

**SPECIALIST ACCOMMODATION OPERATIONS IN NORTH
QUEENSLAND: ENVIRONMENTAL MANAGEMENT,
ENVIRONMENTAL ATTITUDES AND ECOLOGICAL
SUSTAINABILITY**

Thesis submitted by

Julie Anne CARMODY

Assc. Dip. Business (Hospitality Management), UQ

B. Admin (Tourism) Honours, JCU

in February 2007

for the degree of Doctor of Philosophy

in the School of Business

James Cook University

STATEMENT OF ACCESS

I, the undersigned, author of this work, understand that James Cook University will make this thesis available for use within the University library and, via the Australian Digital Theses network, for use elsewhere.

I understand that, as an unpublished work, a thesis has significant protection under the Copyright Act and;

I do not wish to place any further restriction on access to this work.

Signature

Date

STATEMENT OF SOURCES

DECLARATION

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

Signature

Date

ELECTRONIC COPY

I, the undersigned, the author of this work, declare that the electronic copy of this thesis provided to the James Cook University Library, is an accurate copy of the print thesis submitted, within the limits of the technology available.

Signature

Date

STATEMENT ON CONTRIBUTION OF OTHERS

The following contributions of others to the intellectual, physical and written work of this research higher degree thesis are gratefully acknowledged.

Stipend support: Australian Postgraduate Award (APA)

Supervision: Dr Heather Zeppel
Adjunct Professor Glenn Ross
Professor Steve Turton (Research Student Monitor)

Statistical support: Adjunct Professor Glenn Ross

Editorial assistance: Dr Heather Zeppel
Ms Fay Falco-Mammone

Other assistance: Mike Stott, Wet Tropics Management Authority

Project costs: School of Business, James Cook University

DECLARATION ON ETHICS

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlines in the *National Statement on Ethics Conduct in Research Involving Human* (1999), the *Joint NHMRC/AVCC Statement and Guidelines on Research Practice* (1997), the *James Cook University Policy on Experimentation Ethics. Standard Practices and Guidelines* (2001), and the *James Cook University Statement and Guidelines on Research Practice* (2001). The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee (approval number H1704).

Signature

Date

ACKNOWLEDGEMENTS

Acknowledgements are due to a number of people who have helped me reach the end goal of completing this thesis. First and foremost, thank you to my principal supervisor, Dr Heather Zeppel whose understanding, exceptional knowledge, humour and helpful advice guided the direction of this thesis. Thank you to Adjunct Professor Glenn Ross, my associate supervisor whose kind words of encouragement, humour and statistical knowledge allowed me to retain my sanity more than once.

On those days when I really did not think there was a light at the end of the tunnel, my thanks are extended to my partner Eddie and our two boys Benjamin and Nathan. These are the people who really keep the wheels turning - none of this would have been possible without their support. It has been an interesting and eye-opening journey as a family, as a mum, as a full-time student and part-time employee. Thank you also to Sandra, Darrell, Diane and extended families for the encouragement and at times much needed financial support. I wish you could have been here to read it all in the end Dad.

To my friend and colleague, Fay Falco-Mammone, your enthusiasm, encouragement and knowledge should be bottled. Thanks are also extended to the specialist accommodation operators, shire council staff, Campbell Clark, Max Chappell and tourism association staff for participating in the research project and answering my long list of questions. Obviously a thesis is not nearly possible without willing stakeholders.

To the staff of the School of Business, current and those who have moved on – Josephine Pryce, Jacqueline Leahy, Sam Richards, Kara Booth, and Michelle Thompson. You have all been helpful and encouraging in some way or another.

ABSTRACT

Specialist accommodation operations are a rapidly expanding nature-based accommodation sector contributing to the expansion of tourism in regional and rural areas near protected areas in Australia. Specialist accommodation operations are characterised by being owner-operated accommodation styles having a small room capacity, a high host-guest interaction, the location, features or services of the establishment provide a special opportunity for guests, and there are special activities offered to guests. The styles of accommodation included in the study were bed and breakfasts, farm stays, cabins, cottages, houseboats, licensed public hotels, backpacker hostels, ecolodges, retreats and spas, and guest houses. This thesis examines the implementation of environmental management practices and the environmental attitudes held by the owners of specialist accommodation establishments neighbouring or located within 50 kilometres of the Wet Tropics World Heritage Area in North Queensland. The study provides an understanding of how specialist accommodation operators located near protected areas contribute to the ecological sustainability of the natural environment.

A total of 101 specialist accommodation operators located on the Atherton Tablelands (n=50), in the Daintree region (n=32) and the Mission Beach region (n=19), completed a purposely designed postal survey investigating the characteristics of the accommodation business, demographic information about the owner-operators, perceptions of environmental certification and codes-of-conduct, the implementation of 43 environmental management practices for water conservation, energy conservation, liquid and solid waste management, sustainable design and other sustainable practices, and the environmental attitudes of the owner-operators were measured with the New Ecological Paradigm (NEP) (Dunlap, Mertig, O'Leary & Jones, 2000). Semi-structured interviews were held with 30 of the specialist accommodation operators in the sample, seven local Shire Council town planners and the Wet Tropics Management Authority. A brief one-page survey emailed or posted to tourism and accommodation associations asking of environmental policies and codes for members was returned by 14 associations.

All of the specialist accommodation operators surveyed are located within 50 kilometres of a protected area and 30.0% are neighbouring a protected area, mostly the WTWHA. Bed and breakfasts, cabins, cottages and caravan parks made up more than 60.0% of the sample. The mean number of rooms for an establishment is 5.8. Specialist accommodation operators are predominantly husband and wife teams aged over 40 years with tertiary or trade qualifications. More than 70.0% of these people have operated their specialist accommodation for less than eight years. The most dominant reason for operating a specialist accommodation is for a change of lifestyle. Approximately 95.0% of the operators are members of a tourism or accommodation association.

Environmental management practices readily adopted by specialist accommodation operations are dual flush toilets, purchasing local goods and services, bulk purchasing practices, the use of bio-degradable cleaning products, the use of ceiling fans not air conditioning, and the sustainable design techniques of maximizing natural ventilation and natural light, and their landscaping reflecting the natural environment. The implementation of alternative sustainable environmental management practices using wind, solar or water are minimal. Almost all of the operators had a personal concern for the environment with more than 50.0% of operators stating this was their reason for voluntarily adopting an environmental code-of-conduct; others followed a code for better environmental management. The achievement of environmental certification with Ecotourism Australia, Green Globe or AAA Tourism Green STARS is minor with most specialist accommodation operators believing certification is beneficial to their business or will benefit their marketing activities.

The New Ecological Paradigm showed operators are generally pro-environmental holding an ecological worldview to varying degrees. Three factor groups were found to exist – those who co-exist with nature, anthropocentrics and pro-environmentalists. Correlates of environmental concern indicators were found to be either non-existent, statistically insignificant or empirically weak. To understand the correlation between an owner-operator's environmental attitudes and an individual's intention to behave environmentally,

the Framework of Environmental Behaviour recognises situational, psychological and demographic factors which affect an individual's environmental behaviour intention. Barriers to implementing environmental management techniques included location, climate, knowledge, cost, time and the style of specialist accommodation.

Regulatory bodies interacting with the specialist accommodation sector in this study were the seven local Shire councils of Atherton, Mareeba, Eacham, Herberton, Douglas, Johnstone and Cardwell, the Wet Tropics Management Authority and 14 tourism and accommodation associations. In essence, research of the regulatory agencies focused on the existence of environmental policies, codes-of-conduct and guidelines for the specialist accommodation operators located near protected areas. Shire council planning schemes have the opportunity to provide advice on environmental best practice to new development applications assessed under recent relevant codes. There is no mechanism to encourage environmental best practice management to existing specialist accommodation operations. The Wet Tropics Management Authority recognises a cooperative approach between stakeholders of the Wet Tropics is imperative for the future sustainability of this world heritage listed bioregion. The benefits of working with the community have been previously recognised by WTMA with the encouragement of a landholders/ neighbours liaison group. WTMA also encourage and promote voluntary conservation agreements with private landowners within the Wet Tropics region particularly where cassowary habitat corridors are located. The most dominant purpose of tourism and accommodation associations is collective marketing. Environmental codes-of-conduct, recommendations for environmental best practice or environmental awards to encourage best practice techniques for their members is minimal.

This discussion of the study findings has provided further support to the proposition that specialist accommodation operations are more conscious of, and compatible with, the principles of ecologically sustainable tourism than traditional accommodation (Morrison et al., 1996). A personal concern for the environment was apparent and widespread. The majority of specialist accommodation operators are aware of the importance of their

environmental actions and the consequences of improper environmental management. There are internal and external factors impeding the implementation of some environmental management practices.

This study has provided an initial understanding of the specialist accommodation sector and their contribution to the future preservation of protected areas. Knowledge transfer is imperative for the future ecological sustainability of tourism operations located near or neighbouring protected areas in North Queensland. The results have proven specialist accommodation owner-operators are contributing to the protection and management of protected areas with ecological significance through a personal concern for the environment, the implementation of sustainable environmental management practices and principles, and guest education initiatives, all to the best of their knowledge and abilities.

TABLE OF CONTENTS

STATEMENT OF ACCESS	II
STATEMENT OF SOURCES	III
ELECTRONIC COPY	IV
STATEMENT ON CONTRIBUTION OF OTHERS	V
DECLARATION ON ETHICS	VI
ACKNOWLEDGEMENTS	VII
ABSTRACT	VIII
TABLE OF CONTENTS	XII
LIST OF TABLES	XVI
LIST OF FIGURES	XVII
CHAPTER 1: INTRODUCTION	1
1.1 INTRODUCTION	1
1.2 THE RESEARCH PROBLEM	4
1.3 JUSTIFICATION FOR THE THESIS	5
1.4 DEFINITIONS	8
<i>1.4.1 Sustainable Tourism</i>	9
<i>1.4.2 Nature-Based Tourism</i>	12
<i>1.4.3 Alternative Tourism</i>	14
<i>1.4.4 Ecotourism</i>	17
<i>1.4.5 Rural Tourism</i>	19
<i>1.4.6 The Nature-Based Tourism Nexus</i>	22
<i>1.4.7 Specialist Accommodation Operations</i>	22
<i>1.4.8 The Wet Tropics World Heritage Area</i>	29
1.5 AIMS AND OBJECTIVES OF THE THESIS	36
1.6 SCOPE OF THE THESIS	37
1.7 OVERVIEW OF THE THESIS STRUCTURE	39
1.8 SUMMARY	41
CHAPTER 2: ENVIRONMENTAL MANAGEMENT TECHNIQUES & ENVIRONMENTAL ATTITUDES	43
2.1 INTRODUCTION	43
2.2 ENVIRONMENTAL MANAGEMENT	43
<i>2.2.1 The Adoption of Environmental Management Practices in Tourism</i>	47
<i>2.2.2 The Rejection of Environmental Management Practices in Tourism</i>	49
2.2.4 Energy Conservation Management	53
2.2.5 Water Conservation and Management	56
2.2.6 Sustainable Design	57
2.2.7 Sustainable Practices	59
2.2.8 Voluntary Land Agreements	61

2.3 CASE STUDIES OF BEST PRACTICE ENVIRONMENTAL MANAGEMENT	63
2.3.1 Couran Cove Resort	64
2.3.2 Daintree Wilderness Lodge	65
2.3.3 Jemby-Rinjah Lodge	66
2.3.4 Kingfisher Bay Resort	67
2.4 REGULATION OF ENVIRONMENTAL MANAGEMENT	69
2.4.1 Codes of Conduct	71
2.4.2 Certification Schemes	73
2.4.3 Environmental Audit	84
2.4.4 Summary	86
2.5 ENVIRONMENTAL ATTITUDES	86
2.5.1 Measurement of Environmental Attitudes	88
2.5.2 The NEP in Tourism	91
2.6 THE ENVIRONMENTAL ATTITUDE-BEHAVIOUR CORRELATION	98
2.6.1 The Theory of Planned Behaviour	101
2.6.2 The Model of Responsible Environmental Behaviour	102
2.6.3 Framework of Environmental Behaviour	103
2.7 SUMMARY	105
CHAPTER 3: METHODOLOGY	107
3.1 INTRODUCTION	107
3.2 GEOGRAPHIC AREAS OF RESEARCH	108
3.2.1 Atherton Tablelands	109
3.2.2 Mission Beach Region	112
3.2.3 Daintree Region	113
3.3 RESEARCH METHODS	114
3.4 QUANTITATIVE METHODOLOGICAL APPROACH	117
3.4.1 Sample Selection	118
3.4.2 The Survey Instrument – Specialist Accommodation Operations	121
3.4.3 The Survey Instrument – Tourism and Accommodation Associations	127
3.4.4 Limitations of the Quantitative Approaches	127
3.4.5 Methods of Analysis	128
3.5 QUALITATIVE METHODOLOGICAL APPROACH	130
3.5.1 Specialist Accommodation Operations	131
3.5.2 Regulatory Bodies	133
3.5.3 Limitations of the Qualitative Approaches	135
3.5.4 Methods of Analysis	136
3.6 SUMMARY	136
CHAPTER 4: SPECIALIST ACCOMMODATION AND ENVIRONMENTAL PRACTICES	139
4.1 INTRODUCTION	139
4.2 RESPONDENTS	140

4.3 DISTRIBUTION OF SPECIALIST ACCOMMODATION OPERATIONS	141
4.3.1 Proximity to Protected Areas	142
4.3.2 Specialist Accommodation Styles	143
4.3.3 Intention to Expand	145
4.4 CHARACTERISTICS OF THE SPECIALIST ACCOMMODATION OPERATIONS	145
4.4.1 Demographic Profile	145
4.4.2 Operating the Specialist Accommodation	146
4.4.3 Guest Services	152
4.4.4 Guest Activities	153
4.4.5 Natural Features and Attractions	155
4.4.6 Tourism or Accommodation Association Membership	157
4.5 ENVIRONMENTAL ATTITUDES OF SPECIALIST ACCOMMODATION OPERATORS	158
4.5.1 Reliability of the NEP	159
4.5.2 NEP Analysis	159
4.5.3 Environmental Concern	165
4.5.4 Correlates of Environmental Concern	165
4.6 ENVIRONMENTAL MANAGEMENT TECHNIQUES	166
4.6.1 Water Management	167
4.6.2 Energy Management	170
4.6.3 Liquid Waste Management	173
4.6.4 Solid Waste Management	175
4.6.5 Sustainable Design	177
4.6.6 Other Sustainable Practices	179
4.6.6.1 Conservation Measures and Gardening Practices	180
4.6.6.2 Purchasing Practices	183
4.6.6.3 Cleaning Practices	183
4.6.6.4 Guest Education	184
4.6.6.5 Community Involvement	185
4.6.7 Voluntary Conservation Agreements	186
4.6.8 Environmental Audits	189
4.7 BARRIERS TO IMPLEMENTING ENVIRONMENTAL MANAGEMENT	189
4.7.1 Barriers to Energy Management Techniques	189
4.7.2 Barriers to Water Management Techniques	191
4.7.3 Barriers to Waste Management Techniques	192
4.7.4 Barriers to Other Sustainable Practices	193
4.8 ENVIRONMENTAL TOURISM CERTIFICATION	195
4.9 CODES OF ENVIRONMENTAL PRACTICE	199
4.10 SUMMARY	203
CHAPTER 5: REGULATORY BODIES AND THE SPECIALIST ACCOMMODATION SECTOR	205
5.1 INTRODUCTION	205
5.2 RESPONDENTS	205
5.3 SHIRE TOWN PLANNING	206
5.3.1 Council Awareness of Specialist Accommodation Operations	209
5.3.2 Awareness of Impacts from Specialist Accommodation Operations	211

5.3.3	<i>Recommendations for Environmental Management Techniques</i>	212
5.3.4	<i>Environmental Codes of Conduct</i>	213
5.3.5	<i>Environmental Certification</i>	217
5.3.6	<i>Voluntary Conservation Agreements</i>	218
5.3.7	<i>Corporate Plans and Environmental Accountability</i>	219
5.4	WET TROPICS MANAGEMENT AUTHORITY	220
5.4.1	<i>Awareness of Specialist Accommodation Operations</i>	221
5.4.2	<i>Recommendations for Environmental Management</i>	221
5.4.3	<i>Environmental Codes of Conduct and Licensing</i>	222
5.4.4	<i>Voluntary Conservation Agreements</i>	223
5.5	TOURISM AND ACCOMMODATION ASSOCIATIONS	224
5.5.1	<i>Association Purpose</i>	226
5.5.2	<i>Environmental Policies</i>	227
5.6	SUMMARY	228
CHAPTER 6:	DISCUSSION	232
6.1	INTRODUCTION	232
6.2	SPECIALIST ACCOMMODATION OPERATIONS	234
6.2.1	<i>Various Styles of Specialist Accommodation Operations</i>	235
6.2.2	<i>Demographic Characteristics of the Operators</i>	238
6.3	ENVIRONMENTAL MANAGEMENT PRACTICES	240
6.3.1	<i>Adoption of Environmental Management and Differences</i>	241
6.3.2	<i>Water Conservation</i>	242
6.3.3	<i>Energy Management</i>	244
6.3.4	<i>Waste Management</i>	245
6.3.5	<i>Sustainable Design</i>	247
6.3.6	<i>Other Sustainable Practices</i>	248
6.3.7	<i>The Implementation of Environmental Management Practices and Previous Research</i>	251
6.4	ENVIRONMENTAL ATTITUDE MEASUREMENT	252
6.5	ENVIRONMENTAL ATTITUDES AND ENVIRONMENTAL BEHAVIOUR	257
6.6	ENVIRONMENTAL CERTIFICATION	261
6.7	ENVIRONMENTAL REGULATION FOR THE SPECIALIST ACCOMMODATION SECTOR	263
6.7.1	<i>Environmental Management Agencies</i>	263
6.7.2	<i>Local Shire Councils</i>	264
6.7.3	<i>Tourism and Accommodation Associations</i>	266
6.8	SUMMARY	267
CHAPTER 7:	THESIS IMPLICATIONS & CONCLUSION	270
7.1	INTRODUCTION	270
7.2	KEY FINDINGS	271
7.2.1	<i>Specialist Accommodation Operations</i>	271
7.2.2	<i>Specialist Accommodation Operators</i>	272

7.2.3 <i>Environmental Management Practices</i>	272
7.2.4 <i>Environmental Certification and Codes of Conduct</i>	273
7.2.5 <i>Environmental Attitudes of Specialist Accommodation Operators</i>	273
7.2.6 <i>Interaction with Regulatory Bodies</i>	274
7.2.7 <i>Specialist Accommodation and Ecological Sustainability</i>	275
7.3 CONTRIBUTIONS TO EXISTING KNOWLEDGE	276
7.4 IMPLICATIONS OF THIS RESEARCH	277
7.5 RESEARCH LIMITATIONS	281
7.6 FUTURE RESEARCH	283
7.7 CONCLUSION	284
REFERENCES	287
APPENDIX A	303
APPENDIX B	314
APPENDIX C	317
APPENDIX D	326
APPENDIX E	329
APPENDIX F	337
APPENDIX G	340
APPENDIX H	343

LIST OF TABLES

Table 1.1: Key Characteristics of Ecologically Sustainable Accommodation.....	11
Table 1.2: Ideals of Alternative Tourism and Mass Tourism– The Adaptancy Platform	16
Table 1.3: Definitions of Specialist Accommodation Styles	28
Table 1.4: IUCN Protected Area Management Categories	29
Table 2.1: Energy Efficient Technique Rankings	54
Table 2.2: Alternative Accommodation Infrastructure Options.....	59
Table 2.3: Environmental Management Techniques at Couran Cove Resort	64
Table 2.4: Environmental Management Techniques at Daintree Wilderness Lodge	65
Table 2.5: Environmental Management Techniques at Jemby-Rinjah Lodge	67
Table 2.6: Environmental Management Techniques at Kingfisher Bay Resort.....	68
Table 2.7: Summary of Environmental Certification Programs	78
Table 2.8: Summary of Previous Studies in Tourism using the NEP	93
Table 3.1: Survey Respondents by Accommodation Style and Geographic Location.....	121
Table 3.2: New Ecological Paradigm Statements	124
Table 3.3: Relationship of Survey Questions to Objectives (Sections A and B)	125
Table 3.3: Relationship of Survey Questions to Objectives (Sections C - E)	126
Table 3.4: Specialist Accommodation Survey Respondents and Interviews	132
Table 3.5: Interviews with Staff from Regulatory Bodies	134
Table 4.1: Summary of Specialist Accommodation Operator Surveys and Interviews	141
Table 4.2: Location of Specialist Accommodation Operations	142
Table 4.3: Proximity of Specialist Accommodations to a Protected Area	143
Table 4.4: Style of Specialist Accommodation.....	144

Table 4.5: Number of Guest Rooms at Specialist Accommodation.....	144
Table 4.6: Profile of Specialist Accommodation Operators	146
Table 4.7: Who Operates the Specialist Accommodation Operation?.....	147
Table 4.8: Time Operating the Accommodation and Life of Accommodation	148
Table 4.9: Previous Occupation before Specialist Accommodation	150
Table 4.10: Reason for Move into Specialist Accommodation Operation.....	152
Table 4.11: Style of Meal Service Provided at Specialist Accommodation.....	153
Table 4.12: Land Used for Guest Activities	155
Table 4.13: Tourism and Accommodation Association Membership.....	158
Table 4.14: New Ecological Paradigm Statements	160
Table 4.15: Principal Components Analysis of the NEP Items with Varimax Rotation.....	161
Table 4.16: NEP Scores by No. of Respondents.....	164
Table 4.17: Measures of Environmental Concern.....	165
Table 4.18: New Ecological Paradigm Factors and Indicators	166
Table 4.19: Water Management Techniques at Specialist Accommodation.....	168
Table 4.20: Energy Management Techniques at Specialist Accommodation.....	171
Table 4.21: Liquid Waste Management Techniques.....	173
Table 4.22: Solid Waste Management Techniques at Specialist Accommodation	175
Table 4.23: Sustainable Design Techniques	178
Table 4.24: Other Sustainable Practices	180
Table 4.25: Voluntary Conservation Agreements in Specialist Accommodation.....	187
Table 4.26: Environmental Audits.....	189
Table 4.27: Environmental Tourism Certification of Specialist Accommodation.....	195
Table 4.28: Reasons for Not Pursuing Environmental Certification at Specialist Accommodation.....	196
Table 4.29: Reasons for the Adoption of Environmental Codes of Conduct by Specialist Accommodations.....	200
Table 5.1: Local Council Shires.....	207
Table 5.2: Summary of Voluntary Conservation Agreements and Characteristics in the Wet Tropics	224
Table 5.3: Tourism and Accommodation Association Sample.....	225
Table 5.4: Membership Size	226
Table 5.5: Purpose of Association	227

LIST OF FIGURES

Figure 1.1: Ecotourism Accommodation Spectrum	27
Figure 2.1: Framework of Environmental Behaviour	103
Figure 3.1: A Multi-Methodological Research Approach	116
Figure 4.1: Comparison between Life of Accommodation and Present Ownership of Accommodation ...	149
Figure 4.2: Activities Provided for Guests at Specialist Accommodation.....	154
Figure 4.3: Distribution of NEP Scores for Specialist Accommodation Operators	164
Figure 6.1: Extended Framework of Environmental Behaviour	259
Figure 7.1: Example of Flow Chart for Suitability of Water Management Techniques	279