



# North Byron Parklands

## Economic Impact and Benefits 2014

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## I.0 Introduction

North Byron Parklands are located at 126 Tweed Valley Way at Yelgun in the northern part of Byron Shire in NSW. The site is approximately 260 Ha in size and in 2014 hosted two multi day festivals. The festivals are:

- Splendour in the Grass (SITG) – a three day music and arts event
- Falls Festival (Falls) – a three day music and arts event

This economic assessment assumes the benefits and impacts from each event are attributed to the year in which the events are hosted.

The Parklands are currently approved to host 3 events per year with a total of 10 event days.

This report has been commissioned to assess the economic impact and benefits that can be attributed to the North Byron Parklands. This assessment will be conducted at a local level (Byron Shire), regional level (Northern Rivers) and the total impacts. These total impacts will include NSW and Queensland due to the sites proximity to South East Queensland.

## 2.0 Findings and Implications

This section provides an assessment and summary of the analysis and demand modelling including both qualitative and quantitative impacts and benefits related to the events conducted at North Byron Parklands in 2014.

	Impact
<b>Direct Expenditure</b>	<p>Total direct expenditure by festival organisers and attendees was \$40.6 million. Festival organisers spent \$15.2m on staff, goods and services while attendees spent \$25.4m (primarily on food/beverage and accommodation).</p> <p>45% of this total (or \$18.4m) was directed towards businesses and individuals located in the Northern Rivers (including Byron Shire).</p> <p>The majority (54% - \$22.2m) was directed towards businesses and individuals located outside of the Northern Rivers.</p> <p>Byron Shire accounted for 28% of the direct expenditure (\$11.5m).</p> <p>This distribution of expenditure reflects the specialised nature of the suppliers required to service a major festival and the somewhat limited business base of the local area. Many of the specialist and other service providers are located in Sydney or SE Queensland and travel specifically to service the events.</p>
<b>Economic Output</b>	<p>The total economic output is measured at \$93.4m with 44% (\$41.4m) of the total derived from business and service providers located in the Northern Rivers.</p> <p>Byron Shire accounted for 25% of the total economic output (\$24.1m).</p>
<b>Gross Value Added<sup>1</sup> (GVA)</b>	<p>The festivals held at the North Byron Parklands in 2014 were responsible for a GVA of \$44.8m. Of this, \$20.1m is attributed to the Northern Rivers (including Byron Shire).</p> <p>Byron Shire accounted for 26.3% of the GVA (\$11.8m).</p> <p>This increase in GVA for Byron Shire will increase the LGA's Gross Regional Product (GRP) by an estimated 1.31%.</p>
<b>Income</b>	<p>The total direct wages and salaries attributed to the North Byron Parklands in 2014 is summarised as follows:</p> <ul style="list-style-type: none"><li>▪ Byron Shire – \$2.9m</li><li>▪ Northern Rivers (inc Byron Shire) – \$4.7m</li><li>▪ Total (inc Northern Rivers and Byron Shire ) – \$11m</li></ul> <p>The total wages and salaries taking into account direct employment, supply chain and household consumption is:</p> <ul style="list-style-type: none"><li>▪ Byron Shire – \$6.0m</li><li>▪ Northern Rivers (inc Byron Shire) – \$10.3m</li><li>▪ Total (inc Northern Rivers and Byron Shire ) – \$23.6m</li></ul>

<sup>1</sup> Value added: value of output after deducting costs of goods and services used in the production process. Value added is the preferred measure for assessing economic impacts

	Impact
<b>Employment (Equivalent Full Time - EFT)</b>	<p>The direct employment creation attributed to the North Byron Parklands in 2014 is summarised as follows:</p> <ul style="list-style-type: none"> <li>▪ Byron Shire – 99 EFT</li> <li>▪ Northern Rivers (inc Byron Shire) – 133 EFT</li> <li>▪ Total (inc Northern Rivers and Byron Shire ) – 308 EFT</li> </ul> <p>The total employment creation taking into account direct employment, supply chain and household consumption is:</p> <ul style="list-style-type: none"> <li>▪ Byron Shire – 166 EFT</li> <li>▪ Northern Rivers (inc Byron Shire) – 255 EFT</li> <li>▪ Total (inc Northern Rivers and Byron Shire ) – 583 EFT</li> </ul> <p>The creation of 166 EFT in Byron Shire is significant as it represents 1.51% of the Byron Shire workforce. This is sizable given the North Byron Parklands hosted two events.</p>
<b>Charity</b>	<p>The events hosted by North Byron Parklands provided \$55,000 in contributions to charitable organisations.</p>
<b>Tourism Accommodation</b>	<p>The events generated 22,900 room nights in commercial accommodation in Byron Shire and 6,125 roomnights in other Nth NSW (does not include camping on-site).</p>

## Appendix I – Economic Impact Tables

The following tables<sup>2</sup> have been derived based on the information described in the previous sections. The input/output model prepared by RPS has been regionalised to reflect the individual nature of the local and regional economies.

**Table 1 Total Economic Impact (inclusive of Byron Shire and Northern Rivers)**

All	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$41.1	\$18.4	\$11.0	308.0
Indirect Impact (Type I)	\$22.5	\$9.8	\$5.2	100.3
Sub-Total	\$63.6	\$28.1	\$16.3	408.2
Indirect Impact (Type II)	\$29.9	\$16.6	\$7.4	175.3
Total Impact	\$93.4	\$44.8	\$23.6	583.6

**Table 2 Northern Rivers Economic Impact (inclusive of Byron Shire)**

All	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$18.5	\$8.4	\$4.7	133.0
Indirect Impact (Type I)	\$9.9	\$4.4	\$2.4	46.2
Sub-Total	\$28.4	\$12.9	\$7.1	179.2
Indirect Impact (Type II)	\$13.0	\$7.2	\$3.2	76.2
Total Impact	\$41.4	\$20.1	\$10.3	255.5

**Table 3 Byron Shire Economic Impact**

All	Output (\$M)	GVA (\$M)	Income (\$M)	Employment (FTE)
Direct Impact	\$11.5	\$5.3	\$2.9	99.3
Indirect Impact (Type I)	\$5.2	\$2.3	\$1.3	25.0
Sub-Total	\$16.7	\$7.7	\$4.2	124.3
Indirect Impact (Type II)	\$7.3	\$4.1	\$1.8	42.1
Total Impact	\$24.1	\$11.8	\$6.0	166.4

<sup>2</sup> Assumptions

Constant returns to scale and no substitution between inputs

Production within an industry is homogenous across firms in that industry (i.e., same proportion of inputs are used by every firm in a given industry)

Each industry has only one primary output

The effect of carrying out a given level of production by one firm or many is the same

The economy examined is in equilibrium at given prices and

There are no capacity constraints so that the supply of each good is perfectly elastic. Each industry can supply whatever quantity is demanded of it and there are no capital restrictions.

## Appendix 2 – Assumptions and Data Inputs

The impacts to the economic environment have been analysed based on a number of assumptions and collected data inputs. Some of this data has been provided by organisers and has been aggregated to respect commercial-in-confidence issues. These assumptions and inputs are outlined below.

Item	Data and Assumptions
Visitation	<p>Average daily attendance</p> <ul style="list-style-type: none"> <li>▪ Falls – 14,994</li> <li>▪ SITG – 27,475</li> </ul> <p>Total person days of attendance</p> <ul style="list-style-type: none"> <li>▪ Falls – 44,983</li> <li>▪ SITG – 82,424</li> <li>▪ Total – 127,407</li> </ul>
On-Site Campers	<p>Average daily campers</p> <ul style="list-style-type: none"> <li>▪ Falls – 13,000</li> <li>▪ SITG – 17,484</li> </ul> <p>Total person days of on-site camping</p> <ul style="list-style-type: none"> <li>▪ Falls – 41,600</li> <li>▪ SITG – 73,433</li> <li>▪ Total – 115,033</li> </ul>
Off Site Accommodation	<p>Average daily off site accommodation</p> <ul style="list-style-type: none"> <li>▪ Falls – 1,994</li> <li>▪ SITG – 9,991</li> </ul> <p>Total off site accommodation nights (average stay 4.5 nights)</p> <ul style="list-style-type: none"> <li>▪ Falls – 8,975</li> <li>▪ SITG – 44,958</li> <li>▪ Total – 115,033</li> </ul>
Off Site Accommodation assumptions	<ul style="list-style-type: none"> <li>▪ Proportion of nights in commercial accommodation – 85%</li> <li>▪ Average occupancy 1.5 persons per room</li> <li>▪ Average accommodation cost per night - \$120</li> <li>▪ Distribution <ul style="list-style-type: none"> <li>» Byron Shire – 75%</li> <li>» Other NSW – 20%</li> <li>» Gold Coast – 5%</li> </ul> </li> </ul>
Food Expenditure <sup>3</sup>	<ul style="list-style-type: none"> <li>▪ Campers – proportion purchasing meals – 60%</li> <li>▪ Campers average daily meals expenditure per person - \$60</li> <li>▪ Non-Campers – proportion purchasing meals – 95%</li> <li>▪ Non-Campers average daily meals expenditure per person - \$80</li> </ul>
Beverage Expenditure <sup>4</sup>	<ul style="list-style-type: none"> <li>▪ Campers – proportion purchasing beverages – 100%</li> <li>▪ Campers average daily expenditure per person - \$80</li> <li>▪ Non-Campers – proportion purchasing beverages – 100%</li> <li>▪ Non-Campers average daily expenditure per person - \$80</li> </ul>

<sup>3</sup> Based on discussions with festival organisers and selected vendors

<sup>4</sup> Based on discussions with festival organisers and selected vendors – includes alcohol and non-alcohol beverages



Item	Data and Assumptions
Direct expenditure by the Festivals on staff, vendors, contractors and suppliers. <sup>5</sup>	Total - \$15.2m Distribution <ul style="list-style-type: none"> <li>▪ Byron Shire-39%</li> <li>▪ Other Northern NSW -22%</li> <li>▪ Other – 37%</li> </ul>
Total expenditure on commercial accommodation by attendees.	Total - \$3.67m Distribution <ul style="list-style-type: none"> <li>▪ Byron Shire-75%</li> <li>▪ Other Northern NSW -20%</li> <li>▪ Other – 5%</li> </ul>
Total expenditure on Food and Beverage by attendees.	Total - \$21.8m Distribution <ul style="list-style-type: none"> <li>▪ Byron Shire-13%</li> <li>▪ Other Northern NSW -12%</li> <li>▪ Other – 74<sup>6</sup>%</li> </ul>
Contributions to charitable organisations	SITG - \$27,500 Falls - \$27,500

<sup>5</sup> Data obtained from the financial data provided by the festivals.

<sup>6</sup> This is high as the majority of food and beverage services were sourced from outside the region.

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## Appendix 3 - Glossary and Reference

### Types of Impacts Assessed

An input-output framework has been used to identify the direct and flow-on impacts, these direct and flow-on impacts to the economy have been estimated based on four key measures:

- **Output:** The total gross value of goods and services produced, measured in the price paid to the producer. Output includes any associated taxes or subsidies on its final production. Output values typically overstate the impacts as it counts all goods and services used in one stage of production as an input into later stages of production resulting in double counting.
- **Gross Value Add:** the additional value of a good or services over the cost of goods used in producing the good or service.
- **Incomes:** the level of wages and salaries paid to employees in each industry as a result of the development.
- **Employment:** the number of additional jobs created as a result of the additional expenditure, estimated as the number of jobs, expressed in terms of full-time equivalent (FTE) positions.

To measure these four indicators of the economic impact, three types of multipliers are used, these are:

- **Direct:** The construction or operational expenditure from the project under investigation. These involve the activities directly attributable to the development including operating expenditures and additional revenues. Direct impacts should only include the impacts which would not have occurred should the project not have gone ahead.
- **Indirect Type 1 Impacts (Supply Chain):** Represents the impacts arising from changes in activity for suppliers as a result of the direct stimulus. Type 1 impacts involve the impact on what the upstream supply chains do to fulfil the new increased level of spending.
- **Indirect Type 2 Impacts (household consumption induced):** Represents the household consumption induced activity arising from additional household expenditure as a result of the additional incomes received from the direct and type 1 industry impacts.

### Criticisms of Economic Impact Assessments

Economic Impact Assessments based on IO-tables and Economic Multipliers have been criticised by Government and academia. RPS recognises Economic Multipliers are based on limited assumptions that can result in multipliers being a biased estimator of the benefits or costs of a project.

Shortcomings and limitations of Multipliers for economic impact analysis include:

- **Lack of supply-side constraints:** The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply-side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.
- **Fixed prices:** Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production:** Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For

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example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount;

- **No allowance for purchasers' marginal responses to change:** Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints:** Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- **Not applicable for small regions:** Multipliers that have been calculated from the national I–O table are not appropriate for use in economic impact analysis of projects in small regions. For small regions multipliers tend to be smaller than national multipliers since their inter–industry linkages are normally relatively shallow. Inter–industry linkages tend to be shallow in small regions since they usually don't have the capacity to produce the wide range of goods used for inputs and consumption, instead importing a large proportion of these goods from other regions<sup>7</sup>.

Despite this, IO tables and Economic Multipliers remain popular due to their ease of use and communication of results. RPS has undertaken a number of steps and made appropriate adjustments to the EIA methodology to address and mitigate these concerns.

Firstly, this Assessment does not rely solely on the use of Economic Multipliers to inform the recommendations for the project. The study includes analysis of the characteristics of the local economy and tourism market and demonstrates economic benefits of the project. The EIA represents one of a number of assessments, allowing the results to be appropriately contextualised.

Secondly, RPS has provided results for direct, supply chain and household consumption induced benefits. This allows for the individual rounds of benefits to the economy of the project to be identified and separated.

Thirdly, the catchment Northern NSW is a large area with a critical mass of population and business activity and a diverse economy. Adjustments have also been made to national Economic Multipliers to calculate the impacts on the Northern NSW and State economies individually, through the development of regional transaction tables.

Fourthly, RPS regards the use of Economic Multipliers as part of the EIA for the development as appropriate and measured and the results of the assessment as conservative, defensible and suitable for informing decision making.

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<sup>7</sup> ABS (2013) Australian National Accounts: Input-Output Tables, 2009-10, Cat No 5209.0.55.001, Australian Bureau of Statistics, Canberra