residents derive from the use of those residences from DAP to  $D^*A^*P^*$ .

It is important to note that the operation of the property market will tend to capitalise this increase in neighbourhood amenity into the values of the surrounding residential properties. This will generate capital gains for those residents who live in the area surrounding the safe boat harbour, regardless of whether or not they use its facilities.

As a result, in order to estimate that increase in neighbourhood amenity, we have examined the extent to which the construction of other marina's in NSW have increased the values of similar surrounding residential property. For example, properties surrounding various Victorian marina developments have increased since the announcement of that development by around 2 per cent more than increases in property prices in similar areas that do not have marina facilities. We note, however, that not all of that increase in value of surrounding property will be attributable to the marina facilities.

This use of property values as a proxy for measuring the amenity that residents derive from a particular neighbourhood is a technique that has been used in NSW to determine the extent to which concentrations of social housing in Sydney reduce the amenity of the neighbourhoods surrounding that social housing. A detailed discussion of such methodologies can be found in the 'best practice' guidelines for evaluating public housing estate renewal projects outlined in the Australian Housing Research Fund report Public Housing Estate Renewal in Australia (Australian Housing Research Fund, Project Number 212, November 2000) and the accompanying Manual for Sectorised Cost Benefit Analysis.

Since we have already included the net benefit that residents will derive from using the commercial facilities provided by the safe boat harbour, we need to deduct those net benefits from the estimated increase in the values of neighbouring property to ensure those benefits are not double counted.

The incremental value of increased amenity to local residents for each stage of the development is shown in the table below.

**Table 23: Value to local residents**

Environmental Benefits & Costs	Annual \$'000s
Stage 1	194
Stage 2	404
Stage 3	596
Stage 4	783

A 0.25% increase in value has been introduced for each stage of the development, culminating in a 1% increase in property values for the Morisset district.

### 4.2.3 Environmental Benefits and Costs

A detailed assessment of the environmental impacts of the proposed Trinity Point Marina was investigated through an assessment that was undertaken by environmental planners, Patterson

Britton. Specialist consultants were engaged to specifically assess the impacts on coastal processes, geotechnical issues, marine ecology and terrestrial ecology.

The process determined that the facility would have a low negative impact on the environment. The key environmental findings from the investigation are as follows:

- ▶ there may be some noise impacts on existing local residents;
- ▶ construction would be unlikely to require any dredging of the sea floor to achieve a depth for a wide range of boat sizes;
- ▶ the breakwater will have minimal impact on coastal processes, and there will be no likely build up of sand within the harbour to require ongoing maintenance dredging;
- ▶ there are no unique or threatened marine species; and
- ▶ an environmental management plan should be put in place to identify the ongoing management strategies required to minimise the environmental impact.

We have taken 10% of the total value realised by existing local residents through increased amenity, rather than the incremental shown above, to represent the environmental impact. This is an assumption, which has been included due to considerable uncertainty surrounding the value of the economic value environmental impacts.

The outcome of this environmental valuation is shown in the table below.

**Table 24: Environmental benefits and costs**

Environmental Benefits & Costs	Annual \$'000s
Stage 1	-36
Stage 2	-73
Stage 3	-109
Stage 4	-146

#### 4.2.4 Tourism

The proposed Trinity Point Marina also has the potential to attract additional boating enthusiasts and tourists to the Lake Macquarie area and NSW more broadly, significantly increasing the amount of expenditure on locally supplied goods and services. The extent to which this generates a net benefit to the NSW economy will depend on the effect that tourism expenditure has on prices and supplies of goods and services in the region as well as the proportion of the tourism spend that is undertaken by interstate and international visitors.

In view of the considerable uncertainty surrounding the extent to which additional expenditure may result from visiting boating enthusiasts and tourists, we have taken the conservative approach of not including an estimate of these net benefits in the benefit-cost portion of this study. A mainly qualitative analysis of the discussion on potential tourism benefits is provided in Section 6.

### 4.3 Benefit-Cost analysis outcomes

Using the inputs from the financial assessment and the costs and benefits described above, an economic benefit-cost model was built for the Trinity Point Marina. The results presented in the economic component of the study are for the 308 berth marina given the results of the financial assessment.

### 4.3.1 Economic Benefit-Cost Assessment Outcomes

The economic net present value of the marina has been calculated to be \$10,218 million for the development. The net economic impact of the proposed marina is set out in the table below.

Table 25: Summary of Economic Benefit-Cost Outcomes

Benefits & Costs	\$'000s
Present Value of benefits	39,168
Present Value of costs	28,951
Net present value	10,218
Benefit-Cost ratio (BCR)	1.4
Internal rate of return (IRR)	11%

The results of the economic study are presented for the 308 berth options, which produces a:

- BCR of 1.4; and an
- IRR of 11%.

The break down of the benefits over the evaluation period are shown in the table below.

Table 26: Summary of Economic Benefit Outcomes

Benefits	\$'000s
Present Value of berth, retail & commercial revenue	27,983
Present value to users of the marina	11,893
Present value to local residents	500
Present value of impact on the environment	-1,207
Present Value of benefits	39,168

The break down of the costs over the evaluation period are shown in the table below.

Table 27: Summary of Economic Cost Outcomes

Costs	\$'000s
Present Value of capital expenditure	23,659
Present Value of operation expenditure	5,292
Present Value of costs	28,951

## 4.4 Economic Sensitivity Tests

A series of risk/sensitivity assessments have been run on the economic outcomes produced above. These sensitivities have been conducted on the major risk factors that have been identified through the Business Case process, as well as the standard economic sensitivities.

### 4.4.1 Key Risks

The key risks associated with the Trinity Point Marina Project, and specifically for this section of the Business Case, the economic evaluation outcomes have been identified as:

- the discount rates;

- ▶ the capital cost associated with the Project;
- ▶ occupancy rate assumptions; and the
- ▶ the assumptions regarding the value of the facilities to users.

Sensitivities have been undertaken on the identified key risks where it has been possible to capture these risks via economic modelling.

#### 4.4.2 Discount Rates

The first of the sensitivities to be conducted involve changes in discount rate. Discount rate sensitivities are used to investigate the range of potential outcomes as a result of different future values of cash flows. For the marina assessment, sensitivities on the real discount rate have been run at 4% and 10% as recommended in the NSW Treasury Guidelines manual.

The table below shows the outcomes for each of the options at a 4% discount rate.

Table 28: Discount Rate at 4% outcome

Benefits & Costs	\$'000s
Present Value of benefits	59,247
Present Value of costs	33,838
Net present value	25,409
Benefit-Cost ratio (BCR)	1.8
Internal rate of return (IRR)	11%

The table below shows the outcomes for the development at a 10% discount rate. At a 10% discount rate the development still returns a positive NPV.

Table 29: Discount Rate at 10% outcome

Benefits & Costs	\$'000s
Present Value of benefits	27,190
Present Value of costs	25,498
Net present value	1,692
Benefit-Cost ratio (BCR)	1.1
Internal rate of return (IRR)	11%

#### 4.4.3 Capital Cost Sensitivity

The table below shows the outcomes for the development with an increase in the capital cost of 20%.

Table 30: Capital Costs increased by 20% Outcome

Benefits & Costs	\$'000s
Present Value of benefits	39,168
Present Value of costs	33,682
Net present value	5,486
Benefit-Cost ratio (BCR)	1.2
Internal rate of return (IRR)	9%

The table below shows the outcomes for the development with a decrease in capital costs of 20%.



**Table 31: Capital Cost decreased by 20% outcome**

Benefits & Costs	\$'000s
Present Value of benefits	39,168
Present Value of costs	24,219
Net present value	14,949
Benefit-Cost ratio (BCR)	1.6
Internal rate of return (IRR)	14%

#### 4.4.4 Occupancy Rates

A major assumption used in the assessment of the Trinity marina is the level of berth occupancy at the marina. The prevailing assumption used in the base analysis is that 100% of the berths are occupied. Sensitivities have been run at 75% and 85% occupancy.

The table below shows the outcomes for each option with a 75% occupancy rate at the marina.

**Table 32: Occupancy at 75%**

Benefits & Costs	\$'000s
Present Value of benefits	32,232
Present Value of costs	28,951
Net present value	3,281
Benefit-Cost ratio (BCR)	1.1
Internal rate of return (IRR)	8%

The table below shows the outcomes for each option with an 85% occupancy rate at the marina.

**Table 33: Occupancy at 85%**

Benefits & Costs	\$'000s
Present Value of benefits	34,945
Present Value of costs	28,951
Net present value	5,994
Benefit-Cost ratio (BCR)	1.2
Internal rate of return (IRR)	9%

#### 4.4.5 Value to users

A sensitivity analysis has been undertaken on consumer surplus to users of the marina. The variation in value to users can be calculated using estimations of the price elasticity of demand for the marina. The base analysis has been run using a price elasticity measure where the value of consumer surplus is 50% of the market value (of the area under the curve). Sensitivity analysis has been run at 10% and 25%, that is, for scenarios where the demand is more elastic.

The table below shows the outcomes for each option with a consumer surplus valued at 10% market value for users of the Trinity Point Marina.

**Table 34: Value to Users at 10% of market value**

Benefits & Costs	\$'000s
Present Value of benefits	35,984
Present Value of costs	28,951
Net present value	7,033
Benefit-Cost ratio (BCR)	1.2
Internal rate of return (IRR)	10%

The table below shows the outcomes for each option with a consumer surplus valued at 25% market value for users of the Trinity Point Marina.

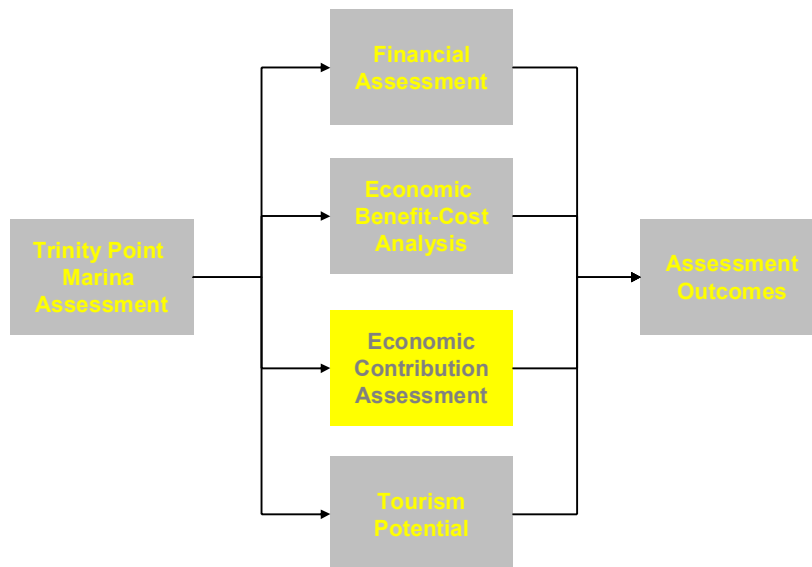
Table 35: Value to users at 25% of the market value

Benefits & Costs	\$'000s
Present Value of benefits	34,655
Present Value of costs	28,951
Net present value	5,705
Benefit-Cost ratio (BCR)	1.2
Internal rate of return (IRR)	9%

## 5. Economic Contribution

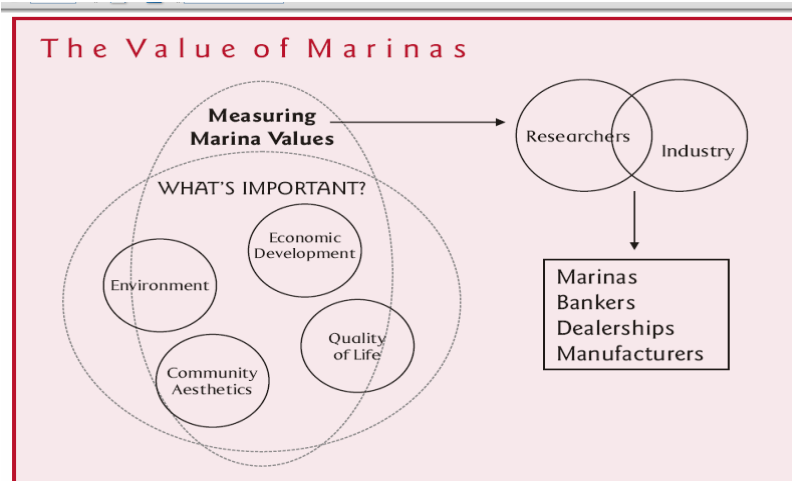
### 5.1 Introduction

Marinas can be a significant contributor to a regional economy. The value of marinas often goes unrealised and under-estimated, if not appropriately assessed, and is frequently ignored in the policy/regulatory decision process, especially with regard to spending to sustain, enhance and develop marinas.



The source of value of marinas is as seen in the figure below.

Figure 18: The value of marinas

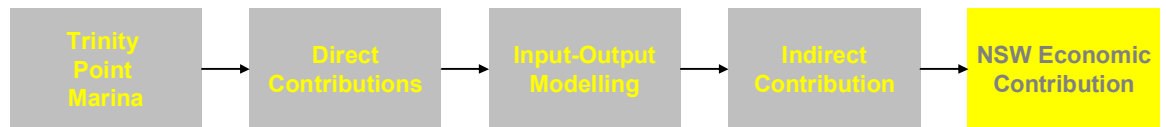


Source: Waterline Magazine, June 2007

### 5.2 Approach

Economic contribution analysis is typically carried out to determine the impact of a Project on economic activity, employment and trade in both the private and public sector. Such studies are useful where the contribution of a project needs to be quantified.

**Figure 19: Economic Contribution Assessment Process**



An economic contribution assessment measures the economic activity generated by a major commercial or government activity on an economy. The economic impact of an activity or project is usually measured in terms of the contribution to four key economic indicators:

- ▶ output (i.e. sales);
- ▶ value added (i.e. Gross State Product or Gross Domestic Product);
- ▶ household incomes (i.e. wages / salaries); and
- ▶ employment.

The economic impacts of the proposed Trinity Point Marina Project have been analysed based on these four indicators in terms of New South Wales (NSW) economic contribution from both the construction and operation phases for the development using an input-output framework.

In determining the overall impacts of the proposed marina development, a number of steps were undertaken including:

- ▶ data research and collection; the identification of direct economic impacts;
- ▶ synthesis of data;
- ▶ assumption consideration; and
- ▶ economic modelling.

These steps are discussed briefly in the following sections.

### **5.3 Input-Output Approach**

To estimate the economic contribution of the marina on the NSW economy an input-output methodology has been chosen as the appropriate method for calculating flow-on contribution on the economy. These methods were developed so that the transactions among industries could be studied, referred to as inter-industry transactions, in addition to the transactions where industries sell their goods and services to final users (e.g. consumers, exports, government and capital formation). The calculation of these transactional impacts involves working 'backwards' from the sale to final users to examine the various contributions to the creation of that final product. This works through the supply (or value) chain for that product or service and identifies all of the trades that take place between contributing businesses.

### **5.4 Input-Output Model**

The operation of the proposed Marina and the range of activities associated with these operations highlight the complex way the modern economy operates. It involves the use and hence provision of infrastructure, a variety of administrative and regulatory functions of government and a variety of services provided by operators that are supported by a vast array of specialist support services.

The implication of the above is the need to conceptualise the project carefully to ensure completeness and to avoid double counting of impacts. This project involves estimating the economic contribution of the Marina on the NSW economy.

Contribution studies of particular developments are normally best carried out through the construction of specific sectors to be included in the input output table. This is because the sector specification used in the tables involves the aggregation of a number of related activities to make them manageable. Thus, the industry may not be appropriately represented by the aggregated sector as not all of the industries in a sector are homogeneous in terms of products produced, markets served, technologies used or source of inputs used.

The compilation of specific sectors that are superior to the sector in the input output table is a considerable task and requires access to detailed information on the cost structure of the industries. Further, if the industry to be studied comprises a dominant part of the relevant sector in the input output table, then that sector will tend to reflect the characteristics of the dominant sector. For some sectors, there is likely to be little variation in its characteristics from region to region, such as the retail sector.

The input output multipliers used for this study have been developed by the Monash University Centre of Policy Studies (CoPS) and are derived from their general equilibrium model. Given that the multipliers are derived from a general equilibrium model, the flow on outcomes should not be overstated. The input-output multipliers are developed with price and labour constraints inbuilt and provide a realistic output when calculating economic contribution. However, as with all input-output modelling it is possible to over estimate the indirect impacts due to the limitations on restrictions to pricing and capacity. This is particularly the case with employment outcomes where it is possible that growth will result in more hours worked by existing employees rather than additional jobs being made available.

#### 5.4.1 Data Collection

The first stage of any economic contribution assessment is to collect necessary data. The data requirements include information on revenue streams, operating cost items, capital expenditure, wages and salaries, employment numbers and types, and the sources of expenditure. All information used in the economic contribution assessment has been developed and supplied by JPG and the studies undertaken as part of the approvals process for this development.

#### 5.4.2 Direct Contribution Analysis

Direct economic contributions are typically a combination of construction activity and operating activity that is expected to occur because of the development. In examining the net economic contribution and to ensure not to over estimate the economic contribution of the proposed development, the following three impacts must be considered in estimating the direct economic impacts:

- ▶ **displacement impacts of economic activity** - whereby economic activity is simply relocated from one area to another;
- ▶ **substitution expenditure** - simply where demand for one industry's output is switched to another, therefore providing little net stimulus to an economy; and
- ▶ **import expenditure** - whereby expenditure is undertaken on imported goods which does not produce economic stimulus to the economy.

#### 5.4.3 Flow on Impact Analysis

Once the direct impacts have been identified and quantified, the flow-on impacts can be calculated.

## 5.5 Development Scenario

The development scenario that the analysis has been performed on is characterised by the following developments:

- ▶ 308 berth marina;
- ▶ marina village;
- ▶ commercial and retail facilities; and a
- ▶ car park.

Analysis of the economic impact will be undertaken over a 30 year period, from 2008-09 - 2038-39. A start date of capital expenditure is assumed from 2007 and operations from 2010.

## 5.6 Model Inputs

Planned capital expenditure and operating expenditure amounts are key inputs to determine the economic contribution in the construction and operations phases of the Trinity Point Marina proposed development. These inputs are summarised below.

### 5.6.1 Capital Expenditure (Construction Phase)

The Project construction phase encompasses establishment of the marina in addition to the marina support infrastructure including tourism and convention facilities.

Construction costs included in the economic contribution assessment are:

- ▶ Demolition, excavation and infrastructure;
- ▶ Marina village;
- ▶ Marina and helipad;
- ▶ Foreshore rehabilitation; and
- ▶ contingency.

The capital expenditure cost assumptions for each of the stages is shown in the table below.

**Table 36: Construction costs by stage**

Construction Costs	Stage 1	Stage 2	Stage 3	Stage 4
Years	2008-11	2012-13	2014-15	2016-17
Total Construction (\$'000s)	16,254	5,033	4,359	4,326

Source: JPG

The construction costs by stage are:

- ▶ Stage 1: \$16.3 million;
- ▶ Stage 2: \$5.0 million;
- ▶ Stage 3: \$4.4 million; and
- ▶ Stage 4: \$4.3 million.

A detailed breakdown of capital expenditure is shown in the financial assessment section of this report. Leakage from the NSW economy to other States and internationally has been estimated to be 15% of the overall capital expenditure.

## 5.6.2 Operating Expenditure (Operations Phase)

Operating expenditure relates to those costs that are associated with the operating phase of the Project. Operating costs included in the economic impact assessment are:

- ▶ Labour costs;
- ▶ Maintenance costs; and
- ▶ Administrative costs.

The operating costs are shown in the table below. The figures shown are annual numbers shown when a stage has reached completion.

**Table 37: On-going operations expenditure**

Operating Costs	Stage 1	Stage 2	Stage 3	Stage 4
Years	2011-12	2013-14	2016-17	2020-21
Labour (\$'000s)	150	188	225	300
Maintenance (\$'000s)	76	128	180	180
Operations (\$'000s)	30	50	50	50
<b>Total (\$'000s)</b>	<b>256</b>	<b>366</b>	<b>455</b>	<b>530</b>

Source: Ernst & Young Analysis

The annual operating costs by stage are:

- ▶ Stage 1: \$0.256 million;
- ▶ Stage 2: \$0.366 million;
- ▶ Stage 3: \$0.455 million; and
- ▶ Stage 4: \$0.530 million.

A detailed breakdown of operational expenditure is shown in the financial assessment section of this report. Leakage from the NSW economy to other States and internationally has been estimated to be 15% of the operational expenditure.

## 5.6.3 Operating Revenue (Operations Phase)

Revenue has been calculated based on Trinity Point Marina forecast usage and proposed user rates. These profiles have been discussed in earlier sections of the report. The revenue outcomes vary by the project stage.

**Table 38: Economic contribution of on-going operations**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2011-12	2013-14	2016-17	2020-21
Berth Revenue	813	1,445	2,578	3,244
Retail and Commercial Revenue	42	84	105	105
<b>Total</b>	<b>855</b>	<b>1,529</b>	<b>2,683</b>	<b>3,349</b>

Source: Ernst & Young Analysis

The annual operating revenues by stage are:

- ▶ Stage 1: \$0.86 million;
- ▶ Stage 2: \$1.53million;
- ▶ Stage 3: \$2.68 million; and
- ▶ Stage 4: \$3.35 million.

A detailed breakdown of operational revenue is shown in the financial assessment section of this report.

## 5.7 Economic Contribution of the Project

The proposed Trinity Point Marina Project will have an economic contribution on the local, state and national economy in two phases: the construction phase and the on-going operational phase.

As mentioned previously, economic impact is typically measured in terms of four key indicators:

- ▶ **output** - the value of total sales;
- ▶ **value added** - an approximation of the contribution to Gross Domestic Product (GDP), consisting of gross operating surplus and wages/salaries of the employees;
- ▶ **household income** - the wages/salaries before tax of employees; and
- ▶ **employment** - the total number of employees.

All valuations have been carried out in today's dollars which should result in a consistent outcome across the time period being considered.

### 5.7.1 Construction Phase Impacts

The construction phase of the entire marina development are planned occurs over a nine-year period, with four stages. To quantify the impacts of this phase, the capital expenditure has been calculated for all stages of construction to determine the effect of output and value added increases for each stage.

The construction contribution for the Trinity Point Marina is shown in the table below.

**Table 39: Economic Contribution of Construction**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2008-11	2012-13	2014-15	2016-17
Output	25,030.8	7,750.5	6,712.5	6,662.1
Value Added	15,603.6	4,831.5	4,184.4	4,153.0
Household Income	3,413.3	1,056.9	915.3	908.5
Employment	179	55	48	48

Source: Ernst & Young Analysis

The results of the capital expenditure and construction assessment, in 2008 dollars, of the Trinity Point Marina are:

- ▶ Output - is estimated to range from \$6.6 million to \$25.0 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$4.2 million to \$15.6 million per annum over the evaluation period;



- ▶ Household Income is estimated to range from \$0.9 million to \$3.4 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 48 to 179 per annum over the evaluation period;

### 5.7.2 On-going Operations Impacts

The operational phase of the Trinity Point Marina Project has been evaluated over the four stages of operations. The operational revenues and costs have been calculated on an annual basis to indicate the economic contribution of Project operations.

It must be noted that the revenue effects (inputs to determine both output and value added effects) have been estimated on the basis of the use estimates and the prevailing market rate for berths. Income and employment have also been averaged annually for each stage to represent the likelihood of continuous employment at the marina and associated facilities.

The economic impacts for each of the stages of operation, in 2008 dollars, are shown in the table below.

**Table 40: Economic contribution of on-going operations**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2011-12	2013-14	2016-17	2020-21
Output	1,180	2,110	3,702	4,621
Value Added	842	1,506	2,642	3,299
Household Income	111	199	349	435
Employment	14	25	44	55

Source: Ernst & Young Analysis

The results of the operational assessment of the Trinity Point Marina are:

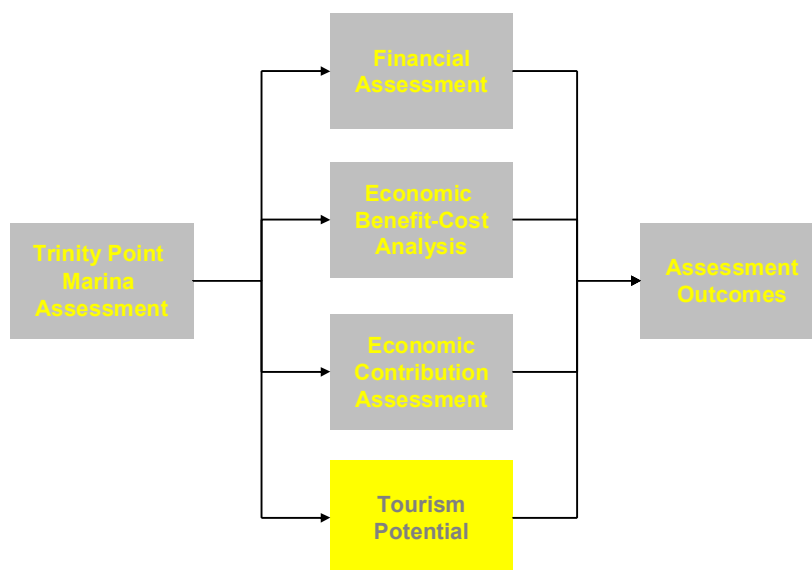
- ▶ Output - is estimated to range from \$1.2 million to \$4.6 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$0.8 million to \$3.3 million per annum over the evaluation period;
- ▶ Household Income is estimated to range from \$0.1 million to \$0.4 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 14 to 55 per annum over the evaluation period;

## 6. Potential tourism impacts

### 6.1 Introduction

The final assessment undertaken in this study looks at the potential tourism impacts to the area. The tourism study being undertaken will provide an overview rather than specific outcomes.

The impacts of tourism to the Lake Macquarie region and the broader NSW economy are implicitly included in the financial and economic components of the study through the usage and associated revenues and expenditures. This section of the study has attempted to separate out the tourism component of the previous analyses.

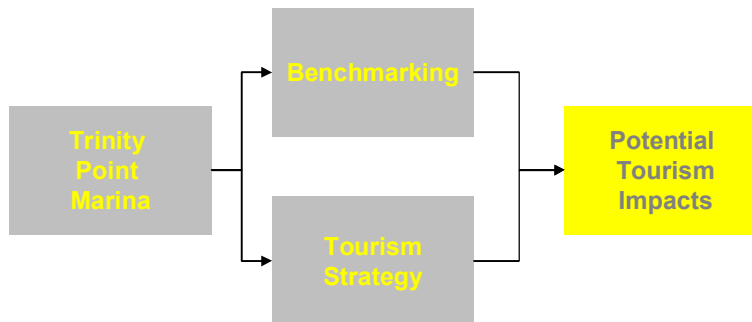


### 6.2 Approach and assumptions

The tourism study is designed to provide a brief overview of the potential tourism impacts of the proposal on the Lake Macquarie region. This assessment has been undertaken using benchmarked information from previous studies, industry information and work already completed on the project.

The evaluation of the potential tourism impacts of the Trinity Point Marina has been undertaken on the basis of two streams of research:

- ▶ Assessing consistency with government strategy; and
- ▶ Benchmarking other marina estimates of tourism impacts.



Boating related tourism, both domestic and international is driven by destination availability. The establishment of another marina and its inclusion in a network of destinations typically has a positive effect on the levels of tourism expenditure. This is particularly the case where there are on-shore facilities such as café's, restaurants and other activity centres.

It is important to realise that in terms of the NSW economy, it is only incremental tourism from interstate and international visitors that will increase the size of the economy. For the Lake Macquarie region the movement of tourism expenditure from other parts of the State to the Lake Macquarie region will increase the economic development of the area, but not the State economy.

### 6.3 Tourism to the Lake Macquarie and Wyong region

Tourism benefits a local community in a number of ways (through increased expenditure) , such as, through developing employment and increasing population which in turn drives growth in other sectors of the economy.

According to Lake Macquarie City Council, the tourism industry has the following tourism characteristics:

- ▶ Lake Macquarie has over 100 accommodation outlets;
- ▶ Lake Macquarie welcomes 900,000 visitors per year, a third of which stay in paid accommodation; and
- ▶ Lake Macquarie tourist operators report an occupancy rate of 75% in peak periods.

The value of tourism expenditure in the Lake Macquarie region has been estimated to be \$861 million per annum based on Tourism NSW information.

The Lower Hunter Regional Strategy (2006-2031) mentions the strong part that tourism has to play in the ongoing development of the Lake Macquarie region.

### 6.4 Tourism to Trinity Point Marina

A benchmarking approach was undertaken to determine the potential value of tourism to the Lake Macquarie region. The aim of this component of the study is to determine the average per berth tourism expenditure at other marinas across Australia. The benchmarking was undertaken using industry information from data sources such as the MIAA and BIA. The results of the assessment include:

- ▶ the weighted average tourism expenditure per berth has been estimated to be \$13,673 per annum.
- ▶ based on the preferred number of berths (308) the tourism related expenditure that is estimated to occur as a result of the marina is \$4.2 million per annum, an increase of 0.5% on current tourism expenditure in the region.

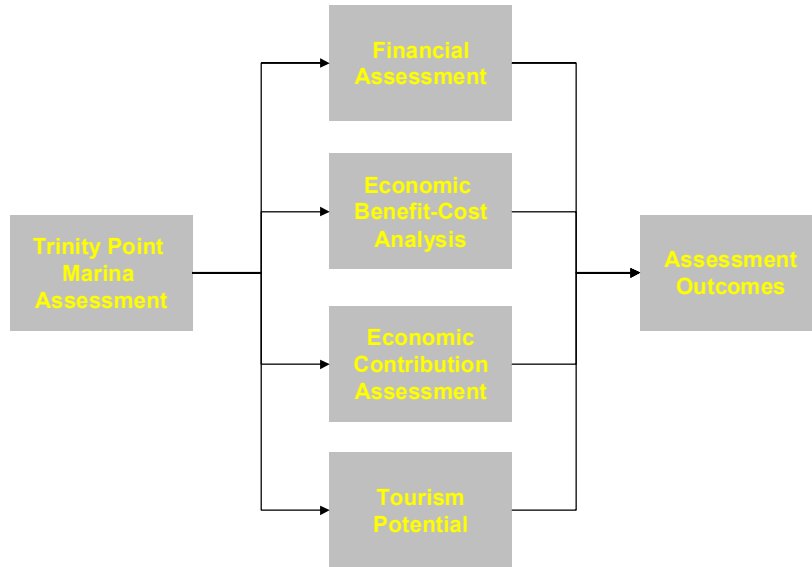
The study has not undertaken any analysis on the types of visitors who are forecast to increase expenditure in the region, that is whether they are from interstate or international locations

## 7. Conclusions

### 7.1 Introduction

Ernst & Young were engaged by JPG to undertake a study to determine the financial and economic feasibility at of the proposed Trinity Point Marina. The analysis of the feasibility was undertaken using four key components of assessment, which are shown in the figure below.

Figure 20: Approach to the study



The scope of the study, being undertaken by Ernst & Young relates to the marina development and marina operations rather than the entire development. Importantly, it has been necessary to ensure that only the benefits and costs associated with and attributable to the marina have been included in the assessment.

### 7.2 Financial Assessment

The financial net present value of the Trinity Point Marina development has been assessed for each of the stages of the development. By Stage 4 there are 308 berths operating at the marina. For the other Stages shown in the table, the financial assessment has been undertaken as if that Stage continues to operate for the remainder of the evaluation period.

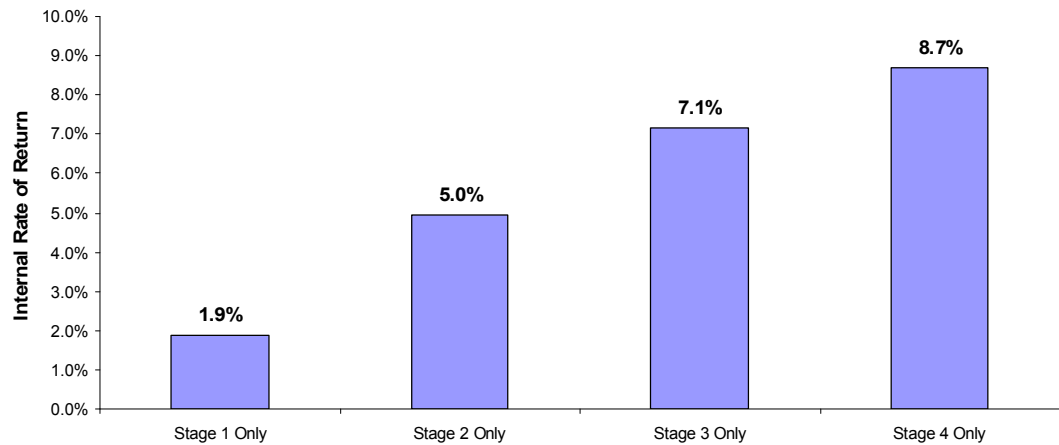
The net financial impact of the proposed marina is set out in the table below.

Table 41: Summary of Financial Assessment Outcomes

Revenue & Cost Streams	Stage 1 Only (\$'000s)	Stage 2 Only (\$'000s)	Stage 3 Only (\$'000s)	Stage 4 Only (\$'000s)
Present Value of revenues	6,756.9	11,130.5	15,690.1	19,339.9
Present Value of costs	16,113.2	19,883.3	22,984.7	25,182.3
Net present value	-9,356.3	-8,752.8	-7,294.6	-5,842.4
Revenue-Cost ratio	0.42	0.56	0.68	0.77
Internal rate of return (IRR)	1.9%	5.0%	7.1%	8.7%

A comparison of the internal rates of return for each of the stages is shown in the figure below. Again, the outcomes reflect on going operations at each of the stages for the evaluation period.

Figure 21: Comparison of internal rates of return



### 7.3 Economic Benefit-Cost Study

Using the inputs from the financial assessment and the economic costs and benefits, an economic benefit-cost model was built for the Trinity Point Marina. The results presented in the economic component of the study are for the 308 berth marina given the results of the financial assessment.

The economic net present value of the marina has been calculated to be \$10,218 million for the development. The net economic impact of the proposed marina is set out in the table below.

Table 42: Summary of Economic Benefit-Cost Outcomes

Benefits & Costs	\$'000s
Present Value of benefits	39,168
Present Value of costs	28,951
Net present value	10,218
Benefit-Cost ratio (BCR)	1.4
Internal rate of return (IRR)	11%

The results of the economic study are presented for the 308 berth options, which produces a:

- ▶ BCR of 1.4; and an
- ▶ IRR of 11%.

### 7.4 Economic Contribution Assessment

The proposed Trinity Point Marina Project will have an economic contribution on the local, state and national economy in two phases: the construction phase and the on-going operational phase.

The construction contribution for the Trinity Point Marina, in 2008 dollars, is shown in the table below.

**Table 43: Economic Contribution of Construction**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2008-11	2012-13	2014-15	2016-17
Output	33,287.8	3,896.2	6,125.9	6,492.1
Value Added	20,750.8	2,428.8	3,818.7	4,047.0
Household Income	4,539.2	531.3	835.3	885.3
Employment	238	28	44	46

Source: Ernst & Young Analysis

The results of the capital expenditure and construction assessment of the Trinity Point Marina are:

- ▶ Output - is estimated to range from \$3.9 million to \$33.3 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$2.4 million to \$20.8 million per annum over the evaluation period;
- ▶ Household Income is estimated to range from \$0.5 million to \$4.5 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 44 to 238 per annum over the evaluation period;

The operational phase of the Trinity Point Marina Project has been evaluated over the four stages of operations. The operational revenues and costs have been calculated on an annual basis to indicate the economic contribution of Project operations.

The economic impacts for each of the stages of operation, in 2008 dollars, are shown in the table below.

**Table 44: Economic contribution of on-going operations**

Contribution	Stage 1	Stage 2	Stage 3	Stage 4
Years	2011-12	2013-14	2016-17	2020-21
Output	1,180	2,110	3,702	4,621
Value Added	842	1,506	2,642	3,299
Household Income	111	199	349	435
Employment	14	25	44	55

Source: Ernst & Young Analysis

The results of the operational assessment of the Trinity Point Marina are:

- ▶ Output - is estimated to range from \$1.2 million to \$4.6 million per annum over the evaluation period;
- ▶ Value Added or contribution to GSP is estimated to range from \$0.8 million to \$3.3 million per annum over the evaluation period;
- ▶ Household Income is estimated to range from \$0.1 million to \$0.4 million per annum over the evaluation period;
- ▶ Employment is estimated to range from 14 to 55 per annum over the evaluation period;

## 7.5 Potential tourism impacts

The impacts of tourism to the Lake Macquarie region and the broader NSW economy are implicitly included in the financial and economic components of the study through the usage and

associated revenues and expenditures. This section of the study has attempted to separate out the tourism component of the previous analyses.

A benchmarking approach was undertaken to determine the potential value of tourism to the Lake Macquarie region. The aim of this study was to determine the average per berth tourism expenditure at other marinas across Australia. The benchmarking was undertaken using industry information from data sources such as the MIAA and BIA. The results of the assessment include:

- ▶ the weighted average tourism expenditure per berth has been estimated to be \$13,673 per annum.
- ▶ based on the preferred number of berths in the tourism related expenditure that occurs as a result of the marina is \$4.2 million per annum, an increase of 0.5% on current tourism expenditure in the region.

## 7.6 Conclusion

The Trinity Point Marina was evaluated using both financial and economic assessment tools to determine the feasibility of the project and the economic effect on the broader NSW economy. The studies were undertaken on each of the stages of the proposed marine development in isolation from the corresponding residential developments that are being undertaken on the site.

The results of the financial and economic assessment of the marina included:

- ▶ A financial return on the project ranging from 2% for Stage 1 only to 9% for stage 4; and
- ▶ Positive economic impacts calculated using benefit-cost and economic contribution techniques.

The financial returns for the Trinity Point marina are considered low for a typical private sector company weighted average costs of capital or return requirement, which would likely range from between 12 per cent and 20 per cent on a nominal pre-tax basis. The Stage 4 (308 berths) minimises the difference between typical required rates of return and the estimated rates of return experienced in this project. The acceptance of a lower than usual rate of return by JPG for this marina investment may be explained by the complementary nature of the marina and its development of residential property on the land alongside. As a total package the return may be acceptable.

From an economic perspective, the Stage 4 will provide the largest net benefit for the NSW economy based on the analysis undertaken on this study.



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