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# **The Ecological Footprint of International Tourists in New Zealand**

A thesis presented in partial fulfilment for the degree of  
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## **ABSTRACT**

Ecological Footprint Analysis (EFA) is a technique that was first developed by Wackernagel as a Ph.D. thesis in 1994, then further developed in combination with Rees and published (Rees & Wackernagel, 1995). EFA is employed in this study to assess the resource utilisation of international tourists visiting New Zealand. Tourism is one of the fastest growing industries in the world and the ecological sustainability of tourism is becoming more important term for managing tourism. This is becoming increasingly important with tourism identified as particularly as a significant contributor to carbon emissions.

This study uses EFA to assess whether international tourists visiting New Zealand behave in a sustainable manner. Tourists are surveyed and classed into high, mid and low budget tourist types to gain a detailed account of their behaviour with particular reference to food, accommodation, transport, services, activities attractions, goods and waste. The EFA helps to identify areas of a tourist's trip that have the greatest impact on the environment, thereby identifying ways to improve the sustainability of tourism in New Zealand. It was found that tourists generally consume more whilst on holiday than they do at home and more than New Zealand residents. The results show that international tourists' behaviour is sustainable and New Zealand has the ecological carrying capacity to allow the number of international tourists to increase without incurring any significant ecological costs to the country.

It was found that there is a positive relationship between 'high' income tourists and their ecological footprint and that independent travellers have a larger ecological footprint than the package travellers; however, package travellers have a larger food and housing ecological footprint than independent travellers. The energy footprint was the largest out of the six land types of a tourist's ecological footprint. Food is the consumption category that is the largest contributor to a tourist's ecological footprint.



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*-Ad Majoram Dei Gloriam-*



# TABLE OF CONTENTS

<b>ABSTRACT .....</b>	<b>i</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>iii</b>
<b>TABLE OF CONTENTS .....</b>	<b>v</b>
<b>LIST OF FIGURES.....</b>	<b>x</b>
<b>LIST OF TABLES.....</b>	<b>xii</b>
<b>ACRONYMS.....</b>	<b>xv</b>
<b>CHAPTER ONE:.....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
Location: The Remarkables, South Island, New Zealand. M. Holden.....	1
1. Background.....	2
1.1 Problem Statement.....	3
1.2 Aim and Objectives .....	3
1.3 Importance of Research .....	3
1.4 Report Outline .....	4
<b>CHAPTER TWO: .....</b>	<b>5</b>
<b>LITERATURE REVIEW .....</b>	<b>5</b>
2. Tourism and the Environment .....	5
2.1 Impacts of Tourism.....	5
2.1.1 Carrying Capacity.....	8
2.1.2 Lifecycle Approach .....	9
2.1.3 Sustainable Tourism .....	10
2.2 Ecological Footprint Analysis .....	11
2.2.1 Concept of EFA.....	11
2.2.1.1 Wackernagel and Rees Approach.....	12
2.2.1.2 Limitations of Wackernagel & Rees Approach.....	14
2.2.1.3 Input-Output Approach .....	15
2.2.1.4 Limitations of Input-Output Approach.....	18
2.2.2 Global Ecological Footprints.....	18
2.2.3 Ecological Footprinting of Tourism .....	20



2.3 Tourism.....	24
2.3.1 International Tourism .....	25
2.3.2 Tourist Activities .....	28
2.3.3 Tourist Types.....	29
2.3.3.1 Break down of tourist behaviour .....	30
2.3.3.2 Overall assessment of ‘tourist types’ .....	30
2.4 Tourism New Zealand Profile .....	31
2.4.1 Organisation of Tourism in New Zealand .....	32
<b>CHAPTER THREE: .....</b>	<b>35</b>
<b>RESEARCH METHODS .....</b>	<b>35</b>
3.1 Introduction .....	35
3.2 Study site for survey.....	36
3.3 Questionnaire Design .....	38
3.3.1 Design of Survey Instrument.....	38
3.3.1.1 Translation of Questionnaire .....	38
3.3.2 Pilot Study .....	39
3.3.3 Survey Sample Selection.....	39
3.3.3.1 Sample Population.....	40
3.4 Research Ethics .....	42
3.5 Data Analysis.....	42
3.5.1 Ecological Footprint Analysis (EFA).....	42
3.6 Ecological Footprint of the Main consumption categories.....	44
3.6.1 Food.....	44
3.6.2 Housing/accommodation .....	45
3.6.3 Transportation.....	45
3.6.4 Goods.....	46
3.6.4.1 Goods Purchased: .....	46
3.6.5 Services/activities .....	47
3.6.6 Waste .....	47
3.7 The Ecological Footprint for Land Type.....	47
3.7.1 Energy Land .....	47
3.7.2 Cropland (or arable land).....	47
3.7.3 Pasture .....	47

3.7.4 Built-up land .....	48
3.7.5 Forest Land .....	48
3.7.6 Fisheries.....	48
3.8 Statistical Analysis .....	48
3.9 Limitations of Survey .....	49
3.9.1 Resource and Time Constraints:.....	49
3.9.2 Assumptions Made: .....	49
3.9.3 Sampling Limitations .....	50
<b>CHAPTER FOUR: .....</b>	<b>51</b>
<b>RESULTS.....</b>	<b>51</b>
4.1 Survey.....	51
4.1.1 Background of Travellers .....	51
4.1.2 Nationality .....	53
4.1.3 Length of Stay .....	54
4.1.4 Accommodation .....	55
4.1.4.1 Number of people sharing a room.....	56
4.1.5 Services.....	57
4.1.6 Shopping Behaviour .....	58
4.1.7 Places Visited and Transport Modes .....	59
4.1.8 Water Consumption.....	61
4.1.9 Diet .....	61
4.1.10 Activities.....	62
4.2 Comparison of demographic survey results with International Visitors Survey (IVS) and International Visitor Arrivals (IVA).....	63
4.2.1 Demographics.....	64
4.2.3 Purpose of Visit .....	65
4.2.4 Travel Style .....	66
4.2.5 Length of Stay .....	66
4.3 Ecological Footprint Analysis (EFA).....	67
4.3.1 Main Consumption Categories for Nationality .....	68
4.3.1.1 Food Ecological Footprint.....	69
4.3.3.3 Transport Ecological Footprint.....	70
4.3.3.4 Goods Ecological Footprint.....	70

4.3.3.5 Services Ecological Footprint.....	71
4.3.2 Nationality .....	72
4.3.2.1 Land Use by Nationality.....	74
4.3.5 Income .....	74
4.3.5.1 Main Consumption Categories of Income.....	75
4.3.5.2 Land Use by income .....	76
4.3.3 Travel Styles.....	76
4.3.3.1 Main Consumption Categories of Travel Styles .....	77
4.3.3.2 Land Use by Travel Style .....	77
4.3.4 Purpose of Visit .....	78
4.3.4.1 Main Consumption Categories for Purpose of Visit .....	79
4.3.4.2 Land Use by Purpose of Visit.....	79
4.3.6 Age .....	80
4.3.6.1 Main Consumption Categories of Age .....	81
4.3.6.2 Land Use by Age .....	81
4.3.7 Gender .....	81
4.3.8 Length of Stay .....	82
4.4 Multivariate Statistical Analysis.....	84
4.4.1 Consumption Categories .....	84
4.4.2 Correlation Matrix of Land Use .....	86
<b>CHAPTER FIVE:.....</b>	<b>89</b>
<b>DISCUSSION.....</b>	<b>89</b>
5.1 Limitations to Research .....	89
5.2 Interpretation of Results .....	90
5.3 Ecological Sustainability of International Tourism in New Zealand .....	91
5.3.1 Food.....	93
5.3.2 Accommodation .....	94
5.3.3 Transport.....	95
5.3.4 Goods.....	96
5.3.5 Activities/Attractions and Services .....	97
5.4 Ecological Footprints and Tourist Types .....	98
5.4.1 Tourist Types based on Income.....	99
5.4.2 Tourist types based on Travelling Style .....	100

<b>CHAPTER SIX:</b> .....	<b>103</b>
<b>CONCLUSIONS AND RECOMMENDATIONS</b> .....	<b>103</b>
6.1 Introduction .....	103
6.2 Conclusion:.....	104
6.2.1 Tourist Types.....	105
6.3 Recommendations: .....	106
6.3.1 Practical and achievable ways to reduce a tourist’s EF:.....	108
6.3.2 Sensitivity Analysis .....	110
6.3.3 Recommendations for future research.....	111
 <b>GLOSSARY</b> .....	 <b>113</b>
 <b>REFERENCES</b> .....	 <b>115</b>
 <b>BIBLIOGRAPHY</b> .....	 <b>119</b>
 <b>APPENDICES</b> .....	 <b>121</b>
Appendix One: English and Japanese Survey Instruments .....	122
Appendix Two: Assumptions and Calculations .....	131
Appendix Three: Map of Wakatipu Basin.....	140
Appendix Four: Ecological Footprint Calculator .....	141
Appendix Five: Raw data, Nationality Averages .....	145

## LIST OF FIGURES

Fig 1:	The destination life cycle developed by (Butler, 1980 as cited in T. Patterson, 2005).....	10
Fig 2:	Input-output diagram showing the direct and indirect CO <sub>2</sub> outputs from the tourism sector. Source: (McDonald & Patterson, 2004).....	17
Fig 3:	Ecological footprints of 39 nations in comparison to the global average footprint using the 2005 ecological footprint data (World Wildlife Fund, 2008).....	19
Fig 4:	International tourist arrivals worldwide for the years 1995-2008 .....	26
Fig 5:	Year ending Sept 08 of the top 10 markets of international tourists who visit New Zealand from the International Visitors Survey (2009). .....	27
Fig 6:	Top 10 tourist activities undertaken by international tourists while in New Zealand.....	28
Fig 7:	Percentages of the number of international tourists in each area .....	37
Fig 8:	The seasonality of tourist numbers in Queenstown (Ministry of Tourism, 2008). .....	37
Fig 9:	Photo of The Remarkables ski field where some of the tourists were surveyed. K. O'Connor.....	40
Fig 10:	Frequency distribution of the length of stay from the results of respondents (n = 236) .....	55
Fig 11:	The frequency distribution of the amount of people the participants shared a room with (n = 236). .....	57
Fig 12:	The average amount water (m <sup>3</sup> ) used by tourists for each nationality (n = 236).....	61
Fig 13:	Comparison of survey results (n = 236) with IVS using YE Sept 1998-2008 averages (n = 1,870,882) data for age categories of tourists. ....	64
Fig 14:	Percentages of tourists and the length of stay for both data from IVS YE Sept data (N = 1,870,882) and survey (N = 237). ....	67
Fig 15:	Average EF (gha/tourist/day) for each nationality group.....	73
Fig 16:	High and low income ecological footprints for each nationality.....	73
Fig 17:	Box plot showing the median and range of EF (gha/day) for each income category.....	75

Fig 18: The average ecological footprint (gha/day) with standard error for each travelling style. ....	77
Fig 19: Average EF (gha/day) for each Purpose of Visit with the standard errors.....	78
Fig 20: Bar chart of the EF (gha/day) for each age group. ....	80
Fig 21: The average EF (gha/day) for each sex .....	82
Fig 22: The average EF (gha/day) for short stay and long stay tourists. ....	83
Fig 23: Scatterplot showing the negative regression of EF (gha/day) and length of stay. ....	83
Fig 24: Ordination plot for consumption category EFs and ‘high’ and ‘low’ income. ....	85
Fig 25: Ordination plot for consumption categories EFs and travelling style. ....	86
Fig 26: Ordination Plot for Land Use EFs and income ‘High’, ‘Mid’ and ‘Low’. ....	87
Fig 27: Ordination Plot for Land Use EFs and travelling style. ....	88
Fig 28: Comparison between the EF of both the New Zealand resident (5.9 gha/capita) and the tourists surveyed (8.26 gha) with New Zealand’s biocapacity (2003 data). ....	92
Fig 29: Fergburger restaurant is very popular with the tourists in Queenstown, even heard about this place when staying at a backpackers in Taupo. K. O’Connor 2008. ....	94
Fig 30: Line graph showing the average footprint per capita trends for High, Middle and Low-income nations from years 1960 to 2003. ....	99
Fig 31: YHA Central Hostel in Queenstown, supporting and actively involving the tourists in local conservation projects. K. O’Connor 2008. ....	106

## LIST OF TABLES

Table 1:	The 2005 ecological footprints of main visitor countries to New Zealand (World Wildlife Fund, 2008).....	20
Table 2:	Average EF per international tourist per year to New Zealand in 1999 (length of stay 18 nights) (Hunter & Shaw, 2007). .....	23
Table 3:	Number of tourist guest nights and country of origin at any given day in Queenstown in September 2007 for each accommodation type. ....	41
Table 4:	Expenditure of tourists on “holiday” from the top 10 tourist market in New Zealand in 2007.....	41
Table 5:	Demographic information of respondents and tourist types (n=236).....	52
Table 6:	Nationalities of tourists surveyed. ....	53
Table 7:	Grouped nationalities visiting Queenstown in the September months averaged over the past seven years from Commercial Accommodation Monitor (CAM) giving an averaged total of international visitors (average number of nights spent in Queenstown for Sept N = 142,728) and 2008 this study (n = 236).....	54
Table 8:	Frequency of the length of stay categories and the reason for visiting New Zealand (n = 236).....	54
Table 9:	Number of times tourists chose to stay at each accommodation type (n = 236). ....	55
Table 10:	The proportion of time a tourist will stay at a chosen accommodation type when in New Zealand. Categorised by length of stay. ....	56
Table 11:	Average expenditure on Services (\$NZ) (n = 236). ....	58
Table 12:	Number of consumer products purchased from sample. (n = 236). ....	59
Table 13:	Frequencies and percentages of transport modes chosen by tourists in survey (n = 236).....	60
Table 14:	Total number and percentages of tourists visiting each destination from the survey (n = 236).....	60
Table 15:	Average number of times each nationality chooses to eat each meat type per week (n = 236).....	62
Table 16:	Number of tourists from each nationality and their preferred meal sizes (n = 236).....	62

Table 17: Number of tourists and total number of times tourists participated in activities (n = 236).	63
Table 18: Numbers and percentages of visitors to New Zealand from the different nationalities using IVS, YE Sept data (n = 1,870,882) and comparing this with 2008 survey (n = 236). Survey % weighted by each resonedent's length of stay.	65
Table 19: Numbers of international visitors and their reason for visiting New Zealand are given using IVS YE Sept data (n = 1,870,882), are compared with Survey (n = 236). Survey % weighted by each resonedent's length of stay.	66
Table 20: Numbers and percentages of travelling styles in New Zealand using the IVS YE Sept data (n = 1,870,882) and comparing this with travelling styles from survey (n = 237). Survey % weighted by each resonedent's length of stay.	66
Table 21: EF gha/capita and survey EF gha/tourist of Nationalities (excluding air travel).	68
Table 22: Annual EF (global m <sup>2</sup> ) for each consumption category by nationality	69
Table 23: EF distribution for the average tourist from survey, 8.26 gha (n = 236).	68
Table 24: Breakdown of the annual footprints (global m <sup>2</sup> ) within food for each nationality.	69
Table 25: Breakdown of average annual footprints (global m <sup>2</sup> ) for energy requirements of accommodation.	70
Table 26: Breakdown of average annual footprints (global m <sup>2</sup> ) for transport modes.	70
Table 27: Breakdown of average annual footprints (global m <sup>2</sup> ) for Goods 'Use' and 'Purchases' by tourists.	71
Table 28: Breakdown of average annual footprints (global m <sup>2</sup> ) for Services, Attractions and Activities.	72
Table 29: Land Use EF (global m <sup>2</sup> /day) for each nationality.	74
Table 30: Average ecological footprints (gha) for each income category.	75
Table 31: Number of tourists in each income category and length of stay.	75
Table 32: Average consumption categories EF (global m <sup>2</sup> /day) of income categories.	76
Table 33: EF (global m <sup>2</sup> /day) land area for each income category.	76



Table 34:	Average consumption categories EF (global m <sup>2</sup> /day) for each travel style.....	77
Table 35:	Average land use areas (global m <sup>2</sup> /day) and travel styles. ....	78
Table 36:	Average consumption category EF (global m <sup>2</sup> /day) against Purpose of visit.....	79
Table 37:	Land use area (global m <sup>2</sup> /day) for Purpose of Visit. ....	79
Table 38:	Cross tabulation of the average EF (gha) of age and gender.....	80
Table 39:	Average EF (global m <sup>2</sup> /day) of consumption categories for age categories. ....	81
Table 40:	Land use EF (global m <sup>2</sup> /day) by age categories. ....	81
Table 41:	Consumption category EF (global m <sup>2</sup> /day) for each sex.....	82
Table 42:	Land Use EF (global m <sup>2</sup> /day) for each sex.....	82
Table 43:	Average consumption categories EF (global m <sup>2</sup> /day) for the length of stay .....	84
Table 44:	Average land use EF (global m <sup>2</sup> /day) for length of stay. ....	84
Table 45:	Principal component correlation coefficients for the consumption categories as plotted on fig 25 and fig 26.....	85
Table 46:	Correlation Matrix Consumption Categories. ....	86
Table 47:	Principal Component correlation coefficients for the Land Use EF variables, as plotted on Fig. 26 and Fig. 27.....	87
Table 48:	Correlation Matrix for Land use data. ....	88
Table 49:	Average energy intensities for various accommodation types. ....	95
Table 50:	Policy, management and operational recommendations .....	108
Table 51:	Scenarios to reduce the EF in different areas, using the tourists average EF of 8.26 gha. ....	110

## ACRONYMS

ANOVA	Analysis of Variance
CAM	Commercial Accommodation Monitor
DTS	Domestic Tourism Study
EECA	Energy Efficiency and Conservation Authority
EF	Ecological Footprint
EFA	Ecological Footprint Analysis
EVA	Economic Value Added
FIT	Free-Independent Traveller
IVA	International Visitor Arrivals
IVS	International Visitor Survey
LSD	Least Significant Differences
MJ	Megajoules
PCA	Principal Component Analysis
RTO	Regional Tourism Organisation
SIT	Semi-Independent Traveller
TNZ	Tourism New Zealand
TSA	Tourism Satellite Account
VA	Value Added
WTO	World Tourism Organisation
WTTC	World Travel and Tourism Council
YE	Year Ended
YHA	Youth Hostel Association

