



Economic impact report

Blue Mountains Bushfire Emergency

October 2013

Prepared by Blue Mountains Economic Enterprise

Report 3: February 25 2014

## Introduction

Blue Mountains Economic Enterprise (BMEE) is the peak regional economic development organisation for the Blue Mountains. BMEE aims to stimulate economic growth through advocacy, investment and job creation, consistent with our competitive advantages.

The purpose of this report is to measure the impact of the October 2013 Bushfire emergency to the economy of the Blue Mountains.

## Methodology

The report is prepared using Remplan Software. All figures, data and commentary presented in this software are based on data sourced from the Australian Bureau of statistics (ABS), most of which relates to the 2011, 2006 and 2001 Census and data sourced from the National Visitor Survey (NVS) and International Visitor Survey (IVS) published by Tourism Research Australia. Using ABS data and an input / output methodology, industrial economic data estimates for defined geographic regions are generated. The software also incorporates a region-specific economic impact modelling feature that was first developed at La Trobe University with continued development from December 2006 by Compelling Economics Pty Ltd. This feature generates estimates of indirect or flow-on impacts from a direct change to the economy. The software incorporates a Tourism Analysis Module which estimates the total value of tourism for the local economy and incorporates a 'Tourism Sector' into the output, employment, wages & salaries and value-added industry reports in Remplan. The Tourism Analysis Module provides insights into the value of tourism to a regional economy relative to the contributions made by other industry sectors and details how each sector in the economy is benefitting from expenditure by visitors. This module also allows regions to model the flow-on impacts of tourism activity to the local economy in terms of output, employment, wages and salaries and value-added.

The report is prepared using raw data provided by Blue Mountains, Lithgow and Oberon Tourism reflecting the reduction in the number of tourism visitors to the Blue Mountains following the bushfire emergency over a 15 week period (105 days). *See appendix*

## Findings

Based on the data provided, the estimated contraction in the Blue Mountains economy is estimated as follows:

As a result of lost tourism visitation following the October Bushfire emergency, the total Blue Mountains economic output is estimated to decline by up to \$100.271 million.

This is represented by anticipated decreases in:

- 518 jobs
- \$24.793 million wages and salaries
- \$46.774 million in value-added

## Economic impact of the October 2013 Blue Mountains Bushfire

The reduction in figures provided by Blue Mountains Tourism Limited, trading as Blue Mountains Lithgow and Oberon Tourism (BMLOT) can assist in identifying the impact of bushfire reporting on the tourism and hospitality industry as well as the broader economy. The estimates in reduction of visitors are based on a 15-week period (105 days).

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This is represented by anticipated decreases in:

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- \$24.793 million wages and salaries
- \$46.774 million in value-added

### Direct impacts:

Gross Region Product is estimated to decrease by \$46.774 million (2.12 %) to \$2,162.175 million.

Contributing to this is:

- Direct decrease in output of \$63.254 million
- 371 fewer jobs
- \$15.455 million less in wages and salaries
- Reduction in value-added of \$29.023 million

### Indirect impacts:

From this direct contraction in the economy, flow-on industrial effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in a further decrease to output valued at:

- \$23.581 million
- 88 fewer jobs
- \$6.003 million less paid in wages and salaries
- Reduction in value added of \$10.000 million

These industrial effects represent the following Type 1 economic multipliers:

Impact	Type 1 Multipliers
Output	1.373
Employment	1.236
Wages and Salaries	1.388
Value-added	1.345

**Consumption effects:**

The decrease in direct and indirect output and the corresponding loss of jobs in the economy are expected to result in a decrease in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy.

The consumption effects under the scenario are expected to further reduce output by:

- \$13.437 million
- 59 fewer jobs
- \$3.335 million less paid in wages and salaries
- Reduction in value-added by \$7.751 million

**TOTAL EFFECTS:**

Under this scenario, total output is expected to decline by up to \$100.271 million.

Corresponding to this are anticipated decreases in:

- 518 jobs
- \$24.793 million wages and salaries
- \$46.774 million in value-added

The total changes to economic activity represent the following Type 2 economic multipliers:

Impact	Type 2 Multipliers
Output	1.585
Employment	1.394
Wages and Salaries	1.604
Value added	1.612

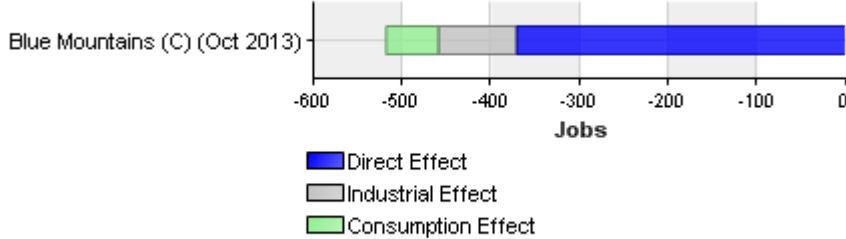
**Tourism impact summary report for the Blue Mountains**

**Bushfire Emergency October 2013 - Results based on 15-week (105 day) period**

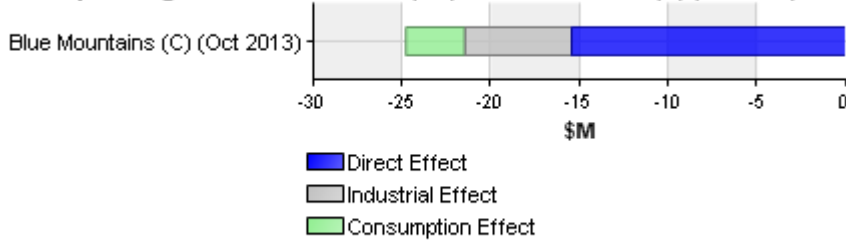
**Impact Output Total (\$M) - Blue Mountains (C) (Oct 2013)**



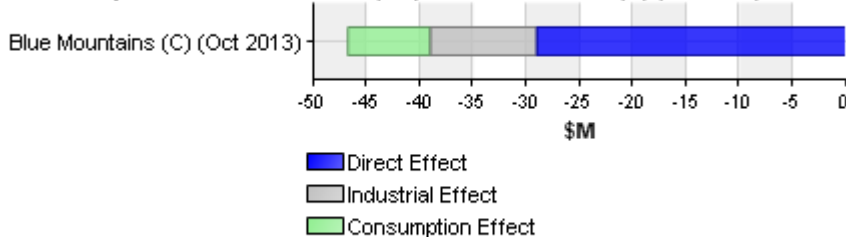
**Impact Employment Total (Jobs) - Blue Mountains (C) (Oct 2013)**



**Impact Wages and Salaries Total (\$M) - Blue Mountains (C) (Oct 2013)**



**Impact Value-Added Total (\$M) - Blue Mountains (C) (Oct 2013)**





## Appendices

### Tourism Impact on Output

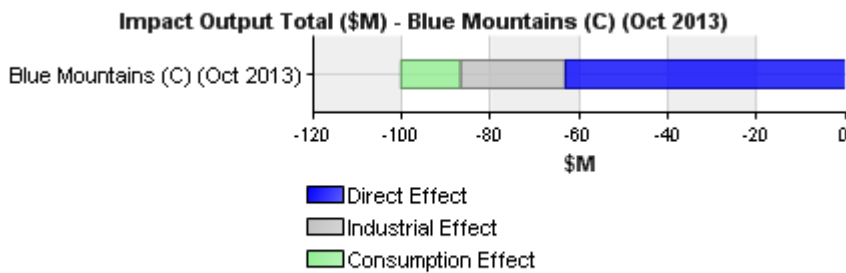
Output	Direct Effect (\$M)	Industrial Effect (\$M)	Consumption Effect (\$M)	Total (\$M)
Agriculture, Forestry & Fishing	-\$0.217	-\$0.479	-\$0.129	-\$0.826
Mining		-\$0.007	-\$0.001	-\$0.008
Manufacturing	-\$1.943	-\$3.303	-\$0.857	-\$6.103
Electricity, Gas, Water & Waste Services		-\$0.587	-\$0.142	-\$0.730
Construction		-\$2.095	-\$0.351	-\$2.446
Wholesale Trade	-\$0.364	-\$1.219	-\$0.392	-\$1.975
Retail Trade	-\$3.998	-\$0.836	-\$1.388	-\$6.222
Accommodation & Food Services	-\$33.420	-\$0.435	-\$1.351	-\$35.206
Transport, Postal & Warehousing	-\$11.287	-\$1.658	-\$0.390	-\$13.335
Information Media & Telecommunications	-\$0.328	-\$1.135	-\$0.359	-\$1.822
Financial & Insurance Services		-\$1.129	-\$0.660	-\$1.789
Rental, Hiring & Real Estate Services	-\$1.012	-\$2.097	-\$0.257	-\$3.366
Professional, Scientific & Technical Services		-\$3.985	-\$0.617	-\$4.602
Administrative & Support Services	-\$1.899	-\$2.905	-\$0.304	-\$5.108
Public Administration & Safety		-\$0.391	-\$0.088	-\$0.478
Education & Training	-\$1.168	-\$0.203	-\$0.839	-\$2.210
Health Care & Social Assistance	-\$0.236	-\$0.034	-\$0.980	-\$1.249
Arts & Recreation Services	-\$2.448	-\$0.205	-\$0.194	-\$2.848
Other Services	-\$0.266	-\$0.878	-\$0.554	-\$1.697
Ownership of Dwellings	-\$4.668	\$0.000	-\$3.584	-\$8.253
<b>TOTAL</b>	<b>-\$63.254</b>	<b>-\$23.581</b>	<b>-\$13.437</b>	<b>-\$100.271</b>
		Type 1		Type 2
Multiplier		1.373		1.585

**Tourism Impact on Output**

From a direct decrease in output of \$63.254 million it is estimated that the demand for intermediate goods and services would fall by \$23.581 million. This represents a Type 1 Output multiplier of 1.373. These industrial effects include multiple rounds of flow-on effects, as servicing sectors decrease their own output and demand for local goods and services in response to the direct change to the economy.

The decreases in direct and indirect output would typically correspond to the loss of jobs in the economy for the duration of the tourism activity. Corresponding to this change in employment would be a decrease in the total of wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are estimated at \$13.437 million.

For the duration of the tourism activity, total output, including all direct, industrial and consumption effects is estimated to decrease by up to \$100.271 million. This represents a Type 2 Output multiplier of 1.585.



## Tourism Impact on Employment

Employment	Short Term Direct Effect (Jobs)	Long Term Direct Effect (Jobs)	Industrial Effect (Jobs)	Consumption Effect (Jobs)	Total (Jobs)
Agriculture, Forestry & Fishing	-3	-1	-2	0	-3
Mining			0	0	0
Manufacturing	-11	-3	-6	-2	-11
Electricity, Gas, Water & Waste Services			-1	0	-1
Construction			-6	-1	-7
Wholesale Trade	-4	-1	-4	-1	-6
Retail Trade	-143	-41	-9	-14	-64
Accommodation & Food Services	-839	-241	-3	-11	-256
Transport, Postal & Warehousing	-133	-38	-7	-1	-47
Information Media & Telecommunications	-2	-1	-2	-1	-4
Financial & Insurance Services			-2	-1	-3
Rental, Hiring & Real Estate Services	-8	-2	-5	-1	-8
Professional, Scientific & Technical Services			-15	-2	-17
Administrative & Support Services	-30	-9	-13	-1	-23
Public Administration & Safety			-2	-1	-3
Education & Training	-35	-10	-2	-7	-19
Health Care & Social Assistance	-7	-2	0	-9	-11
Arts & Recreation Services	-64	-18	-2	-1	-21
Other Services	-7	-2	-6	-5	-13
Ownership of Dwellings	0	0	0	0	0
<b>TOTAL</b>	<b>-1,288</b>	<b>-371</b>	<b>-88</b>	<b>-59</b>	<b>-518</b>
			Type 1		Type 2
Multiplier			1.237		1.396



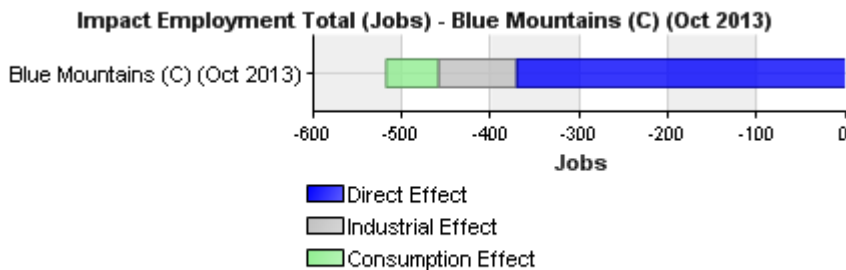
**Tourism Impact on Employment**

From a direct decrease in output of \$63.254 million the corresponding loss of direct jobs for the duration of the tourism activity is estimated at 1,288 jobs. In the longer term (over a 12 month period) this level of demand / output would typically correspond to 371 jobs. From this direct contraction in the economy, flow-on industrial effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in the loss of a further 88 jobs. This represents a Type 1 Employment multiplier of 1.237.

The decrease in direct and indirect output and the corresponding loss of jobs in the economy are expected to result in a decrease in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are estimated to further reduce employment by 59 jobs.

On an annualised basis, total employment, including all direct, industrial and consumption effects is estimated to decrease by up to 518 jobs. This represents a Type 2 Employment multiplier of 1.396.

These direct and flow-on employment impacts are limited to the duration of the tourism activity and no inference is made that the impacts will extend beyond this period.



### Tourism Impact on Wages and Salaries

Wages and Salaries	Direct Effect (\$M)	Industrial Effect (\$M)	Consumption Effect (\$M)	Total (\$M)
Agriculture, Forestry & Fishing	-\$0.025	-\$0.052	-\$0.015	-\$0.091
Mining		-\$0.001	\$0.000	-\$0.001
Manufacturing	-\$0.221	-\$0.423	-\$0.105	-\$0.749
Electricity, Gas, Water & Waste Services		-\$0.106	-\$0.028	-\$0.134
Construction		-\$0.353	-\$0.059	-\$0.412
Wholesale Trade	-\$0.113	-\$0.377	-\$0.121	-\$0.611
Retail Trade	-\$1.584	-\$0.331	-\$0.550	-\$2.464
Accommodation & Food Services	-\$8.264	-\$0.115	-\$0.360	-\$8.739
Transport, Postal & Warehousing	-\$2.730	-\$0.383	-\$0.092	-\$3.205
Information Media & Telecommunications	-\$0.060	-\$0.200	-\$0.064	-\$0.325
Financial & Insurance Services		-\$0.367	-\$0.202	-\$0.569
Rental, Hiring & Real Estate Services	-\$0.183	-\$0.378	-\$0.046	-\$0.607
Professional, Scientific & Technical Services		-\$1.132	-\$0.176	-\$1.308
Administrative & Support Services	-\$0.772	-\$1.181	-\$0.124	-\$2.077
Public Administration & Safety		-\$0.187	-\$0.042	-\$0.229
Education & Training	-\$0.717	-\$0.124	-\$0.515	-\$1.356
Health Care & Social Assistance	-\$0.138	-\$0.017	-\$0.562	-\$0.717
Arts & Recreation Services	-\$0.546	-\$0.046	-\$0.044	-\$0.635
Other Services	-\$0.102	-\$0.231	-\$0.232	-\$0.565
Ownership of Dwellings				
<b>TOTAL</b>	<b>-\$15.455</b>	<b>-\$6.003</b>	<b>-\$3.335</b>	<b>-\$24.793</b>
		Type 1		Type 2
Multiplier		1.388		1.604

### **Tourism Impact of Wages and Salaries**

From a direct decrease in output of \$63.254 million it is estimated that direct wages and salaries would decrease by \$15.455 million. From this direct contraction in the economy, flow-on industrial effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in the loss of a further 88 jobs and a further decrease in wages and salaries of \$6.003 million. This represents a Type 1 Wages and Salaries multiplier of 1.388.

The decrease in direct and indirect output and the corresponding loss of jobs in the economy for the duration of the tourism activity are expected to result in a decrease in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are expected to further reduce employment in sectors such as retail therefore further decreasing wages and salaries by \$3.335 million.

For the duration of the tourism activity, total wages and salaries, including all direct, industrial and consumption effects is estimated to decrease by up to \$24.793 million. This represents a Type 2 Wages and Salaries multiplier of 1.604.

### Tourism Impact on Value-Added

Value-Added	Direct Effect (\$M)	Industrial Effect (\$M)	Consumption Effect (\$M)	Total (\$M)
Agriculture, Forestry & Fishing	-\$0.093	-\$0.204	-\$0.056	-\$0.352
Mining		-\$0.005	-\$0.001	-\$0.005
Manufacturing	-\$0.396	-\$0.742	-\$0.177	-\$1.315
Electricity, Gas, Water & Waste Services		-\$0.282	-\$0.070	-\$0.352
Construction		-\$0.675	-\$0.113	-\$0.788
Wholesale Trade	-\$0.177	-\$0.592	-\$0.190	-\$0.959
Retail Trade	-\$2.392	-\$0.500	-\$0.830	-\$3.722
Accommodation & Food Services	-\$13.539	-\$0.182	-\$0.566	-\$14.287
Transport, Postal & Warehousing	-\$5.232	-\$0.741	-\$0.175	-\$6.149
Information Media & Telecommunications	-\$0.151	-\$0.526	-\$0.169	-\$0.845
Financial & Insurance Services		-\$0.813	-\$0.463	-\$1.276
Rental, Hiring & Real Estate Services	-\$0.378	-\$0.767	-\$0.094	-\$1.239
Professional, Scientific & Technical Services		-\$1.695	-\$0.263	-\$1.958
Administrative & Support Services	-\$0.919	-\$1.405	-\$0.147	-\$2.470
Public Administration & Safety		-\$0.227	-\$0.051	-\$0.278
Education & Training	-\$0.840	-\$0.146	-\$0.603	-\$1.589
Health Care & Social Assistance	-\$0.162	-\$0.022	-\$0.669	-\$0.853
Arts & Recreation Services	-\$1.066	-\$0.089	-\$0.085	-\$1.240
Other Services	-\$0.144	-\$0.387	-\$0.316	-\$0.847
Ownership of Dwellings	-\$3.535	\$0.000	-\$2.714	-\$6.248
<b>TOTAL</b>	<b>-\$29.023</b>	<b>-\$10.000</b>	<b>-\$7.751</b>	<b>-\$46.774</b>
		Type 1		Type 2
Multiplier		1.345		1.612

### **Tourism Impact on Value-Added**

From a direct decrease in output of \$63.254 million the corresponding decrease in direct value-added is estimated at \$29.023 million. From this direct contraction in the economy, flow-on industrial effects in terms of local purchases of goods and services are anticipated, and it is estimated that these indirect impacts would result in a further decrease to value-added of \$10.000 million. This represents a Type 1 Value-added multiplier of 1.345.

The decrease in direct and indirect output and the corresponding reduction of jobs in the economy for the duration of the tourism activity are expected to result in a decrease in the wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the local economy. The consumption effects under this scenario are expected to further reduce value-added by \$7.751 million.

For the duration of the tourism activity, total value-added, including all direct, industrial and consumption effects is estimated to decrease by up to \$46.774 million. This represents a Type 2 Value-added multiplier of 1.612.

### Tourism Impact GRP Report (using the expenditure method)

The **Gross Regional Product** for Blue Mountains (C) was calculated using the **Expenditure** method.

Using this tourism impact scenario, GRP in Blue Mountains (C) is estimated to decrease by \$46.774 million (2.12 %) to \$2,162.175 million.

GRP is the total value of **final** goods and services produced in the region over the period of one year. As can be seen from the table, this includes exports but subtracts imports.

GRP can be measured by adding up all forms of **final** expenditure

- consumption by households
- consumption by governments
- additions or increases to assets (minus disposals)
- exports (minus imports)

This calculation does not include intermediate expenditure as this would lead to double counting (the wheat and flour in a loaf of bread).

GRP Expenditure Method	Before \$M	Impact \$M	Change %
Household Consumption	\$3,003.052	\$2,961.315	-1.39 %
Government Consumption	\$717.477	\$714.383	-0.43 %
Private Gross Fixed Capital Expenditure	\$920.824	\$918.327	-0.27 %
Public Gross Fixed Capital Expenditure	\$218.355	\$217.752	-0.28 %
Gross Regional Expenses	\$4,859.708	\$4,811.778	-0.99 %
plus Exports	\$629.301	\$603.762	-4.06 %
minus Domestic Imports	-\$3,077.943	-\$3,058.819	-0.62 %
minus Overseas Imports	-\$202.118	-\$194.383	-3.83 %
balancing item	\$0.000	-\$0.163	
Gross Regional Product	\$2,208.949	\$2,162.175	
Population	75,941		
Per Capita GRP (\$'000)	\$29.088	\$28.472	-2.12 %



### Tourism Impact GRP Report (using the income method)

The **Gross Regional Product** for Blue Mountains (C) was calculated using the **Income** method.

Using this tourism impact scenario, GRP in Blue Mountains (C) is estimated to decrease by \$46.774 million (2.12 %) to \$2,162.175 million.

GRP can be measured by adding up all incomes

- earned by individuals (wages and salaries)
- earned by firms (gross operating surplus or profits)
- collected by governments (taxes on products or services)

GRP Income Method	Before \$M	Impact \$M	Change %
Wages and Salaries	\$1,043.877	\$1,019.084	-2.38 %
Gross Operating Surplus	\$777.605	\$758.673	-2.43 %
Net Taxes - Products & Services	\$316.098	\$314.942	-0.37 %
Net Taxes - Production	\$71.369	\$69.475	-2.65 %
Gross Regional Product	\$2,208.949	\$2,162.175	
Population	75,941		
Per Capita GRP (\$'000)	\$29.088	\$28.472	-2.12 %

**Tourism Impact Summary**

<b>Impact Summary</b>	<b>Direct Effect</b>	<b>Industrial Effect</b>	<b>Consumption Effect</b>	<b>Total Effect</b>	<b>Type 1 Multiplier</b>	<b>Type 2 Multiplier</b>
Output (\$M)	-\$45.254	-\$16.871	-\$9.613	-\$71.737	1.373	1.585
Long Term Employment (Jobs)	-265	-63	-43	-371	1.238	1.400
Wages and Salaries (\$M)	-\$11.057	-\$4.295	-\$2.386	-\$17.738	1.388	1.604
Value-Added (\$M)	-\$20.764	-\$7.154	-\$5.545	-\$33.464	1.345	1.612

## Data collection

Tourism Research Australia (TRA) currently produces a wide range of tourism research information at the national, state/territory and regional level.

Data is gathered from the two primary surveys conducted by TRA – the International Visitor Survey (IVS) and the National Visitor Survey (NVS).

The Regional Tourism Profiles have been developed to assist the tourism industry, tourism researchers, planners and policy makers, and to provide comprehensive tourism activity data for the whole of Australia.

The Regional Tourism Profiles use expenditure estimates from TRA’s regional expenditure modelling process for international, domestic overnight and domestic day visitors. All expenditure estimates exclude purchases of capital goods such as motor vehicles.

The visitor profile data specific to Blue Mountains (C) follows:

Visitor Profile	Domestic / International Day	Domestic Overnight	International
Average stay (nights)	-	2.0	5.0
Average spend per trip (\$)	\$97	\$340	\$460
Average spend per night (\$)	-	\$148	\$92

## Source

*Tourist Expenditure Profile data sourced from 2011-12, Tourism Research Australia (TRA), Regional Tourism Profiles. Domestic visitors: Blue Mountains Region. International visitors: Blue Mountains - average stay (nights) & New South Wales (State) - average nightly expenditure.*

**BMLOT Economic Impact of Bushfire Reporting on the Tourism & Hospitality Industry for a 15-week (105 days) period 17 October 2013 – 29 Jan 2013**

Visitor Type	Reduction in numbers
Domestic overnight	84,941
Domestic day	188,483
International overnight	6512
International day	43932

The following estimates are provided by Blue Mountains Tourism Limited, trading as Blue Mountains Lithgow & Oberon Tourism (BMLOT), to assist in identifying the impact of bushfire reporting by the media on the tourism and hospitality industry. The estimates are based on a 15-week period (105 days). The impact is calculated using actual figures from a sample of businesses able to accurately identify changes/reductions in their financial position and using that data to extrapolate an industry wide impact. A benchmark is used for normal trading/visitation and then a reduction factor applied.

The figures represent the combined impact of both lost business ‘on the day’ and the cancellations of ‘forward bookings’. Whilst the impact varies across sectors and individual businesses, and from day to day, BMLOT is confident of the figures provided.

Benchmark normal trading/visitation for the purpose of this document is established using a combination of base statistics – Tourism Research Australia, year ending June 2013 (2.7 million visitors a year, not including international day trip), National Parks and Wildlife Service (4 million total visitors a year) and individual operators interviewed by BMLOT.

BMLOT has confidence in the figure of 4 million total visitors a year to the region, however, for the purpose of this document the difference between TRA and NPWS statistics of 1.1 million visitors has been compromised to adopting a figure of 606,000 to represent international day trip visitors, which is entirely consistent with Scenic World receiving 484,000 a year, and an assumption that represents 80% of all international day trip visitors to the region. It should be noted that four major operators alone lost more than \$3.5 million in a six week period. Benchmark annual figures: \$583 million in visitor revenue, 3.5 million visitors a year, more than 5,100 full time equivalent positions.

*Provided by BMLOT Chairman, Randall Walker*

#### Disclaimer

*All figures, data and commentary presented in this software are based on data sourced from the Australian Bureau of statistics (ABS), most of which relates to the 2011, 2006 and 2001 Census and data sourced from the National Visitor Survey (NVS) and International Visitor Survey (IVS) published by Tourism Research Australia. Using ABS data and an input / output methodology, industrial economic data estimates for defined geographic regions are generated. The software also incorporates a region-specific economic impact modelling feature that was first developed at La Trobe University with continued development from December 2006 by Compelling Economics Pty Ltd. This feature generates estimates of indirect or flow on impacts from a direct change to the economy. The raw data relating to reduction in visitor numbers over the 42 day period was provided by Blue Mountains, Lithgow and Oberon Tourism. This report is provided in good faith with every effort made to provide accurate data and apply comprehensive knowledge. Compelling Economics Pty Ltd, La Trobe University and Blue Mountains Economic Enterprise (BMEE) do not guarantee the accuracy of this data nor the conclusions drawn from this information. A decision to pursue any action any way related to the figures, data and commentary presented is wholly the responsibility of the party concerned. Compelling Economics Pty Ltd, La Trobe University and BMEE advise any party to conduct detailed feasibility studies and seek professional advice before proceeding with any such action and accept no responsibility for the consequence of pursuing any such action.*

